

ISSUE NO. 58, JUNE 2017

ETFRN NEWS

58



# Zero deforestation: A commitment to change



EUROPEAN TROPICAL FOREST RESEARCH NETWORK





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This edition of *ETFRN News* was produced on behalf of ETFRN by Tropenbos International, in partnership with the European Forest Institute's EU FLEGT and REDD facilities, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, the Center for International Forestry Research (CIFOR), Tropical Forest Alliance (TFA2020) and the Ministry of Foreign Affairs and Ministry of Economic Affairs of the Government of the Netherlands. The views expressed herein are the sole responsibility of the authors and can in no way be taken to reflect the views of ETFRN, Tropenbos International or the other participating organizations.

This publication was produced with the financial assistance of the European Forest Institute's EU FLEGT and REDD facilities, and the Ministry of Foreign Affairs and Ministry of Economic Affairs of the Government of the Netherlands.

Published by: Tropenbos International, Wageningen, the Netherlands

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Citation: Pasiecznik, Nick and Herman Savenije (eds.). (2017). *Zero deforestation: A commitment to change*. Tropenbos International, Wageningen, the Netherlands. xx + 228 pp.

Editors: Nick Pasiecznik and Herman Savenije

Final editing and layout: Patricia Halladay Graphic Design

ISBN: 978-90-5113-134-5

ISSN: 1876-5866

Cover photo: Preparing cocoa beans, Assin Foso Forest District, Central Region, Ghana. John Kwesi Gyakyee Amonoo, Tropenbos Ghana

Printed by: ProudPress, Barneveld, the Netherlands

Available from: ETFRN  
c/o Tropenbos International  
P.O. Box 232, 6700 AE Wageningen, the Netherlands  
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This publication is printed on FSC®-certified paper.



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# Celebrating 25 years of *ETFRN News*



Over 25 years, *ETFRN News* has evolved from a forest research-focused newsletter to a knowledge-sharing platform for practitioners and policy makers working in tropical forests.

*"Before the internet era, ETFRN News had a very important role in sharing information among forestry researchers, practitioners and policy makers in Europe and around the world. The newsletter was an important element in developing the network."*

Hannah Jaenicke, editor of *ETFRN News* No. 1, June 1992

The European Tropical Forest Research Network (ETFRN) was established in 1991 as a research and knowledge network of European forest and development organizations. It was founded to ensure that European research and knowledge activities contribute effectively to the conservation and sustainable use of forest resources in tropical countries. The first issue of *ETFRN News*, its flagship publication, was published in June 1992, and this edition/issue marks its silver anniversary. In 58 issues over the past 25 years, it has provided a wealth of forest knowledge and information.

*"ETFRN was first and foremost a medium for policy makers, practitioners and researchers to share information, news, views and experiences on emerging topics of interest — and I am truly glad to see that it is still doing so."*

Willemine Brinkman, longest-serving editor (1997–2007)

The form and content evolved over time to meet changing needs. *ETFRN News* has had three distinct formats during its history. The first five years (1992–97) saw the production of 20 issues that shared news and information on events and projects. The second period included 25 theme-based editions in a booklet format that covered topical issues in tropical forestry. A decade ago, it changed from a newsletter format to an opinion-leading volume of informative articles. The current edition is the tenth in this format — another milestone to celebrate in ETFRN's silver anniversary year. This latest edition also introduces interviews for the first time, continuing its evolution.



ETFRN has also benefitted from the broad support and commitment of the European Tropical Forestry Advisory Group (ETFAG), an informal forum of officials of EU Member States and other European governments facilitating exchange and action on strategic global forestry issues. ETFAG has always been an important sounding board for *ETFRN News*, providing guidance on emerging forest policy priorities and trends.

*"ETFRN News has always been a mine of information and contacts. I had an article and information request back in No. 28 (in 1999) that led to an amazing response, and connections I made then are important in my research to this day."*

Nick Pasiecznik, editor of issues 57 and 58

## Preface

Tropical deforestation and its effects on climate change are key concerns of our time. Forests play a crucial role in many ways: supporting livelihoods, providing food security, and sustaining ecosystem services from local to global levels. Agriculture has great potential for increasing rural economic development and achieving the Sustainable Development Goals, but the conversion of forest into agricultural land is a leading cause of deforestation. To counter this negative trend, a growing number of companies have made commitments over the last decade to eliminate deforestation from their supply chains and production processes. In the 2014 New York Declaration on Forests, governments, companies and civil society expressed their commitment to slowing, halting, and reversing global forest loss while simultaneously enhancing food security. Several European governments reiterated their commitments in the 2015 Amsterdam Declarations on 100% Sustainable Palm Oil and on Eliminating Deforestation from Agricultural Commodity Chains.

These ambitious stakeholder commitments offer major opportunities to address tropical deforestation driven by agricultural expansion through public-private collaboration. This is why this silver anniversary edition of *ETFRN News*, the most comprehensive ever produced, brings together 40 contributions from 100 experts and practitioners who share their experiences and suggest ideas to facilitate the implementation of public and private zero-deforestation commitments. The publication is firmly rooted in the 25-year experience of the European Tropical Forest Research Network in sharing knowledge on key issues related to tropical forests — while also looking to build stronger cross-sector partnerships into the future. It presents stories from many different actors across a range of commodity value chains, including how companies and smallholders are working together to build deforestation-free supply chains. It reviews publicly announced commitments and on-the-ground impacts to develop the understanding of the issues that link them. It analyzes how barriers and challenges to implementation are overcome, how socio-economic and environmental impacts and trade-offs are addressed, how links between private commitments and government policy and regulations are enhanced, and how transnational and civil-society initiatives help or hinder them.

The new knowledge captured in this publication can help us find more and better ways to advance, together, toward the essential goal of reversing deforestation. Innovation in corporate transparency is contributing to enhanced accountability at many levels, but the challenges that smallholders face in responding to local demands and global market requirements must be acknowledged and addressed. There is a clear need for governments at the local and global level to act in a complementary way to private-sector initiatives to address underlying governance issues and engaging stakeholders across the board. Implementing zero deforestation commitments has not all been plain sailing, but as a global community, we are certainly moving in the right direction.

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## Key issues: making zero deforestation commitments work better

NICK PASIECZNIK, HERMAN SAVENIJE,  
CHRISTOPHE VAN ORSHOVEN, JAN BOCK  
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### Key issues

Conversion of tropical forests to industrial production of agricultural commodities is a main driver of climate change and biodiversity loss. In response, ambitious zero-deforestation pledges have been made by a growing number of global consumer manufacturer companies, international agricultural traders, agro-industrial companies, and governments, to establish deforestation-free supply chains. These commitments are seen as crucial in eliminating tropical deforestation through public and private action, but also in making progress to achieve the Sustainable Development Goals. And what is new is that the private sector is firmly on board and part of the solution, compared to past approaches that were largely publicly supported initiatives.

Much has been achieved and in a very short space of time. But more is needed. So how can private and public commitments work better? The 40 contributions in this edition of *ETFRN News* reflect the strong interest in zero deforestation commitments and show how lively and rapidly evolving the debate is. There are many different experiences and views of what to do from different quarters and not everyone agrees to everything, but the following eight ways to enhance the implementation, effectiveness and impact of pledges have been drawn from lessons learned and views expressed.

1. Agree on clear definitions and standards — what is a forest; what is deforestation, and what are acceptable credible and coherent standards for use across different commodities.
2. National and local governments to become more involved — since failure to address broader governance challenges may reduce the positive impact of private-sector zero-deforestation initiatives.
3. More corporate transparency and accountability — must become the norm for monitoring and reporting progress, and not just regarding zero deforestation commitments.

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4. Support for smallholder empowerment — through capacity building and technical assistance, so that millions of small producers can become effective participants.
5. Civil society to continue to advocate for change — as consumers and global citizens, for corporations to take effective action.
6. Advocate for jurisdictional action in support of national goals — required to complement corporate supply chain initiatives, and helps to fulfil more inclusive, sustainable development criteria.
7. Include alternative business and financing models — that better take into account existing realities, and local systems of governance and tenure.
8. Invite broad stakeholder involvement — in the inclusive platforms that are clearly needed for progress, as no single solution can achieve the desired impact.

By taking on board and acting on at least some of these key issues, zero-deforestation commitments can be made more meaningful and easier to monitor, and they will have a great chance of being implemented in ways that effectively eliminate deforestation while also contributing to social inclusion and smallholder integration.

## Introducing the trends

### *Deforestation through time*

Deforestation has increased over time, with forests in many parts of the tropics now reduced to isolated and often degraded fragments. In addition, weak forest and land-use governance in commodity producing countries is further contributing to environmental degradation and forest loss. The result is that large swaths of forest have been, and still are being, converted to fields of soy, cattle pasture, oil palm, tree plantations, coffee, cocoa, sugar, maize, banana, shrimp farms and much more. Agricultural expansion and commodification are without doubt key drivers of deforestation and land-use change in the modern era, as short-term financial interests supersede the long-term interests of environmental sustainability, resource security and human well-being. Strongly involved in the negative impacts and associated risks, the same corporations can also, however, significantly influence turning the tide and implementing solutions, especially if they work in partnership with public institutions.

### *The rise of forests in the global agenda*

Deforestation — and conservation of tropical rainforests — has become a defining issue of our age. And the outcome is still uncertain, although the importance of forests and the need to protect and sustainably manage them continues to rise in global climate change and development agendas. Their value for the global and local good is now recognized, for biodiversity and the local livelihoods they support, and for food and nutritional security, as well as numerous environment benefits for humanity and the world as a whole regarding their irreplaceable role in regulating water and weather cycles, carbon storage, and adapting to and mitigating long-term climate change.

The Rio Summit in 1992 made a major impact in changing perceptions, and Rio+20 and the development of the Millennium Development Goals and subsequent Sustainable Development Goals all helped raise the issue still further. The need to conserve remaining forests was enshrined in key international and UN treaties and conventions — of which the Convention on Biological Diversity (CBD) and United Nations Framework Convention on Climate Change (UNFCCC) are perhaps the most talked about, entering into force in 1993 and 1994, respectively. The social and cultural value of forests was also acknowledged in the UN Declaration on the Rights of Indigenous Peoples (2007), and directly or indirectly in other treaties related to community and indigenous rights, tenure security, and the right to food and food security as a basic human right. Almost all countries in the world have signed up to at least some of these treaties, but although they are legally bound in one way or another, no sanctioning mechanisms are in place. And massive deforestation, caused by rampant agricultural expansion that breaks the rules, continues regardless.

### *What next?*

Ambitious goals such as the 2020 and 2030 targets set by the New York Declaration on Forests and TFA2020 are laudable, as are the initiatives, countries and companies that have signed up to them. After a decade of efforts and increasing corporate and government commitments to reduce deforestation, including REDD+, we can now share current experiences and opinions, and look forward. What has been achieved, and how can progress and impact be stepped up?

This edition of *ETFRN News* confirms the findings of a number of recent reports that address questions surrounding zero-deforestation initiatives. A very recent publication by Forest Trends in March 2017 (Donofrio, Rothrock and Leonard 2017) analyzed 760 commitments to reduce deforestation in oil palm, soy, cattle, timber and pulp supply chains, made by 447 different companies, finding “that meeting these goals is easier said than done.” Some progress was highlighted, but a lack of corporate transparency was noted, with information on progress made publicly available for only half of the tracked commitments. Also, between one-fifth and one-third of all commitments were either dormant or delayed.

Deforestation is continuing, driven ever more by clearance for agriculture and plantation crops, although rates may be declining in a few countries and provinces, notably in Brazil. Success has followed the implementation of supporting policies and practices, but in some places, deforestation rates have declined simply because there is so little forest left to be cut. The good work, will and trust generated may be lost if at least some of the current momentum is not maintained. This compilation of articles looks at a wide range of issues and experiences. The following summary highlights key areas, to be acted on if we are to maintain and transform the progress made so far into greater and longer-lasting impacts.

## A decade of dedicated developments

In May 2008, the **World Wide Fund for Nature** (WWF) was the first organization to lead a major campaign that called for zero net deforestation by 2020, signed by delegates of 67 countries at the ninth Conference of Parties to the Convention on Biological Diversity in Bonn, Germany (WWF 2008).

In December 2009, the **Consumer Goods Forum** arose from the merging of industry-led associations. In 2010, it committed to zero net deforestation by 2020 for palm oil, soy, beef, and paper and pulp supply chains. It brings together senior management from more than 400 retailers, manufacturers, service providers and other stakeholders, including some of the world's biggest companies, across 70 countries. Members encourage each other to adopt practices and standards that commit to reducing deforestation, and companies share standards and best practices for other to follow. Success is driven by the active participation of members who together develop and lead implementation.

In June 2012, the **Tropical Forest Alliance 2020** (TFA2020) was founded at Rio+20, as a global partnership of public and private partners taking voluntary actions to reduce tropical deforestation, reduce greenhouse emissions, improve small-holder livelihoods, conserve natural habitats and protect landscapes. In support of this, seven African governments signed the TFA2020 Marrakesh Declaration for Sustainable Development of the Oil Palm Sector in Africa in 2016. TFA2020 initiatives also support collaborative efforts in Brazil, Colombia and Indonesia. In addition, the Financial Sector Engagement Initiative and Better Growth without Deforestation promote deforestation-free growth and increase practical understanding of how to align private-sector commitments and public policy goals.



In September 2014, the **New York Declaration on Forests** (NYDF) was released at the UN Climate Summit, with the principal aim of halving natural forest loss by 2020 and ending it entirely by 2030. By September 2016 there were 190 endorsers: 40 governments, 20 sub-national governments, 57 multinational companies, 16 groups representing indigenous communities, and 57 NGOs; it has become a global benchmark. Two years after it was signed, 415 companies had made public commitments, but the very different pledges make analysis of progress difficult (Climate Focus 2016). Of the four commodities studied, most commitments address palm oil (59%) and wood products (53%), with soy (21%) and cattle (12%) lagging behind, and whereas most involve manufacturers and retailers, more producers are also committing.

In December 2015, the **Amsterdam Declaration** towards eliminating deforestation from agricultural commodity chains with European countries set a yet more ambitious objective. It aims to eliminate all deforestation by no later than 2020, with a stronger focus on more responsible private-sector management of supply chains and trade. It was

endorsed by the governments of Denmark, France, Germany, the Netherlands and the UK, and sets out eight main goals. In parallel, the same governments also released a second sector-specific declaration in support of a fully sustainable palm oil supply chain by 2020, followed up by a supporting EU resolution on oil palm in April 2017.

This summary describes a few of the main commitments, but not all of them; nor does it judge by exclusion that any are less important than others. There are numerous sustainability standards (e.g., FSC, RSPO, SPOM, IPOP), some of which predate even the earliest of the declarations above. They include governmental initiatives such as the Governors' Climate and Forests Task Force, and financial and trade guidelines such as the Equator Principles, Banking Environment Initiative (BEI), OECD Guidelines for Multi-National Enterprises, IFC Performance Standards on Environmental and Social Sustainability, and Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests. And there is an ever-increasing number of new platforms with various inter-related objectives, some of which are described in this issue of *ETFRN News*.

## Lessons learned

### *Corporate experiences*

Nine corporations chose to share their experiences directly, with five contributing a full article, covering Oceania, Asia and Africa, and four accepting an invitation to be interviewed. Corporate issues were also raised in many other contributions throughout this edition. The sample is illustrative only, but it gives an indication of corporate views and efforts, which is balanced by more critical NGO opinions in later sections of this issue.

New Britain Palm Oil shares the challenges to involve smallholders in Papua New Guinea, and examples of what it has achieved and how (2.1). Asia Pulp & Paper Group explains the road it has been on (2.2) to reducing negative impacts from its activities in Indonesia. It recognizes that the responsibility lies with companies to lead the way in creating models



of best practices. The company's commitment has helped it rebuild trust with stakeholders and customers. In Liberia (2.3), Golden Veroleum shows how it too has made great strides towards protecting forests through partnering with the government, an NGO/service provider; and that local communities must also be involved at all stages. Protection will occur effectively only if the community takes a key leadership role and if it has the right incentives to implement this responsibly. A well-managed approach is needed to bring communities and the company together,

alongside regulators, civil society, funders and those with technical skills (conservationists, coaches for alternative livelihoods, etc.).

Ferrero tells how deforestation has been eliminated from areas in Malaysia (2.4) where it sources palm oil. And whereas certification has been useful, traceability to the farm level has proved to be an even more valuable measure; in this regard, satellite data has proved essential. Also in Indonesia, we hear of similar advances made by Musim Mas (particularly with smallholder inclusion), which have been facilitated through partnering with Rainforest Alliance and a consortium of NGOs and consultants and putting in place a transparent traceability system (2.5).

Such experiences are supported in different ways through four interviews with senior staff from Mondelez, Olam, Marks and Spencer and BNP Paribas, offering some excellent take-home messages, such as “creating islands of green won’t save us” and “we must now move from a do-no-harm to a do-good approach.” The section closes with an article from The Forest Trust (2.6), showing that only through strong civil society reactions will we see positive corporate actions, and offering notable examples. Overall, it is clear from corporate experiences that they bear much of the responsibility, but that they cannot go it alone. Achieving higher goals will require government support for transformation and new models for involving smallholders and local stakeholders. One conclusion was that a failure to work with governments will reduce the possible impacts of corporate actions on achieving deforestation-free supply chains.

### *Smallholder experiences*

It is clear that there are many actual benefits to smallholders from zero-deforestation initiatives. There are also many more potential benefits, i.e., those not yet realized. And, there is a risk that zero deforestation commitments could exclude smallholders that do not comply with emerging criteria. Five articles reveal how such risks are dealt with, outline the conditions under which smallholder have benefitted, and how they could benefit more. In general, smallholder engagement is a lengthy process that requires investment, planning and long-term involvement. It is important to remember that often, smallholders are integrated into commodity markets only several years after they have cleared forest to plant crops. Engagement is needed early enough to pre-empt deforestation, but there is no one-size-fits-all approach.

Two articles look specifically at the kind of support that smallholder farmers need to prevent them from cutting down forests, and show the success of that approach with palm oil production in West Africa and coffee in Central America, respectively (3.1, 3.2). The positive impacts of zero-deforestation commitments are also challenged. An assessment from West Africa (3.3) observed that “zero deforestation cocoa only exists where forests have already disappeared”; and where REDD+ was once seen as a viable solution – at least regarding cocoa — this has not proved to be the case (3.4). Looking at cotton in southern Africa (Zambia), it was concluded that law enforcement and monitoring led by the public sector should complement private-sector initiatives to reduce risks that deforestation leaks into other commodities, supply chains and areas (3.5).

These articles are complemented by two interviews that capture smallholder perspectives, hopes and aspirations, and emphasize what is needed. Both agree with the potential, but emphasize that there are many considerations still to be addressed. Based on the views of a global diversity of producer organizations, the first interview calls for a wholesale reconsideration of how we assess global economic systems and says that we should move away from single-product value chains to multi-product “baskets” that are more appropriate to smallholder realities. Speaking for many forest-dependent groups in Southeast Asia, the second interview asks for no more “empty statements,” but real action from companies and governments regarding respect for tenure and indigenous rights, and law enforcement.

### *Government experiences*

Many articles call for increased government involvement and regulation (see “Voluntary vs. mandatory,” below), or for learning from the experiences of other government initiatives. These include the EU FLEGT Action Plan (Forest Law Enforcement, Governance and Trade) (4.3), the role of REDD+ (3.4) and other incentive mechanisms, and ways in which government policy could help lead the way to more effective and more rapid progress (5.1, 5.2, 5.4, 5.6). Experiences from the EU FLEGT Action Plan, for example, show that increased trade and EU market access for legal timber gave commodity producers strong incentives to comply with national legal frameworks in order to meet demand-side criteria related to environmental, social and governance issues. These can trigger reforms in forest and land-use governance (4.3), and in regulation of the sector. The clear impacts of positive governmental action were especially highlighted regarding the marked contrast where governments are active; for example, Brazil (4.5, 4.6), compared to those where they are less active or do not fulfil their mandated responsibility, such as zero-deforestation agreements in Indonesia (5.3).

### *Challenges ahead*

#### *Definitions and standards*

What do zero deforestation and its related terms mean? This edition opens with a presentation of the different terms and their definitions (1.1), and while this article notes the fine line between too much rigidity and cherry-picking convenient definitions, it concludes that although appealing in concept, there is no single universal definition of deforestation. Governments and local stakeholders can proactively clarify what deforestation-free agriculture means in their jurisdiction. Interpreting global standards in the context of local socio-political circumstances is a key opportunity for national stakeholders to determine and follow the criteria for legal, deforestation-free commodity production in their jurisdictions through a participatory process. Mainstreaming such discussions in major commodity producing countries would help responsible trade partners to understand how and where to source legal, deforestation-free commodities from specific jurisdictions according to local realities and priorities (5.6).

There is no agreement on what a forest actually is, and this is of crucial concern. Furthermore, whereas a global standard was not considered possible (1.2), many more articles note that a firm agreement on the definitions of key terms is essential in order to guarantee accountability and transparency (1.2, 4.1, 4.3, 4.7, 5.7). Clear definitions are also equally required for clarity in standards and guidelines.

### *Monitoring, accountability and disclosure*

Being assured of the origin of commodities is essential to assessing forest-related risks and opportunities. To meet this need, new platforms for gathering and analyzing trade, customs and production data are revealing more accurate information about global flows of commodities that present risks to forests (5.6). Credible monitoring and reporting systems based on public and private transparency increase accountability and limit opportunities for corruption, and assist markets to understand supply chains and their impacts (4.3). Companies can help develop the monitoring and incentive systems that are essential elements of regional strategies for slowing deforestation (5.5) and many are doing so, as we see in this edition. But many other corporations continue to hide behind corporate confidentiality, with an observation (4.1) that a fundamental flaw to zero deforestation commitments is that they cannot be meaningfully monitored given existing levels of transparency, and even if transparency were adequate, NGOs lack the resources to do so effectively. Given the scale of illegalities, more resources would make a positive impact.

Those companies who are making efforts to eliminate deforestation in their supply chains are the same ones who are disclosing more information about product sourcing. Perhaps the next stage is to bring others to the same level? And if this cannot be achieved by voluntary action, then regulatory actions may provide additional incentives, so that the “laggards” do not have a market advantage over the “leaders,” who bear the extra costs of sustainability. Demands for disclosure and transparency are not limited to deforestation and environmental concerns — they are also a cross-cutting issue that includes respect for land rights, human rights, and other social and governance criteria.

### *Voluntary vs. mandatory*

Voluntary agreements are beginning to make impacts on the global environmental challenges being faced, but more action is needed. Voluntary action must be complemented by regulatory frameworks at the level of the value chain, sector or jurisdiction. Section 4's opening article (4.1) analyzes why, and notes several important technical and fundamental flaws in the focus on voluntary corporate zero-deforestation commitments. These include a failure to appreciate the scale of illegality in tropical deforestation. In addition, commitments will never encompass all production and trade of relevant commodities, and cannot be meaningfully monitored given existing levels of transparency. Finally, governments should not choose to ignore past illegalities, as this would effectively provide an amnesty for past behaviour and for which they have no mandate.

The need for stronger government action comes through again and again in many articles (4.2, 4.3, 4.5, 5.1, 5.2, 5.6, 5.7), and supports the conclusion that one thing that can halt deforestation is action by governments, of both producer and importer countries (4.1). Perhaps controversially, one article adds that there is some evidence that the voluntary zero-deforestation agenda may even be distracting attention and resources from needed efforts to encourage the government action that is ultimately required (4.1). However, much evidence also shows that neither governments nor the private sector can work alone, and that significant impacts will be achieved only by public-private partnerships working through multi-stakeholder platforms. Voluntary actions by front-runners have shown what is possible, but regulation of “free riders” is needed to avoid leakage from within and without producer and trader corporations and investors, and to leverage the sustainability impacts to the scale needed.

### *Value chains vs. jurisdictions*

The scope and limitations of certification are also integrally linked to voluntary vs. regulatory issues. It is noted that corporate zero-deforestation pledges will be most effective if they support, integrate with or align with legality approaches such as FLEGT and sustainability certification systems (e.g., FSC or RSPO) instead of trying to replace them (4.3, 4.4, 5.3, 5.5). Each of these articles also highlights the lessons learned in the specific sectors covered, which prove valuable in improving the efficiency of approaches and systems related to other commodities.

However, other articles note that whereas certification has achieved much, there is now a need to move on to a different level through effective governance solutions (5.7). Measuring the impacts of deforestation-free supply chains is context-dependent, and ultimately, success is linked to the implementation of sustainable land-use planning in jurisdictions where commodities originate. Producer countries seeking preferential access to emerging deforestation-free markets should also take a proactive role in clarifying the standards for deforestation-free commodity production within their jurisdictions (5.6).

Jurisdictional-level multi-stakeholder processes led by a government entity are needed, along with private-sector actors, who need to proactively engage in the discussions. Donor governments need to support the processes, not just financially, and CSOs need to provide the community and local development perspective, offer technical assistance and act as watchdogs. The Produce, Conserve, Include (PCI) initiative in Mato Grosso, Brazil is an excellent example of what a state government can do to decrease deforestation while increasing agricultural production (5.7). In addition, a further three-step approach is proposed (5.6), but to succeed it notes that significant incentives are needed for jurisdictions that are taking action to improve land-use governance and phase out deforestation, with a coherent combination of supportive policies and incentives, fiscal cooperation between trading partners, and renewed efforts against tax avoidance in international commodity trade.

## Financing

Last, but by no means least, responsible finance is a key issue, and one that permeates upstream. There are many sources of capital, and such money does not always care about deforestation or social and environmental issues, but only profit. This being so, attention to finance and their major players could also lead to more significant results.

This edition also introduces examples of practical tools and instruments designed to connect investments to commitments (AXIIS) and those connecting buyers to producers (TOOL), as well as means to better monitoring progress (SPOTT), and equity valuation, revenue-at-risk and divestment tools (Chain Reaction Research).

One overarching study deserves special mention (4.2). It found that much investment in agriculture and forest-commodity operations is in violation of even the most basic environmental and social standards, with devastating impacts on people and forests. However, this and other articles note that whereas efforts to develop voluntary safeguard policies to prevent such impacts are welcome, it is far from clear that this approach is sufficient. It is noted that even financiers that have established voluntary safeguard policies routinely retain clients in breach of their own standards. This supports a move towards regulation, including the design of binding regulations at the national and international levels to direct finance away from harmful investments. This will be most effective when accompanied by detailed implementation guidance and standardised disclosure and due diligence frameworks.



## Cross-cutting issues

One article analyzes the specific differences among zero deforestation initiatives (4.7), while another presents five risks and seven opportunities (5.5), followed by a summary that highlighted ten elements. Corporate zero deforestation pledges were considered to be most successful if they were implemented with full appreciation of the risks that they pose (5.5), such as splitting the market, deepening rural food insecurity and poverty, penalizing farmers and businesses striving to comply with the law, and antagonizing farmers and governments in target regions. In addition, commitments are most effective if they are developed and implemented collaboratively instead of unilaterally, with this observation, not surprisingly, being a common finding by many articles.

An article on “business unusual” (5.2) proposes example of how the public, private and financial sectors should work together, and suggests models to follow. Another article also succinctly proposes what various sectors could do (5.1), suggesting that companies can improve governance and risk assessments, work more closely and effectively with suppliers, ensure transparency throughout the supply chain, work together to address market-wide issues, and tackle deforestation through landscape or jurisdictional

approaches. It suggests that financial institutions can increase scrutiny of companies' management of deforestation risk and use investments and lending to improve supply chain sustainability. Governments can commit to zero deforestation at local jurisdictional levels, address governance challenges through bilateral agreements, use REDD+ and nationally determined contributions (NDCs) as an opportunity to incentives policies and measures in line the Paris Agreement on climate change and the SDGs, embrace innovative public-private partnerships, and explore jurisdictional landscape approaches.

### Raising the bar

Several hundred companies have committed to zero deforestation initiatives, and now make up a significant percentage of all those at the global level. These front-runners have made and are still making a difference. They may not have fully realized the enormity and complexity of the challenge in committing to zero deforestation, and it appears that some did not know exactly what they stepped into. What is clear is though, is that zero-deforestation commitments are very much at the initial stage of development, and early work and experimentation are showing the way to putting in place what is needed.

Related international agreements, declarations and guidelines point in one direction. Highlighted actions include the urgency to act, the need to raise the bar towards increased sustainability and equality, and the importance of both governments and the private sector to assume their responsibilities and join forces in making positive impacts on the environment and human well-being at the local and global level. Many recent developments have also taken place in the broader context of the adoption of the Sustainable Development Goals, the 2016 Paris Agreement and the 2015 Addis Ababa Action Agenda on Financing for Development, to name but a few.

There is also a need for a more systemic approach to the problem, to be embraced by both public and private stakeholders and CSOs on both the demand and supply sides of commodity markets. We also need more clarity about the key issues in building the required approaches and systems. So here, from the various contributions in this issue, common threads are drawn, woven into the following eight key issues. If implemented, these can raise the bar, enhance the implementation, effectiveness and impact of pledges, and increase the likelihood of existing and future zero deforestation commitments being met.

1. Agree clear definitions and standards — definitions for the base terms (natural forest, plantation, deforestation, reforestation, net zero deforestation, gross zero deforestation, etc.) as well as defining what is “good enough” compensation for past deforestation, as an essential and urgently needed foundation for setting clear targets, monitoring progress and assessing and enforcing noncompliance. Clear, acceptable credible and coherent standards and guidelines across different commodities are another prerequisite.

2. National and local governments need to become more involved — in effective enforcement of social, environmental, trade and consumer protection laws, since the failure to address broader governance challenges may reduce the impact of private-sector zero-deforestation initiatives. For substantial and sustainable progress at jurisdictional levels, they need to intensify efforts to integrate land-use planning, enforcement, and other low-carbon development strategies.
3. More corporate transparency and accountability — must become the norm for monitoring and reporting progress, not just regarding zero deforestation commitments. Clearer targets and time frames would also help. National and international rules must require public disclosure on sourcing and financing by all, without exception.
4. Help for smallholder empowerment — through capacity building and technical assistance, so that millions of small producers can become effective participants. Support associations can provide a vehicle for incentives and economic development and give a voice to smallholders to advocate. Organized smallholders are easier for corporations and governments to engage with, and shared costs and risks, accompanied by equitable sharing of benefits, show promise as a new model for development.
5. Civil society to continue to advocate for change — as consumers and global citizens, for corporations to take effective action. It must investigate how existing national and international laws, agreements and treaties regarding social, environmental, trade and consumer issues can be better used, push for more government action, and hold governments and corporations accountable for their commitments and reforms.
6. Advocate for jurisdictional action in support of national goals — action at different local levels where land-use decisions are actually made, commodity production occurs, and livelihoods are immediately affected. Jurisdictional actions are required to complement corporate supply chain initiatives, and help to fulfil more inclusive sustainable development criteria.
7. Include alternative business and financing models — from the many that have been and are being developed. And if investments are to be turned from “brown” to “green,” then what is being invested in any given jurisdiction must be mapped and reported, before efforts can be made to better take into account existing realities, and local systems of governance and tenure.
8. Invite broad stakeholder involvement — in the inclusive platforms that are clearly needed for progress, since no single solution can achieve the desired impact. Holistic approaches must involve different actors and actions, and a range of stakeholders and scales. And they must go beyond forests and deforestation, as consent, corporate disclosure, responsible investment, rights, justice and human well-being are common, global issues.

This challenge is complex, and the response should be as detailed as needed, but as simple as possible to implement. The contributions in this volume allow us to share stories of what has been achieved, lessons learned, remaining issues, and ways forward. And we hope that these, and as summarized here, can help us advance along the road to a deforestation-free future.

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## Photo credits, key issues

- p.ix Last remaining forest on a mountaintop in Colombia, surrounded by coffee and banana. Solidaridad
- p.xi Participatory land-use mapping, Liberia. Nienke Stam, GVL
- p.xii Cleared land. Nanang Sujana, CIFOR
- p.xvii Women turning sun-dried cocoa beans, Dunkwe-On-Offin, Ghana. Robert O'Sullivan



# Section 1

## Defining the issues

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- p.1 Measuring a tree during HCS assessment in the Solomon Islands. Michael Pescott, TFT
- p.3 Forêt de la Combe, France. Julia Kelly
- p.6 Deforestation in the Andes. I. de Borhegyi, FAO
- p.11 What looks like a swamp forest may not be one. Meine van Noordwijk
- p.12 Rubber plot in Jambi, Sumatra. Meine van Noordwijk
- p.14 Rubber plot in Jambi, Sumatra. Meine van Noordwijk
- p.15 Small-scale sustainable logging in Vietnam. Meine van Noordwijk



## 1.1 Definitions matter: zero deforestation concepts and performance indicators

THAÍS LINHARES-JUVENAL and TILL NEEFF

### Introduction

Growing concerns with the impact of deforestation on greenhouse gases emissions, climate change, biodiversity, ecosystem services and a range of other sustainability issues has led to a movement towards zero deforestation, peaking with its inclusion in the Sustainable Development Goals framework. There are calls for deforestation free, zero deforestation, zero-gross deforestation, zero-net deforestation and zero-illegal deforestation. These are often treated together as a harmonized appeal for ending the loss of forest cover, but they technically refer to different concepts, entailing different actions to achieve different objectives.

These pledges have created opportunities for improved forest governance by bringing the private sector to the centre of action for reducing deforestation, while raising awareness of deforestation drivers outside the forest sector. The lack of rigour in definitions, however, threatens the effectiveness and credibility of such pledges, creating confusion among those who commit to zero deforestation and those who assess or implement them. Indeed, the specifics of the various concepts have substantial implications for the stringency and feasibility of deforestation targets.

In 2008, the World Wildlife Fund called for zero net deforestation by 2020, and by 2010 the first companies made commitments through the Consumer Goods Forum. In 2014, the New York Declaration on Forests called for halving global natural forest loss by 2020 and zero natural forest loss by 2030. The declaration was endorsed by a broad coalition of stakeholders, including donors, forest countries, businesses and civil society. In 2016, Sustainable Development Goal target 15.2 called for halting deforestation by 2020, without further qualification. Although all these efforts aim at reducing deforestation, they draw on different definitions of forests, measures of forest loss and concepts of zero deforestation.



THERE IS A FINE LINE BETWEEN OVERLY RIGID DEFINITIONS AND JUST CHERRY-PICKING CONVENIENT ASPECTS.

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## Underlying zero deforestation concepts

Forest cover comprises both natural and planted forests. It can be reduced by clearance (cutting, burning) and natural damage (wildfires, flooding, pests, etc.), or increased by planting, restoration, regeneration and regrowth, or some or all of these processes can occur at the same time. Use of terms such as gross or net deforestation, or natural or planted forests, have quite different implications for forest governance. Moreover, some deforestation might be legal in one country and illegal in another, adding further challenges to definitions and reconciliation between national and global governance. This article explores definitional issues surrounding zero deforestation commitments and performance indicators for tracking progress, building on earlier work at FAO on zero deforestation fundamentals, impacts on local forest governance (Neeff and Linhares-Juvenal 2017), and implications for forest sector value chains.

Definitions of “forest” and “deforestation” have temporal, morphological and land-use dimensions. Forest cover might decrease and increase due to natural or anthropogenic events on a permanent or temporary basis. The definition of forest and deforestation is key to understanding zero deforestation pledges and determining the data required to assess progress. Beyond “net” or “gross,” pledges apply either to supply chains or jurisdictional levels as the reference scale, and point toward some level of “acceptable deforestation.” The distinction between net and gross deforestation has received much attention, but other variations in zero deforestation deforestations may be equally important (Table 1).

**Table 1. Overview of variations in the concepts of zero deforestation**

	Net deforestation or gross deforestation?	Reference scale supply chain or jurisdictional level?	What is “acceptable” deforestation?
World Wide Fund for Nature (WWF)	Net deforestation	Originally jurisdictional, but interested in supply chains too	Forests should maintain their “net quantity, quality and carbon density”
Consumer Goods Forum	Net deforestation	Supply chains	Determined by procurement guidelines, drawing on certification
Brazilian Cattle Agreement, Brazilian Soy Moratorium	Gross deforestation	Supply chains, with very broad coverage	Vegetation with certain tree-cover characteristics is off-limits
New York Declaration on Forests	Net deforestation	Jurisdictional level	When regeneration would compensate for mature forest loss
High Carbon Stock Approach	Gross deforestation	Supply chains	Vegetation above a certain carbon stock threshold is off-limits

### Net or gross deforestation?

Zero net deforestation means allowing no change to the total forest area, with new forests — natural or planted — compensating for lost forests. Forest loss can be offset by reforestation (Beckham et al. 2014; Fishman 2014), but important issues for pledges based on this concept are the extent to which new forests are “good enough” to compensate for lost forest, and what is “acceptable deforestation” (Neeff and Linhares-Juvenal 2017). For example, plantations replacing natural forests may or may not be acceptable due to reduced biodiversity, carbon storage and other ecosystem services essential for securing environmental benefits from zero net deforestation.

Zero gross deforestation means putting an end to the loss of forest entirely, and the definition of “forest” is key, including timeframe, area, origin, legal status, morphology, structure, ecosystem value and other characteristics. Commitments that refer to zero gross deforestation include the Brazilian Cattle Agreement, the Brazilian Soy Moratorium and the Indonesia Palm Oil Pledge (related to the High Carbon Stock Approach).

Zero net deforestation is criticized because “replacement” plantation forests are not equivalent to natural forest, while zero gross deforestation is criticized because of the lack of flexibility in land-use planning. The implications of either approach also depend on the scale of adoption; this could constrain future options by requiring that all forest remains untouched irrespective of development needs. Zero net deforestation enjoys a high level of support, being adopted by the Consumer Goods Forum, Tropical Forest Alliance 2020, and the Soft Commodities Compact. In 2014, the Forests Dialogue concluded “the economic heft of the Consumer Goods Forum (whose member companies have combined sales of more than US\$ 3.3 trillion), the WWF’s size and reputation, and the support of 67 countries plus the European Commission, make a strong case that zero net deforestation is the variation with the most backing” (Beckham et al. 2014). Completely eliminating any kind of deforestation is extremely unlikely and, in practice, few verification schemes provide details on what is considered “acceptable” deforestation.

### Reference scales

Reference scales are set in different ways for company pledges that focus on supply chains, and for government pledges at the jurisdictional level. WWF’s original proposal for zero net deforestation did not refer to specific supply chains, but through the Consumer Goods Forum, companies have aligned themselves with WWF although on a different scale. The Brazilian Cattle Agreement, Brazilian Soy Moratorium and Indonesia Palm Oil Pledge (related to the High Carbon Stock Approach) stand out because broad participation equates to almost full coverage of selected commodities in the target region. Governments, however, focus on development issues that are best addressed at jurisdictional levels, and stronger engagement with governments is frequently called for.

## “Acceptable” deforestation”

Rather than aiming at eliminating deforestation altogether, most zero deforestation pledges include a certain degree of “acceptable deforestation,” with clear criteria needed for determining what vegetation is considered forest or can be converted while still upholding zero deforestation claims. Most commonly, forest structure, canopy cover, tree height and area extension are used to determine whether vegetation counts as forest. FAO, for example, considers forests to have a canopy cover greater than 10%, tree height more than 5 m, and an area larger than 0.5 ha, including vegetation with young trees and temporarily unstocked lands, and excluding non-forest land uses. Forest structure has also been suggested as a useful measure, notably in the new high carbon stock standard specifically developed for zero deforestation, which rules out conversion of forests with carbon stocks above certain thresholds.

Approaches for monitoring pledges, definitions and performance indicators fit the context and needs of leading actors and need to be consistent with supply chain efficiency and competitiveness. Companies tend to commit to pledges with performance indicators they

can fulfil with minimal disruption to their business practices. For example, the Round Table on Responsible Soy prohibits conversion of forests with a tree height of more than 10 m, although other forest definitions use a threshold of 5 m. This means that soy farming, which occurs frequently in the Brazilian Cerrado woodlands, would be largely off-limits using a different forest definition.



Cut-off dates determine the reference date after which lands cannot have been forested to qualify for conversion, and time scale is a key parameter in most certification standards. Compliance with laws and regulations may also prevent

parts of a company’s supply chain from achieving zero deforestation commitments, e.g., in USA and EU timber import regulations. Although there is broad agreement that forests with high conservation value are off-limits for conversion under any circumstances and must be protected, a key issue is whether converting natural forest to plantations is permissible. According to WWF, new forests should “count” only if they maintain “the net quantity, quality and carbon density” of the forest that was replaced (WWF 2008).

## Performance indicators

Most pledges do not come with precise sets of zero deforestation definitions. Even generic concepts (net/gross, acceptable deforestation, etc.) are often vague, and any definitions that are used are usually derived from implementation guidelines and diverse performance indicators that reflect the realities of the pledge’s leading actors (Table 2). Pledges aligned to international agreements tend to rely on internationally reporting, whereas company pledges use procurement policies, direct monitoring and sourcing from low-risk jurisdictions, often including certification.

**Table 2. Zero deforestation concepts, indicators and implied definitions**

Pledge	Concept	Performance indicators	Elements of implied definitions
World Wide Fund for Nature (WWF)	Zero net deforestation and degradation	Not available	<ul style="list-style-type: none"> <li>▪ No overall loss of forest cover and forest quality</li> </ul>
Consumer Goods Forum	Zero net deforestation	<ul style="list-style-type: none"> <li>▪ Legality certification</li> <li>▪ Chain of custody certification</li> <li>▪ Management certification (FSC, PEFC)</li> <li>▪ Origin from countries with risk profiles</li> </ul>	<ul style="list-style-type: none"> <li>▪ Conservation of carbon stocks</li> <li>▪ Compensation through forest restoration</li> <li>▪ Risk-based through country lists</li> </ul>
New York Declaration on Forests	Zero natural forest cover loss	<ul style="list-style-type: none"> <li>▪ Certification</li> <li>▪ Official country reporting, including under REDD+</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mixes forest cover and conservation of carbon stocks</li> <li>▪ Different performance indicators for companies and countries (REDD+)</li> <li>▪ Countries define natural forests in the context of REDD+</li> <li>▪ Loss of natural forest considered even if replaced by plantations</li> <li>▪ Supports compensation through forest restoration</li> </ul>

### Certified procurement

Certification is an important proxy for adherence to zero deforestation pledges, with four of five companies who pledge to zero deforestation relying on certification (Forest Trends 2015), and procurement guidelines indicating that certification schemes are considered appropriate proxies for low deforestation risk (CGF 2016). Certified procurement, through a range of voluntary certification schemes for forest-risk commodities, has been used for decades (Table 3). However, these schemes were not developed to serve as proof of zero deforestation and may not be relevant as indicators for zero deforestation. PEFC, for example, attracted criticism when it endorsed the Indonesian Forest Certification Cooperation, with Greenpeace stating that “any sustainability claims based on these certification schemes is industry ‘greenwash’” (Greenpeace 2015).

**Table 3. Deforestation and voluntary certification schemes for forest-risk commodities**

Roundtable on Sustainable Palm Oil (RSPO)	Round Table on Responsible Soy (RTRS)	Forest Stewardship Council (FSC)	Programme for the Endorsement of Forest Certification (PEFC)	Global Roundtable for Sustainable Beef (GRSB)
Prohibits conversion of primary forests but not of other forest types	Prohibits conversion of both primary and secondary forests, using a narrow definition of forests	Prohibits forest conversion in all but exceptional cases	Endorses national standards that regulate forest conversion	Calls for the protection of native forests but does not issue certifications
3.4 million ha certified	0.3 million ha certified	185 million ha certified	263 million ha certified	not applicable to areas

### Direct area monitoring

Some zero deforestation initiatives monitor production areas directly. Through the Indonesia Palm Oil Pledge, a group of companies has committed to avoiding high carbon stock areas for new plantations. The Brazilian Soy Moratorium and Brazilian Cattle Agreement are similar schemes set up by groups of manufacturers and business associations who agreed to purchase only from producers who do not deforest the Amazon. Using a specially designed verification system based on remote data collection, verification of these schemes is simpler and less ambiguous than for certification schemes. The system uses just one performance indicator: eligibility of land, determined by defined cut-off dates. These schemes are criticized, however, for not directly considering producers' business practices in relation to complex issues such as legality, forest-based livelihoods, and tenure.

### Procurement from low-risk jurisdictions

Governments and companies have started working together to promote zero deforestation by creating jurisdictions where deforestation risk is kept low, and where forest-risk commodities can be preferentially sourced. Procurement from low-risk jurisdictions allows companies to brand products as "zero deforestation" based on origin, linking closely with government initiatives that are conceptually similar to the EU Forest Law Enforcement, Governance and Trade Action Plan, EU Timber Regulation and USA *Lacey Act*. The degree of zero deforestation assurance provided by preferential sourcing from low-risk jurisdictions is lower than that from individual company-level certification, but some NGOs now offer schemes that verify performance similar to those used for certification. Recent advances in monitoring systems using remote-sensing technology have made this type of verification feasible and it has lower transaction costs than individual management certification.

Local and regional governments have positive experiences with this new kind of public-private partnership, which is formed by collective action and social pressure rather than by individual agreements. The sourcing guidelines of the Consumer Goods Forum make explicit reference to jurisdictions for timber, pulp and paper. For palm oil, the guidelines use a risk-based verification mechanism that could also be used by jurisdictions. Some large companies have recently committed to the preferential sourcing of forest-risk commodities from jurisdictions with ambitious environmental and sustainable development targets, known as “Produce-Protect” (CGF 2015). Whereas it is doubtful that preferential sourcing from low-risk jurisdictions can completely eliminate deforestation, it is a good way for governments and companies to collaborate in mainstreaming sustainable business practices across entire landscapes.

### Choice of performance indicators

The kinds of zero deforestation pledges that companies make depends on their position in the supply chain. Those at the upstream production end can make pledges with tailor-made performance indicators and verify compliance against the pledges themselves. Producers, processors and vertically-integrated companies can control production and have a direct relationship with producers. The high carbon stock approach, Indonesia Palm Oil Pledge, Sustainable Palm Oil Manifesto, Brazilian Cattle Agreement and Brazilian Soy Moratorium are pledges of this sort that were all co-proposed by such companies. However, those at the downstream consumer end rely on certification to guarantee zero deforestation in their supply chains, and being too far removed from production systems are not in a position to advise on performance indicators. The use of the procurement guidelines of the Consumer Goods Forum, which mostly comprises manufacturers and retailers, does suggest that certification standards are perceived as sufficient evidence of compliance with zero deforestation principles.

### Conclusions

Governments, companies and NGOs have all engaged in zero deforestation commitments, but have different interpretations of what this means. Imprecise definitions, vague concepts and a lack of clarity on performance indicators create confusion among those with zero deforestation commitments and those who assess, implement and monitor them. Terms such as deforestation free, zero deforestation, zero gross deforestation, zero net deforestation and zero illegal deforestation are often used interchangeably, although the correct use of these concepts has substantial implications for the stringency and feasibility of deforestation reduction targets. To a certain extent, zero deforestation concepts in pledges reflect the objectives of the organizations that promote them, and clearly need to be adjusted.

WWF recognizes that the conversion of forests in one site may contribute to sustainable development and conservation of the wider landscape, and uses various certification standards as indirect measures of reduced deforestation. Greenpeace has developed its own approach to verifying zero deforestation commitments, using high carbon stock in combination with other indicators. For both organizations, protection of biodiversity and

effective collaboration with local communities are key concerns, whereas the Consumer Goods Forum uses procurement guidelines that equate zero deforestation with procurement of certified products. Different concepts and performance indicators determine the impacts of pledges on local governance and stakeholders along the supply chain, including social equity and leakage risks. But through using a range of approaches, zero deforestation is maturing from a buzzword to a broader concept that will help guide corporate and government decision making.

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## 1.2 Deforestation-free claims: scams or substance?

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### Introduction

Zero deforestation, deforestation free, carbon neutral, climate smart — there is no shortage of terms used as market branding to appeal to consumers who want to take personal responsibility for their share of global deforestation and greenhouse gas emissions. Do such words have any meaning? How can such things be measured? Is there indeed increased accountability with all these claims? Will smallholder producers be excluded from value chains as their produce is undocumented? Will the global climate problem become more manageable if more consumers buy from such value chains?

To answer these questions, it is necessary to understand the bigger picture: the emissions that cause global climate change; the way countries have so far agreed to account for emissions; and the degree to which agreements are matched by accountability. Current UNFCCC accounting systems are essentially supply-side, while emissions are counted on the production side, based on country land area and production systems. An alternative would be demand-side accounting, starting from the human population and its per capita emissions that determine demand and with the footprints or emissions attributable to a product or service based on a life-cycle analysis.

Supply-side accounting is reflected in labels for deforestation-free products as producers attempt to satisfy end consumers' demand. However, isolating one production chain from other land

uses at the landscape level is not an accurate reflection of reality due to the linkages of drivers and actors. For example, areas converted to coffee in central Vietnam are defined as "degraded forest" or "scrub," but such land classes continue to be produced by other actors and land uses in the same landscape. Rausch and Gibbs (2016) also pointed at such loopholes in current zero deforestation claims with Brazilian soybean.



THE DEFINITION OF  
"FOREST" IS THE DEVIL  
IN THE DETAIL OF  
DEFORESTATION-FREE  
CLAIMS.

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This article explores these issues through seven questions:

- When, how and why do zero deforestation claims arise in global trade?
- How do forest definitions relate to zero deforestation claims?
- How much variation is there in the footprints of equivalent products?
- Is a chain-of-custody system needed for credible deforestation-free value chains?
- How would actors along a value chain need to interact with jurisdictions to control leakage?
- Can individually determined contributions support nationally determined contributions?
- What wider change in the global economy is needed to make zero deforestation claims relevant?

### Shifting blame or solving problems?

A comparative analysis of environmental and social certification systems in five tropical commodities (timber, palm oil, coffee, cacao and rubber; see Mithöfer et al. 2017) used the issue-attention cycle as the starting point for understanding what issues are relevant for key commodity that gained sufficient prominence in public discourse to spark a certification response. Whether or not such responses only shift blame to non-certified production, or also contribute to reducing the severity of deforestation, is an open question. Certification is focused on the exclusion of the non-certified, while landscape approaches include all current actors and activities as a starting point. Case studies showed timeline differences and spill-over learning curves where certification is an intermediate stage, and the “internalization of externalities” requires behavioural norms along value chains rather than “payments for not committing crimes.”



### Definitions

The definition of “forest” is the devil in the details of deforestation-free claims. In most forest definitions, agriculture and forest are mutually exclusive categories, with generic non-agriculture conditions added to tree-cover criteria for what comprises forest. And since clear-felling/replanting is considered a normal forest management practice, land can occasionally be bare. There is also ongoing debate on how to distinguish natural from planted forest, and although both have been reported jointly in FAO forest resource assessments, their properties differ substantially. The forest implied in deforestation-free commitments is natural forest and often with high conservation value or high carbon stock value. So, deforestation by FAO reporting standards can continue even if all the commodities produced meet the deforestation-free standards currently proposed; species-rich agroforests have already become a target for conversion to monoculture plantations (Villamor et al. 2014). The scale of assessments also matters. For larger areas zero-net deforestation (no change in forest fraction of landscapes) differs from zero-deforestation (no single-pixel changes), and thus, given the ongoing debate on definitions, deforestation-free claims can be virtually meaningless (Box 1).

**Box 1. Definitions**

There is little reason to exclude oil palm from the generic concept of what is a tree, and as oil palm plantations easily meet the height and tree cover criteria in the definition of a forest, they can be classified as such. Conversion of natural forests to oil palm plantations is then per definition, “deforestation free,” as it “only” modifies the type within the forest category (van Noordwijk and Minang 2009; van Noordwijk et al. 2014). This contrast with common value systems— but it is the consequence of forest definitions made by foresters who defend monocultural plantations as efficient makeovers of natural forests. In practice, a “forest” is as much an institutional concept as it is a description of a woody vegetation. Zero deforestation claims can now be restricted to high conservation value (HCV) or high carbon stock (HCS) forest subsets, leaving the rest open to conversion (Meyer and Miller 2015). Claims to be “carbon neutral” refer to quantitative perspectives on land-use change and have more substance (van Noordwijk et al. 2016) — but they may not have the same appeal as “deforestation free.”

**Footprints**

Policies regarding footprints (including EU rules on biofuel use) tend to use characteristics for product categories as a whole to allow comparison with others. The variation in footprints within any biofuel feedstock, however, is substantial. Palm oil was, depending on land history and management, both the best and the worst among biofuels compared by Davis et al. (2013). Variation in footprints within a commodity (or commodity group) is essential for differentiation, if standards and certification procedures are to be meaningful (Mithöfer et al. (2017). As forests were the common pre-human vegetation in large parts of the world, and especially where tropical commodities are produced, zero deforestation claims must specify a cut-off time. History cannot be turned back and historical land cover change must be accepted, usually referring to a “grandfather” rule linked to the time an agreement was reached. But as there tends to be a continuous reinvention of standards, the reference point of what is considered historical keeps moving forward. The cut-off date of past forest conversion is a key detail in any standard.

**Chains of custody**

Where the quality that a certification system tries to protect is embedded in the product itself but is not easily observed, a chain of custody system is essential. Such a system requires considerable documentation and bureaucratization to track a product along all transport and transformations in its value chain. This tends to be easier in vertically integrated value chains than in those that involve multiple market transactions. Interestingly, the chain of custody concept could also apply to land. As it stands, land (or associated concessions) can be readily transferred between commodity sectors without responsibility for past (buyer) or future (seller) ecological changes. Concessions for sustainable logging can transfer logged-over forests (that can still recover ecologically) to plantation

companies that start with land outside the high carbon stock category. Government authorities that provide concessions could accept responsibility for area-based chains of custody, and in so doing clarifying the intermediate landscape scale in jurisdictional dimensions (Minang et al. 2015).

### Controlling leakage

In addressing consumer behaviour, self-regulation by the oil palm industry has led to a segregation of the market, as seen in the Tripa swamp in Aceh, Sumatra (Tata et al. 2014). Companies that want to meet external expectations selectively retain defensible holdings and sell controversial ones, but companies that cater to markets that don't ask questions buy concessions from the first group. The companies are deforestation free, but the landscape become deforested. This is a form of leakage. 'Avoided deforestation' was rejected as a valid target for emission reductions in early UNFCCC negotiation because of such risk of leakage. It may be possible to reduce deforestation and associated emissions in selected places, but unless the total demand for products is reduced, such reductions are likely to lead to increased conversion elsewhere. Dewi et al. (2013) showed that establishing protected areas in Laos, Indonesia, Madagascar and Cameroon was associated with increased forest conversion in surrounding zones. Increasing the size of projects and ensuring that all areas are included is essentially what made avoided deforestation acceptable within the UNFCCC when this practice increased to the national scale. After initial resistance, sub-national scales of implementation described as jurisdictional approaches can more credibly declare that they are deforestation-free than private-sector actors can. Synergy between the private sector and local governments is now sought as a better approach to a "green economy" or to low-emission development strategies. The proposal by Meyer and Miller (2015) to combine zero deforestation zones with jurisdictional REDD+ is a logical next step — but it is based on expectations of REDD+ finance that may not materialize. An internationally agreed carbon tax is an alternative, but seems far from current political realities. Without external investment in deforestation-free areas, however, it will be hard for governments to meet the Sustainable Development Goals. Current commitments by the Indonesian government to avoid further peatland fires are inspired by health and economic consequences, rather than by carbon emissions (Dewi et al. 2015).



### Individually determined contributions

The demand for products that meet standards beyond compliance to legal norms is an expression of individually determined contributions of global citizens whose sense of responsibility does not stop at national borders. This context could be particularly effective when targeting emissions not currently accounted for, such as those embodied in trade. Lifestyle choices, dietary changes and waste reduction may be more effective than choosing products with a smaller carbon footprint. Governments that impose restrictions on individual consumption have little chance of winning elections, so a strong foundation

in voluntary choice and moral peer-group pressure will be more effective than nationally determined commitments.

### Wider challenges

One of the greatest global accounting conundrums is the low appreciation of agriculture and forestry. They account for only 5.5% of the world's GDP while employing more than half of the world's population, using two-thirds of all land and three-quarters of all fresh water, and providing more than 90% of humanity's food needs. Something is surely amiss in the world's balance sheet, and zero deforestation claims alone will not fix this problem. Providing raw materials for extractive industries and primary commodity production, will not bring economic development where it is most needed. A stronger commitment to developing local industries that add value to commodities is needed to make "green economy" expectations become reality. This can be achieved even without the expansion of agriculture and plantations if productivity is increased, market chains are improved and downstream industries offer more off-farm employment opportunities.

### Conclusions

Six key conclusions emerge. The first is that forms of certification that support consumer choices on the footprints they take responsibility for by buying certain products will themselves need public scrutiny, as there appears to be a fuzzy concept of "forest." Second: the accepted cut-off date for historical forest conversion is an essential detail for any forest-protecting claims. Third: as much deforestation is a stepwise process, often initiated by logging, that in itself is not ecologically irreversible, and the chain of custody concept should be extended to apply to areas, not just products. Fourth: rather than certifying products as deforestation-free, it is more meaningful to certify large landscapes or sub-national jurisdictions as sources of verifiably sustainable or responsible products, if these can be shown to have above-average performance maintaining natural forests in relation to human population density. Fifth: individually determined contributions to global environmental integrity can help in global forest protection, especially where they complement (rather than overlap with) national commitments and regulations. Finally, the extraction of primary agricultural products that add little local value or on-site processing will continue to be a risk for remaining forests. Concerted local strategies, formulated as green growth plans that integrate land-use plans, good agricultural practices and improved value chains, can promote a landscape approach through public-private-people partnerships that achieve equitable economic growth while conserving forests and maintaining healthy ecosystems.

It may be too early to state what part of current zero deforestation claims are substantiated by changes on the ground in production areas, and what part is merely shifting blame, with no net beneficial effect despite hard work at lower scales, such as Rausch and Gibbs (2016) pointed out with loopholes in current claims against Brazilian soybean.



Ultimately, positive impacts may arise from a complementary relationship between individually and nationally determined contributions. Zero deforestation intentions are laudable, but attention to detail is needed to make them real.

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# Section 2

## Corporate experiences

Photo credits, Section 2

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## 2.1 Sustainability and certification leads to the success of New Britain Palm Oil Limited

SANDER VAN DEN ENDE

### Setting the scene

Demand from consumers and markets, especially in Europe, have increased the rigour of standards for proving that the palm oil used in many different food products is produced in an environmentally responsible way. Although this has turned many in the industry away from voluntary certification, market leaders in sustainable palm oil regard it as an opportunity to distinguish themselves within the market. As a frontrunner company, New Britain Palm Oil Limited (NBPOL), wholly owned by Sime Darby, has chosen sustainability as its business model and credible certification as a vehicle to that end. NBPOL is able to comply with increasingly stringent standards through innovation and is also successfully applying these standards in its sourcing from independent smallholders.



NEW BRITAIN PALM OIL LIMITED HAS CHOSEN SUSTAINABILITY AS ITS BUSINESS MODEL.

NBPOL is a fully vertically integrated company, controlling its seed production, plantings, cultivation, harvest, delivery and processing, both from its nucleus estates and the many independent smallholders associated with its mills. The company is small enough to adapt to a changing market environment and large enough to make a difference. It operates ten mills and a refinery in Papua New Guinea, a mill in the Solomon Islands, and a refinery in the UK, all of which provide fully segregated product that is traceable to source and 100% RSPO certified.

The area that feeds these processing plants is made up of roughly 86,000 ha of nucleus estates managed entirely by NBPOL, and 42,000 ha owned and managed by an estimated 25,000 smallholder families who work closely with NBPOL. All of the nucleus estates and smallholders are RSPO certified, and since there are no other palm oil plantations or mills within NBPOL's supply areas, there is no risk of any mixing with non-certified production. This unusual feature is the result of years of involvement in voluntary certification standards and continual improvement.

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NBPOL certified its core operations to RSPO standards in 2008. The company was already conducting high conservation value (HCV) assessments prior to its new developments in 2013, when it published its Forest Policy. The policy committed NBPOL to zero deforestation and set out the methodology to implement this in a credible, equitable and transparent way.



The policy resulted from many years of engagement with the Roundtable on Sustainable Palm Oil (RSPO) and other stakeholders, such as the Palm Oil Innovation Group, The Forest Trust and most recently, the Rainforest Alliance. Through these partnerships, NBPOL has continued to raise the bar, including its most recent initiative of achieving the Sustainable Agricultural Network (SAN) standard for all its estates and

smallholders. Recognizing the safeguards that these standards have put in place, as well as the development aspirations of Melanesian land-owners, NBPOL is continually improving its approach to new developments through a methodology it calls value-based responsible development. This approach employs scientific rigour to decide how and where oil palm is planted, taking into account high conservation values (HCV), high carbon stock (HCS), and socio-economic impacts, all within a fluid and unhurried process of free and prior informed consent.

The company is also now incorporating community needs assessments into an approach called the One-Hour Principle, which looks at the availability of clean drinking water, education and health care services within one hour's walk from each community it works with. The approach was developed to meet the aspirations of the land-owning communities with whom NBPOL forges partnerships. They have eagerly embraced these concepts and committed to the time and effort required to make the various assessments required for the expansion of the nucleus estate. The company acknowledges, however, that it is unreasonable to expect the independent smallholders who sell to it to conduct these assessments themselves; they do not have the resources to do so.

### Forests, agriculture and development

Papua New Guinea is one of the most forested countries in the world, with 71% of its total land area still covered with natural forest (Bryan and Shearman 2015). It is ranked 158 out of 188 on the UN Human Development Index. The government's central strategic planning document (Papua New Guinea Vision 2050) notes that agriculture must play a significant role in improving the economy. According to Shearman et al. 2008, the main drivers of forest change in the country have been logging (48%), subsistence agriculture (46%) and fire (4%).

Subsistence agriculture in Melanesian society has been a significant part of forming the current forest estate, and much of what is considered as deforestation and forest

degradation by slash-and-burn is traditional agriculture that incorporates fallow as an integral part of the system (Bayliss-Smith, Hviding and Whitmore 2003; Allen and Filer 2015). The average fallow period in Papua New Guinea is 15 years, and more than half of all fallow takes the form of high forest (Allen and Filer 2015). However, slash-and-burn systems can maintain a healthy forest estate only under a relatively low and constant population pressure (Allen 2015). The population of the country has increased from 3 to 7.3 million in the past three decades, and from 4 to 17 persons per square km between 1961 and 2015, with 81% now living in rural areas. People in more remote areas have tended to migrate to roadside communities for access to markets and services, and many new roads have been built as part of the expansion of exploitative industries such as logging and mining. People have continued with traditional forms of agriculture, however, and oil palm is an attractive and proven low-risk entry into the cash economy.

### Involving smallholders

Smallholders in Papua New Guinea are essentially independent; they own their land and decide for themselves whether they want to engage in any new activity. The relationship between smallholders and milling companies was first established in 1967 as part of a public-private partnership between Harrisons and Crosfield, the World Bank, and the Territory of Papua and New Guinea, which was then administered by Australia. This resulted in privately managed companies establishing mills and large nucleus estates, which was bolstered by a significant group of smallholder producers, and which further supported their economic development.

State land was made available to participants who wanted to become involved, smallholder families were recruited and resettled, and the government provided infrastructure and basic services, including health care and schools. The private partner provided expert technical support to assist smallholders and ensure that they were able to produce export quantities, using a pricing formula regulated by government. The spirit of the agreement was one of economic development through the establishment of a viable export commodity, technology transfer and smallholder inclusion. However, although strengthened standards are achievable for the expansion of NBPOL's own large estates, the technical requirements are too strict for independent smallholders to achieve, and NBPOL does not solicit nor organize smallholder expansion. This situation is preventing new smallholders from entering NBPOL's sustainable supply chain. These potential growers are part of an expanding population for which oil palm represents their best opportunity for much-needed economic development and improvements to their standard of living. The land that is left "vacant" by responsible companies or smallholders without the ability to comply is still unprotected and available to a much larger industry that may have no consideration for social or environmental safeguards.



## Ensuring compliance with evolving standards

The ability of NBPOL to keep smallholders compliant with evolving standards relies on the sharing of benefits that result from innovation in sustainable oil palm. The hybrid seedlings produced by NBPOL's breeding programme are 30% more productive than previous generations and are issued only to new growers whose proposed land is inspected and found to be compliant with company standards. Because the seedlings are more productive, growers source all seedlings from NBPOL. In addition, NBPOL's ongoing research and development programmes provide smallholders with advice on agronomy, integrated pest management and meeting sustainability standards. As suppliers to NBPOL, all smallholders are advised when to harvest, and the company provides delivery and transport of their fruit at cost. NBPOL also provides interest-free loans that allow farmers to purchase inputs such as seedlings, tools and fertilizer, and which are paid back through deductions from fruit sales. In addition, an annual RSPO Bonus is paid to all certified smallholders; this is a proportional share of the premiums received from buyers.

## The highest hurdle

Some of the most important compliance standards are the environmental safeguards that certification has put in place, and the critical factor is new plantings. NBPOL issues new seedlings only to suppliers who agree to new plantings that have passed the necessary preliminary inspections. Originally, initial inspections and authorization for the release of seedlings were controlled entirely by the Oil Palm Industry Corporation, a quasi-governmental body created in 1992 with a mandate to provide extension services to smallholders.

In 2013, with support from the World Bank, a set of guidelines for new plantings were produced. They governed compliance with key RSPO criteria; namely, that no primary or high conservation value habitats were converted and that the use of free and prior informed consent was proven. The guidelines were simplified to meet the context of rural Papua New Guineans; They tend to live along former logging roads, since historically, the oil palm industry has followed logging, which took place in the 1960s. Smallholder families typically allocate one or two ha of their land for oil palm, near their homestead so that they can easily tend it and near a public road for ease of transportation.

Although the earlier guidelines were adequate in preventing the conversion of high conservation value forests, the new certification standards require smallholders to conduct the same level of studies as large estates. This includes assessments of HCVs, HCS, social impacts, land-use changes and greenhouse gas emissions, as well as a soil suitability study. These assessments are effective in guaranteeing the sustainability and environmental and social responsibility of a specific project, but they are also impossible for rural people to undertake. NBPOL paid consultants an average of US\$ 13 and US\$ 18 per ha for recent large-scale HCS and HCV assessments, respectively. Although most smallholders could afford this for their small plots, qualified consultants — i.e., those who pass the highly regulated quality controls — cannot offer that price to individual smallholders and their individual one- to two-ha plantations.

The fact that RSPO now requires the same level of assessment for new smallholder developments as for large estates, has meant that there have been no new smallholder developments since January 2016. The cost and technical skills required are out of reach for associated smallholders; although NBPOL is willing to assist, this is made difficult since smallholders are essentially independent. The current expansion model will work for NBPOL into the medium term, but it is a more difficult proposition for the development aspirations of the country as an agrarian nation, and for the smallholders who form an important part of a society that aims to make the transition into a modern economy.

NBPOL shares the RSPO premiums it receives on sales, but the additional amount that the market is willing to pay does not equal the extra costs of certification, nor the opportunity cost of putting fallow forests into less sustainable but more intensive land use. For a developing and highly forested country such as Papua New Guinea, this raises the questions of the effectiveness of certification commitments and how to achieve national development objectives while also satisfying the increasing demands of consumers and buyers from the developed world.



### Conclusions

Market pressure has driven responsible industries in a direction that gives increasing priority to environmental protection over social development objectives. This has resulted in a tendency to abandon regard for human well-being and economic development. For NBPOL, the solution has been to continue with new expansion exclusively on grasslands, and to temporarily stop efforts to increase the number of smallholders it works with until tools are developed to fully assist smallholders to implement environmental safeguards. It should be considered, however, that NBPOL's sustainable land-use strategy could open the door to planters who do not consider environmental or social safeguards, inadvertently giving them a competitive advantage.

Improvements are needed in working with standard-setting organizations such as RSPO and SAN to ensure that safeguards are appropriate to the risk being addressed and are holistic in their approach. The average smallholder planting averages one to two ha, and the environmental impacts of this are far lower than those of a nucleus estate, which typically exceeds 1,000 ha. Ironically, new nucleus estates have been able to comply with the RSPO zero deforestation policy and technical procedures, while smallholders are unable to do so under current criteria and requirements. Smallholders cannot afford to pay for the needed site assessments and have specific issues with how such assessments apply to vegetation that smallholders perceive as only an intermediate phase of agriculture on their private land.

Where national government outreach programmes fail to provide sufficient technical training, NBPOL has had to step in and invest in the necessary support and internal control systems needed to ensure improving yields and compliance with evolving certification standards. Where standards are becoming increasingly difficult to meet, thus creating a technical barrier, NBPOL is building internal capacity to carry out the assessments (such as those for HCV and HCS). The company is also working in partnership with the HCV Resource Network on a streamlined approach for conducting HCV assessments for smallholders as well as combining these assessments. These approaches are appreciated by smallholders, who are always most interested in support that will increase their income and standard of living. Finally and most importantly, an assessment for any particular value, whether carbon or biodiversity, must take into account local, national and international significance, and weight these against human development needs and international obligations under UN Conventions on climate change and biological diversity. And while no deforestation commitments may be ideal for a particular company, from the perspective of Papua New Guinea, the country is being asked to sacrifice more than European countries in order to bring their respective human development indices closer together.

NBPOL firmly embraces the goals and challenges of adopting social and environmental safeguards into large-scale agriculture. It is developing relevant methodologies to ensure that these safeguards are met and maintained, and that they are commensurate with the risks of each new development. Imposing the same procedures for individual independent smallholders as for large developments, however, poses a risk that smallholders may not be able to participate in sustainable supply chains. They will then engage with any land use that most directly meets their development needs and aspirations, regardless of how sustainable it is. While the European market may be happy to see a no-deforestation policy being implemented, there are other much larger markets who don't care. The challenge for sustainable oil palm, or any other commodity, is to find the right balance.

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## 2.2 Experiences of the Asia Pulp & Paper Group

AIDA GREENBURY

### Why zero deforestation?

The demand for a range of global commodities has increased rapidly over the past two decades, contributing greatly to economic growth in tropical forest countries such as Indonesia. However, this has given rise to deforestation as producers in developing countries try to meet this demand, which originates primarily from developed countries. Eventually, through the efforts of various stakeholders including NGOs, unsustainable practices and the companies engaged in them have been brought to the attention of a global audience.

Established in 1972, Asia Pulp & Paper Group (APP) is one of the largest producers of pulp and paper in the world, with supply chains covering more than one million ha of pulpwood plantations across Indonesia. In the past, APP was one of the companies that converted natural forest into pulpwood plantations.

APP realized the need to transform its business-as-usual practices if it wanted to remain a market leader. Four years ago, it began forging a new business model that placed sustainability at its core – striking a balance between people, planet and productivity. This also responded to a shift in consumer demand for sustainably sourced commodities, since continuing as before would have resulted in significant reductions in sales.



APP IS CREATING  
A NEW BUSINESS  
MODEL THAT  
DELIVERS RETURNS

FOR PEOPLE AND THE PLANET AS  
WELL AS PRODUCTIVITY.

### APP's sustainability commitments

Building a new business model required developing and implementing an integrated, holistic and sustainable solution to land-use planning and natural resource management. APP embarked on its journey by developing commitments in its Sustainability Roadmap Vision 2020 and Forest Conservation Policy (FCP), launched in June 2012 and February 2013, respectively. APP has since strived to change practices in the pulp and paper industry with a range of commitments, the most fundamental of which is ending all further clearance of natural forest. These commitments were set out on the global stage when APP Chairman Teguh Ganda Wijaya signed the landmark New York Declaration on Forests in September 2014, making APP the first pulp and paper company to do so.

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The Forest Conservation Policy underlines the company's overall commitment to immediately end all natural forest conversion across its supply chain, and to ensure that no natural forest fibre reaches APP pulp mills. It has four key pillars: 1) protecting natural forests; 2) implementing peatland best management practices; 3) improving social engagements and resolutions; and 4) ensuring sustainable fibre supply and sourcing. This policy marks a pivotal departure from business-as-usual practices by bringing sustainability to the core of all operations, effectively uncoupling economic development from environmental degradation. To date, APP has invested more than US\$ 200 million for implementing this policy, and has collaborated with a wide range of sustainability experts and stakeholders. In addition, APP has supported the establishment of the non-profit Belantara Foundation in 2015 to implement landscape-level forest protection and restoration in ten critical landscapes in Indonesia.

## Progress to date

### *Protecting natural forests*

Protecting natural forests requires a comprehensive approach to land-use planning that emphasizes both social and environmental aspects. APP integrated results from three years of identification and evaluation of areas of high conservation value (HCV), high carbon stock (HCS), use of free, prior and informed consent (FPIC), peat studies, and fibre supply assessments to develop Integrated Sustainable Forest Management Plans (ISFMPs) for its concessions and all those of its suppliers. The ISFMP approach identifies and prioritizes areas for protection versus areas for production, restoration or retirement, based on scientific evidence and inclusive decision-making. Land-use and zoning plans are developed using data collated from HCV, HCS and FPIC assessments and peat studies, and are supported by high-resolution Light Detection and Ranging (LiDAR) 3D mapping, community mapping and input from stakeholder working groups. See Table 1.

**Table 1. Land use on APP concessions following implementation of the Integrated Sustainable Forest Management Plans**

Moratorium		ISFMP	
Spatial use	No. ha	No. ha	Land management category
Conservation forest	383,387	542,510	Environmental management
Production area	1,642,517	1,486,217	Production
Infrastructure	85,471	Absorbed as production and social management	
Indigenous species	230,763	429,783	Social management
Livelihood plantations	140,774		
Non-effective area	158,518	182,921	Non-effective
Total	2,641,431	2,641,431	

### *Implementing peatland best management practices*

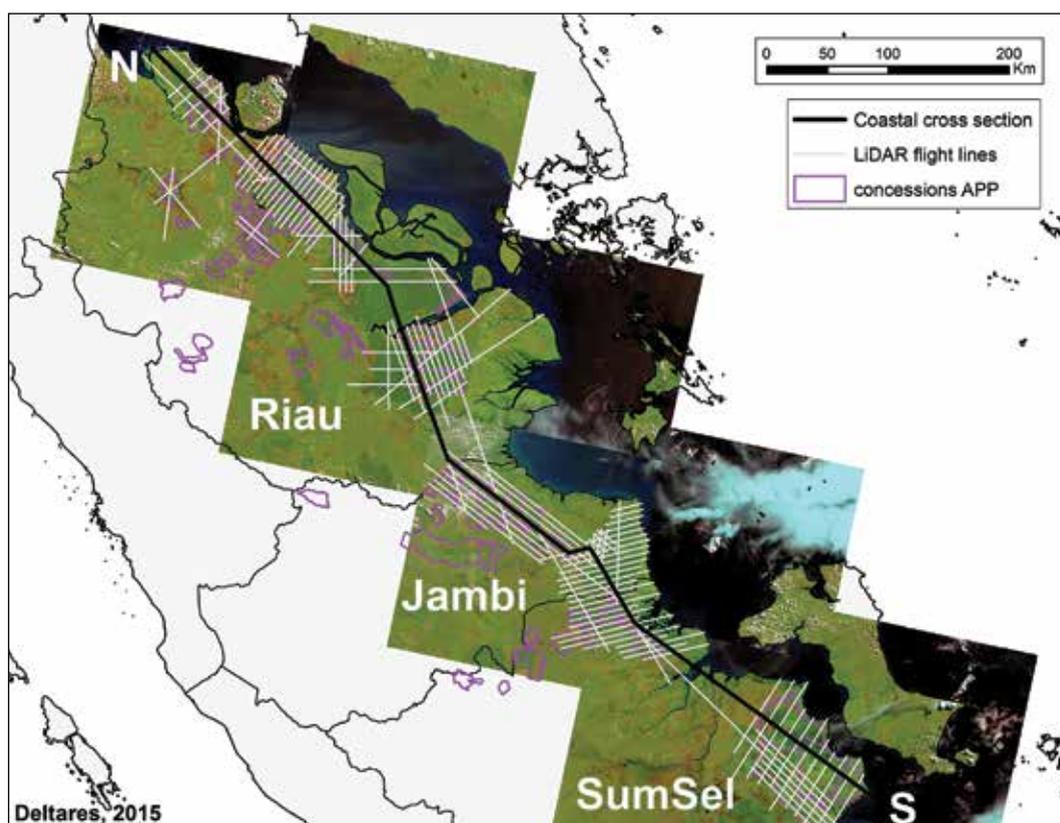
A report for the UNFCCC estimated that 63% of greenhouse gas (GHG) emissions in Indonesia result from peatland fires and land-use change; 60% of the company's and its suppliers' plantations are located on peatlands. Implementing Peatland Best Management Practices (PBMP) is thus crucial to maintain the balance between production and protection, while reducing risks of fire, soil subsidence and flooding associated with degraded peatlands, and supporting the Indonesian government to achieve its GHG abatement targets. APP uses innovative technologies to develop an effective approach to peat management.

To ensure consistency with international best practice, APP partnered with peat and water management expert Deltares to complete LiDAR mapping of 4.5 million ha of peatland and lowland on the eastern coast of Sumatra and West Kalimantan — one-quarter of Indonesia's total peatland area — that identified high-priority areas for immediate conservation (Figure 1). As a result, APP retired 7,000 ha of producing plantations for conservation purposes in 2015, becoming the first private-sector company to do so. To reduce fire risk, APP built more than 5,000 perimeter canal blockings to raise the water level around plantations. To increase efforts to restore peatlands, APP's Alternative Species Programme is conducting pioneering research with partners to identify species that will adapt and thrive in peatland with high water levels, complemented by studies on the application of mycorrhiza root symbionts in restoring and maintaining plant, soil and forest ecosystems.

### *Improving social engagements and resolutions*

The basis of APP's interaction with local communities is the principle of free prior and informed consent (FPIC), which states that community members have the right to give or withhold their consent to proposed projects that may affect the lands they customarily own, occupy or otherwise use. With comprehensive input from various stakeholders, APP developed a Responsible Conflict Resolution Procedure, a Collaborative Conflict Management Approach, and a Grievance Protocol to better address and resolve any conflicts arising over land rights and tenure within its concessions. APP also introduced the Integrated Forestry and Farming System. This agro-ecology programme supports and enhances alternative livelihoods for communities in and around APP and its suppliers' concessions, and those with high exposure to land conflict, forest fires, encroachment or illegal logging. The programme aims to reduce forest and land degradation and pressure on natural forests, and build closer ties with communities, providing planting materials and other farm inputs, equipment, tools and training.



**Figure 1. LiDAR flight path, west coast of Sumatra**

### *Ensuring sustainable fibre supply and sourcing*

Through its Responsible Fibre Procurement and Processing Policy (RFPPP), APP is strengthening its chain of custody with effective traceability systems and consistent monitoring mechanisms. This aims to ensure that its global supply chains adhere to responsible forest management and uphold its commitment to zero deforestation. APP only accepts wood with verified legal origin and chain of custody that has not violated traditional or civil rights and complies with the International Labour Organization's eight core conventions considered as fundamental principles of rights at work. All current and potential APP suppliers must demonstrate that they are in line with APP's RFPPP and Forest Conservation Policy by complying with the Supplier Evaluation and Risk Assessment framework, which is conducted on an annual basis. The framework uses 12 indicators that combine qualifications from internal and external policies (such as the FSC Controlled Wood standard) to categorize the risk level of a supplier. If significant risk is involved, suppliers are given the opportunity to comply by following prescribed and time-sensitive corrective actions. APP is also integrating smallholders into their supply chains, which improves local economies and reduces the risks of fire and encroachment; smallholders will also be subject to RFPPP.

## Monitoring and reporting

APP developed the FCP Monitoring Dashboard ([www.fcpmonitoring.com](http://www.fcpmonitoring.com)) to provide easy access to detailed information on all of its pulpwood suppliers and allow external monitoring of progress in the implementation of its Forest Conservation Policy. All data is publicly available, including reports from investigations following the use of its Grievance Procedure. To further assist in monitoring, an Independent Observers platform of NGOs and academics was established in April 2013. Supported by The Forest Trust, the platform periodically conducts ground checks, including the integrity of moratorium boundaries, and reports its findings. Furthermore, by integrating standards on legal and responsible procurement, APP developed the Scorecard System for its mills and suppliers. This ensures that they operate in compliance with the Forest Conservation Policy and with national and international standards that APP aspires to. APP has also invited external evaluation of its progress against its various commitments (Rainforest Alliance 2015). In the future, monitoring and progress reporting will be embedded in the auditing process within each forest management unit.

## Challenges to putting commitments into practice

### *Lack of expertise*

APP is the first pulp and paper company to make such commitments, and understanding the range of actions necessary to halt natural forest loss continues to be an iterative process. Since it is a pioneer, APP's efforts have been subject to trial and error, but they have benefitted from support from scientists and experts as the company seeks to create a blueprint for the industry. APP is committed to sharing its experiences, challenges and successes to help others embarking on a similar journey. It is aware that the only way to scale up these actions is through partnerships and sharing knowledge.

### *Defining zero deforestation*

A major challenge has been the lack of an agreed definition of zero deforestation, which makes it difficult to compare and assess pledges made by various companies against the demands of NGOs. APP is working with other stakeholders as part of the High Carbon Stock Approach (HCSA) to develop and implement a common methodology on determining areas for production and protection. They reached an agreement in late 2016 for a single, coherent set of principles for companies that implement zero deforestation commitments. Fundamental elements include protection of High Carbon Stock forests, high conservation value areas and peatlands, forest stratification, decision-making on young regenerating forest within fragmented landscapes, the role of carbon, and robust implementation of FPIC and other social requirements.

### *Monitoring progress*

Creating a transparent and robust monitoring system is integral to quantifying reductions in deforestation rates and GHG emissions, and to empirically develop the most effective approach to sustainable landscape-based management of forests and lands. Finding or

developing an acceptable approach that is not excessively costly continues to be a challenge for the companies who operate in this arena, including APP. Furthermore, it is important that monitoring and reporting frameworks align with national and global indicators.



### *Regaining trust*

APP accepts that this is a timely and delicate process with considerable legacy issues to address, that rebuilding trust with stakeholders will take time, and that transparency is key. This applies not only to what is achieved, but also to the challenges of developing and implementing such initiatives. Given its limited resources, APP must also strike a balance between implementation and reporting. To ensure transparency

and invite feedback, APP engages with civil society and other stakeholders through various platforms and meetings; this has resulted in partnerships with many NGOs that APP hopes will continue to develop.

### **Roles and contributions of the financial sector and public policy**

It is APP's hope that in the future, public financing will be available to support landscape-level conservation. Thus far, APP has financed all its own sustainability efforts and initiatives. APP's operations do not stand alone; there are many other actors active in the landscape. To ensure consistency and continuity, it is necessary to mobilize more resources to extend programmes over the entire landscape, including areas outside of APP's pulpwood suppliers' concessions. A successful funding mix — combining contributions from the private sector with results-based payments from REDD+ — is required. Some up-front funding should be provided to communities, using a combination of indicators related to both carbon and non-carbon benefits.

Deep-rooted operational, social and political challenges remain. They continue to stand in the way of fulfilling sustainability commitments, and will be solved only through multi-stakeholder efforts. To this end, APP is engaging with communities, NGOs and local governments to address the range of issues and priorities across an entire jurisdiction. This allows all the components to be accommodated (forest protection, restoration, sustainable development, etc.), while addressing leakage and reducing pressure on forests. APP is one of a number of partners that have signed a Memorandum of Understanding in South Sumatra and West Kalimantan, with the aim of supporting both provinces' commitments to sustainable landscape development and green growth.

## Benefits

### *The bottom line*

APP has realized a host of benefits following the implementation of its Forest Conservation Policy and zero deforestation commitments, including a clear return on investment within its operations and business. Restoring, rehabilitating and rewetting peatlands have led to direct improvements in soil quality and the surrounding ecology. Investments in fire management have translated into reduced risks and losses. And by taking greater control of its supply chain, the company has increased the mean annual increment of pulpwood trees by 13% while reducing wood waste by 29%. All these changes have positive impacts on APP's profits.

### *Greenhouse gas (GHG) mitigation*

APP strives to play a key role in supporting the Indonesian government's pledge to reduce GHG emissions by 26% by 2020. Initial calculations by APP indicate that in 2015, the company avoided 14.29 million tCO<sub>2</sub>e in emissions as a result of improvements in carbon management in forestry activities. As APP continues to scale up its efforts, it aims to achieve 33.8 million tCO<sub>2</sub>e GHG emissions in 2020, which would account for approximately 4% of the total national GHG Reduction Target of 26% by that year.

### *Increased social engagement*

APP firmly believes that improving the welfare and livelihoods of local communities is the key to forest conservation and restoration. Initiatives in place under APP's Integrated Forestry and Farming System show progress; they aim to increase the incomes of initial benefactors by 20–30%, with this figure forecast to increase to 50–75% in the third year. APP have also improved conflict resolution: 40% of reported conflicts started implementing resolutions as of August 2016 (due diligence processes verified by The Forest Trust). This reduction in conflict decreases disruptions to the supply chain, and improved relationships enable APP to scale up efforts in working with communities to conserve and restore natural forests in and around suppliers' concessions.

## Conclusions

Implementing APP's zero deforestation pledge has been a complex and challenging process, and it is far from complete. Progress shows that partnerships are the key to success. APP is now more committed than ever to building a business model that delivers real returns to forests, people and Indonesia's economy. Continual assessment of progress is required to ensure that APP continues to effectively uphold its zero deforestation pledge and to develop policies that can adapt to new issues as they arise. For zero deforestation to become a reality there must be a clear understanding that no single actor is responsible for



protecting the forest — everyone has a role to play. The commitments and efforts of one company alone will not suffice. Conserving primary forests and significantly reducing global greenhouse gas emissions can be achieved only through collective efforts from all stakeholders within the landscape.

APP's zero deforestation commitment has helped the company to start to regain the trust of both stakeholders and customers. Zero deforestation goes beyond forests; working with communities and understanding conservation values across an entire landscape are key to upholding zero deforestation pledges. There remains a critical need for robust and commonly accepted monitoring and reporting frameworks to communicate progress and challenges accurately and transparently. The responsibility for creating models of best practices relies on companies leading the way.

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Rainforest Alliance. 2015. *An evaluation of Asia Pulp & Paper's progress to meet its Forest Conservation Policy (2013) and additional public statements*. Progress Evaluation Report, February 1, 2013 to August 15, 2014. New York, USA: Rainforest Alliance.

## “Zero deforestation is the new operational norm”

Jonathan Horrell, Director Global Sustainability, Mondelēz International

### ► Why did Mondelēz commit to zero deforestation?

It is not in our best interests to have deforestation in our supply chains. Our efforts to address this date back to individual projects in the 1990s; in 2004 we engaged with the responsible sourcing of cocoa and coffee, initially via third-party certification. This helped us develop our first target-led corporate sustainability commitments for 2005–10, and now on to 2020. Our specific commitment is to address deforestation in our key supply chains and, as progress is made on the ground, to track and report the resulting reductions in our carbon footprint. In the past 12 months, this has been intrinsically embedded in our life-cycle analysis, and as part of our efforts to reduce Mondelēz’s carbon footprint and greenhouse gas emissions. We also recognize the key role that forests play in protecting biodiversity and ecosystem services.

### ► How did you put your commitments into practice, and what difficulties did you face?

Considerable internal change was needed before we began implementing our commitments to address deforestation, and we started where we could have the largest measurable impacts. We prioritized cocoa and oil palm, adapting our Cocoa Life program and moving ahead rapidly from that. West African farmers already see the impacts of climate change, and many of our oil palm suppliers are ready to change their practices. But to achieve a true transformation in the value chain we need systemic change on the ground. Capacity building is a good start that needs to be supported by governance reform in forested countries.

### ► What changes would help you?

The New York Declaration on Forests was a big step forward, and pushing forests to the forefront in climate change discussions has also helped. But we need to get a better dialogue going regarding green growth to address the risk of pushback from producer countries who fear that reducing deforestation will limit rural economic development. There is excellent work from some, such as the Tropical Forest Alliance 2020, that should be expanded. We must turn the dialogue around so that producer countries take ownership of the solutions instead of having them imposed from outside. We also need to look more at the landscape as a whole, and bring in jurisdictional and sector-wide approaches. Significant consensus is forming among consumer goods companies and raw material producers, and we must now engage more with each other, within and between sectors. We must go beyond the supply chain. The UNDP national commodity platforms provide a good model for multi-stakeholder inclusion. Not easy nor quick, but much needed.

### ► Where do you see such commitments into the future?

We see zero deforestation as the new operational norm. But it will take longer than 2020 to reach those goals across every raw material supply chain. It’s possible to change practices over large areas quite quickly where you have a few large actors. It’s also vital to work more with smallholders who make up as much as 40% of the palm oil sector and almost all cocoa production. Reaching millions of smallholders is more complex and progress will be slower. There’s been some good progress, but we still have a long way to go so to see real impacts. We must be prepared to sustain our effort beyond 2020.



## 2.3 Oil palm and forest protection with Golden Veroleum Liberia

DAVID ROTHSCHILD, MATT KARINEN,  
ANDREW KLUTH and NIENKE STAM

### Introduction

Most tropical deforestation is caused by agricultural expansion for the production of global commodities such as soy, palm oil, beef and wood products. For transformative finance and business models that align commodity production with forest protection with the active support of smallholders and communities, government, industry and civil society must work together.

IDH (the Sustainable Trade Initiative) is leading innovation through its Landscapes Programme, developing production-protection-inclusion (PPI) arrangements in 11 landscapes where commercial interests are looking for ways to support sustainable natural resource use. The aim is to build public and private stakeholder coalitions that optimize commodity production that explicitly links forest conservation and social inclusion. This article outlines emerging lessons from the early stages of development of PPIs in the southeast of Liberia. The PPIs were created through a partnership with the Forestry Development Authority of Liberia, IDH and the oil palm concession holder Golden Veroleum Liberia (GVL).



EFFECTIVE FOREST  
CONSERVATION REQUIRES  
INCENTIVES FOR ALL  
PARTIES INVOLVED.

### Background

Liberia is one of the least developed countries in the world, with high numbers of under-educated and unemployed youth and few opportunities for economic development. The 23 years of civil conflict after the 1980 coup, and the Ebola outbreak in 2014–15, had a severe impact on all aspects of society and the economy. GVL obtained concessionary rights to develop 220,000 ha for oil palm in 2010 in southeast part of the country, which is particularly undeveloped. Liberia is home to more than 40% of the ecologically important Upper Guinean rainforest, and the southeast is especially densely forested, so responsible development is essential to avoid deforestation and forest degradation.

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GVL's principal investor is Golden Agri-Resources (GAR), the world's second largest palm oil company. GAR announced a Forest Conservation Policy in 2011 stating that new oil palm developments would not contribute to deforestation. GVL adopted its own Forest Conservation Policy in 2013, which aimed to implement development without deforestation and to respect the rights of the host community. The GVL policy commits to no new developments in high carbon stock forests, high conservation value areas or on peatlands. This, the first commitment of its kind in Africa, was piloted with support from The Forest Trust and Greenpeace. It includes a commitment that community agreements must follow principles of free, prior and informed consent (FPIC) and use participatory mapping as mandated by the Roundtable on Sustainable Palm Oil (RSPO), of which GVL is a member.

### GVL and plantation development

The Concession Agreement signed by GVL and the Liberian government in 2008 states that land within concession areas "shall be free from encumbrances at the date of handover of such lands." In practice, GVL recognizes that all land it might develop belongs to communities that rightfully assert ownership, typically through traditional land-use rights, but also through acts of law and title deeds. Since the Concession Agreement is valid for 65 years and could be extended for another 33 years, it is essential that GVL builds strong, informed and robust partnerships with communities.

Implementation begins with land identification:

1. GVL uses satellite imagery to conduct an initial land cover assessment to identify land suitable for development.
2. High conservation value (HCV) and high carbon stock (HCS) assessments classify forest cover into six categories: high-, medium- and low-density forest, young regenerating forest, scrub, and open land, in accordance with the HCS Toolkit. A decision tree assesses whether isolated forest patches should be conserved or may be developed. In accordance with this approach, GVL develops only on open land and scrub. Third-party consultants conduct Environmental and Social Impact Assessments and verify HCV assessment, as required under RSPO's New Planting Procedure.
3. Results from HCS and HCV evaluations are factored into land cover assessments. Conservation land is first set aside, before assessing what should be set aside for community and other uses, such as riparian buffer zone. The remainder is land available for possible development.
4. Participatory mapping with host communities identifies/confirms the existing/future areas that cannot be developed; e.g., farmland, culturally important areas (sacred sites and cemeteries), inhabited and abandoned towns, and other important areas (e.g., for harvesting roof thatch).



5. If and when agreement on developing an area for oil palm is reached, a Memorandum of Understanding (Box 1) between the community and GVL is signed. Typically, GVL plants on an average of around 5–10% of the total community land, once HCV and HCS areas and land needed for other uses is excluded.

### **Box 1. Memorandum of Understanding**

A Memorandum of Understanding (MOU) sets out expectations on both sides and defines the land that communities will permit GVL to lease and develop. Almost invariably, HCS forests are excluded and are therefore outside the concession areas. GVL has no legal mandate to ensure that these community-owned forest areas are conserved, although MOUs since September 2014 have included a signed map showing HCV/HCS areas that should be conserved. This reaffirms GVL's commitment to its forest conservation policy and to RSPO Principles and Criteria. More recent MOUs also include an appendix that sets out a joint commitment with the community to conserve protected species, riparian buffer zones and forested areas.

## **Community relations**

A number of notable NGOs and CSOs have been critically watching oil palm development in Liberia, with the view that the age of concessions is over. They argue that instead, investments should be made directly in communities to enable them to improve productivity, possibly as outgrowers selling to concessionaire mills. Liberian concession agreements include a requirement that concessionaires should support the development of outgrower schemes, with approximately 1 ha for every 5 ha of company oil palm. For example, GVL is required to help develop 40,000 ha of outgrower oil palm if the company develops its concession up to the maximum allowed 220,000 ha. However, the concession agreement also states that the Liberian government must obtain funding for the outgrower programme; since this has not happened, the programme has yet to start.

GVL investment has led to the monetization of large areas of land for the first time. This, combined with concerns that traditional land tenure rights, traditional uses and cultural land values are being disregarded or violated, has led to complaints, claims and counter-claims. Sometimes these complaints are legitimate, but, anecdotally at least, they are also at time motivated by prospects of personal or political gain.

GVL acknowledges that it did not get land agreement processes right in its early days of operation, resulting in a complaint to RSPO and a stop-development order in the affected community. GVL was held under a high level of scrutiny thereafter, but has made substantial investments to improve FPIC processes and continues to review and refine them with feedback and experience. By the end of 2016, GVL had developed some 15,000 ha and employed more than 3,700 people, who were estimated to locally support and benefit between 15,000 and 30,000 household members, dependents and other people.

## Limitations of the FCP and HCS approaches

GVL's operations are expanding in a manner that is verifiably free of deforestation, but the company is aware that its presence opens up opportunities for deforestation outside its immediate control. It has no legal enforcement capability outside its concession areas, so the way it applies its forest conservation policy and the HCS Toolkit can address only its direct impacts. In-migration — with the prospect of jobs, high rates of population growth and easier access to high forest cover areas as a result of road improvements — means that indirect pressures on forests are heightened. Despite joint commitments to conserving forested areas included in MOUs, GVL acknowledges that it and signatory communities do not have a process for holding each other accountable to ensure that both parties honour this commitment. Community forests and other forested areas of community land can be sizeable (40,000 ha is not uncommon) and may comprise 80–90% of total community land. These forest areas can include rich biodiversity, yet most have no legal or formal protected status.

GVL recognizes that a meaningful zero deforestation policy requires working integrally with communities and smallholders in the producing region, as well as raising the legal protection status of forested areas. It is essential to encourage full community participation in the conservation and management of HCV and HCS set-asides, and recognizing their rights and assuring them continued access to their cultural HCV forest resources. For communities to adopt such conservation and forest protection initiatives willingly, incentives must be provided within long term agreements to ensure the accountability of all parties involved.

## Production, Protection and Inclusion agreements

So, is there an investment model that can help address this incentive gap for active forest protection? IDH and GVL believe that community outgrower programmes and forest protection — if combined in a design that guarantees production, protection and inclusion — has the potential of becoming the leading model for concession development in Liberia. In 2015, the country's Forestry Development Authority and IDH, with the support of Norway, partnered to protect forests threatened by agro-commodity expansion. They realized that effective forest conservation requires working with communities to increase agricultural income on existing farmland. The community oil palm outgrower scheme was one immediately evident opportunity, due to its expected high revenues, and because investments in tree crops are long term, as are investments in forest conservation.



The production-protection-inclusion approach was developed to combine investment in inclusive agricultural productivity with strong incentives for forest protection. Looking at lessons learned from oil palm development in Southeast Asia, the partners incorporated four key elements in the production-protection-inclusion approach: 1) respecting and

strengthening community land rights; 2) free, prior and informed consent; 3) development of zero deforestation concession; and 4) strong monitoring and continued incentives to support forest and biodiversity protection.

Work began with a proposal for communities in the GVL concession, in partnership with IDH and FDA, to raise capital for investing in community oil palm farms, while leveraging this investment to create incentives for forest conservation. This introduced production-protection agreements (PPAs) as a form of public-private-community forest protection governance. Through these agreements, communities commit to conserve, actively monitor and manage forests in exchange for access to investment capital and technical assistance to establish community oil palm farms. The investment model includes an annual income paid to communities, which is conditional on verified compliance with a forest protection plan that communities must commit to as a condition of the PPA.

The first round of investment is with six to eight communities for 4,000 ha of community oil palm farmland, leveraging at least 20,000 ha of HCV/HCS forest conservation. Key investors, who provided cash and long-term instruments, include the Investment Fund for Production Protection, which was launched at the Davos World Economic Forum in January 2017. GVL, the concession holding company, is another key investor.

The initiative builds on a key lesson: parties must work within an agreed and consistent framework to achieve effective forest conservation. The strengths that GVL brings are expertise in palm oil management, its agreement for palm oil fruits, its community engagement capacity and its environmental monitoring and management team. These provide an essential interface in conservation planning and management in coordination with communities and the Forestry Development Authority. The authority is mandated to monitor forest conservation and ensure that companies and communities protect forests

— which also triggers annual incentive payments to communities. IDH's temporary role is to work with the government and GVL to raise investment capital, and to coordinate the provision of technical assistance and capacity building so partners can fulfil their programme obligations.



### Addressing risks

The focus of technical assistance and community capacity building is overcoming three key risks. The first is the risk that communities will sign agreements without fully understanding or agreeing to all their commitments, such as their role in forest conservation and potential liabilities. To overcome this, decision making around oil palm loans and PPAs must be underpinned by community-level free, prior and informed decision making. The process will include providing information to communities; built-in checkpoints leading to any eventual investment decision; external governance capacity building and legal support; and external validation of full compliance with FPIC principles prior to investment and signing of the agreement.

The second risk relates to unequal benefit sharing, or elite capture (from within or outside of the community) of benefits, financial or otherwise, and the marginalization of some people due to inadequate governance systems. To support inclusive community decision making and benefit sharing, external partners must be trained and provided with resources to support communities in building accountable and inclusive governance structures for decision making related to their oil palm and forest protection commitments.

The third risk relates to economic and livelihood factors, including the possible low profitability of palm oil as a core cash crop, single-crop dependency, and possible food insecurity due to less land being available for food crops. In response to this risk, communities that are unable to set aside sufficient land to ensure food security or options to diversify income will not be eligible for the investment. Investment partners must work with communities to support effective land-use planning and provide technical assistance for income diversification and food security.

Historically, the benefits from natural resources that reach local communities in Liberia have been spent on local infrastructure, such as building a school or community meeting place. Through farmer field schools and marketing programmes, the aim of the partnership is to support communities by investing oil palm revenues productively to improve resilience and food security.



### Emerging lessons

This pioneering production-protection-inclusion approach is based on the realization that communities can take leadership roles in zero deforestation commitments only if they are provided with appropriate incentives. An emerging lesson is that if PPAs are to succeed, capacity building will be necessary, not only for communities but for all local stakeholders, including national and local government and government agencies, NGOs and CSOs, and GVL field staff. Ongoing engagement, communication and capacity building needs to be expanded to include all these stakeholder groups in order to adopt zero deforestation and forest protection.

Outside of Liberia, a precondition for scaling up such initiatives is that policies, markets and financiers offer incentives to companies and communities that protect forests. This includes clear commitments from buyers to source only from companies that effectively implement zero deforestation policies, improved traceability of palm oil to verified zero deforestation landscapes and jurisdictions, stronger commitments from international finance to invest only in zero deforestation production, and agricultural intensification on degraded lands that is combined with forest protection incentives.

## Conclusions

This article highlights an emerging experience of tying investment in smallholder oil palm outgrowers to forest protection. For this to succeed, forest protection commitments must be incorporated into the way a company works with communities. Responsible and sustainable zero deforestation oil palm development requires clear agreements with host communities, and strong and well implemented policies that protect HCV and HCS forest areas.

The innovative production–protection-inclusion agreement approach shows promise as a form of public-private-community governance for forest protection. A key strength of this approach is that it raises the status of HCV and HCS forests while providing incentives for communities, government and concession holders to collaborate in long-term forest protection. Communities must be involved at all stages, and a well-managed approach must bring together communities, private companies, regulators, civil society, funders, government agencies and technical trainers (conservationists, alternative livelihood coaches). It must also be accompanied by ongoing engagement and capacity building that continues to create support for zero deforestation and forest protection.

## “Every country has its own challenges”

Christopher Stewart, Global Head of Corporate Responsibility and Sustainability, Olam International

### ► Why did Olam commit to zero deforestation?

Olam has committed to zero deforestation of high conservation value (HCV) and high carbon stock (HCS) forests, no operating in peatland, no burning during any land clearing, and no new plantations without free, prior and informed consent (FPIC) from local communities. This is our Palm Policy commitment. And after four years on the ground in Gabon, thanks to the detailed, extensive and collaborative planning approach we employed, we have planted more than 40,000 ha of ecologically integrated plantations and are seeing amazing results in job creation and poverty reduction, with minimal negative social impacts.

### ► How did you put this into practice, and what difficulties did you face?

We developed our Palm Policy in 2011, based on RSPO certification, updated it in 2015 and 2016, and recruited an expert team to implement it in Gabon. Every country has its own challenges, but we were lucky in Gabon. The government made a serious commitment to sustainable agricultural development with its national strategic plan and framework of legislation, creating a very welcoming enabling environment. But there are other governments who exercise their sovereign right to convert their forest land to help provide income, food security and economic development, without a balancing consideration for landscape ecological management or climate impacts. And here lies the problem.

### ► What changes would help you?

NGOs play a positive role in showing us areas where we can improve, but they could help us more by exploring alternatives to a one-size-fits-all solution. Governments in countries with extensive natural landscapes and deep social development challenges understandably want higher-yielding agriculture, and it appears to be “a reasonable ask” to make clear what is acceptable/unacceptable, especially in site selection, and to balance any negative environmental impacts with compensatory actions. And together, we need a broad-based cross-regional dialogue, where NGOs, corporations and governments can engage positively and seek out country-specific solutions.

### ► Where do you see such commitments into the future?

Commitments are important, but we have to have to get the implementation right to achieve the incredible opportunity before us today. Olam alone sources directly from about a million smallholders and reaches four times more. We have a flagship programme, the Olam Livelihood Charter, that provides economic, social and environmental support to 345,000 smallholders growing coffee, cocoa, cashew and cotton. A key element is training in climate-smart agriculture and the value of standing forest. So, as one of the companies most deeply embedded in smallholder supply chains, we can make more of an impact through creative partnerships. As an industry, we need to understand how we can create shared value within our sourcing supply chains, but also, how we can work with others to contribute more to landscape-scale initiatives in key regions where we operate, such as by supporting large-scale forest restoration programmes.



## 2.4 Zero deforestation palm oil from Malaysia: the Ferrero experience

JOHANNES PIRKER, ALINE MOSNIER, GEZA TOTH, LAURA GIUSTARINI, KEMEN G. AUSTIN and LORANT PEUSER

### Introduction

The rapid expansion of oil palm plantations in Southeast Asia has resulted in widespread negative impacts on biodiversity, carbon-rich forests and peatlands (Gunarso et al. 2013; Koh et al. 2011). Consequently, consumer goods companies are facing pressure from academics, civil society and consumers to ensure and transparently demonstrate that their palm oil supply chain is free of deforestation and other negative environmental and social impacts. By 2015, companies controlling more than 90% of internationally traded palm oil had made voluntary commitments to sourcing only zero deforestation palm oil (Bregman et al. 2016).

Ferrero, a confectionery firm based in Italy, has been a leader of this movement, pledging in 2013 to source 100% of its palm oils from sources certified under the Roundtable on Sustainable Palm Oil (RSPO) “segregated” scheme by the end of 2015. This means that the 180,000 tonnes of certified palm oil used in Ferrero products, produced on approximately 50,000 ha of plantations, is kept physically separated from “conventional” (uncertified) palm oil along the entire supply chain. This goal was achieved ahead of schedule in 2014, and since then Ferrero has put particular emphasis on grower-level traceability and the implementation of additional sustainability criteria. This resulted in the company’s Palm Oil Charter (Ferrero 2013), in which Ferrero committed to supplementary safeguards, including protecting high carbon stock forests and peatlands, high conservation value areas, human rights, and smallholder and worker interests.



UNDERSTANDING SUPPLIERS’  
MOTIVATIONS CREATES THE  
BEST CHANCES TO TRANSFORM  
THE SECTOR.

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## Making commitments count

Mapping plantations is the basis of reliable traceability along the supply chain, and provides enabling conditions to adhere to voluntary sustainability commitments. In the first half of 2016, Ferrero's global palm oil supply chain was composed of 447 estates across ten countries in Southeast Asia and in South and Central America, although nearly 90% of its supply was sourced from Malaysia, on more than 400 estates totalling about 580,000 ha. A small proportion of this — less than 5% of fresh fruit bunches — is produced by some 39,000 smallholders. Based on publicly available RSPO documents and data provided by suppliers, Ferrero mapped the boundaries of more than 300 of these estates, and acquired point data indicating the centre of the plantation for those estates where polygon data was not yet available. It should be noted that Ferrero monitors the entire plantation area, although the area from which it purchases amounts to only about 40,000 ha.

Besides monitoring current forest cover in a plantation, knowing about past land-cover changes is a key criterion for fulfilling sustainability commitments. In Malaysia, despite strict data secrecy legislation (*Official Secrets Act 1972*), there are a small number of freely available studies and datasets that track forest-cover change and palm expansion as far back as the 1970s. To construct the historical land cover trajectories in Ferrero's supplying plantations in Peninsular Malaysia, the Gunarso et al. (2013) dataset was used, spanning 1990–2010 (Table 1). The land cover dataset for 1973–2015 from Gaveau et al. (2016) was used for the Malaysian states of Sabah and Sarawak on Borneo (Table 2).

The majority of Ferrero's supplying estates are in Peninsular Malaysia, and deforestation inside these estates essentially stopped after the year 2000, when oil palm expanded into non-forest land such as cropland and shrubland rather than into forest (Table 1).



**Table 1. Land cover (ha) in Ferrero estates, Peninsular Malaysia, 1990–2010**

	1990	2000	2005	2010
Disturbed forest	61,268	10,385	8,349	5,084
Intact forest	444	208	203	203
Oil palm	211,045	246,719	262,201	282,936
Other non-forest	83,104	98,549	85,107	67,638

Source for land cover data: Gunarso et al. 2013

The oil palm industry expanded into Insular Malaysia more recently. Consequently, the decline in deforestation on estates in Sabah and Sarawak (Insular Malaysia) didn't begin until 2005 (Table 2).

**Table 2. Land cover (ha) in Ferrero estates, Insular Malaysia, 1973–2010**

	1973	1990	1995	2000	2005	2010
<b>Sabah (Insular Malaysia)</b>						
Forest	1,755	—	—	1,223	1,144	1,134
Oil palm	71,004	92,556	116,213	138,961	168,283	168,981
Other non-forest	100,691	80,893	57,237	33,265	4,023	3,334
<b>Sarawak (Insular Malaysia)</b>						
Forest	4,191	—	—	953	946	938
Oil palm	5,130	5,130	5,130	27,879	46,122	46,528
Other non-forest	42,549	46,741	46,741	23,039	4,803	4,405

Source for land cover data source: Gaveau et al. 2016

Determining the exact boundaries of estates is not always possible, given that some suppliers change from one year to the next while others remain over several decades. Instead, obtaining point data that indicates the approximate location of an estate is a first step to mapping a supply chain, especially as the availability of this data is better for both estates and smallholders. Ferrero's analysis of the 40 estates, represented by point data for Insular Malaysia, suggests that these were cleared before 2000, and that no deforestation occurred after that.

### What has worked so far...

Ferrero has made substantial efforts toward mapping their supply chain. The company has been mostly successful at encouraging suppliers to provide maps of the boundaries of oil palm estates. This allows the company to assess its environmental performance, as a major first step toward tracking its commitments to voluntary sustainability. Combining this data with freely available land-cover information, Ferrero was able to analyze historical land use inside its supplying plantations. The company found that the estates that supply it have high initial deforestation rates, but that these rates slow after 2000 and become essentially zero after 2005. This suggests that Ferrero is working with suppliers to meet sustainability requirements and avoiding suppliers that do not meet them.

### ... what is still to be done

The availability and quality of geospatial information are not consistent. Also, although official RSPO documents are available for certified mills — such as Mill Certification, Annual Communication of Progress reports (ACOP) and the Annual Surveillance Audit (ASA) — in many cases these do not report the coordinates of plantations consistently. Data quality is still an issue often raised by RSPO stakeholders, since significant inconsistencies appear for a number of estates when comparing the boundaries sourced from RSPO and the data acquired from plantation managers. The majority of point coordinates acquired from RSPO provide information to the gate or the centre of a palm oil concession. Further, geospatial data is not available for all estates. Malaysian growers claim they want to share their digital maps but cannot, because doing so would break the law (the country's *Official Secrets Act 1972*).

### Traceability challenges

The biggest challenge for the food manufacturing industry is to achieve and maintain full traceability and keep up supplier engagement over time. The latter is particularly difficult because of a changing supply chain and the fact that certified sustainable palm oil is not the core business of the largest palm oil producers. Traceability to palm oil mills is provided by RSPO because Ferrero uses 100% segregated oil. However, traceability to grower level, commonly known as traceability to the fresh fruit bunches (FFBs), is a complex exercise that requires close collaboration between the consumer company and all tiers of the supply chain.

Indeed, palm oil supply chains are characterized by a multi-tier context. Tracing the origin of specific refined palm oil shipments requires that suppliers are willing to collaborate and provide full transparency regarding their suppliers. Compiling traceability information can be time consuming, and appropriate verification of the data is possible only once the supplier's internal accounting has been completed, which can take up to four months.

Undoubtedly, the most important element in reaching full FFB traceability is engagement with suppliers. A constructive approach helps facilitate a mutually agreeable situation and long-term benefits for both producer and consumer companies. Ferrero has been very successful in establishing a well-functioning relationship with its suppliers, which has created new opportunities for mapping supply chains and improving data quality.

Nevertheless, a major task remains – maintaining FFB traceability. Changes in the supplier base are inevitable; for example, because of the voluntary or compulsory suspension of a supplier's RSPO certificate, there is an immediate need to select a new supplier. In this case, trusted and verifiable suppliers have priority, and it becomes necessary to collect significant traceability data. There are many ways to select a trusted supplier, and different risk assessment methods are available. This article makes the case for an approach that is based on systematic and evidence-based assessment of land-use change observed on plantations in recent years.

In this context, an important achievement of zero deforestation initiatives — once they are fully functioning — is to put pressure on the sector by out-competing those suppliers that are not willing or able to deliver reliable data on the location of their estates and any other traceability information. Geospatial data will be useful for evaluating potential suppliers on the basis of assessing the extent and timing of past deforestation on their estates. Ideally, any consumer company could perform this process prior to a commercial engagement with a supplier. Geospatial data can also be used to monitor estate areas in near real-time for changes in land use. Ideally, this monitoring would be done in close collaboration with growers to provide them with an early warning system in case signs of deforestation start to become apparent.

## Lessons learned

Zero deforestation initiatives should learn from existing programmes when it comes to implementation. This includes adopting key elements of other sustainability initiatives such as FSC, the Brazilian Soy Moratorium and RSPO. Crucial elements are the definition of “forest” and “deforestation” and defining a reference date against which deforestation is measured. Defining a reference date is crucial for an initiative acting in a region where forests have dwindled rapidly, as has been the case in Malaysia.

A specific date when deforestation starts to be counted is often missing or defined very vaguely or late in many companies’ zero deforestation pledges (e.g., Austin et al. in press). For instance, if a company pledges to be deforestation-free by 2020, it is not clear from the outset whether it can source produce from areas cleared between now and 2020, let alone areas cleared in the recent past. The pledge might therefore potentially create a perverse incentive to accelerate clearing before 2020 in order to secure the supply base before the commitment comes into force.

In contrast, establishing a clear definition of the cut-off date as part of a company’s zero deforestation pledge will prevent this perverse incentive. In the case of Ferrero, certification to RSPO standard forbids deforestation in its plantations after the year 2005. The company’s voluntary zero deforestation pledge and management practices on the ground are in line with this date.

## Further steps

Of the consumer goods manufacturers that currently lead the scorecards of prominent NGOs such as Greenpeace (Greenpeace 2016) and WWF (WWF 2016) for their responsible sourcing, transparency and industry reform impacts, few have traceability to fresh fruit bunches. Ferrero is among the best performing companies in this respect, at close to 100% traceability. Nevertheless, the company is still in the middle of a long journey to holistic sustainability practices, and much more remains to be done in terms of its zero deforestation policy and the wider dimension of climate change protection and social sustainability compliance of the palm oil supply.

Ferrero has highlighted the following key areas that require further work. Full supply chain mapping needs to be completed and the results need to be improved and streamlined. More efficient ways need to be found to map the smallholders who sell produce to different mills every year, which causes rapid changes in the buyer's supply base.

- Public attention has focused very much on deforestation, causing a search for land that is naturally void of forests; but this might in some cases include potentially carbon-rich grasslands whose carbon capturing capacity might be similar to that of forests or other natural lands with high conservation value.
- Although suppliers and RSPO auditors report that the supply chain is free of peatland, reliable peatland data is scarce. Given the expected progress in mapping peatland reliably, a systematic assessment of peatland in the supply chain will be carried out.
- Ferrero has launched a close-to-real-time forest monitoring programme that has yielded promising first results, and this should be extended to the full supply chain. Ideally and in addition, forest and grievance monitoring should be carried out by and in collaboration with palm oil suppliers.

## Conclusions

Certification is good, but traceability to the farm level is better. Establishing and maintaining this traceability is widely seen as the responsibility of consumer goods companies. Although mill-level information is transparent in fully segregated supply chains, grower-level traceability requires negotiations and supplier engagement. This task can be further complicated by national legislation on data protection and suppliers who might be reluctant or simply not have experience in providing this kind of information. Also, relevant data is not available for all suppliers and often has varying quality. Against this backdrop, the market force of zero deforestation commitments pledged by consumer companies and traders are expected to introduce a new standard with respect to availability and quality of data suitable for assessing environmental performance along the supply chain. Geospatial data based on satellite and radar images will continue to be a key resource for selecting suppliers, planning for deforestation-free supply chains, and ex-post evaluation of suppliers' environmental performance. And notably, existing and emerging remote sensing data are becoming more affordable or free.

Zero deforestation pledges should be streamlined with existing initiatives from inside and outside the palm oil sector, and must build on the experience of these initiatives when it comes to implementation. Key elements — such as defining “forest” and “deforestation” and defining the reference year for measuring zero deforestation — are essential to making companies' zero deforestation pledges tangible. It will also be interesting to see the extent to which internal zero deforestation pledges and certification become complementary or competing schemes.



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## “Transparency must become the default.”

Fiona Wheatley, Sustainable Development Manager, Marks and Spencer, UK

### ► Why did M&S commit to zero deforestation?

Our customers expect us to make the right decisions, and to be good custodians of nature and communities. People look to Marks and Spencer (M&S) as a leader, and our vision is to work with others as a catalyst of change.

### ► How did you put your commitments into practice, and what difficulties did you face?

We acknowledged from the outset that there is only so much anyone can do on their own, so we base our work on partnerships, with NGOs, civil society, governments and our corporate peers. But we face many challenges, and so much is outside our control. Policies and public statement are incredibly important as a framework for action and as a clear call to our peers. Next, is a strong commitment to transparency. Some information is commercially sensitive, but non-disclosure should be the exception and not the rule. Transparency must become the default. M&S forest protection policies and performance are in the public domain. We pin our flag to the mast, and we hope others will do the same.

### ► What changes would help you?

Companies who are trying to do their best can be commercially disadvantaged, as doing nothing is often more profitable in the short term. This must change. Governments have a valuable role, and whereas certification plugged a governance gap, governments in both producer and consumer countries should focus on creating mechanisms that raise the bar in sustainable production and trade. Certification is highly valuable; however, it is often inaccessible for smallholders and SMEs. There is a need to focus on controlling critical issues alongside creating an accessible entry point that gets producers to improve their practices. Everyone must acknowledge how challenging this can be. Look at oil palm, where 40% of production is from smallholders. Working with so many producers is complex, time consuming and takes a lot of resources, but it brings huge benefits.

### ► Where do you see such commitments into the future?

There has been an evolution of thinking on how to address deforestation, and currently there is a lot of interest in landscape approaches. M&S's ambitions continue to grow, and after forest protection, we see restoration becoming a higher priority. We have to establish how best to incentivize commitment and progress across all sectors. UK and European retail companies have moved into a new and interesting phase of collaboration. At M&S we know that partnerships help us achieve a scale and breadth of impact. Producing islands of green won't save us; we must leverage change across sectors, across jurisdictions and across the landscape to achieve healthy ecosystems, productive agriculture, sustainable livelihoods and of course, meet our climate goals.



## 2.5 Musim Mas and CORE – from collaboration to implementation

JEFFREY HAYWARD, STEPHEN KRECIK, WALTER SMITH, GARY PAOLI, ANNA BEXELL and PETRA MEEKERS

### Introduction

Increased consumer and investor scrutiny of commodity crop production has led many companies to announce policies for the responsible or sustainable production, processing and trade of deforestation-linked commodities. Activist groups were a driving force behind such pledges, especially regarding palm oil in the humid tropics. They challenged the reputation of companies associated with deforestation, threats to endangered species, child labour and human rights abuses, and with rampant forest fires and greenhouse gas emissions. The six largest palm oil companies in Indonesia all made public commitments: Asian Agri, Astra Agro Lestari, Cargill, Golden Agri-Resources, Musim Mas and Wilmar (IPOP 2014). In 2004, advocacy pressure led companies to establish sustainability criteria through the Roundtable on Sustainable Palm Oil (RSPO). But criticism of the RSPO's inability to stop the clearing of forests and peatland continued to cause friction. Efforts led by WWF, Greenpeace and Rainforest Action Network resulted in the 2012 revision of RSPO standards.



COMPANIES MUST CONVINC  
THIRD PARTIES THAT  
SUSTAINABLE PRODUCTION IS IN  
EVERYONE'S BEST INTERESTS.

Implementing unilateral corporate sustainability policies has not been without challenges. Many issues complicate the implementation of company commitments into measurable and verifiable actions. Some targets are aspirational and difficult to clearly measure; others are overly ambitious, with unrealistic timelines, and are further complicated in weakly governed jurisdictions (Climate Focus 2016). Arguably, most significant sustainability issues occur in the supply shed (area) of each palm oil mill, and although companies are making improvements, they face an uphill battle convincing smallholders, traders and independent mills — over whom they have little control — of the need to

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change practices. Smallholder farmers comprise a substantial portion of palm oil production (about 40% in Indonesia; Daemeter Consulting 2015) and there are difficulties tracing raw material inputs given that supply chains are complex and traders are reluctant to disclose proprietary information about their sources. And without traceability, it is impossible to provide smallholders with direct assistance, training or other incentives. Resistance from local or national governments to implementing corporate commitments is also challenging.

Against this backdrop, companies with sustainability policies that go beyond the standards came to rely on the same norms and performance indicators used in certification. Initial steps to operationalize zero deforestation commitments and to evaluate company policies and practices were undertaken with consulting groups. This article shows how corporate sustainability policies can be implemented and monitored, through the experience of Musim Mas, the palm oil producing, refining and trading company, with support of the CORE partnership.

### The CORE partnership

The Consortium of Resource Experts (CORE), which was formed in 2013, is a collaboration between three organizations: Proforest, Rainforest Alliance and Daemeter. The intention behind CORE was to pool collective strengths and expertise to increase transparency, support implementation of corporate policies, and assess performance:

- Rainforest Alliance provides technical assistance to producers and smallholders in sustainable agriculture, forestry and climate change adaptation. It is a founding member of FSC and SAN. It has experience judging what is needed and feasible at the mill level through verification assessments, and extracting knowledge from diagnostic reports that inform landscape-level interventions.
- Proforest is an independent nonprofit organization that works with producers, industry, governments and communities. Its expertise covers policy, investment and procurement, with more than ten years' experience in the oil palm sector. It supported the development of RSPO, helps companies implement sustainability policies, influences industry, and involves other partners in accelerating landscape-level activities.
- Daemeter is a research and consulting firm with experience throughout Southeast Asia, especially in Indonesia, in promoting the responsible management of natural resources. Through engagement with the private sector, farmers, NGOs, donors and governments, Daemeter deploys analytical tools to diagnose sustainability risks and develop strategies for addressing them.

Companies that seek support for implementing sustainability commitments have engaged CORE, which assists them to better understand the sources (and risks) in their supply chains, measuring suppliers' performance against policies, and developing tools to provide technical assistance to improve supplier performance. This support can include any

number of a long list of elements, including developing policies and indicators for measuring performance, conducting supply-chain mapping and risk-based traceability



procedures, identifying high-risk landscapes for environmental degradation and social conflicts; interpreting international standards, supporting companies to develop internal evaluations, offering independent assurances on sustainability performance claims, providing recommendations for improvements based on evaluation results, building knowledge of company commitments through wider stakeholder consultations and supplier engagement, supporting sustainable practices with smallholders and independent mills, and communicating company progress. CORE's operating principle is to instill a culture of sustainability

among their employees and suppliers, including smallholders, and to be fully transparent in its communication to buyers, investors, stakeholders and the public.

### The Musim Mas commitment

Musim Mas is a Singapore-based palm oil corporation that operates globally but is particularly active in Indonesia. It is involved in every part of the supply chain, from managing plantations to refining and manufacturing value-added products. It wants to be a leader in the movement to improve the environmental and social sustainability of the palm oil sector. In 2004 it became the first Indonesian member of RSPO, and in 2009 became the first RSPO-certified operator there. In December 2014, the company announced its Corporate Sustainability Policy, which applied immediately to its own operations and those of all third-party suppliers. Musim Mas advanced its commitment to move the sustainability agenda forward by joining the Palm Oil Innovation Group (POIG) in November 2015, improving its performance to meet the new and enhanced criteria and submitting to a POIG evaluation in late 2016.

The Musim Mas supply chain is comprised of supply sheds — company-owned estates and mills, independent plantations, mills and smallholders — while third-party mills also source palm oil fruit from other plantations and smallholder growers. Although tracing plantations to their associated mills is relatively simple, tracing independent smallholders and plantations not linked to mills is complicated. But with satellite imagery, Musim Mas is mapping independent plantations who supply to their supply sheds. By 2016, it was able to map 99% of its supply chain to the mill level and 48% to plantations with associated mills.

Musim Mas requires mills and their suppliers to meet its policy commitments, but recognizes that compliance will require a process of constructive engagement, delivered in partnership with CORE. The collaborative approach was designed to work in phases,

to operationalize the sustainability policy at the mill level and then build a plan for how Musim Mas can achieve broader transformational change through landscape-level engagement with decision makers in its supply base:

- Phase 1 – supply chain mapping, mill risk assessment and traceability verification;
- Phase 2 – engagement with parent groups of supplying mills, verification and improving practices; and
- Phase 3 – devising multi-stakeholder landscape partnerships with government, civil society, and the private sector.

With more than 500 supplier mills in Indonesia across several provinces, Musim Mas first needed to break down the complex task of implementing commitments into manageable components. It did this through supply chain mapping to prioritize the most important tasks. Within key sourcing regions, analyzing environmental risks and social issues related to the top 100 suppliers enabled the company to narrow its engagement to the most critical issues. Verification of third-party mills was the first step in understanding operational practices and working to gain trust and goodwill.

The verification programme assesses mill performance against the company's policy commitments; it highlights areas for improvement in order to close compliance gaps and develop an engagement strategy at the mill level. In 2016 CORE identified ten high-risk mills for verification, which were clustered in high-priority landscapes in Riau Province, Sumatra. It completed eight assessments using an established methodology of engagement, field visits, evaluations, and final reporting. To ensure that the desired outcomes and goals of the policy were reflected, CORE developed 41 indicators; these were grouped into nine criteria through benchmarking with the criteria of the Sustainable Trade Initiative Traceability Working Group and with Musim Mas's own sustainability commitments.

### Sustainability policy dimensions

Verification assessments helped improve supplier compliance with Musim Mas's commitments. The 41 criteria included eight indicators: land tenure and legislation; deforestation; development on peat lands; use of fire; management of environmental impacts; greenhouse gas emissions; social compliance; and supply chains. Compliance levels varied greatly at the mill level, but the highest (50%) non-compliance of suppliers was seen against the deforestation indicator, followed by greenhouse gas emission and supply chains (40%); the highest compliance rates were seen against use of fire and social compliance. But individual supplier verification gave a solid baseline for engaging with them more actively on action items to implement critical sustainability requirements, mainly deforestation, smallholder traceability, peatland management and labour practices.



Based on these verifications, CORE developed a diagnostic study with three main recommendations:

1. Mill-level actions led by mills should develop and implement short- and long-term corrective action plans to address noncompliance identified in the verification assessment.
2. Mill-level actions led by Musim Mas should develop and implement capacity-building workshops to support mills in their corrective action plans, and should monitor implementation of action plans over time.
3. Landscape-level integration by collective actors should identify and support existing landscape-level initiatives such as Indonesia's Green District Initiative (Kabupaten Hijau), Farmers Union Indonesia (SPI), the Tesso Nilo Community-Based Ecosystem Revitalization Program, and others.

## Challenges

The experience of Musim Mas and CORE shows that there is promise in using the value chain to implement changes in land-use practices from commodity purchasers down to field practitioners. This is a work in progress; remaining difficulties include vested business interests and lack of data to support sustainability efforts. However, lack of familiarity and risk aversion among third-party mills was overcome. Initially uneasy about submitting to external assessments, Musim Mas was careful to present the verification process in economic terms, and as an opportunity to address unsustainable practices in operations that could reduce profitability. To spread this message, CORE and Musim Mas ran workshops to familiarize third-party suppliers with concepts of sustainable

production, the company's commitments and how sustainable practices contribute to a positive business case. Each workshop included time to listen to supplier concerns.



CORE identified the factors that affect sustainability performance. External factors for mills include the effects of locally led development planning, governance and competition. Decentralization, for example, allows local governments to grant concessions to companies, but with poor governance structures and limited control on expansion, this tends to lead to more deforestation (Moeliono, Wollenberg and Limberg 2009). And due to

competition, mills are reluctant to impose strict sustainability policies and requirements on suppliers, for fear that they switch to other mills in order to sell at the highest price and with the least stringent sourcing requirements.

Traceability is made difficult by the complex nature of how fruit is supplied to mills, with multiple layers of collectors and traders. Even so, basic investigations of supply bases and average productivity would tell mill owners that some traders are sourcing fruit outside of

their supply sheds. However, mills are not using their full capacity to obtain data on the origin of the palm fruit they process. Mills that CORE visited often had only the first layer of information regarding its supply base; i.e., the holder of the delivery order. The mill rarely had information about the supply base of the delivery order; i.e., farmers' names and location, area and tenure status. Significant investment in capacity and personnel will be needed to implement Musim Mas's sustainability policy. Financial support was offered by Musim Mas to help meet sustainability requirements, but more is needed. Supply-chain actors are reluctant to make investments unless there is a clear business case.

The lack of capacity of independent mills to manage sustainability performance within their supply base remains a clear challenge. In addition to identifying key performance areas where improvements are required, verification audits suggest that a longer-term process is needed to embed sustainability concepts within a company. Verification exercises are a good way to bring together many small- to medium sized companies into sustainability discussions with which they were previously largely uninvolved. These exercises help them understand how their product is used and marketed downstream, and to know that their production is subject to increasing environmental and social scrutiny by customers.



## Recommendations

### *For Musim Mas and other companies*

The corporate sector is making uneven progress in implementing zero deforestation commitments. Companies have been overly optimistic about the progress possible within fixed time frames. They were also slow to respond to the realities of entrenched practices in the palm oil sector, and of weak or even harmful government regulations. A fundamental challenge is for companies to convince smallholders, independent producers and third-party mills that sustainable production is in everyone's best interests. And for significant landscape-level impacts, long-term technical assistance and incentives are necessary.

### *For CORE, NGOs and consulting companies*

Such practitioners helped to identify both problems and possible solutions by developing tools to assist with the implementation of policy commitments. Although it is still in the early stages, the ten-step process developed by CORE could prove useful to other practitioners: 1) analyzing landscape risk; 2) identifying producers; 3) tracing the supply chain; 4) evaluating performance; 5) identifying gaps/issues; 6) developing recommendations for improvement; 7) training and technical assistance; 8) evaluating progress; 9) repeating interventions where needed; and 10) continuous monitoring.

## Conclusions

Challenges in the palm oil sector are significant, but certain interventions and policy frameworks can help. Continued development of mill-to-farm traceability tracking — coupled with satellite monitoring tools such as Global Forest Watch — allows accurate verification of deforestation-free production. Once suppliers are identified and more fully traced, a separate engagement programme should focus on farmer extension services that offer agronomic advice and sustainably improve yields. Several failures in sustainability practices appear to be relatively easy to address, such as reducing agrochemical use, improving worker safety, retaining natural vegetation along watercourses, maintaining soil fertility, preventing erosion, and supplying improved germplasm. Financial support for these interventions could be promoted by linking access to credit to effective land-use control, as was done successfully with municipal governments in the Brazilian Amazon (Nepstad et al. 2009).

Corporate pledges to eliminate deforestation and human exploitation from agriculture and forestry supply chains are a promising development for forests and people. However, they need credible, consistent and widely accepted methods for implementation, monitoring, verifying and reporting. Accountability and transparency are essential, but these depend on common definitions, norms and guidelines to ensure that efforts aimed at implementing corporate commitments adhere to rigorous and credibly high standards (Rainforest Alliance 2015). This will likewise help harmonize the ways in which progress is verified, reported, and communicated, so that outcomes can be tracked and managed across entire corporate supply bases or jurisdictions. Similarly, corporate zero deforestation commitments will need to be externally supported through accommodating legislation, policy and rules; transparent and participatory land-use planning processes; and legal enforcement. And in Indonesia, comprehensive, sustainable land-use planning and governance must be linked to preferential treatment in the marketplace, through the jurisdictional approach.

## Acknowledgements

The authors thank Matt Bare, Lita Natasastra and Jeffrey C. Milder, all from Rainforest Alliance, for their role in preparing this article.

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## “We do not automatically exclude, but we engage”

Sylvain Augoyard, Corporate Social Responsibility Analyst, BNP Paribas CIB, France

### ► Why did BNP Paribas commit to zero deforestation?

All companies need to adapt to new challenges, and they must respond to demands from customers, civil society and particularly from investors. Our corporate social responsibility (CSR) approach is built around public policies covering high-risk sectors. As a signatory to the Soft Commodities Compact of the Banking Environment Initiative and the Consumer Goods Forum, we are committed to zero deforestation, as evidenced by our CSR policies on palm oil, wood pulp and agriculture. We have moved from a defensive approach to a more collaborative and proactive one — where we encourage our clients to move toward best practices — which makes perfect business sense. We are thrilled to see BNP Paribas ranked as one of only three banks with a maximum score of 5 by the Global Canopy Programme’s Forest 500 initiative.

### ► How did you put your commitments into practice, and what difficulties did you face?

We aim to embed our environmental and social commitments into internal decision-making processes, but this can be a daunting task in an international bank that employs 190,000 people. Staff training is key: our front officers assess clients, and we systematically provide our opinion. This due diligence process is iterative and we follow up on any issue identified. At the same time, we need to ensure that our CSR policies are up to date, and we must work on developing new policies. When we find issues with a client, we do not automatically exclude them, but engage to help improve practices; for example, regarding the protection of high conservation value or of high carbon stock forests. As a last resort, if a company is not willing to improve, we exit the relationship.

### ► What changes would help you?

Sometimes we can lose business to other banks with less rigorous CSR standards. The Equator Principles are a good example of how a joint approach can help level the playing field, but we lack similar platforms where we can exchange best practices and align with peers in specific sectors. We have also found, both for us and for our clients, that partnerships with NGOs and consultants are important if we want to deliver progress on the ground.

### ► Where do you see such commitments into the future?

Zero deforestation commitments are here to stay, in my view, and there will be a continuing move towards more transparency and traceability along supply chains. Zero net deforestation can be difficult to demonstrate, and we should avoid destroying important forests in the first place. As a bank, we are also willing to move from a do-no-harm approach to a do-good approach, by identifying and promoting innovative financing schemes, aimed for instance at improving smallholders’ practices.



## 2.6 Innovation to keep forests standing

CHARLOTTE OPAL

### Prologue: The crunch heard around the world

Once you've seen Greenpeace's 60-second video from its campaign against deforestation in Indonesia, you can't *un-see* it. Blood drips down an office worker's face after he bites into what he thinks is a chocolate-coated wafer but is actually an orangutan finger. The crunching sound gives way to the sound of chainsaws, and the link between candy bars and rainforest destruction is now sealed in your memory, possibly forever. The series of events unleashed by the 2010 release of that video, however, mean that the story of forest destruction and palm oil has largely been rewritten. How did this happen, and what are the new challenges facing those who want to eliminate deforestation from being caused by the products we enjoy every day?

### Making the commitment

The main targets of the 2009–10 Greenpeace campaign were Nestlé, the world's largest food company, and Sinar Mas Group, Indonesia's largest palm oil grower and pulp and paper producer. Since 2008, through statements by its board chair and participation in industry sustainability initiatives, Nestlé had already expressed its desire to see rainforest destruction stop. But the company had taken little public action to eliminate deforestation from its supply chains until the Greenpeace campaign was launched. On 13 April 2010, barely one month after Greenpeace's gruesome video was released, Nestlé wrote to Greenpeace and stated that it had stopped purchasing palm oil from Sinar Mas. On 17 May, it published its Responsible Sourcing Guidelines (RSGs) for palm oil, which eventually became a blueprint for companies that source and grow palm oil.



WHERE EXACTLY DO I  
TELL THE BULLDOZER  
DRIVERS NOT TO GO?

Nestlé's guidelines affirmed that its future palm oil purchases would achieve five things: 1) come from plantations in compliance with local law and regulations; 2) protect peatlands; 3) respect indigenous and local communities' free, prior, and informed consent

for activities on customary lands; 4) protect high conservation value (HCV) forests; and 5) protect natural forests and forests of high carbon value.

Point 5 was the most contentious. The other elements of the responsible sourcing guidelines had been well defined in other sustainability standards, although debate around how to define “peatland” remained. However, no one had developed a definition of “forest” that could be implemented. How can “high carbon value” be quantified? How much degradation and logging can occur before the forest is no longer considered “natural”? It soon became clear that even Greenpeace was not quite sure what it was asking for. As Benjamin Ware, Responsible Sourcing Manager at Nestlé put it, “we had agreed on the title for a new textbook about no deforestation, but someone still had to write the content.”

Meanwhile, halfway around the world, Golden-Agri Resources (GAR) was reeling from the attack on its parent company, Sinar Mas. GAR, the world’s second-largest palm oil producer, considered itself an industry leader in terms of sustainability. In 1997 it was the first major Indonesian palm oil grower to commit to ceasing to use fire to clear land for new plantations, and in February 2010 it announced that it would not plant oil palm on peat soils, regardless of depth. It considered itself to be operating legally, and was committed to protecting HCVs and community land-use rights through its membership in the Roundtable on Sustainable Palm Oil (RSPO). GAR wanted to be reinstated as a Nestlé supplier and become the first grower to implement Nestlé’s guidelines, and the company decided to investigate what it would mean to implement the last and newest “no deforestation” RSG.

## Innovation

To help it figure out what the “forest” in “no deforestation” meant, GAR turned to The Forest Trust (TFT), which has been helping furniture companies and timber importers trace their supply chains and eliminate deforestation since its founding in 1999. Nestlé chose TFT as its implementation partner to help it identify noncompliant palm oil growers in its supply chain and support them in implementing their guidelines. GAR asked TFT for help in developing a practical methodology for complying with the guidelines. As TFT’s founder Scott Poynton puts it, “GAR asked us: what is this High Carbon Stock forest thing? Where exactly do I tell the bulldozer drivers not to go?”

TFT recognized that GAR was serious about a no-deforestation policy for its operations, and invited the company to become a TFT member in September 2010. The two organizations looked at the available indicators for “forest” and realized that they would need to develop their own. The FAO definition of forest as land with a tree canopy cover of more than 10% and size greater than 0.5 hectares was too specific, and would classify tiny parks in Singapore as forests. The Forest Stewardship Council’s definition was too vague, stating that “young regeneration may be considered as natural forest after some years of regeneration.” How many years, exactly? The Indonesian government had stated that the

seven million hectares of new oil palm plantations it aimed to see planted should be on degraded (i.e., non-forest) land, but provided no definition of this.

GAR and TFT realized that if they were going to start from scratch to develop a workable definition for high carbon stock (HCS) forests, they needed to do it together with the campaigners who had helped push the no deforestation concept, especially Greenpeace. TFT, GAR and Greenpeace agreed to meet at the RSPO meeting in Jakarta in November 2010 to discuss GAR's draft Forest Conservation Policy and, it was hoped, to agree on a way to identify forests that need to be protected. After a few days of highly charged meetings, the three organizations arrived at a land classification methodology to test in the field:

- stratify land cover into non-forest, likely forest, and borderline areas, based on satellite image analysis;
- conduct field visits to determine forest quality, especially in borderline areas — carbon was proposed as the main descriptor of forest quality in the absence of other standardized metrics, with 35 tonnes of above-ground biomass used as the lower limit of borderline regenerating forests in Indonesia (based on scientific studies of secondary forests led by RSPO and Wetlands International); and
- recalibrate satellite image analysis based on the results of field visits to finalize land-cover maps and determine go/no-go areas for plantation development.

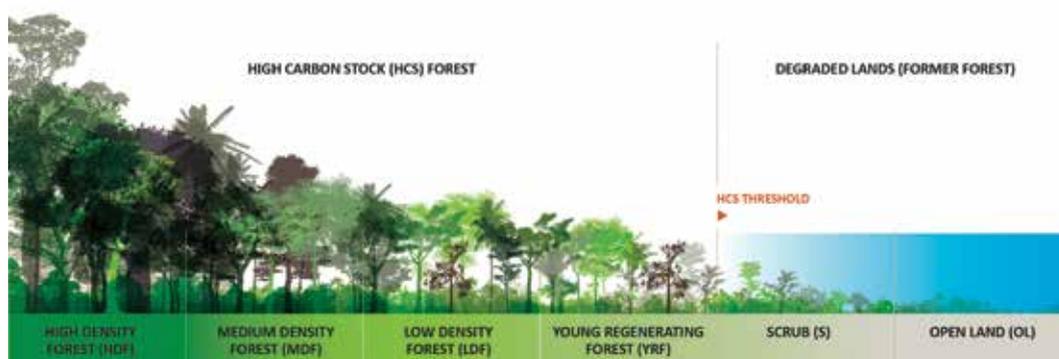
GAR proposed that the methodology be tested in its PT Kartika Prima Cipta concession in West Kalimantan, which was still heavily forested. TFT's technical staff would lead efforts to classify images and conduct field visits, and GAR invited Greenpeace to observe the process and join the field surveys. Crucially, GAR agreed to cease all land-clearing activity while the three organizations carried out this work. GAR was clear that it eventually needed to develop its concessions, and that the intended outcome of the process was to be able to create clear go and no-go maps so it could resume planting oil palm. The pause in land clearance, however, and GAR's willingness to share concession maps and satellite images with Greenpeace allowed a truly innovative solution to the challenge of deforestation to be cooperatively developed by groups and individuals who had historically been adversaries.



In February 2011 — while the organizations were agreeing on terms of the pilot project — GAR announced its new Forest Conservation Policy. This mirrored Nestlé's RSGs and included a provisional definition of HCS forest as having at least 35 tonnes of above-ground biomass. The policy also included a moratorium on new clearing while the HCS methodology was being tested. Greenpeace met the announcement with cautious optimism, and Nestlé continued to offer support for the collaboration and an openness to reengage with GAR if it could ensure that it would implement GAR policy throughout its operations.

In June 2012 GAR, TFT and Greenpeace announced the results of their work. Their report described six distinct land-cover classes relevant to differentiating forests from degraded land. Low-, medium- and high-density forest — along with “old scrub” (now called young regenerating forest) — were to be protected, while young scrub and open land could be developed (see Figure 1.) The test plots, which used forest plot sampling and carbon estimation proposed by Sandra Brown of Winrock International, estimated that carbon for above-ground biomass averaged 60 tonnes per ha in young regenerating forest and 27 tonnes per ha in young scrub. This indicated that the original proposed cut-off of 35 tonnes per hectare was broadly accurate, at least for secondary forests in West Kalimantan. Nestlé resumed purchasing from GAR in September 2011.

**Figure 1. High carbon stock classification**



The report included the HCS Forest Patch Analysis Decision Tree, a relatively simple way to prioritize the protection of isolated forest patches based on their overall size, core area, connectivity to other forests or protected areas, and proximity to forest degradation risk factors such as roads or villages. Conservation science was used to determine thresholds of patch quality, to decide which patches provide important habitat or connectivity, and which were less important or at likely risk of encroachment and could be converted to plantations.

Although a credible group of NGO and corporate stakeholders had developed a way to implement a company’s commitment to zero deforestation, the 2012 High Carbon Stock Study was met with as much trepidation as fanfare. The plantation company claimed that the policy was cost-effective to use and that they could still maintain a profit while protecting forests using the new HCS definition. The NGOs seemed to be happy that forest protection was maximized; based on decision-making that used the best available science, 25% of the sample concession was proposed to be conserved. Questions remained, however. What would the Indonesian government say? Would other palm oil companies agree to set aside such large areas of land? Other large companies and buyers were reluctant to sign up.

## Gaining momentum

Partial acceptance of the HCS approach came in February 2013, when GAR's associated company Asia Pulp and Paper (APP) announced its own Forest Conservation Policy. The policy declared a moratorium on new clearing for plantation establishment until all of its and its supplier's concessions had been mapped using the HCS approach. APP had also been subject to high-profile campaigns by WWF, Greenpeace and others, which accused the company of clearing hundreds of thousands of hectares of forest in Indonesia for pulpwood plantations. APP had been watching the progress of GAR and the development of the HCS methodology with keen interest, and when it decided to adopt the HCS approach, this sent a strong signal to companies across Indonesia and around the world that there was now a practical way to put the "forest" into "zero deforestation."

The Government of Indonesia also began to take notice. APP is the country's largest pulp and paper company, managing or sourcing from one million hectares of forests with operations in China, North America, and Australia, and is a high-profile commercial success. APP's announcement that it would protect HCS forests throughout its operations created an awareness of the issue on the part of Indonesian companies in all commodity sectors, from oil palm to rubber to pulpwood. Wilmar's similar announcement in December 2013 rocked the entire palm oil industry. Although Wilmar is not a major palm oil producer, it trades approximately half of the world's palm oil, sourcing from 80% of Indonesia and Malaysia's plantations. The company's "no deforestation, no peat, no exploitation" policy promises to protect forests, peatlands and people throughout its supply chains, which effectively transforms the entire industry.



## Consolidation

With Wilmar's announcement and support for the HCS approach, coupled with NGOs rallying around the concept as the only workable solution to identify forests for protection, more commodity buyers felt comfortable referencing the HCS methodology in their own zero deforestation policies. In 2014, the HCS Approach Steering Group was founded by about 20 NGOs and companies along with TFT, GAR and Greenpeace. The steering group has embraced the critical but collaborative culture of the original partnership; NGOs call out fellow steering group members when they breach their policies, but at the same time help them to fix their problems.

By the end of 2016, the world's largest palm oil, pulp and paper, as well as rubber companies, had adopted the HCS approach as their methodology for implementing zero deforestation. Other large oil palm producers who developed their own HCS methodology

in parallel have recently joined forces and will incorporate their scientific findings into the HCS approach.

What can be learned about NGO and company collaboration from this HCS story? Five main elements contributed to the development and adoption of the HCS approach in a relatively short time period.

*Space and time for innovation.* Such a large issue could not be solved in just a few months, and GAR took the pressure off campaigners by agreeing to stop its bulldozers while stakeholders figured out how to define zero deforestation.

*A committed buyer.* Nestlé kept in close contact with GAR through regular calls and meetings, sending a strong signal that it would reinstate purchases if GAR was able to find a way to meet its policy.

*A small group of credible experts.* The only tool for implementing sustainability policies in palm oil is the RSPO, which was too unwieldy to support rapid innovation of a shared approach. Instead, a practical way forward was developed and tested by a small multi-stakeholder group and then shared with the rest of the industry.

*A strong scientific and technical foundation.* From the beginning, the HCS methodology was based on carbon and conservation science, and it developed objective indicators that can be used in any tropical forest.

*Open-source technology.* The originators hoped that the HCS approach would be widely adopted across other commodities, and not be limited to one plantation company or buyer. Thus, the first activity of the HCS Approach Steering Group was to develop a toolkit and training programme for practitioners.

## The challenges ahead

Has the link between tropical forest destruction and commodities such as oil palm and pulpwood been broken? TFT would argue that the nature of the problem has fundamentally changed, but the overall challenge remains. On the positive side, it is unlikely that a grower today would clear thousands of hectares of forest at a time without hearing from customers, as was commonplace just five years ago. With real-time satellite information, targeted NGO campaigning, and the HCS approach showing companies that they can expand operations while protecting forests, large-scale deforestation is gradually being brought to a halt.

But new challenges have evolved. Although new approaches that can eventually stop deforestation by large companies are showing success, smallholders will become the major drivers of deforestation. Global demand for commodities continues to grow, and farmers will expand their holdings to meet that demand. Bit by bit, hectare by hectare, smallholder expansion will chip away at remaining forests, including those in protected areas.

This presents a special challenge for those who fight deforestation and is one that current tools cannot address. Methodologies such as the HCS approach can be adapted to make it easier to identify HCS forests on smallholder land, and Greenpeace Indonesia has partnered with the smallholder association SPKS to do just that. But once a forest is identified, how can its protection be ensured? Ethically, smallholders cannot be denied their right to a decent livelihood. But if a company says that it can't buy oil palm planted on a smallholder's former forest, it is effectively denying that smallholder a socio-economic benefit. Governments of countries with high forest cover and high economic needs are rightly challenging stakeholders, feeling that if a deforestation-free approach cannot be found to lift their populations out of poverty, they will prioritize agricultural development over forest protection.

Implementing zero deforestation while including smallholders' livelihood needs is the next test. The HCS approach has solved part of the deforestation problem, but not all of it. A win-win scenario is possible, with smallholders and forests thriving side by side, but how can this be achieved? Over the next few years TFT will aim to replicate the same innovative spirit that developed this practical method to implement zero deforestation, in order to tackle this next and more complex challenge.

### Acknowledgement

The author thanks Scott Poynton of TFT and Benjamin Ware of Nestlé for agreeing to be interviewed for this article.







# Section 3

## Engaging with smallholders

Photo credits, Section 3

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## 3.1 Tackling smallholder-driven deforestation

TONY HILL and SOPHIE HIGMAN

### Introduction

Many companies in agricultural commodity supply chains are struggling to translate their commitments to zero deforestation into positive changes on the ground. They are also increasingly sensitive to risks to their smallholder supply base, but are often unsure what to do about them. Smallholders associated with such companies may be poorly connected with market information and with each other, and they often lack the time and the money to invest in improved practices to meet buyers' requirements, which in addition may not be clearly communicated to them.

The threat of exclusion from markets is seldom enough in itself to motivate small farmers to maintain forest cover and support other conservation values. Not all smallholders sell to companies with zero deforestation policies. In any case, deforestation of any piece of land will be a one-off activity for smallholders. They become producers only some years after they have cleared forest to plant commodity tree crops such as oil palm, cocoa, coffee and rubber. So, by the time they engage with companies that are committed to zero deforestation policies, the forest has gone. Preemptive engagement is needed with smallholders on their land-use decisions and investment plans. The work of the SHARP Partnership (Box 1) has led to the conclusion that this engagement must simultaneously address risks such as deforestation alongside smallholder needs for them to produce more efficiently and improve their livelihoods.



COMPANY ENGAGEMENT WITH SMALLHOLDERS SHOULD AIM TO REDUCE DEFORESTATION AND IMPROVE YIELDS AND LIVELIHOODS.

### Engagement with smallholders

SHARP experience suggests that changes in smallholder production practices tend to accompany changes in smallholder knowledge and capacity, clear market signals and material incentives. These changes must be linked to secure and sustainable livelihoods. Providing support to farmers to improve their agronomic practices and develop farmer

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organizations can also motivate positive change, and can come directly from companies that wish to ensure that smallholder suppliers conform with their responsible sourcing commitments. Alternatively, companies can provide resources to a third party to support their smallholder supplier chains.

### Box 1. The SHARP Partnership

Smallholder Acceleration through Responsible Production and Sourcing (SHARP) is a multi-stakeholder partnership that works to expand opportunities for responsible, deforestation-free smallholder production. It brings the private sector together with public and nongovernmental organizations to serve as a platform for learning and innovation. Proforest is both a SHARP partner and host for the global SHARP secretariat. SHARP partners have recognized the challenges of translating commitments on zero deforestation and other environmental and social risks into change on the ground. They have committed to a set of objectives that encompass sustainable livelihoods, increased yields, environmental benefits, smallholder empowerment and market integration. Since 2012, the partnership has accumulated and analyzed a great deal of experience, with SHARP providing the setting for discussions and development of shared solutions to common problems. Based on this experience, SHARP partners have developed and implemented a number of tools and approaches, and have a much clearer picture of how companies can engage with smallholders on zero deforestation.

Companies can also be a catalyst, prompting and coordinating the actions of other agencies to deliver this support. This may require a combination of various options, including some of the following.

- **In-house company services** – agronomic support from companies with nucleus plantations together with facilitation of smallholder access to credit, agricultural inputs, technology and markets.
- **Local CSOs** – input on assessment of smallholder risks and needs; support for smallholder group formation; dispute mediation.
- **Smallholder/producer organizations** – evaluating and disseminating the business case for changes in smallholder practice, serving as a conduit for information to and from smallholders, and enabling agreements between companies and smallholders.
- **Local consultants/commercial service providers** – local management of risk and needs assessment, capacity building on good agricultural practice, and organizational development for smallholder groups.
- **Local government and public services** – linking with public policy and regulations, agricultural extension, leading multi-stakeholder landscape-level initiatives, and enabling public-private partnerships.

- **National or international NGOs** – capacity building on good agricultural practice, management of conservation values and application of certification standards, linking company initiatives with international agendas, and enabling access to public funding.

Company engagement with smallholders has two important goals. The first is to reduce the risk that responsible sourcing commitments will not be met, especially those on deforestation and land-use change, land rights and conflict, labour rights and working conditions. The second goal is to address the needs of smallholders as they seek to improve their yields and livelihoods.

### Engagement

The process of engagement can be broken down into four stages:

- understanding;
- prioritizing and planning;
- implementing; and
- monitoring and reviewing.

### Understanding

Effective action must be underpinned by a sound diagnosis of risks and needs. This requires a structured assessment to bring together existing knowledge, making full use of public data sources such as Global Forest Watch. Consultation with social and environmental stakeholders and smallholders is essential.

Efficient gathering of information could involve a combination of formal surveys, rapid appraisal methods, mobile technology and informal group discussions.

The result should be a complete assessment of the risks of poor production practices in the smallholder supply base that could translate into reputational, operational or regulatory risks. It should also note the barriers to improved smallholder farm profitability and livelihoods, and identify the forms of support that provide incentives for positive change. Smallholders have a range of opportunities, constraints and knowledge, which calls for various engagement and incentive strategies. They may be motivated to change production practices by being offered concessionary treatment or support, such as access to technical and organizational training, finance on concessionary terms, or variations in business regulations to suit their scale of production. Small, commercially-oriented, absentee investors, by contrast, can be expected to respond more directly to market incentives, such as pricing and market access.



### *Prioritizing and planning*

It is rarely practical to address all risks and needs simultaneously. The most critical of these — from both company and smallholder perspectives — must be prioritized and the objectives framed accordingly. The best approach to delivering on these objectives will vary with context. Roles, time frames and milestones must be aligned with available resources, both internal and external. Importantly, existing initiatives, services and actors in the field can often be used to support actions that aim to mitigate risk and meet smallholder needs.

### *Implementing*

Following the first two stages, companies must develop a plan for specific actions and investments to engage with their smallholder supply base. Common guidance is much less useful at this stage of the engagement process, since every plan should be customized to meet the specific demands and constraints of the smallholder supply base. The company itself may take a leadership, partnership or supporting role as appropriate (see Figure 1).

### *Monitoring and reviewing*

These are integral parts of the engagement process. Indicators for monitoring should be chosen during the planning stage and should be measured throughout implementation. Indicators measure progress towards objectives and should raise the alarm when it looks as though targets may not be met. It is particularly important to identify the impacts of engagement on the livelihoods of smallholder women and men, as they may experience very different outcomes from more engagement in markets. Through regular review of monitoring information the company can analyze progress on reducing risks and assess the impacts of engagement on smallholders' livelihoods. It also provides the basis for any necessary adjustment to the engagement plan. Importantly, it clarifies what is and what is not working; this will help to ensure that continued efforts are relevant and effective.

**Figure 1. Roles for companies when engaging with smallholders**

Engagement	Role	Examples of smallholder engagement
smallholder production areas	directly or with partners	<ul style="list-style-type: none"> <li>▪ leading the engagement process</li> <li>▪ agronomic support, access to credit, agro-inputs, technology</li> <li>▪ application of certification standards</li> </ul>
broader production landscape	with partners	<ul style="list-style-type: none"> <li>▪ building institutional capacity</li> <li>▪ addressing child labour</li> <li>▪ halting deforestation and managing conservation areas</li> </ul>
broader policy landscape	supporting others	<ul style="list-style-type: none"> <li>▪ land-use planning</li> <li>▪ development of legislation and policy</li> <li>▪ clarifying land tenure</li> </ul>

## Challenges to engagement

Tackling deforestation in smallholder supply chains is complex, and it requires substantial time and investment. SHARP's work has identified six main challenges.

### *Top-down pressure*

Many strategies to reduce deforestation are driven by international pressure on large companies to make and implement commitments. This may be insufficient to achieve large-scale, long-term change. Many small producers do not sell their products to large companies and therefore are not influenced by their zero deforestation policies. There are growing numbers of independent mills, small mill groups and markets that are not concerned about sustainability. Large companies with zero deforestation commitments may find it difficult to refuse to buy from small producers who have deforested, since this has implications for smallholder livelihoods and wider rural development. It may be perceived as unethical and is likely to be politically unpopular. Furthermore, corporate commitments to certification or zero deforestation may directly conflict with their own commitments to support small producers' livelihoods.

### *Timing*

Many smallholders only become producers *after* they have cleared land, and deforestation may have already happened by the time they engage with customers or learn about buyers' zero deforestation policies.

### *Small scale equals smaller margins*

Large-scale producers looking to satisfy buyers' environmental requirements and thereby retain access to lucrative markets have options for negotiation on land use that are not available to smallholders. Within large concessions or land holdings these producers may be able to maintain significant areas of natural forest while allocating other parts of their land for production of agricultural commodities. Small producers have small parcels of land. Either they clear forest and produce or they leave the forest standing, in which case they do not become producers. They do not have enough land to do both. At this small scale a completely different approach and incentive structure are needed to avoid deforestation.

### *Motivation*

There are many different types of small producer, from family farmers living in rural communities to small, commercial absentee investors. What is likely to motivate or interest one group may not be appropriate for another, and the relative effectiveness of encouragement versus enforcement may also differ.



### *Political context*

It is difficult to reduce deforestation without a supportive legal and policy framework. Creating this enabling environment is a long-term process that must involve a wide range of actors from government, the private sector and civil society. Many governments see a central place for small producers in rural development, and may consider that anything that appears to create barriers to smallholder access to markets is undermining rural development.

### *Capacity*

There is often a lack of trained and competent practitioners, both to support engagement with smallholders and to work with them to implement better practices. This is a major barrier to progress. Developing a critical mass of rural professionals is an urgent requirement for public–private investment in landscape-level programmes.

### **Challenges to companies' expectations**

Companies that seek a more constructive relationship with their smallholder suppliers may also need to revisit some of their own underlying assumptions and expectations if they are to develop a long-term, sustainable relationship. Company policies may, for example, be challenged by these factors:



#### *Yields*

Maximizing the yield per hectare of a given commodity may be an obvious target for companies, but may not be compatible with smallholder interest in optimizing livelihood resilience.

#### *Supply chain integration*

Companies are often drawn to strategies that give them tighter control within a vertically integrated supply chain to minimize deforestation risk. For smallholders, who are usually the weakest link in the supply chain because they have least freedom of action, this is not necessarily an attractive option. They may prefer to retain what agency they have in determining their markets, farming practices and livelihood options.

#### *Sustainable rates of return*

There are natural limits to sustainable rates of return from natural resource management. Ambitious corporate expectations of risk-return ratios can prompt innovation and production efficiency, but can also be a fundamental driver of unsustainable land use.

### *Public regulation*

Voluntary certification of sustainable production and similar market instruments play an important role in reducing deforestation, especially in jurisdictions where governance is weak. In the long term, effective regulation of land use and production practices by accountable public authorities is likely to be more important, and looking forward, all actors should consider how certification could be integrated with or made a part of public regulations.

### **Approaches**

Several organizations — including the SHARP Partnership (see Box 1), Solidaridad, Wild Asia and The Forest Trust — are developing approaches that can be used by individual companies to engage with smallholders. There are also commodity-specific approaches, such as the industry-wide Cocoa Action.

The SHARP Partnership developed, tested and implemented the framework for Responsible Sourcing from Smallholders (RSS) in six countries across four commodities around the world. It provides a road map for smallholder engagement and an initial assessment of key environmental and social risks, including those linked to land-use change. It also offers a plan for continuous improvement and a common point of reference for business-to-business communication.

Landscape or jurisdictional approaches bring together stakeholders to create partnerships between government, local community, the private sector and NGO/CSO stakeholders to integrate policy, legislation and incentives at the landscape scale. They can support responsible smallholder production in a number of ways:

- They facilitate the implementation of responsible production practices across value chains, land uses, stakeholder interests and production systems. This means that smallholder production is not considered in isolation, but rather in the context of reducing the risk of poor practices across a landscape or jurisdiction.
- They link responsible smallholder production to the needs and aspirations of rural communities, which often value diversification and resilience of livelihoods. These criteria are best applied at the landscape scale rather than to individual land holdings.
- They reconcile the private profit motive of smallholder farmers with the public interest in maintaining environmental services through the consistent and accountable regulation of land, which helps to engage with smallholders on their land-use decisions and investment plans.
- They provide a framework for responsible sourcing to support positive, long-term change in smallholder practices and livelihoods.

## Conclusions and way forward

This article highlights four key points: 1) smallholder engagement is a lengthy process that requires investment, planning and long-term involvement; 2) engagement should aim to reduce the risks associated with poor practices while also supporting the improved livelihoods of smallholders; 3) many smallholders don't become producers until several years after they have cleared the forest to plant their crops, so it is essential to initiate engagement at an early enough stage to preempt deforestation; and 4) there is no one-size-fits-all approach for smallholder engagement. A number of frameworks exist to guide the process, but the specific details will ultimately depend on the local context.

To address these four points, companies that are committed to responsible sourcing need to think ahead, and to engage early and proactively. To preempt deforestation, supply chain companies must get involved before it happens. Crucially, this means they need to work with systems that include the smallholders who are not yet their suppliers, looking beyond their existing, commodity-specific supply chains. They must plan to secure their future smallholder supply base, engaging with government, civil society and other companies to shape the landscape of which smallholders are part. Only through wider, long-term, landscape-level approaches can the challenge of engaging smallholders on deforestation be addressed and responsible production for commodity markets assured.

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## 3.2 Smallholders switch to climate-smart coffee

YVETTE FABER, RODOLFO GARCIA,  
CARLOS ISAZA and EZIO VARESE

### Introduction

If you're reading this article over a cup of coffee, you're holding an increasingly rare commodity in your hands. The demand for coffee worldwide has outstripped supply for the last three years (ICO 2016), bringing global stocks to a five-year low. Global demand continues to rise by 1.4% per year, while yield levels have stagnated or declined in most coffee-producing countries. According to some projections, coffee production in Central America could fall by 34% by 2020.

There are various causes of this decline, including ageing trees and the spread of the coffee rust fungus (*Hemileia vastatrix*), which are worsened by the impacts of climate change. Annual rainfall in Colombia has been 40% higher than average since 2009; this coincides with a fall in production, from 11.5 million 12-kg bags in 2008 to 7.8 million bags in 2009, before recovering slightly in 2010 to 8.9 million (Thorpe and Fennell 2012). As temperatures rise, high-altitude areas that were previously too cool become ideally suited for growing coffee, but most of these areas are covered in trees. The risk is that coffee farmers will end up contributing to deforestation and in so doing they will exacerbate the problems brought by climate change that forced them to stake out new land in the first place.



SOLIDARIDAD'S CLIMATE-SMART  
COFFEE STRATEGY IS COMBATTING  
DEFORESTATION BY INCREASING  
SMALLHOLDER'S YIELDS.

### A possible solution?

Solidaridad is an international network organization and a front-runner in sustainable economic development. Its Climate Smart Coffee strategy aims to break the vicious cycle described above by helping farmers to increase yields on existing coffee fields. The rationale is that if farmers can produce more coffee from their fields, they would not need to expand into forested areas. The business case for farmers is clear, and this solution is legal.

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Certification schemes prohibit farmers from clearing forests for coffee, so if their incomes fall significantly there is a risk that they will abandon certification altogether. Solidaridad takes the view that making existing plantations more profitable — combined with social pressure from cooperatives, new regulations from government and long-term support from the private sector — will make deforestation unnecessary and undesirable. This approach also complements Solidaridad’s wider goal of enabling the transition to a sustainable economy, in a way that is driven by the private sector but partners with parties throughout the supply chain. This will create mutually beneficial business practices, so that everyone is involved in bringing about change that matters.

Three areas of Central and South America where protecting forests is critical were chosen for the trial of the climate-smart coffee strategy: Chiapas in Mexico, Risaralda in Colombia and San Martin in Peru. Field operations were designed to test the business case and to find additional revenue for farmers. Deforestation is an attractive option because the newly cleared fields are more fertile than farmers’ existing land and they can rely on a bumper crop for the first three to six years. After this period, however, yields decline and new areas have to be cleared to maintain production. Opening up new areas is labour intensive and damages the environment, so making existing fields more productive and resilient is a more sustainable option for farmers. Higher yields and lower costs lead to higher profits and better livelihoods for farming families. Intercropping with fruit trees, banana and other crops diversifies food supplies and increases income, resulting in greater well-being and reduced poverty. Health care can be paid, children go to school, and food is available all year round.

### Climate-smart agriculture

Yields increased by 20% or more when farmers applied at least two climate-smart agriculture (CSA) practices in Mexico and Peru. These included adding compost to restore productivity, improve the soil texture and incorporate carbon content into the soil; establishing an agroforestry system of coffee trees with shade trees (Figure 1); changing wastewater treatment so less methane is produced and released; improving the management of coffee pulp; and establishing the correct density of coffee trees per hectare, according to fertility and slope.

**Figure 1. Agroforestry system, Peru**



Coffee agroforestry reduces greenhouse gas (GHG) emissions by employing a system of layered vegetation, with coffee the closest to the ground, then shade trees, and then an upper layer of high shade trees and timber species. Switching to a combination of chemical and organic fertilizer enabled farmers to increase soil organic matter, making it more fertile and richer in carbon. The Cool Farm Tool, an initiative of the Cool Farm Alliance, is used to measure the impact of these methods on GHG emissions. It analyzes farm data to gauge the impacts of coffee-smart practices on carbon stocks, which enables Solidaridad to measure emission reductions and carbon sequestration over the three years of the programme. The programme also led to discussions with governments and coffee roasters about protecting forests through boundary enforcement and reinforcing benefits within the supply chain.

Coffee roasters have three main concerns:

- They want to reduce operational risks by securing a future supply and avoiding high prices for green coffee beans in future.
- They want to increase customer confidence by actively taking care of people and the planet. According to a UN survey (UN Global Compact-Accenture 2014), consumers are becoming more environmentally aware, with 72% saying that businesses are not doing enough to safeguard the future of the planet and society as a whole.
- They also want to keep ahead of regulation on climate change that is driven by the European Union and the Paris climate change accord.



The EU wants to integrate environmental sustainability with economic growth and welfare, and is piloting ways to improve the overall environmental performance of products throughout their life cycles. As sustainability moves up the list of priorities for roasters, farmers that use CSA practices to acquire certification and reduce GHG emissions will be in a stronger position to compete for orders.

The main factors contributing to GHG emissions are the conversion of land from forest to agricultural use, fertilization, and the waste produced from coffee processing, such as wastewater and pulp. Where organic coffee is produced on existing fields, wastewater is the main source of GHG. On 81 sample plots in Mexico, for example, the Cool Farm Tool found that 80% of emissions were produced during the wet processing stage.

## Results

The programme showed that farmers can be part of the solution to deforestation, rather than contributing to the problem, if the pressures that lead them to abandon existing fields and expand are removed. From 2013 to 2016, 7,361 coffee farmers cultivating 16,000 ha were trained across the three target regions; together, they produced some 17,500 tonnes in 2015–16. Crucially, the total cost of the programme

per kilo of coffee was €0.07, or about the same as the premiums paid for certified coffee. So, it only would cost coffee roasters an extra €0.07 per kg to ensure that farmers earn a viable income without needing to clear forests.

In Colombia, the yield was highest, at 1,364 kg/ha, with a 5% increase in yield over the three years. The impact was more dramatic in Peru and Mexico, however, where initial yields were much lower, with a 74% increase in Peru (to 721 kg/ha), and a 31% rise in Mexico (to 476 kg/ha). Overall, 70% of farmers implemented at least two climate-smart agricultural practices, and it was encouraging to see that 16% of them were women. Solidaridad also trained 276 agronomists — well above the initial target — thanks to support from the Colombian Coffee Federation, virtual training courses in Peru, and that more agronomists enrolling for courses than anticipated.



More importantly, farmers realized clear livelihood benefits. The programme focused on early adopters, who represent 10% of the community, on the assumption that news of their better yields would encourage others. One producer in Peru who had previously cultivated 10 ha, said that the plantation was too large to manage with family labour alone. He reduced his plantation to 2 ha, but by applying good agricultural practices he harvested 21% more coffee than from his original field, which was five times the size — an improvement of

more than 600% per ha. This also left him with 8 ha of land to grow other food crops, or potentially to replant as forest if suitable incentives were put in place.

By giving farmers a viable alternative to clearing forest, the programme avoided 132 ha of deforestation in Peru and allowed 367 ha of farmland to be rehabilitated as forest in Colombia. But the effect on greenhouse gas emissions was more modest than expected, due largely to coffee rust: 75% of trees were infected in Mexico and a similar level in Peru. Practices had to be adjusted to include the replacement of infected trees, but new trees are not immediately productive; this significantly affected carbon performance. According to the Cool Farm Tool, CO<sub>2</sub> emissions were reduced by 27,869 tonnes, or 10.6 t/ha, with reductions of 79.3% in Peru and 74% in Mexico, but only 4.1% in Colombia (with the largest land area).

## Looking to the future

Zero deforestation is a new market trend that supports climate-friendly production and public policies. The first phase of this programme showed that public policies on deforestation and climate-smart agriculture are developing, but are still in their infancy. Once farmers are aware of the benefits from improved practices, they tend to adopt them. To reach more farmers, more support is needed from government and companies alike. Where pioneering farmers implement changes and their peers see the difference — as

happened in the three trial regions — it encourages others to follow. This leads to rapid yield gains, to the extent that farmers are able to produce more coffee from much smaller areas; this cuts costs and frees up land to diversify production or plant new forest. And since fluctuating coffee prices often lead producers to prioritize other activities, as a diverse portfolio makes farmers less vulnerable to market changes and gives them a more steady income, Solidaridad also helps farmers to diversify their production so they are not pushed into damaging activities such as clearing forests. Coffee roasters are also interested in climate-smart practices, but prefer to wait and see how carbon and coffee markets develop.

The second phase of the programme aims to accelerate the sales of coffee from zero deforestation suppliers and build new public-private partnerships that support and promote climate-smart practices. This will build on existing platforms such as SCAN Peru and the Sustainable Trade Platform in Colombia, and on strong relationships with ministries, producer organizations and private companies. Solidaridad will use these platforms to pilot new partnerships and mechanisms that help farmers make the transition. Private companies, working with government and farmers, will implement policies and practices to reduce emissions and deforestation linked to coffee production while improving farmers' livelihoods. This will also serve to maintain the carbon storage capacity of forests and will help Peru and Colombia meet their commitments to reducing greenhouse gas emissions.

## Case studies

### *Chiapas, Mexico*

The greatest challenge in Mexico is to increase productivity. Average coffee production in 2014–15 was 60 kg per ha, compared to 120 kg/ha in Peru and 168 kg/ha in Colombia. Using the Cool Farm Tool, Solidaridad established that 80% of greenhouse gas emissions generated during coffee production originated in wastewater produced at the wet processing stage. The old age of trees, along with infestation with coffee rust, also lowered productivity. Around El Triunfo National Park, Solidaridad worked with three cooperatives: Triunfo Verde SSS, Comon Yay Nop Tic SSS, and Federación Indígena Ecológica de Chiapas SSS, FIECH, with 192, 448 and 1,260 members, respectively. The programme introduced techniques to help mitigate climate change, including planting varieties resistant to coffee rust. Although farmers were slow to adopt these techniques, production is expected to triple to 180 kg/ha as these new practices are adopted. Producers with more than two plots can reduce their cultivated area, freeing up land to restore forest or diversify into other crops. Solidaridad is also leading the technical roundtable on sustainable coffee with Alianza REDD in Mexico, and implementing one of the few initiatives that is delivering concrete results in reducing deforestation and CO<sub>2</sub> emissions.



### *Risaralda, Colombia*

Involving 5,282 producers around Tatamá National Park, the programme developed close ties with the Colombia Coffee Federation (FNC) and the Neumann Foundation. To promote climate-smart practices that increase productivity and resilience, the programme trained 192 agronomists and established 900 demonstration farms. Two or more practices were adopted by 60% of farmers, and 720 ha were converted from non-shade systems to higher yielding, low-emission agroforestry; yields increased to 1,364 kg/ha in 2015–16, and 376 ha were reforested as conservation corridors. Local rural extension teams reached agreement to promote the planting of four main shade tree species in coffee agroforestry systems (although growers could also choose other species). The programme provided resources to young entrepreneurs to establish tree nurseries, giving them an income while guaranteeing the supply of seedlings. Working with the BANCO<sub>2</sub> payment system, farmers who own conservation forests and make a living from small-scale farming can become members of the payment system and make voluntary contributions to compensate for their CO<sub>2</sub> emissions. Solidaridad also organized meetings with political groups in 2015, an election year for mayors and governors, successfully pushing for candidates to put climate change on their agendas and making the case for the REDD+ mechanism.

### *San Martin, Peru*

In the area around the Alto Mayo Protected Forest, the programme began with 1,200 farmers in 14 cooperatives, and one exporter. All producers were visited three to four times a year by one of six agronomists, who advised them on improving farm management and implementing climate-smart practices. Since joining the programme, 81% of the farmers noticed qualitative and quantitative improvements in their coffee plantations, and 62% said that the new practices had improved productivity so much that they did not need to expand. Some were even considering scaling back to concentrate on smaller, more productive areas. Solidaridad became part of the regional Technical Coffee Platform, which encourages the sector to cooperate on common interests, and the regional government has adopted Solidaridad's approach to climate-smart coffee production.



### Conclusions

The adoption of climate-smart agricultural practices has reduced deforestation in high-altitude regions in Colombia, Mexico and Peru, and increased resilience to climate change by helping coffee farmers improve their yields. Solidaridad's programme found that farmers are motivated to improve production from existing fields by adopting climate-smart practices, and that this removes the need to clear new fields on higher ground, which in turn reduces deforestation and its associated carbon emissions. More efficient land use also enables farmers to increase their incomes and improve their food security by using spare fields for alternative crops. Importantly, regional governments also appear keen to scale up concrete approaches such as this.

### For more information

For training materials and online courses related to the Colombia case study, see [www.agrolearning.com](http://www.agrolearning.com) (in Spanish).

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## “New models of production are needed and possible”

Jeffrey Y. Campbell, Manager, Forest and Farm Facility (FFF), Rome, Italy

### ► Do you think that commitments to zero deforestation are good for smallholders?

Yes, if some fundamental underlying issues are brought into the open and dealt with, transparently. First is the lack of connection between the history of deforestation and these new initiatives. The term “zero new deforestation” could be added to the expanding lexicon, with a disclaimer admitting that most previously produced palm oil, soy and beef from large corporations working in tropical countries comes from large-scale deforestation. Otherwise, the public perception — that consumers can now feel good about “sustainable” products — looks like “greenwashing.”

The second assumption is that industrial-scale production is acceptable, and for improvements, multi-national actors simply need to improve their practices. The fact that the vertically-integrated production models that drive deforestation are unsustainable in themselves is not questioned, and the possibility of commodities produced primarily by smallholders and not on large estates is not considered. We must refocus zero deforestation solutions on community-level models, supported by tenure reform, good governance and incentives that will lead to a transformed rural economy.

Currently, zero deforestation pledges tend to legitimize powerful market players, and there is a mismatch between the ideal of maintaining forested landscapes and the concept of a single commodity value chain – an industrial agricultural model. Rather than making existing vertical value chains deforestation-free, incentives are needed for new multi-product value chains from diversified small-scale agro-ecological production systems that mimic forests, and that provide a range of products, spread risks and increase local economic benefits — another key determinant in reducing deforestation. New models of production are needed, and are possible if consumers not only demand deforestation-free products, but that they come from alternative smallholder production models.

### ► What challenges reduce the benefits to smallholders, and how can these be most effectively overcome?

Zero deforestation and smallholder inclusion are very different goals. In general, big companies do not live with the consequences of their decisions, but smallholders do, and in the environment affected by these decisions – so they have stronger motivation for sustainability. Also important is the nature of the relationship, especially tenure arrangements. Companies may have to contest local land rights if they are not to expand into forests, and smallholders must have the support they need to defend their tenure, to organize and to increase their bargaining power, value addition and marketing

opportunities. In highly deforested landscapes where people have been displaced or forced towards monoculture production tied to big companies, the key is to ensure that FPIC principles are applied throughout, including more equitable outgrower schemes, options to sell to other buyers, and technical packages. Also, allowing traditional forest management systems that maintain a forest mosaic in the landscape must be considered within forest and deforestation definitions.

► **What can smallholders do to better engage with companies making commitments to zero deforestation?**

Organize! To gain secure tenure and access to land and resources; to have a seat at decision-making and policy-making tables; to get information on the range of options, smallholders must demonstrate that they can more efficiently produce deforestation-free commodities and ensure high returns and benefits to their communities and members. They should thereby claim this branding opportunity for themselves as a vast and under-recognized proportion of the private sector in order to negotiate for fair deals for outgrower schemes, find alternative markets, and bargain for the inclusion of multi-product value chains.



► **What advice would you give the private sector to better take on board smallholder perspectives and interests?**

Recognize the prior rights of smallholders to the land, and as legitimate private-sector actors in their own rights. Help them to organize at the producer level and also in their own associations to better meet market demand. Consider support to small- and medium-scale processing enterprises to strengthen the rural economy. Work with smallholder associations to understand the co-benefits of zero deforestation and forest restoration that come from working with forest and farm producers at the landscape scale.

► **What is the future for zero deforestation?**

Zero deforestation efforts must address the fundamental problems of prior deforestation, be willing to challenge current assumptions about the scale and effectiveness of large monoculture industrial models, firmly promote tenure reforms, and address redistribution of current concessions to smallholder producers and their organizations. Companies must also take a more holistic approach towards landscape-scale mosaics and complex agroforestry production systems. Ultimately, a transformation is needed, and that is about much more than being deforestation-free.



### 3.3 The myth of zero deforestation cocoa in Côte d'Ivoire

FRANÇOIS RUF and FREDERIC VARLET

#### Introduction

In the 2000s, people who attended meetings of the World Cocoa Foundation would regularly state the need to protect tropical forests. The foundation's programmes worked to increase yields on established cocoa farms while failing to consider farmers who continued to encroach on neighbouring forests (Ruf et al. 2014). Also, international NGOs involved in group certification of environmentally friendly cocoa did not hesitate to certify cocoa farms inside protected forests (Varlet and Kouamé 2013). This article highlights the failure of certification to reduce deforestation, and looks at ways to reintroduce trees on cleared land.

Governments, NGOs and private companies use slogans such as "zero-deforestation cocoa" and "cocoa, the friend of the forests." In spite of these slogans, the reality in Côte d'Ivoire is that forest clearance continues. Zero deforestation cocoa only exists where all the forest has already disappeared, and with few exceptions, protected areas and classified forests are not actually protected in any way. The removal of trees on small-holder farms was ongoing throughout the 1990s and 2000s, and is slowing down now only because so few trees remain. But there is hope, if there is a greater understanding of the problems, and of how smallholder farmers think and why they do what they do.



TREE TENURE IS THE KEY TO A MORE SUSTAINABLE FUTURE FOR COCOA PRODUCTION IN WEST AFRICA.

#### Causes of deforestation – the case of Nawa region

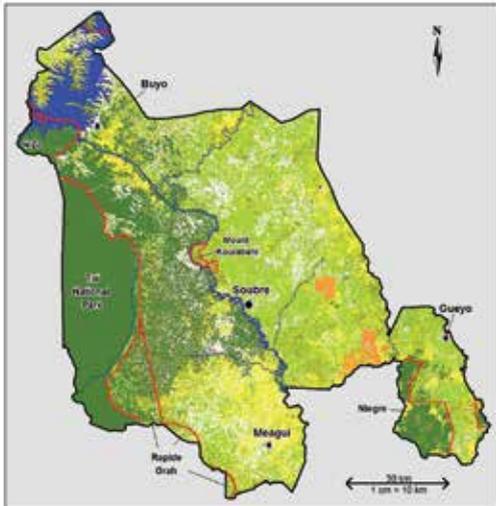
Figures 1, 2 and 3, which illustrate land use in Nawa over 30 years, speak for themselves. They show the change from a luxuriant and continuous forest belt to a mosaic of fallows and degraded and zero-shade cocoa farms. Before 1986, much of the land around Soubré was already totally deforested, though the forest to the west remained relatively dense. However, this forest has disappeared in 15 years; no dense or degraded forest is left,

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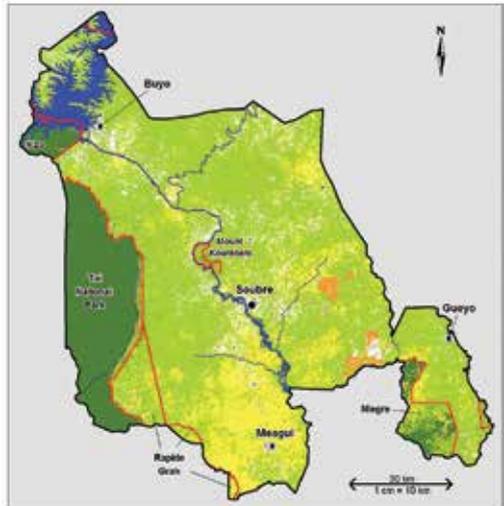
**François Ruf** is an economist with CIRAD and ESA (INP-HB), Yamoussoukro, Côte d'Ivoire; and **Fredéric Varlet** is a consultant and agricultural economist, Abidjan, Côte d'Ivoire.

except for some patches of degraded forest inside the small so-called protected area around Obrouyo. By 2015, a few patches of "green," possibly rubber farms, possibly ageing cocoa farms, were re-emerging, but the general trend is toward lower vegetation density.

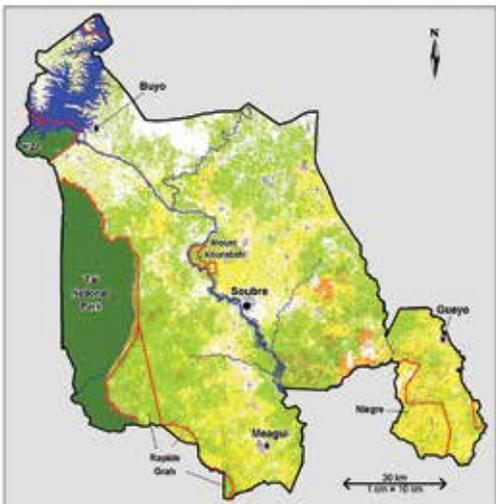
**Figure 1. Land use in the Nawa, 1986**



**Figure 2. Land use in the Nawa, 2001**



**Figure 3. Land use in the Nawa, 2015**



**Land use**

- Dense forest
- Degraded forest
- Mosaic of fallows (dominant) and crops
- Mosaic of crops (dominant) and fallows
- Low density vegetation (new crops or fallows)
- Bare ground or houses, villages
- Water body
- Rivers and streams
- Industrial plantations (palm trees)

**Chief towns**

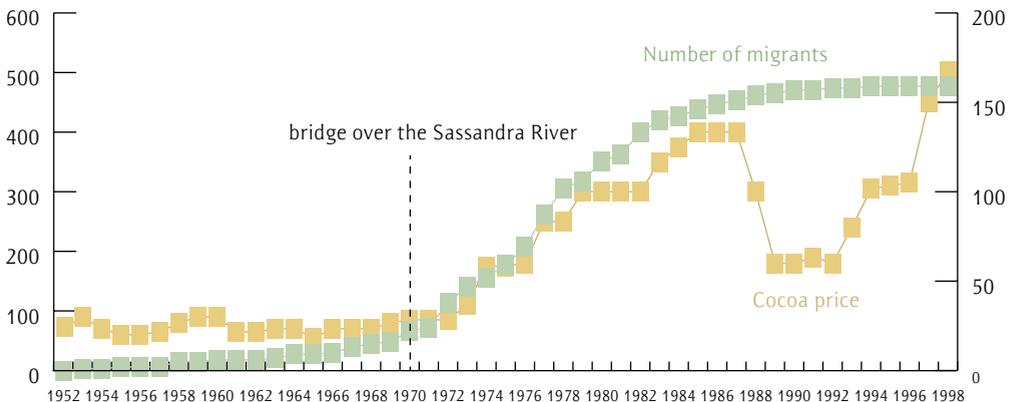
- of région
- of department
- Protected areas or classified forests

Source for Figures 1, 2 and 3: BITOPE, CURAT and GRAIN Côte d'Ivoire, 2016

There are a number of inter-related causes of this massive deforestation. One is in-migration related to the cocoa boom, the first big wave in the 1970s from the central Baoulé region, and the second in the 1980s, mainly from Burkina Faso (Ruf 1988; Varlet and Kouamé 2013). It continues to this day; the rural population in Nawahas jumped from 586,000 in 1998 to 897,640 in 2014, and the population density has increased from 72 to 111 inhabitants per km<sup>2</sup>. The first migrants came as workers, but many of them managed to obtain land from local village chiefs and establish their own cocoa farms. After a few years, they themselves needed labourers and sent for people from their home villages. Migrants were also fleeing the Sahelian droughts, which started in the mid-1970s. The real culprits of deforestation, however, are neither local people nor migrants, but the public policies that sent the wrong signals to smallholders. The message was that the forest is free and open and the land belongs to whoever is willing and able to clear and cultivate it.

The main factors that led to deforestation were the existing infrastructure: asphalt roads and the bridge over the Sassandra River were built by the government and a network of dirt roads was built by logging companies. The new cities of Soubré and San Pedro soon emerged from the jungle. The policy of regularly increasing and maintaining the nominal cocoa price also played a major role, by reducing risk and giving confidence to migrants that their revenues would keep rising. The government could afford this while world cocoa prices kept increasing in the 1970s, but a decade of price declines followed in the 1980s. The rate of migration, at least around Soubré, was slowing six years before the collapse of the cocoa price (Legrand 1999), but only because most land had already been appropriated (Figure 4). New migrant labourers would then move elsewhere, such as the Mont Kourabahi classified forest northwest of Soubré, which was soon cleared.

**Figure 4. Number of migrants in Soubré and cocoa prices (CFA franc per kg), 1952–98**



Sources: Migration rates Legrand 1998; cocoa prices: Caistab and, since 1988, authors' data.

Paradoxically, while economic theory states that land security is essential to investment, it was uncertainty that encouraged deforestation and planting in Nawa region. This is explained by “the tragedy of commons,” where individual users act in their own self-interest in a way that is contrary to the common good of all users (Amanor 2005; Ruf 2011). By clearing the forest, migrants aim to secure land ownership. This, along with the high revenues from cocoa, led to massive deforestation, which was worsened by the removal of all trees, rather than leaving some shade trees (Ruf 2011). Migrants were looking for a quick return on their investment, and shade delays the first yields. Migrants realized that burning was the cheapest and easiest way to clear trees, and burning destroyed all the trees. Farmers rapidly discovered that cocoa trees could resist full sun when rainfall was abundant, making shade unnecessary, and yields were also helped by the introduction of more robust planting material from the upper Amazon. Trees are considered a benchmark of landownership by the people who originally lived in the area, and they began to argue that they were ceding the right to cultivate, but not ceding the land itself, but migrants would simply eliminate all trees and claim the land.



So, despite declarations and zero deforestation slogans, nothing has changed. Encroachment into one forest then another continues unabated, now in the Mont Peko “park” and the Haut-Sassandra “protected forest.” This is understandable. Every migrant who clears forest and plants cocoa increases government revenues and supply to the chocolate industry without one dollar being invested by public or private entities. And once migrants have entered a forest, it becomes socially and politically difficult to expel them.

### Understanding farmers' fears

Trees in natural forest belong to the state, so farmers have no interest in keeping them. Farmers also run the risk that a logger — with or without a permit from the local authorities — will cut down trees on their farm; this causes damage, does not involve any compensation, and has happened even on farms certified by Rainforest Alliance and UTZ. Certification agencies do not always respect their own environmental criteria (Lemeilleur, N'Dao and Ruf 2013). Since the REDD+ programme favours reintroducing trees rather than protecting existing forest, is it possible to at least rebuild some agroforestry systems?

Cocoa-exporting companies and national institutions started to distribute tree seedlings to certified farmers through their cooperatives, with the aim of achieving the minimum of 18 trees per hectare required by certification. However, farmers and cooperatives were not consulted about the species, and they received many seedlings they did not know or want. Many farmers would plant a few seedlings at the border of their farm to make the staff of the cooperative happy, or would just let the seedlings die. Farmers fear that loggers will come back in 15 years to cut them down, so they did not plant them within their cocoa plantations, which might be damaged during felling and extraction.

Although farmers rarely acknowledge that such strategies are deliberate, the example of one farmer in Touih, south of Soubré, is typical. He planted a few trees given to him by his cooperative, but when he learned that the trees (*Gmelina arborea*) could be used for making matches, he immediately cut them down, except two or three at the border of his farm, close to the road. Other farmers refused to plant any of these seedlings. In neighbouring Ghana, many cocoa farmers are willing to plant indigenous timber trees, but prefer to plant them in separate fields, not within their cocoa farms. One of the reasons is a fear of loggers. Although the ownership of planted trees was recognized legally in Ghana long before it was in Côte d'Ivoire, farmers there still fear being unable to prove that they planted the trees. The other option was to associate non-native exotic trees, which by definition cannot be spontaneous (Ruf 2011).

Actually, cocoa smallholders' fear of loggers is so embedded in their collective memory that they do not necessarily make a difference between exotic and indigenous trees. Smallholders are defiant about planting timber trees on their cocoa farms. In addition, specialized institutions, exporters and the cocoa industry are ignorant of farmer preferences and constraints. If farmers did not fear loggers and had clear tree tenure, many more of them would plant many more trees.

### Causes for hope?

In the 2000s, some farmers in Côte d'Ivoire and Ghana started to overcome their fear of loggers and of controls by forestry institutions. They started to think there might be an economic future for trees on their cocoa farms, and they began to manage tree regrowth and sometimes even planted new trees, mostly native iroko (*Milicia excels*), frake (*Terminalia superba*) and exotic teak (*Tectona grandis*). Their main intent was the future use and marketing of sawn timber. Through on-site chainsaw milling, farmers can bypass exploitative traders, sell directly to local markets, compete with logging companies, and avoid formal and informal taxation by forestry institutions. The fact that trees would also provide shade was only a secondary motivation.



In the 1990s, very few farmers acknowledged a relationship between a lack of shade and the increased risks of cocoa mortality and declining yields, and the resulting need to reintroduce trees into cocoa farms. Starting in the 2000s, however, cocoa farmers started to look at the ecological services provided by trees. Today, some 20% of cocoa farmers have taken at least some initiatives that favour tree regrowth, often with a conscious motivation to adapt their farming system to ecological change. And with only a few exceptions, this

positive outcome has occurred without the involvement of mass certification programmes. This is consistent with other failures of certification regarding the protection and reintroduction of timber trees in certified cocoa farms (Sanial 2015). In addition, farmers are also paying increasing attention to trees with medicinal properties, for which there is a promising market (Sanial 2015).

## Conclusions

For many reasons — and despite the talk of certification and of cocoa production being sustainable — deforestation seems likely to continue until the last hectare is consumed. Zero deforestation cocoa does exist, but only when and where all the forest has already disappeared. Then, logging companies will get timber from areas such as smallholder cocoa farms, until few trees remain anywhere (Amanor 2005). The REDD+ programme is an attempt at afforestation through agroforestry; this is relevant, but is not a zero deforestation initiative by itself. It may help to reintroduce trees on cocoa farms, relying on the existing will and innovations of those 20% of farmers who have already started to plant on their own, independent of certification (Sanial 2015). Non-supportive existing legislation remains the main constraint.

To improve further tree planting in the future, institutions and legislation must acknowledge the value of trees and tree tenure to the smallholders who plant them. The 2014 Forestry Code guarantees ownership of planted trees to the planter, but the code is ambiguous and is not well known or widely applied. In addition, farmers lack any rights regarding native timber trees left during clearing. These are probably the main factors behind the absence of timber trees on most cocoa farms in Côte d'Ivoire and Ghana (Amanor 2005; Boni 2005; Ruf 2011). REDD+ programmes show some potential, but they rely on the will of farmers to overcome their fear of loggers and plant or regenerate trees by themselves, without cocoa certification (which has been a massive failure). The best strategy may be to not certify cocoa itself, but to certify timber trees planted on cocoa farms.

As long as cocoa smallholders are not able to sell a timber tree, the term “friend of the forest” will remain only a slogan. The mass certification of cocoa farms launched by the chocolate industry and allied NGOs has not increased cocoa yields or farm revenues or improved the environment in and around cocoa farms. The best strategy will be to certify timber trees planted in cocoa farms, rather than certifying the cocoa itself, and to guarantee tree tenure to smallholders. Only this approach will encourage innovative farmers to plant more trees, which they can then sell. Eventually, their neighbours and many others will catch on, seeing for themselves the value of planting.



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## “We need real commitments, not empty statements”

Femy Pinto, Asia Director, Non-Timber Forest Products Exchange Programme (NTFP-EP), Manila, the Philippines

### ► Do you think that commitments to zero deforestation are good for smallholders?

Commitments from companies are good, but they must be monitored, and have sanctions imposed and enforced if they are broken. We need real commitments, not empty statements or false justifications for exploiting customary forests. But if zero deforestation also means no swidden agriculture, this will affect people’s access to food and the important transfer of cultural practices, traditions and seeds, so we need clear definitions. Company commitments must respect and recognize smallholder tenure and help support indigenous knowledge systems that inherently include sustainable principles and practices.



Zero deforestation commitments can also provide opportunities for companies to build mutually beneficial partnership with communities, and for the joint development of more culturally appropriate and low-emission community-based business models. Importantly, CSOs and smallholder federations must be included in the development of zero deforestation policies and business strategies, even though they often lack the capacity or resources to be actively involved.

PT Wilmar’s No Deforestation, No Peat, No Exploitation policy — although welcomed — has mainly seen progress in forest conservation, particularly of high value or high carbon stock forest. Resolving conflicts related to tenure or land between communities and the company or their respective contractors or suppliers could be one of the biggest challenges. The effective application of such policies often depends on the political realities of a country, particularly in developing and newly developed countries where there is little separation between business and government. Large multinationals such as PT Wilmar have tried to rise above government interference, but so far the same cannot be said for other companies in the supply chain.

### ► What challenges reduce the benefits to smallholders, and how can these be overcome most effectively?

The risk is that large company investments could push out traditional livelihoods and common property uses. Local communities and CSOs must be included in multi-stakeholder monitoring teams and community-based partnerships. There should be more rights and responsibilities for forest tenure holders, and the management of high conservation value forests and cultural areas should be transferred to local people. As safeguard requirements, zero deforestation commitments should not just minimize negative impacts, but should also ensure that they positively benefit smallholders, such as improving their

capacity for natural resource management, ability to comply with technical requirements, and implementation of benefit-sharing systems. Commitments must be consistent, and should be aligned with national and global monitoring and reporting systems and targets.

► **What can smallholders do to better engage with companies making commitments to zero deforestation?**

Smallholders must organize strong, collective and transparent community-based organizations with strong leadership. They must build capacity, including in-depth understanding of relevant information on the value chains in question, and must develop



strategies on how to achieve zero deforestation and how to have informed engagement with relevant actors.

Involving communities will be beneficial to companies in the long run if these companies can tap into local knowledge

and culturally appropriate technologies, and develop improved strategies to achieve zero deforestation. It is also recommended that multi-stakeholder bodies monitor progress towards the targets and the effectiveness of mechanisms to resolve grievances and conflict.

► **What advice would you give the private sector to better take on board smallholder perspectives and interests?**

Zero deforestation commitments must go hand in hand with a set of holistic company practices that adhere to the free, prior and informed consent of indigenous and local peoples and to their land and forest tenure rights. Strict safeguard policies must be in place as a necessary part of industry frameworks, and must be properly enforced. To sustain CSO and smallholder involvement, companies must demonstrate that they are serious in implementing their no deforestation/CSR policies by resolving environmental and importantly social/tenure conflicts within the areas where they operate. Companies must adhere to strict sustainability standards, not just to legality, since laws do not necessarily protect forests or smallholder rights.

► **What is the future for zero deforestation?**

The cost of implementing and monitoring zero deforestation commitments appears too high for smallholders at present, so it could be just a flash in the pan. To sustain and support zero deforestation, it could be linked to the improvement of ecosystem-based functions and biodiversity conservation. It could be institutionalized, with proper care and rigour in applying enforcement and monitoring. Also, zero deforestation commitments could be made much more widespread, and obligatory, by including them in broader frameworks such as sustainable development and climate actions. We can take our governments and leaders to task for these actions, in order to help save the world's remaining forests and the people who depend on them.



## 3.4 Making chocolate truly sustainable

MARISA CAMILHER CAMARGO, ISILDA NHANTUMBO and NICHOLAS J. HOGARTH

### Introduction

When we eat a delicious piece of chocolate, do we have any idea of the journey it undertook to get to us, or the potential harm it has caused to people and the planet? This article discusses the potential and actual sustainability of cocoa and chocolate, from farmer to consumer. This round-the-world journey follows cocoa production from the tree all the way to supermarket shelves. This voyage of discovery shows that zero deforestation efforts are an excellent means of addressing the challenges in making cocoa production and trade sustainable.

Many other issues need to be addressed before cocoa — or even better, chocolate — is truly sustainable. Efforts to make supply chains “green” must be embedded in a broader discussion about how to ensure sustainability, from commodity production to end products, from farmer to consumer, and not just at some of the points along the way.



EFFORTS NEED TO FOCUS ON AND BEYOND THE LANDSCAPE LEVEL.

### The context

This article reports on an analysis of climate change, deforestation and sustainability that started in 2011 (Nhantumbo and Camargo 2015) and assessed how the private sector was engaging in reducing emissions from deforestation and forest degradation (REDD+). REDD+ has been widely promoted as a mechanism to address deforestation and climate change, but has yet to yield any significant widespread impacts, and the analysis looked into various aspects of more than one hundred REDD+ demonstration projects being implemented in the global South. The analysis identified four main issues.

1. The majority of initiatives were concentrated in areas where small-scale agriculture and harvesting of fuelwood for household energy production are the main threats to forests; they did not target the main agricultural commodities that are the main drivers of deforestation (Hosonuma et al. 2012).

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2. There was limited involvement with the private sector in REDD+ implementation. The few companies that did invest in projects and/or purchase carbon credits were only loosely engaged in the initiative, and made no implicit or direct connection between the value chains of their core businesses and the REDD+ project. Examples include electric service companies in the USA paying for forest protection in Brazil, and a large USA-based tourism and entertainment business buying credits from a coffee project in Peru to offset the emissions of its cruise ship enterprise.
3. The boundaries of REDD+ projects were too limited, and did not take into consideration the broader landscapes where they were implemented, particularly the many competing uses, users and trade-offs. Furthermore, they did not consider how to ensure a concerted effort to collectively address the many and diverse drivers of deforestation or the essential need to equitably share the benefits. In addition, there was no clear plan to tackle leakage in REDD+ projects.
4. REDD+ initiatives mainly focused on accounting for existing carbon stocks and selling credits, although the global carbon market is undeveloped and has not taken off as it was expected to.

In late 2014, around the same time that these results became clear, global attention shifted to New York, where the Global Climate Summit was being held. Forests and climate change featured prominently, and one of the key results was a series of pledges from corporations and governments to promote zero deforestation in commodity supply chains. Despite the increasing interest to address these commodities as some of the main drivers of deforestation, and to engage the private sector in these efforts, it was not really clear what the New York Declaration on Forests would actually mean on the ground. Further investigation was required to assess what these commitments should include in practice, in order to ensure their effectiveness in addressing deforestation and climate change and contributing to sustainability.



### Cocoa – villain, victim or ally?

Four main commodities — palm oil, beef, soy, and pulp and paper — make a significant contribution to deforestation and climate change. Although cocoa does not contribute to deforestation as much as these commodities, it has been a key driver of forest loss, especially in West Africa. Cocoa is a villain, since it has led to a loss of forest cover. It is a victim, because suitable areas for growing cocoa are likely to shift and be reduced due to climate change. It is an ally; if it is grown under effective agroforestry systems, cocoa can lead the way in landscape restoration, delivering resilient ecosystems and improving sustainable yields over the long term. In addition, given that smallholders produce about 80% of global cocoa, the commodity has significant livelihood and development implications.

The stakeholder interviews focused on Ghana and Brazil, the second and sixth largest producers of cocoa in the world, respectively. The project also studied production in the Netherlands, which imports and processes about 56% of all the cocoa exported from Africa. The next stage of research involved going to the USA (Washington, DC) and the EU (Belgium), which are major consumers of chocolate. At each point along this journey, stakeholders were asked how cocoa and chocolate could be sustainably produced without leading to forest loss. A total of 70 interviews were undertaken, including representatives of consumer and producer country governments, traders, manufacturers, industry associations, technical assistance providers, farmers, NGOs, research organizations, and international institution, such as the World Bank and United Nations. These yielded important and interesting findings that should inform future direction, policies, investments and other decisions to improve the positive impacts of zero deforestation commitments.



## What the stakeholders said

### *Focus on and beyond the landscape level*

The stakeholders interviewed emphasized that deforestation is an important issue, but not the only challenge at the landscape level. Many social and environmental matters also need to be addressed, such as gender equality, food security, poverty and equitable benefit sharing, availability of clean water and sanitation, and improved and diversified sources of income. Stakeholders working on the ground thought there had been too much focus on deforestation, when other more pressing social issues such as these also deserve attention.

In Ghana and Brazil, it became clear that farmers and their cocoa are not alone in the landscape. Many other actors and social, economic and land-use changes also drive deforestation and forest degradation. The multi-stakeholder Ghana Cocoa Platform has identified mining, both legal and illegal, as one of the main threats to cocoa plantations, with a lack of adequate legislation being a further challenge. In Ghana, land is governed by customary rights entrenched in the constitution, with adjudication decided by land-owners and traditional authorities. However, the state holds tenure over trees, which affects the choice of shade trees for cocoa, and is a key determinant as to whether agroforestry can be effectively implemented as a means to rehabilitate cocoa plantations and reduce deforestation. Furthermore, the government grants harvesting concessions to third parties, who can enter cocoa plantations and remove shade trees without being obliged to take any care of damage to surrounding crops that occurs during felling or extraction. To avoid their cocoa plantation being damaged or destroyed, some cocoa farmers said that they chose to remove shade trees themselves, illegally but safely, to ensure that outsiders had no reason to enter their plantations.

Any attempt to address deforestation associated with commodities must take into account the dynamics of deforestation in the broader landscape and its underlying causes, including legislation that contributes to deforestation. Some drivers are within the forest sector, such as unsustainable harvesting and illegal logging; some are outside the sector, including mining and infrastructure development. Other drivers include inconsistent laws

across sectors, poor law enforcement, and sustainability disincentives such as low royalty payments and ill-considered levels of taxation. Defining the physical and conceptual boundaries of suitable interventions is challenging, but addressing deforestation will be more effective if the various actors involved understand the extent of their control over resources and how that affects their behaviour and land-use practices. A better understanding of how land use and land users are interconnected, and what interventions are required for collective action, is needed to address this dynamic reality.

### *Consider people, productivity and the environment together*

Sustainability requires a balance of social, environmental and economic aspects. The stakeholders interviewed confirmed that these three dimensions must be interconnected in order to ensure the long-term supply of cocoa. Interventions must be sensitive to the possible

synergies between the various dimensions of sustainability. A sole focus on deforestation, which is only one of myriad environmental challenges, will not likely be enough to solve the problem in the long term. There are clear cases where farmers compromise ecosystem resilience and the long-term productivity of their farm in order to meet their immediate livelihood needs. In Ghana, farmers discourage their children from continuing to work in cocoa production, which is non-mechanized and labour intensive. Youth are becoming disinterested in cocoa production and moving to cities where they may not necessarily find jobs, which leads to other social problems. In Bahia, Brazil, farmers do not have many livelihood options, and are unaware of the tree species they could plant in and around their cocoa plantations that could yield marketable products. Preoccupied with making a basic living, some farmers choose to illegally fell shade trees to allow cocoa to grow under full sun and produce pods for harvest more quickly. Despite evidence that full sun impoverishes the soil and increases the likelihood of pests, farmers argue that they do not have an option, and technical assistance is not available to provide them with alternatives.

### *Move beyond deforestation*

Zero deforestation commitments should be embedded in broader sustainability discussions that look at the various challenges at the landscape level and also on reducing negative impacts along the entire supply chain, from farmer to consumer. This will require more actors to be involved, including industries in supply chains that produce other ingredients of chocolate (such as sugar and milk powder), as well as transportation, packaging, wholesaling and retailing, since all the stages from cocoa farm to consumer generate externalities, including greenhouse gases. A life-cycle assessment of chocolate



revealed that milk powder contributes most to the carbon footprint, followed by cocoa (Humbert and Peano 2014). Another study showed that the production and use of fertilizers and pesticides were a major cause of negative environmental impacts during cocoa production (Ntiamoah and Afrane 2008).

### *We must work as one*

Stakeholder interviews showed just how many initiatives are being promoted under the banner of sustainable cocoa. Developed countries provide development assistance to improve livelihoods in producer countries such as Ghana. The cocoa industry has sustainability projects that target specific communities. Academics and researchers write articles suggesting how to tackle the problems. NGOs promote marketing campaigns and develop certification systems to try and address the challenges. But despite the fact that they are all trying to advance a similar agendas, there is limited coordination between these different groups. The challenge is huge, and no one actor can solve it all. The private sector, industry associations, producer organizations, civil society organizations, governments and academia must come together to develop and promote joint efforts. These efforts must allow rapid progress in creating the enabling conditions and technical know-how to increase and monitor the sustainability of both the demand and supply sides of commodities and end products.

## Conclusions

This research shows that zero deforestation debates are becoming more focused on addressing the key drivers of deforestation, and that private-sector actors are becoming more engaged in the concept of zero deforestation as they see the clear links with their core business. However, many players along the chocolate value chain still need to join these efforts to make the business of producing chocolate more sustainable, including the industries that produce inputs, and investors. Investors would benefit significantly from becoming more aware of the potential climate risks that might threaten their long-term investments in the chocolate value chain, and the benefits of putting in place mitigation and adaptation measures to address these risks.

Many challenges must still be addressed before chocolate can be considered a truly sustainable product. To achieve sustainability, zero deforestation related to the production of commodities must be promoted at the landscape level, and negative externalities along the entire chocolate supply chain should be addressed through life-cycle assessments, NGO market campaigns, consumer demand (including procurement policies), lender liability clauses, and fiscal incentives for sustainable products.



It is of paramount importance that different stakeholder groups — including governments, CSOs, the private sector, and farmers — coordinate their actions and build a common vision that contributes to a broader agenda for sustainable development. To do this, efforts must be organized at and beyond the landscape scale, looking at direct and indirect drivers of deforestation through the entire supply chain and identify how synergies can be created. Experiences such as those of the Tropical Forest Alliance, which convene a wide range of stakeholders from farmers to consumers, should be expanded and replicated, focusing on promoting the responsible production of commodities and increasing the demand for sustainable products. A lack of markets for deforestation-free commodities will limit progress, so supply-side initiatives should be linked to demand-side measures. The sustainability path is long, and no one actor can do it all.

## Acknowledgements

The authors would like to thank all the stakeholders interviewed for their time and contribution, as well as the *Organização de Conservação da Terra* and the World Cocoa Foundation for being instrumental in facilitating fieldwork in Brazil and Ghana, respectively.

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## 3.5 Toward zero deforestation cotton in Zambia

DUNCAN GROMKO, PRASHANT KADGI, TILL PISTORIUS, TIMM TENNIGKEIT and WOLFGANG BERTENBREITER

### Introduction

Extreme poverty and a dependence on agriculture drive deforestation in Zambia's Eastern Province. Improving productivity through soil fertility measures is a key strategy to addressing deforestation, because poor production practices and soil depletion cause farmers to expand cultivation into forest areas. Depending on their specific circumstances, farmers should be offered a range of options to improve productivity. These include improved soil management, planting nitrogen-fixing trees, or simply improving the use of agricultural inputs.

Companies that have made zero deforestation pledges must be encouraged to actively engage with suppliers to meet these commitments. If agribusinesses comply by simply stopping sourcing from regions with high deforestation rates, other companies are likely to move in, taking advantage of the extra supply. Instead, agribusinesses should promote measures that boost productivity by offering technical assistance and financing to farmers as incentives to reduce deforestation. Climate financing can absorb some risk and catalyze companies to invest in their supply chains instead of shifting their sourcing to deforestation-free regions.

Supply chains are often large and complex; they include small farmers in remote areas, traders and other intermediaries, and affect relationships between suppliers and purchasers. Monitoring deforestation across these supply chains will be expensive. In order to demonstrate performance against deforestation commitments, a combination of activity-based proxy indicators that are monitored along the supply chain and statistical sampling can help to keep costs down. Law enforcement and public sector monitoring should complement private sector initiatives, to mitigate the risk that the causes of deforestation leak into other commodities, supply chains and regions.



COMPANIES MUST ACTIVELY ENGAGE IN PROBLEM AREAS IN THEIR SUPPLY CHAINS.

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## Cost-effective deforestation-free supply chains

More than 700 companies have made zero deforestation commitments to date, as part of and since the New York Declaration on Forests of 2014. However, many have yet to implement their pledges through policies specific to commodities and geographic areas, and evaluating progress remains a significant challenge. The first step toward meeting



such commitments is to understand the drivers of deforestation in a particular company's supply chain. Increasing public access to satellite imagery and commodity flow data helps to better track deforestation and its drivers. However, even as such information becomes increasingly available, it remains difficult for a company to link land use and deforestation to a specific supplier or commodity.

Once a company understands where and how it is affecting deforestation, it must take steps to reduce deforestation in its supply chain, and not just shift its sourcing to regions not associated with deforestation. By taking these steps,

it improves relationships with suppliers and increases productivity, better securing the supply of raw commodities and meeting consumer demands. Notwithstanding these benefits, agribusinesses often see expanding support to suppliers as a risk. Low-cost climate change financing may help to overcome cost barriers.

### The context

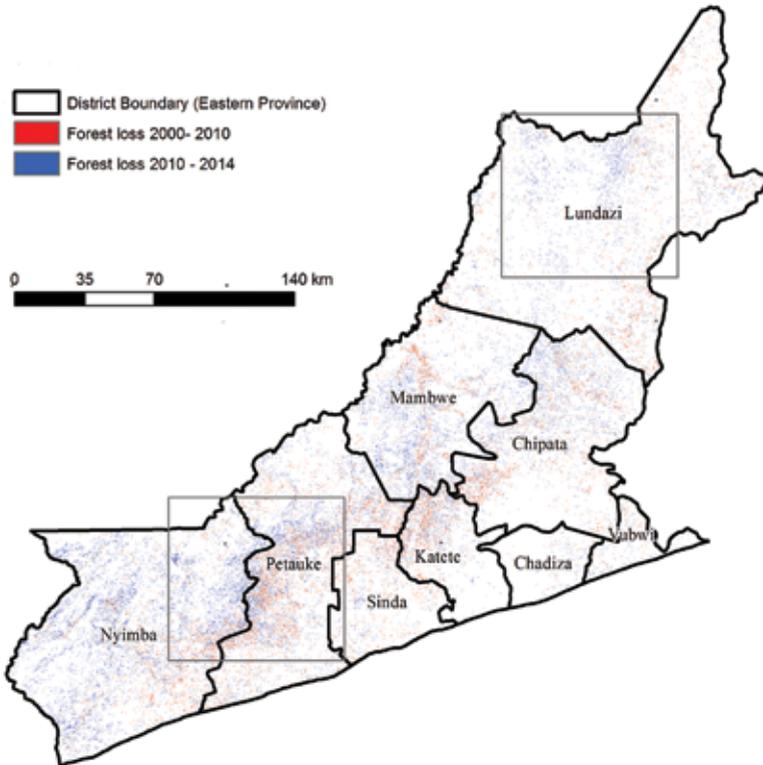
Eastern Province is one of Zambia's poorest provinces. Half of the population are unable to satisfy their basic food requirements and more than three-quarters live on less than US\$ 1.90 a day. Smallholder families cultivate about two hectares on average and they clear forests to expand the area under production. Yields are low, averaging about two tonnes per ha per year for the main maize crop. Extension services provided by governments, NGOs and agribusinesses tend to be very limited.

The clearing of forests for agriculture is driven by the need to open new land for cultivation due to declining soil fertility on existing agricultural lands, or to expand production in order to improve income and food security. The root causes of declining soil fertility are poor farming practices, such as burning crop residues and repeated planting of cereals without incorporating soil enhancing crops. Once land productivity has declined, farmers look for new areas to cultivate, clearing forests in the process. Between 2000 and 2010 in Eastern Province, 54,027 ha of forests were lost, with a further 102,087 ha lost between 2010 and 2014 (Figure 1).

The two main drivers of deforestation and forest degradation in Zambia are agricultural expansion and charcoal production (Chomba et al. 2012; Giesecke 2012; Vinya et al. 2012). Charcoal making is often the first step in deforestation, and as forests are depleted, they are eventually cleared for agricultural use. The main agricultural crops

include maize, sunflower, groundnuts, soy, cotton, tobacco and sweet potato. Maize has been the dominant crop for many years, but cotton production is increasing rapidly, driven by the increasing demand from national and international traders that export to South Africa and beyond (Figure 2).

**Figure 1. Forest loss in Zambia's Eastern Province, 2000–14**



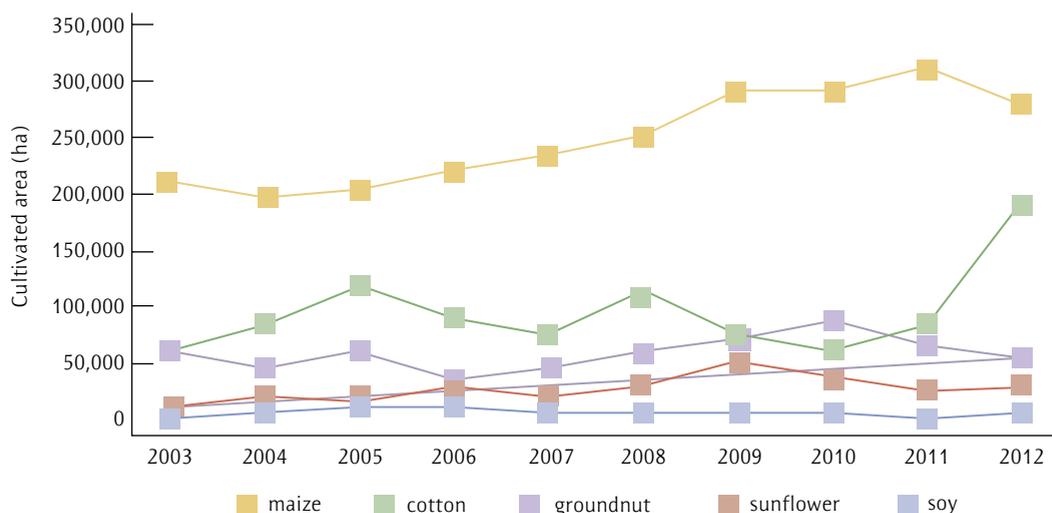
Source: Republic of Zambia 2017

### The Competitive African Cotton Initiative

The Competitive African Cotton Initiative (COMPACI) was formed by an international group of cotton companies representing US\$ 65 million in annual turnover. The initiative includes four members who operate in Zambia: Alliance Gineries, Cargill, NWK Agri Services, and Continental Ginnery. Among other social and environmental sustainability targets, COMPACI requires its members to eliminate primary forest deforestation. To achieve this goal, they must boost productivity, since farmers will not stop deforesting if it means reduced income. Many companies already provide some forms of outreach, which can be adapted to encourage more sustainable practices and expanded to reach more farmers, especially in deforestation hotspots.

COMPACI members vary significantly in how they reach suppliers. NWK, for example, employs distributors that work through lead farmers to advise others. Lead farmers are often successful community members who have been trained by agribusinesses and who promote improved practices to their neighbours. Alliance Ginners establishes demonstration plots to promote best farm management practices. Cargill recently announced that it will scale back its direct outreach to farmers and instead will work through agri-dealers and other intermediaries.

**Figure 2. Cultivated area (ha) of select crops, 2003–12, Eastern Province**



Source: Tembo and Sitko 2013

Demonstration plots that show improved soil management practices are a cost-effective way for cotton agribusinesses to boost productivity among suppliers. Land preparation, inputs, maintenance and staff costs are estimated at US\$ 60 for a 0.2-ha cotton demonstration plot, and these efforts can increase productivity from 400 to 900 kg per ha. Alliance Ginners plan to increase the number of its demonstration plots by 50%, to 1,500 by 2017, at a total cost of US\$ 90,000. A productivity gain of 500 kg per ha on some 2,250 ha of suppliers' land would lead to an additional 1,125 tonnes of unprocessed cotton available to Alliance each year.

Although there are long-term benefits to increasing the engagement in supply chains, such a model remains untested, and is perceived as risky for many commodities. Some of the proposed business models do not break even for years, meaning that such investments would require a leap of faith from agribusinesses who do not have external support.

## Sustainable business models

COMPACI members can choose various ways to boost productivity among their suppliers. The four key options are inorganic fertilizers, improved soil management practices, agroforestry, and pest management.

### *Inorganic fertilizers*

Inorganic fertilizers have become expensive, and at approximately US\$ 500 per tonne they are now difficult for some smallholder farmers to afford. However, input financing can help to overcome temporary liquidity gaps, and an investment of US\$ 50 in additional fertilizer leads to an increased output of US\$ 330 in yields of maize.

### *Improved soil management practices*

Improved soil management practices include minimizing soil disturbance through ripping, and the preparation of planting basins, permanent organic soil cover, and crop rotation. These increase yields by improving soil fertility and soil moisture while reducing erosion and increasing nutrient availability (Kabwe et al. 2014). The Indaba Agricultural Policy Research Institute used an existing Rural Agricultural Livelihoods Survey (2015) along with their own surveys to estimate the actual costs and benefits of improved soil management practices in maize production. They found that a very small (4%) increase in total input costs was far outweighed by a 15% increase in revenues, adding to an overall increase in the gross margin from 84 to 135%. Maize production is a low-margin venture; conventional agriculture or improved soil management practices generate US\$ 84 and US\$ 135 per ha per harvest, respectively. Although this increase in profitability of 61% is substantial, only 5% of farmers have fully adopted practices in districts where it was promoted and partial adoption rates were only slightly higher (Chapoto 2016).

### *Agroforestry*

Limited nitrogen levels in Eastern Province soils are a major constraint to agricultural productivity. As a response, nitrogen-fixing agroforestry systems have been promoted in Zambia by ICRAF and others since the 1990s (Ajayi et al. 2005). Leguminous trees such as *Sesbania sesban*, *Tephrosia vogelii*, *Tephrosia candida*, *Faidherbia albida* and *Cajanus cajan* have high growth rates. In addition, they cause nitrogen to accumulate and improve the physical and chemical properties of soil, which increases yields and drought resilience while providing fuelwood and other byproducts. Considering all costs and benefits, agroforestry systems have a benefit-cost ratio of 2.77 to 3.13, compared to 2.65 to 3.13 for subsidized fertilizer and 1.77 to 3.13 for unsubsidized fertilizer; Ajayi et al. 2009), but if agroforestry is to succeed, agribusinesses must demonstrate its benefits to small producers. To date, COMPACI agribusinesses provide nitrogen fixing trees to producers for free, but members need to establish demonstration sites and work with lead farmers in order to convince others of



their benefits. They must also develop a business model to produce and distribute seedlings, since the low availability of trees and the lack of nurseries are barriers to widespread adoption.

### *Pest management*

The most common cotton pest management approach involves pesticide. Many chemicals are highly toxic and require protective equipment for safe application that is unaffordable for smallholders. An alternative is integrated pest management, which includes intercropping and molasses traps. Molasses traps are increasingly being used in smallholder cotton plantations. They are relatively low cost, at around US\$1 per trap, they last two to three years, and only five to seven traps per ha are needed. This means that an investment of US\$7 per hectare could lead to a saving of US\$10 per ha in reduced chemical costs and an additional US\$90 in revenue over two years. Given this rapid payback, COMPACI members could supply traps as a part of their input package and promote them on demonstration plots.

### **Advancing zero deforestation goals**

Cotton farmers in Zambia will need significant assistance to make these changes, which include improved inputs, technical assistance and long-term investment. COMPACI members have the capacity to promote productivity among their suppliers, while linking support for farmers to the elimination of deforestation. Financing for climate change mitigation goals can be used to help overcome barriers that currently prevent agribusinesses from engaging more deeply with their supply chains.

As COMPACI members formulate strategies to reach their suppliers, it will be important to develop a means of verifying compliance with zero deforestation. In order to supplement remote sensing, which is one method of verification, COMPACI members will have to use their existing networks with suppliers to physically monitor deforestation. Given that there are hundreds of thousands of small, remote farmers in the Eastern Province alone, it will be necessary to develop and implement cost-effective means of monitoring. It is strongly recommended that methodologies involve sampling in the selection and assessment of farmers.

Initiatives led by the private sector can help to address deforestation, but it is necessary that these efforts collaborate with the public sector to maximize their impact. Many agribusinesses that operate in Eastern Province are not COMPACI members and they are not likely to make the same investments as members in reducing deforestation in their value chains. Furthermore, commodities that members do not produce or trade, such as tobacco and charcoal, are also important drivers of deforestation.

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# Section 4

Checks and balances,  
tools and instruments

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## 4.1 The flawed focus on corporate voluntary actions

SAM LAWSON

### Introduction

In recent years, zero deforestation promises by companies have taken centre stage in the global battle to halt forest loss, and many of those involved in the broader effort to stop deforestation are now focusing efforts on this approach. They are pushing more companies to sign up, helping them implement their policies, and trying to monitor progress and compliance. This “movement” has created so much positive press that it may also give high-level decision makers the impression that tropical deforestation is on its way to being solved. Yet this could hardly be farther from the truth. Tropical deforestation continues and is increasing again in Brazil and other countries where it had showed signs of slowing.

Globally, the problem is getting worse, not better, and corporate zero deforestation commitments may actually be distracting attention from other actions that could have greater impacts.

The number of NGOs, academics and civil servants working internationally on forest policy has not increased in response to this new movement, nor has available funding or the number or attention span of the most important decision-makers. This means that when more attention is given to these corporate pledges, less attention is being given to something else.

And even if these pledges do help prevent deforestation in some places, their overall effect could end up being negative if they serve to indirectly slow the essential government actions that are ultimately required. To be certain of having net positive impacts, the movement for voluntary corporate zero deforestation must address its technical flaws, recognize its fundamental limitations, and throw its weight behind necessary actions by producer and consumer country governments.



PRIVATE-SECTOR PROMISES  
CAN'T HALT DEFORESTATION.  
ONLY GOVERNMENTS CAN.

## Technical flaws

### *Lack of meaningful monitoring*

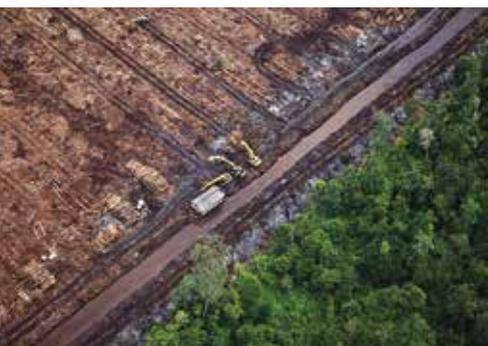
Many projects launched in recent years claim to monitor zero deforestation commitments by the private-sector, but none of them really do this. Mostly, what is being monitored is the number of promises — not whether they are being kept — and monitoring of implementation means measuring procedures, not outcomes. At the very best, monitoring involves measuring the achievement of interim goals such as traceability in supply chains, not ultimate goals related to trees left standing. Even active lobbying and monitoring by advocacy NGOs of specific cases of bad practice focus much attention on companies that have no commitments, rather than those that have.

The principal reason for the lack of meaningful monitoring is a lack of corporate transparency. Initially, traders and buyers simply did not know where their goods were coming from and they could not share information they did not have. But this excuse is wearing thin. Even Wilmar, which has gone furthest in terms of transparency, does not provide all the information that third parties need in order to meaningfully check whether the company is abiding by its commitments. Most zero deforestation companies don't provide anything at all. *No one* is systematically monitoring whether companies are actually achieving their stated goals, whether related to deforestation, peatland or human rights. If there is to be any chance of leveraging real, meaningful change from these commitments then this lack of worthwhile monitoring must be addressed.

### *Holding companies to account*

There no point monitoring companies with commitments or advocating for others to make such commitments if there is no accountability. The number of companies making commitments is not a good proxy for the extent to which those commitments are being met. Indeed, past experience shows that companies sometimes make promises to fend off public criticism, with little genuine intention of keeping them. And while many commitments may be sincere, others may not, and without adequate monitoring no one

can tell the difference. The history of the environmental movement is littered with unfulfilled promises made by companies involved in destructive activities. There is also a real danger that donors and organizations pushing this agenda fall for the “measurement trap,” with the focus on what is easy to monitor (promises), not what actually matters (delivery).



### *Illegality*

Studies have shown that the majority of the tropical deforestation that voluntary corporate zero deforestation seeks to halt is illegal in some way (e.g., Lawson 2014). Licences are corruptly issued, fraudulently obtained, or issued in contravention of local land rights; companies clear much more forest than permits allow,

flout other regulations meant to minimize negative environmental or social impacts; and plantations have even been developed in national parks. The scale of these illegalities in forest-risk commodity production presents a major challenge for voluntary corporate zero deforestation commitments. For a start, the lack of proper governance may make it impossible for companies to implement their commitments. Efforts to compete with less ethical firms will also be harder if those firms aren't having to carry the costs of abiding by the law.

Defenders of voluntary corporate measures claim that a renewed focus on government action such as better regulatory enforcement would constitute a backward step, because voluntary pledges go much further than the law requires. But in some important ways, the opposite is the case. In fact, the legality criteria in these policies do not capture all of the different types of common illegalities, such as whether relevant licences were legally issued. Even more importantly, no policies consider past illegalities.

#### *Non-mandated amnesties*

All commitments relate to what companies do in the future. None relate to what they have done in the past. Compromise may be needed, and forgiveness of past wrongs is sometimes a price worth paying for better behaviour in future. But when it comes to illegalities, such an attitude is problematic. Global corporations make their own policies, sometimes with input from NGOs who line up alongside donors to lavish the companies with praise. All good PR. But based on what mandate do these companies and NGOs decide that past illegalities can be ignored? In most cases, no elected government has declared any official amnesty, and the communities that lost land and livelihoods were not asked. Forgiveness may be required, but there must be some restitution in return and it needs to be decided in a just and democratic manner.

One example is Asia Pulp & Paper (APP), notorious for being among the leading companies behind Indonesian deforestation over the last 20 years. Though the company claims it will no longer produce pulp made from tropical wood fibre (and therefore is already "zero deforestation"), the plantation-grown acacia it now uses instead is grown on land that is likely to have been illegally cleared. There is plentiful evidence of serious illegalities in the development of the monoculture timber plantations that previously supplied APP with tropical conversion wood and now supply it with plantation-grown acacia (for a summary, see Lawson 2014). The provincial governor who provided the licences for these plantations has even been jailed for corruptly issuing them (Mongabay 2014). Yet now the paper made from that acacia is considered perfectly acceptable. Similar issues are found with beef and palm oil.

#### **Fundamental flaws**

Though the technical flaws outlined above are critical, they are not fundamental and in theory, they could be fixed. But other more basic problems underlie corporate approaches to tackling deforestation.

### *Bad apples*

Voluntary commitments are only ever going to capture a certain proportion of the market for each relevant commodity. There will always be companies who don't sign up, and more than enough companies to expand production into new forest areas and buy products grown on that land. The easiest way for zero deforestation companies to comply is to focus on land that has already been developed, while expansion falls to others. Two of the three largest oil palm plantations in the new Congo basin frontier are being developed by new entrants to the sector, both showing scant regard for legality, let alone sustainability (Lawson 2014). The palm oil they produce is likely to be consumed within the region, and no existing or likely future voluntary corporate pledge is going to stop such developments.

### *Constraints of poor governance*

Another fundamental problem is the difficulty faced when implementing commitments in the poor forest governance context that exists in most tropical forest countries. This includes unclear and conflicting laws and regulations, overlapping permits covering areas of forest, lack of transparency, and rampant corruption. It may be nearly impossible to ensure operations are fully legal, let alone to ensure zero deforestation.

### *Limits of monitoring*

Another fundamental problem with voluntary corporate commitments is the lack of capacity of third parties to meaningfully monitor them. Even if the lack of transparency highlighted above were fully addressed, NGOs would be overwhelmed by the scale of the task. With hundreds of committed companies and thousands of possible locations where they source their commodities, it would be impossible for watchdog groups to expose even a tiny percentage of the breaches likely to occur.

## **The solutions?**

### *Recognizing what works*

To ensure that voluntary corporate zero deforestation is an opportunity and not a threat, the companies and their cheerleaders must recognize its inherent limitations, acknowledge the scale of the illegality problem and its implications, and accept the clear lessons learned about what is really required to halt deforestation. Voluntary corporate pledges can help, but they cannot substitute for good governance (Lambin et al. 2014). Studies of the causes of dramatic reductions in deforestation in the Brazilian Amazon between 2004 and 2012, for example, gave most credit to the government.

The most effective action during 2004–06 was a massive increase in the area of protected forest, including indigenous reserves (Soares-Filho et al. 2010), while from 2008 onwards — when the most substantial declines in deforestation were seen — government command-and-control actions targeting illegal deforestation were particularly important (Arima et al. 2014). There are also lessons evident from ineffective efforts to address illegal and unsustainable logging in the tropics through voluntary commitments by timber and wood product companies in the 1980s and 1990s. The subsequent focus on address-

ing illegality through improving governance, and through engaging governments in both consumer and producer countries, has been much more successful.

### *Empowering monitoring through transparency*

Monitoring deforestation is much easier now than ever before, with powerful, open-source tools such as Global Forest Watch, with free access to vast troves of satellite data that includes raw images and deforestation maps (see Figure 1). Yet this cannot be effectively harnessed to monitor voluntary zero deforestation commitments because of a lack of transparency regarding supply chains and concessions and other land where products are sourced.

**Figure 1. Satellite image of forest clearance in Republic of Congo**



Source: Mapping carried out by Atama, a Malaysian oil palm firm. Urthecast/Globalforestwatch

Some argue that full public transparency may not be needed if firms share all information with monitors such as The Forest Trust, who are hired to help them implement their policies. However, this works only if such third-party organizations always act in good faith, and it ignores those companies that never hire such monitors in the first place. True transparency allows outsiders to meaningfully check whether a company is doing what it claims to be doing. In order to monitor zero deforestation, that means identifying the specific land licences where production occurs. NGOs who are involved in monitoring zero deforestation must stop paying lip service to transparency, and place it front and centre, refusing to give any credit to companies for promises until compliance can be verified.

### *Keeping the focus on regulation*

Domestic and international NGOs and similar organizations working on forest issues must ensure that they focus appropriate resources and attention on lobbying and campaigning for action by governments. Grant-making foundations also need to ensure that they do not allocate disproportionate amounts to corporate-led solutions. This will mean tough decisions, including possible reductions in amounts of funding for overlapping monitoring initiatives or for campaigns for yet more companies to sign up.

### *Using private-sector commitments as stepping stones*

Defenders of corporate approaches to tackling deforestation who accept their inherent limitations may argue that such commitments can be an important stepping stone that leads to more government action. They are right. If a large percentage of production and trade of a given commodity is already covered by voluntary commitments, then it is easier for a government to raise regulations to the same bar. But this will not happen automatically. The opportunity to influence government policy, in both producer and consumer countries, must first be securely grasped through more meaningful efforts by NGOs and others in the forest policy community. It also means that NGOs must demand that companies who sign deforestation pledges also offer their full and public support to such necessary government actions.

### *Harnessing private sector power to influence government*

Multinational companies have far more power than NGOs in influencing government policies. But many companies that lobby governments on forest protection issues are only pushing for minor changes to policies that help them fulfil their promises. If they want to actually help halt deforestation, rather than just stop directly contributing to it, and if they want to avoid being undercut by bad apples, large companies with zero deforestation commitments must go much further. They must use their influence to push for more fundamental changes, and support NGOs efforts to lobby for changes to laws and regulations, increased transparency and better enforcement. These are the only things that will ever achieve real zero deforestation.

### **Conclusions**

In summary, there are important, insufficiently recognized flaws in the focus on voluntary commitments by private companies as a means of addressing deforestation. Underlying them all is a failure to appreciate the scale of illegality in supplying these forest-risk commodities. There are technical flaws, including that these commitments cannot be meaningfully monitored with adequate transparency, and that they ignore past illegalities, effectively providing an amnesty for past behaviour for which there is no mandate. And there are fundamental flaws; such commitments will never encompass all production and trade of relevant commodities, and there will always be companies who

will deforest where others won't, and buyers to buy tainted products that others don't. It is also questionable whether the NGO community has the capacity to thoroughly monitor these promises, even if the necessary transparency were to exist.

Only one thing is ever going to halt deforestation: action by governments. This includes actions by the governments of those countries that import the commodities that drive deforestation. There is some evidence that the voluntary zero deforestation agenda is taking attention and resources away from efforts to encourage the actions by governments which are ultimately required. If they are to help rather than hinder broader efforts to halt deforestation, it is essential that these commitments by companies are harnessed to bolster efforts to push for government action, instead of distracting from it.

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## Zero deforestation commitments under the lens of consumer protection law

Although companies' voluntary commitments to zero deforestation or deforestation-free supply chains are to be applauded, they also come with responsibility. An increasing number of consumers are becoming environmentally conscious, and they legitimately expect that when products are said to be produced in environmentally sound ways, they actually are. But if they are not, how can companies be held to account? One legal avenue is consumer protection law, though it does not apply to all company communications concerning environmental pledges. Nonetheless, the legal standards that such laws

contain should guide how zero deforestation commitments are used, and reliance on these principles can strengthen consumer and general public confidence in environmental claims, and avoid front-runner companies being undercut by competitors who falsely claim to act on their pledges.



In the EU, the Unfair Commercial Practices Directive (UCPD) and corresponding national laws can highlight company inaction and demand greater accuracy when companies make

voluntary commitments. For a case under the UCPD to successfully highlight an unfulfilled voluntary commitment, two main conditions must be present. There must be an unfair commercial practice directly connected to the promotion of goods to consumers, and the practice must be likely to have an influence on an average consumer's purchasing decision. However, only case-by-case analyses under national law will provide a definite answer as to whether the UCPD could be used to scrutinize a given pledge. Nonetheless, ClientEarth has identified certain general scenarios about when and how the UCPD could be used to bring a case (see [www.clientearth.org/zero-deforestation-commitments-using-law-keep-companies-accountable](http://www.clientearth.org/zero-deforestation-commitments-using-law-keep-companies-accountable)).

Concerning the form of a commitment, a reference to deforestation-free or zero deforestation made on packaging or during an advertisement is likely to be considered a commercial practice, whereas a publicly made commitment unconnected to the sale of a product, such as a statement in an annual report, is unlikely to fall under the scope of the UCPD.

Concerning content, a voluntary commitment could be considered an unfair practice if it contains misleading information, such as a vague or general statement, or one that is not supported by evidence. To comply with EU consumer protection law, company communications to consumers about zero deforestation commitments must, to the maximum extent possible, be specific, accurate and unambiguous. Companies must also pay attention to how they detail the policies implemented as part of their voluntary commitments, and should monitor progress, including intermediary milestones, and make this information widely available.

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## 4.2 Decoupling international finance from deforestation, and the need for regulation

TOM PICKEN, WARD WARMERDAM,  
MARK GREGORY and MEREL VAN DER MARK

### Introduction

Efforts to address deforestation and human rights issues in the production of forest-risk commodities such as palm oil, pulp and paper, rubber and timber have resulted in a surge of commitments from a range of supply chain actors. Scrutiny is now turning to the adequacy and implementation of those commitments. Less explored so far has been the impact of the financial sector in guiding the provision of financing to clients who operate in these sectors.

Like supply chain actors, banks and investors have the potential to exert influence over companies whose activities affect forests. Some financiers have adopted voluntary commitments to heightened due diligence on the financing of forest-risk sectors, and a handful have gone further and prohibit significant impacts on valuable forest ecosystems. Since the Paris Agreement on climate in 2015, a small number of financial institutions, like their corporate counterparts, have made zero deforestation commitments (GCP 2016). However, these voluntary commitments have not been sufficiently incorporated in policies to protect people and forests affected by the companies who work in forest-risk sectors. This is because such policies have been introduced largely in Europe and the USA and then only to varying degrees. Moreover, many financiers who have established voluntary safeguards appear to ignore them, routinely retaining clients in breach of their own standards.



FINANCIAL SECTOR REGULATIONS  
MUST DIRECT FINANCE AWAY  
FROM HARMFUL INVESTMENTS.

This article presents information about the financing provided to agricultural and forest-commodity companies in sectors where there are high risks of deforestation, human rights abuses and social conflicts. It explores how financial sector regulations in key jurisdictions could transform the allocation of capital away from harmful investments, such as those

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that facilitate deforestation and rights abuses. This could have the additional benefit of addressing a critical issue that hampers financial institution policy development in this area: competition to provide financial services to sought-after clients. Financial regulation creates a fair context for financiers, and forces companies to improve their practices.

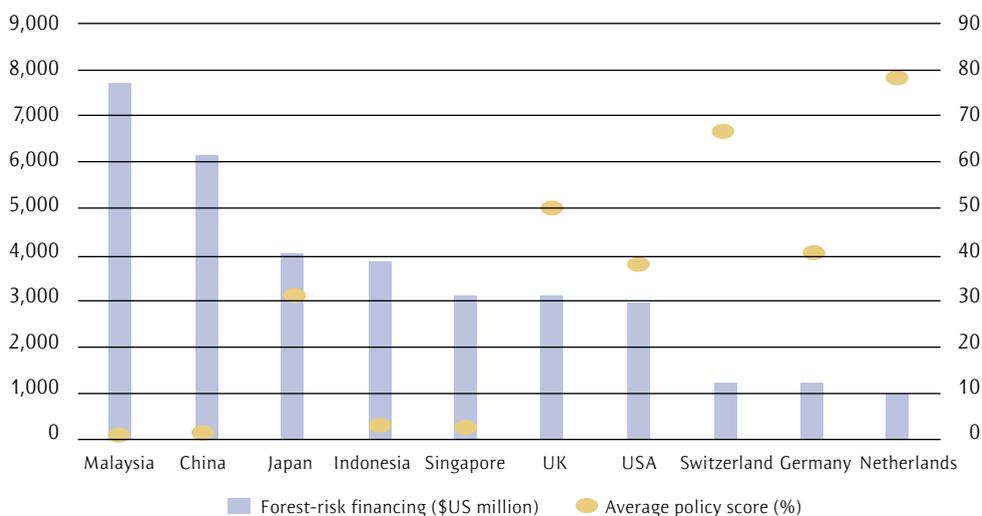
### Huge sums of money involved

There are no detailed statistics at the global scale on the value of financing provided by banks and investors to companies at high risk of causing deforestation; neither banks nor investors nor their client companies are very transparent about this. However, the fragmented data that is available, mostly from annual reports and financial databases, suggests that the amounts are significant. Investigations by Profundo, Rainforest Action Network (RAN) and TuK Indonesia (see RAN 2016) found that 50 large agribusiness companies with forest-risk sector operations in Southeast Asia received at least US\$38 billion in the form of corporate loans and underwriting of new share and bond issues between 2010 and 2015. The banks most involved include Malayan Banking, CIMB (Malaysia), DBS, OCBC (Singapore), Mizuho Financial, Sumitomo Mitsui Financial, Mitsubishi UFJ (Japan), HSBC, Standard Chartered (UK), JP Morgan (USA), China Development Bank, Bank Mandiri and Bank Negara Indonesia.

Gregory (2016), using different data from Profundo, also identified financial flows on a similarly vast scale through companies alleged of land grabbing, all of whom are active in sectors with high deforestation risks. Most of them had operations in Southeast Asia; 23 companies had received nearly US\$50 billion in loans. Banks had helped them raise more than US\$20 billion through underwriting new share and bond issuances over the period 2010–15, while banks and investors worldwide held more than US\$50 billion in the bonds and shares of these companies. Asian banks and investors were the largest source of finance, but EU-based banks and investors were also significantly involved, led by HSBC (UK), BNP Paribas (France), Standard Chartered (UK), Rabobank (Netherlands) and *Crédit Agricole* (France). EU banks and investors accounted for nearly 40% of the loans to the companies surveyed. They had underwritten more than 25% of the money raised from new bond and share issues, although were relatively insignificant as shareholders.

### Voluntary safeguards falling short

Only a limited number of banks and investors identified in the two studies have voluntary guidelines or policies that acknowledge environmental or social risks in operations in forest-risk sectors. The RAN/TuK/Profundo study (RAN 2016) assessed the safeguard policies of 28 commercial banks that provided most of the financing to forest-risk sectors in Southeast Asia in 2010–15. Evaluated against 15 criteria — incorporating environmental, social and governance risks and impacts typically associated with tropical forest sector operations — each bank received a score out of 30 (Figure 1). The findings show an overall lack of attention to the risks, especially environmental, posed by forest-risk sector clients. Banks with higher scores tended to be less significant financiers of forest-risk sector companies; those with lower policy scores were generally more important as financiers. There was little compliance with voluntary standards, even by banks with higher policy scores.

**Figure 1. Forest-risk financing (US\$ million) and average policy scores, 2010–15**

Note: top 50 companies engaged in forest-risk sectors in Southeast Asia. Source: RAN 2016.

All 28 banks fell short on environmental standards, particularly regarding forests. Banks from China, Indonesia, Malaysia, Singapore and Japan did not have policies specific to forest-risk sectors. Of those from Europe and the USA that had forest sector policies, very few explicitly prohibited degradation or conversion of natural forests or operations in high conservation value or high carbon stock forests. Even Deutsche Bank and HSBC, which have made zero deforestation commitments, were found to have insufficient safeguards. In terms of social safeguards, very few banks required proof of free prior and informed consent, or a check of land tenure legality in operations and sourcing, which is a key issue in forest-risk sectors. Furthermore, many financial institutions, including those from Europe and the USA, do not require companies to have grievance mechanisms.

Asian banks, many of them located in tropical forest regions, had both the highest levels of forest-risk sector financing and the lowest scores on policy commitments and safeguards. European banks generally scored average to good in terms of policy adequacy, with a lower level of financing exposure (particularly the Netherlands and Switzerland), while USA and Japanese banks scored poor to average. Japanese banks in particular were found to have significant exposure to the forest-risk sector and no relevant publicly available forest-sector policies, with safeguards limited largely to project finance through the application of the Equator Principles. In theory, financial institutions with stricter policies should provide less financing to forest-risk sectors, because many companies do not meet their stated requirements. Conversely, financial institutions with no policies on environmental, social and governance risks and impacts, or only very weak policies, have a larger market to provide financing to. However, even where they exist, such policies clearly do not always translate into practice.

The three highest-scoring banks in terms of policy commitments and safeguards were ABN Amro (policy score: 24/30), Rabobank (23/30) and Credit Suisse (20/30). Even these banks have financed controversial clients in recent years, including some companies alleged to have carried practices such as converting high conservation value forests, peatlands and natural forests; illegal logging; operating on illegally awarded concessions, use of child labour; and abuse of workers' rights. Japanese banks Mizuho Financial (10/30), Sumitomo Mitsui Financial (10/30) and Mitsubishi UFJ (10/30) are implicated in financing companies reported to have been involved in ongoing land disputes, failing to respect customary land tenure and local and indigenous community rights to free prior and informed consent, and using fire to clear land. Of the USA banks in the study, Citigroup (18/30), JP Morgan (14/30) and Morgan Stanley (7/30) scored from poor to good, although they have all been involved in financing clients with poor environmental and social records. See RAN 2016 for more details and supporting evidence.



### The case for regulation

As shown above, vast sums are invested in agriculture and forest-commodity operations that violate even the most basic environmental and social standards, with devastating impacts. Some signs of progress are apparent, including in-country reforms of forest governance and the adoption of international commitments regarding supply chains. However, better financial sector controls of the financing of forest-risk sectors would make a critical contribution to protecting the communities and habitats most affected by forest-risk sectors, and to meeting zero deforestation goals.

There is evidence that existing financial sector voluntary policies are not sufficient to restrict investment in harmful agricultural and forest sector activities, but several challenges are worth emphasizing. First, finance is internationally competitive, which results in a disincentive for banks and investors to adopt safeguard policies, and an incentive for those with policies in place to sideline them in favour of business decisions that increase profit margins. Second, many investors insist that it is better to make deals with clients with poor standards but at least some safeguards, rather than to turn these clients away, when they will simply seek finance from banks and investors with no policies at all. Third, social and environmental outcomes should not depend on the implementation of voluntary policies by financiers with a clear conflict of interest; the primary mandate of banks and investors is to secure investment deals.

Banks and investors alone cannot stop the financing of environmental destruction. The financial sector is increasingly globalized. Although local issues should still be regulated locally, global issues such as money laundering and financing of terrorism, as well as climate change and environmental destruction, should be regulated and mitigated globally. Companies with the poorest human rights and environmental records must be prevented from shopping around for financiers with the lowest standards.

Currently, many governments and financial regulators believe their responsibility is limited to maintaining the stability of the financial system. To halt deforestation and prevent human rights abuses financial regulators must enact and enforce regulations that require financial institutions to adopt and disclose robust safeguard policies and due diligence procedures, with detailed guidance for specific sectors with high risks, such as forests.

### Small steps in the right direction

In Brazil, sustainable banking regulation began in 2008 with Resolution 3545. This made the granting of loans to agricultural activities in the Amazon conditional on compliance with legal and environmental requirements. It was estimated that the deforestation rate was almost halved the following year as a direct result of this initiative, and that 2,783 km<sup>2</sup> of Amazon forest was saved from deforestation between 2009 and 2011 (Assunção et al. 2013), though this latter achievement cannot be credited solely to Resolution 3545. The resolution was followed by Resolution 3876, which prohibits lending to entities or individuals associated with poor worker rights, and in 2014 by Resolution 4327, which requires financial institutions to have a Social and Environmental Responsibility Policy and provides implementation guidelines. To support change, Brazilian Central Bank Circular 3547 provided banks with guidance on implementing the Internal Capital Adequacy Assessment Process in Pillar 2 of Basel III, an international process of bank reform.

The Bangladesh Central Bank has developed three policies: a “green” banking/finance framework; a monetary policy facility for cheaper loan refinancing; and a “green” lending target (IISD, Bangladesh Bank and UNEP, 2015). A dedicated Sustainable Finance Department monitors progress and publishes quarterly reports.

In China, the China Banking Regulatory Commission (CBRC) issued the Green Credit Policy in 2007. It was replaced in 2012 by the Green Credit Guidelines, which stipulate that banks must create environmental and social risk management systems, and which monitors and promotes borrowers’ compliance with rules and their environmental and social performance (Bai, Faure and Liu 2014). Granting loans can be made conditional on such compliance, and banks may even use punitive measures against noncompliant borrowers.

Indonesia issued a Roadmap to Sustainable Finance in 2014, including a detailed work plan for a sustainable finance programme for the banking, capital market and non-bank financial service industry sectors. The programme falls under the authority of the country’s financial services regulator, the OJK. This is part of a multi-year plan with the goal of achieving sustainable finance by 2024, and although progress has so far been limited, the OJK has shown openness to discussing the roadmap with civil society.



EU, G20 and OECD countries are also taking some steps toward considering sustainability in the financial sector, including the EU Non-financial Reporting Directive, the G20 Green Finance initiative, the Financial Stability Board Task Force on Climate-related Financial Disclosures, and the OECD initiative to promote responsible business conduct in the financial sector. At the national level, the recently adopted Dutch banking Sector Agreement on international responsible business conduct regarding human rights is an excellent example of a multi-stakeholder policy developed by banks, government, trade unions and civil society. The ministers who signed the covenant want to support similar agreements at EU and OECD level.



There is a clear need to further explore the introduction and scaling up of domestic and international standards that address the financial sector's role in facilitating deforestation and associated human rights abuses. Besides the efforts in developed economies discussed above, a group of developing countries (loosely organized by the World Bank's International Finance

Corporation in the Sustainable Banking Network) have also taken some interesting and innovative regulatory steps. It is important to highlight that developing countries are making specific regulations, while developed countries are only encouraging the scaling up of some best practices. Developed countries are not asking for the incorporation of environmental, social and governance criteria into due diligence procedures, whereas China and Brazil, for example, have made the consideration of such risk criteria in lending a necessary requirement. It is too early to say how well these regulatory initiatives will rein in the financing of unsustainable activities in the long term, but their impacts should be assessed in detail to help develop scalable best practices into the future.

## Conclusion

Vast sums of investment flow into agriculture and forest commodity operations in violation of even basic environmental and social standards, with devastating effects on people and forests. There are efforts to develop voluntary safeguard policies to prevent such impacts, but this approach appears insufficient, as even financiers with established policies routinely retain clients in breach of their own standards. Several developing countries have taken steps to regulate the sector, and although it is too early to draw conclusions as to their effectiveness, they do show some progress in tackling deforestation.

Realizing commitments to reducing deforestation and preventing human rights abuses in the forest sector requires a coherent economic and political effort across all levels of society and within all sectors of the economy, and a decisive shift in financial flows away from socially and environmentally destructive economic activities. Binding regulation at the national and international level will be required to direct finance away from harmful investments, and will be most effective when accompanied by detailed implementation guidance and standardized disclosure and due diligence frameworks.

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## Lessons from EU regulation of the fishing sector

Conversion of forest land to large-scale agricultural production of commodities such as soy, palm and beef is a leading cause of global deforestation. In recognition of the need to reduce the European Union's forest footprint, the European Commission is considering measures to regulate European trade and consumption of forest-risk commodities. The EU



has already adopted regulations in other sectors to ensure that products consumed in the EU are legally produced. One of these is the EU Regulation to end illegal, unreported, and unregulated fishing (the IUU Regulation); this third-country carding system provides a promising model for measures to address forest-risk commodities.

Under the IUU Regulation, the EU relies on relevant international agreements such as the UN Convention on the Law of the Sea, and the FAO International Plan of Action to Prevent, Deter and Eliminate IUU

fishing, as reference points for cooperative engagement with third countries to eliminate illegal, unreported, and unregulated fishing. The European Commission conducts rigorous fact-finding missions to evaluate country compliance, and provides a framework for the EU to provide capacity-building and technical assistance to strengthen fisheries' management and control in non-EU countries. Where a country's governance capacities and performance are deemed insufficient, the EU first issues a warning (yellow card) formally setting out the improvements needed. In the most severe cases of non-performance, the EU issues a red card, banning the import of fishery products from any of the flag state's vessels.

The conversion of forest land to large-scale agricultural production is often illegal as it commonly violates the tenure rights of indigenous peoples and local communities. These land and resource tenure rights are recognized within existing international frameworks such as International Covenant on Economic, Social and Cultural Rights, ILO Convention No. 169 on Indigenous and Tribal Peoples, and the African Charter on Human and Peoples' Rights, among others. International standards such as the United Nations Declaration of the Rights of Indigenous Peoples and the FAO's Voluntary Guidelines on the Governance of Tenure also provide important measures of compliance with customary tenure and use rights. These international agreements could provide the basis for a third-country carding system for forest-risk commodities similar to that which has been successfully deployed by the EU in the context of illegal, unreported and unregulated fishing.

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For more information, see: Pritchard, J. 2016. *Developing EU measures to address forest-risk commodities: What can be learned from EU regulation of other sectors?* A Fern discussion paper. Moreton-in-Marsh, UK, and Brussels, Belgium: Fern.



## 4.3 Learning from FLEGT Voluntary Partnership Agreements

CHRISTOPHE VAN ORSHOVEN, SANDRA THIAM, NORA KRIEGER and JAN BOCK

### Introduction

Almost half of all tropical deforestation between 2000 and 2012 was due to illegal conversion to commercial agriculture (Lawson 2014). This suggests that improved land-use governance with clear legal frameworks and effective law enforcement could significantly reduce forest loss. A failure to address governance is likely to make current public and private sector zero-deforestation initiatives futile.

The undermining governance issues often result from entrenched failings, such as limited capacities of forest administrations, weak institutional and legal frameworks, lack of transparency, and corruption. The challenges in addressing these should not be underestimated; they require political support, consensus building, multi-faceted coordination, and capacity building. Fundamentally, it means changing the way that governments, businesses, communities and civil society interact and work together. Numerous initiatives aim to address these challenges, but few can point to fully satisfying results. It is essential to capitalize on those initiatives that are effectively bringing visibility and support to forest and land-use governance. One of these is the EU Action Plan on Forest Law Enforcement, Governance and Trade (FLEGT).

### What are FLEGT VPAs?

FLEGT is an innovative means of using trade instruments to strengthen forest governance and bring illegal forestry and land-use activities within the rule of law. Since 2013, the EU has required all companies trading in timber and timber products to demonstrate that all imports are produced in accordance with the laws of the source country, which are regulated through the EU Timber Regulation (EUTR). And to allow legal exporters to avoid the need to certify every shipment, the EU seeks to reach bilateral agreements with



ZERO-DEFORESTATION  
INITIATIVES SHOULD  
BUILD ON GOVERNANCE  
REFORMS IN COMMODITY-  
PRODUCING COUNTRIES.

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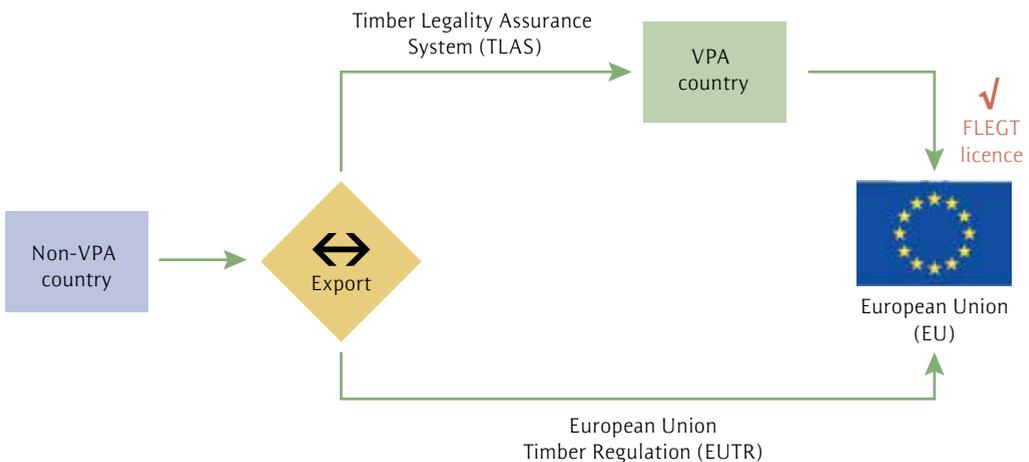
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timber-producing countries to improve law enforcement and effectiveness in forest governance and ensure legal compliance at the national level.

This is done through FLEGT Voluntary Partnership Agreements (VPAs). These bilateral trade treaties support efforts by timber-producing countries to combat illegal logging and strengthen trade in legal timber in the EU market. VPAs are a market mechanism designed to foster improved forest governance by opening up sector decision-making to national stakeholders interested in 1) clarifying rights, laws and regulations; 2) strengthening the enforcement of forest, environment, social and trade regulations; and 3) improving transparency, monitoring and accountability.

At the heart of each VPA is a timber legality assurance system (TLAS), which verifies that timber products are produced, managed, transported and transformed in conformity with national laws. Once timber products are verified as legal, partner countries can issue FLEGT licences to those products destined for EU markets. Once a VPA partner country begins FLEGT licensing, the EU will accept timber products from that country only if the products have a FLEGT licence. The VPA process enables national governments, private sector and civil society representatives to reach consensus on how to promote legal forestry activities that support economic, social and environmental goals. See Figure 1.

**Figure 1. The two routes by which timber and wood products enter the EU market**



Source: EU FLEGT Facility (EFI). Note: Once a country has a VPA with the EU, shipments no longer have to be individually verified.

### Comparing approaches

To be effective, efficient and sustainable, the implementation of zero-deforestation commitments in commodity-producing countries requires approaches that go beyond the supply chain. Appropriate institutional and legal frameworks are needed to ensure the right conditions for zero-deforestation production, and to avoid leakage; i.e., shifting deforestation to other actors or areas, rather than eliminating it. FLEGT VPAs are national

approaches that aim to raise the bar for the whole timber sector and use trade as a lever to address forest governance challenges. Interesting comparisons can be drawn between the EU FLEGT Action Plan and emerging zero-deforestation supply chain approaches (Table 1).

### Market access driving governance reforms in Vietnam

Commodity production and trade are determined in part by consumer behaviour, retailer and trader procurement, and consuming country regulations. The quest for market access provides a strong incentive for producers to comply with demand-side requirements, including environmental, social and governance criteria. This motivated Vietnam to begin the VPA process and embark on various forest governance reforms to ensure access to the European wood products market.

Vietnam is a global market participant and is primarily a wood-processing country. It sources timber products from more than 80 countries and exports to all major economies. Its timber industry supports more than 300,000 jobs and 3,400 enterprises; in 2014 the timber trade between Vietnam and the EU was worth US\$ 705 million. The aim of expanding exports to the EU, increasing access to other markets (such as the USA and Japan), and avoiding decline in market share due to international competition led Vietnam to formally enter the VPA process in 2010. Six years of negotiation followed, with changing contexts bringing additional arguments for advancing the process. In 2013, the EUTR came into force, and FLEGT licensing from Indonesia in 2016 may have further speeded up the negotiation process. In November 2016, Vietnam and the EU reached agreement in principle on the VPA and it is expected to be signed in 2017.

As this case shows, the EU FLEGT Action Plan uses the leverage of EU market access to promote supply-side action on legal timber in producing/exporting countries. Vietnam's commitments will also influence upstream supplier countries, since imported timber and timber products that will eventually be transformed in Vietnam and exported to the EU also require proof of legality. The EU FLEGT Action Plan is based on the understanding that both the demand and supply sides need to be addressed to meet major environmental challenges, and that efforts are required throughout the whole value chain. Particularly important is the need to put in place support and incentives to improve the governance of land-use and supply chains in order to control illegalities and deforestation.

### Clarifying definitions and frameworks in Indonesia

Several public and private actors are announcing zero-deforestation commitments, using an increasing number of different definitions. To know where and how to source products according to local priorities, risks and governance challenges, however, requires a common understanding of terms. In Indonesia, the VPA stakeholders agreed on a definition of legal timber, clarified the legal framework relating to timber production, and identified how to address imprecise and inconsistent legal requirements and institutional arrangements. This collective action triggered a major reform, increasing independent oversight of the entire forest sector by professional auditors and civil society, clarifying roles and responsibilities, and improving accountability.

**Table 1. Comparison of FLEGT VPA and supply chain approaches**

EU FLEGT Action Plan and VPAs	Zero-deforestation supply chain approaches
<b>Origin</b>	
<ul style="list-style-type: none"> <li>▪ Government efforts to devise a solution to poor forest governance and illegality; e.g., through G8 and regional FLEG initiatives</li> <li>▪ Increased consumer awareness of the link between illegality and tropical forest destruction</li> <li>▪ Private-sector demand to eliminate unfair competition</li> <li>▪ Consumer countries' acknowledgement of their responsibility</li> </ul>	<ul style="list-style-type: none"> <li>▪ Driven by the private sector in response to environmental campaigns, climate change and growing corporate social responsibility commitments</li> <li>▪ The New York Declaration on Forests (2014) and the Amsterdam Declaration (2015), demonstrating an increasing level of private- and public-sector engagement</li> </ul>
<b>Mechanism and nature of commitments</b>	
<ul style="list-style-type: none"> <li>▪ Demand-side measures (e.g., EUTR) and supply-side measures (e.g., VPAs)</li> <li>▪ The EUTR prohibits placing illegally harvested timber products on the EU market, requiring operator due diligence</li> <li>▪ VPAs between the EU and timber-producing governments, implemented at the national level, that define legal timber, a timber legality assurance system (TLAS) and modalities for independent audits</li> </ul>	<ul style="list-style-type: none"> <li>▪ Voluntary commitments</li> <li>▪ Great variety in definitions, timelines, level of accountability and means of implementation (e.g., certification, individual company commitments, partnership approaches)</li> <li>▪ Mostly supply chain initiatives, although some initiatives couple supply chain approaches with jurisdictional approaches</li> </ul>
<b>Focus</b>	
<ul style="list-style-type: none"> <li>▪ Legal production of timber products, with requirements differing from one country to another depending on the national context, legal framework and stakeholder dynamics</li> <li>▪ Underlying governance issues – not directly concerned with deforestation or forest conversion</li> </ul>	<ul style="list-style-type: none"> <li>▪ Reducing or eliminating deforestation from supply chains</li> <li>▪ Various definitions and approaches used (e.g., zero gross vs. net deforestation, zero illegal deforestation, high conservation value (HCV) approaches)</li> </ul>
<b>Scope</b>	
<ul style="list-style-type: none"> <li>▪ Timber and timber products (specifics defined for each country)</li> </ul>	<ul style="list-style-type: none"> <li>▪ The main globally traded forest-risk commodities (palm oil, soy, beef, pulp and paper, cocoa)</li> </ul>
<b>Geographic focus</b>	
<ul style="list-style-type: none"> <li>▪ 15 countries were negotiating or implementing a VPA at the end of 2016: 8 in Africa, 5 in Southeast Asia, and 2 in Latin America</li> <li>▪ Indonesia issued the first FLEGT licences in November 2016</li> </ul>	<ul style="list-style-type: none"> <li>▪ Some focus on producers of palm oil, timber, pulp and paper, including Indonesia, Malaysia, Côte d'Ivoire; overlap with VPA countries</li> <li>▪ Some focus on producers of soy and beef, including Brazil, Argentina, Uruguay, Paraguay and Bolivia; no VPA overlap</li> </ul>

These experiences show that governments and national actors must define what zero-deforestation means in their jurisdiction in order to enable stakeholders to understand their rights, responsibilities and obligations. Bringing diverse groups together to discuss complex issues regarding legal frameworks and lack of enforcement in the forest and land-use sectors is challenging, but it also improves the quality of decision-making, strengthens institutions, and increases the credibility of policy reforms.

### Underpinning accountability in Liberia

Lack of information on natural resource management and commodity flows fuels corruption, illegal activities and conflicts between companies and communities. Even large corporations that are keen to meet zero-deforestation pledges often appear to lack information on their own complex supply chains. That applies particularly to commodities such as palm oil or beef, which are produced by thousands of smallholders and go through complex networks of suppliers and processors.

In Liberia, the VPA defines the information to be made publicly available on request under the country's *Freedom of Information Act*. The open and participatory manner in which the VPA was developed, and the agreement to make forest sector information public, have encouraged civil society organizations (CSOs) and local communities to push for accountability. Implementation of the VPA has contributed to public awareness of laws and regulations and strengthened public and private accountability; for example, in relation to benefit-sharing arrangements with forest-dependent communities. Although it is too early to fully assess the VPA's impact, CSOs have stated that access to information from government and the private sector has improved. But the implementation of the Act has been disappointingly slow, and forest authorities are failing to publish reports on penalties imposed and paid, or on volumes of confiscated timber sold (Fern 2015).

Stakeholders must be able to obtain information about laws, policies, decisions and business activities that affect them. Transparency underpins the accountability of public and private actors, limits opportunities for corruption, and assists markets to understand supply chains and their impacts. Public and private monitoring systems and tools that allow for input from various actors and sources are now becoming increasingly available. This fosters transparency and prompts governments and the private sector to act more quickly and ensure that their forest-risk exposure decreases over time. However, improving transparency in the land-use sector remains a challenge. Private actors and governments have been slow in moving beyond commitments to actually making information available. Major efforts are still needed and further progress will depend on the implementation of key measures such as information management systems and publication and dissemination strategies. A shift in attitude toward greater openness and information sharing is also required within the forest administration.



## Participation and early testing in Honduras

Putting legal and sustainable commitments for commodity production and related trade into practice includes implementing necessary systems and reforms across entire commodity supply chains. In addition to specifying the commitments in each jurisdiction, implementation may require significant changes to common practices, and often it is only then that governments and other stakeholders realize the challenges of compliance. Extensive dialogue and early testing of new approaches increases understanding and helps in finding innovative solutions.



In Honduras, the participation of a broad stakeholder platform supporting VPA negotiations has been crucial. Civil society, forest producer organizations and indigenous peoples in particular have contributed to the wider dissemination of forest-related laws and

regulations, and have strengthened the political process for formal recognition of indigenous rights through free, prior and informed consent. A decisive moment was the participatory and transparent field testing of elements of the timber legality assurance system. This also created awareness and a common understanding among the many stakeholders of forest governance challenges in Honduras. These challenges include low capacity and scarce resources, poor monitoring systems, unclear legislation, land tenure and access rights issues, burdensome bureaucracy, and weak inter-institutional and cross-sector coordination mechanisms. Field testing offered a broader and more realistic view of the need for legal reforms, law enforcement, decentralization and strengthening of relevant institutions, and effective cross-sector coordination.

Although implementing zero-deforestation commitments is challenging, broad participation reduces conflict, builds trust, and makes it much more likely to reach practical, equitable and credible decisions that reflect a broad consensus. Participatory pre-testing of mechanisms aiming to achieve zero-deforestation supply chains is another way of overcoming implementation challenges, to create a detailed and objective evidence base for forest and land-use governance reforms and of zero-deforestation land-use strategies.

## Conclusions

Zero deforestation commitments send strong signals to commodity markets; commodities that do not meet requirements are likely to see reduced market access and increased difficulties in finding buyers. But implementing zero-deforestation commitments faces manifold challenges, especially poor governance in commodity producing countries, which drives unsustainable land-use decisions and forest clearance. Learning from experiences of commodity and trade approaches such as FLEGT VPAs can help to define the elements of the enabling environment that are needed to make zero-deforestation production and related trade a reality.

VPA processes have shown that market access and trade provide strong incentives to commodity producers to comply with demand-side requirements, including environmental, social and governance criteria that can trigger forest and land-use governance reforms. Dialogue and cooperation between public and private stakeholders in producing countries is very important in understanding mutual interests, reaching broad consensus, and facilitating implementation. But the concept of zero-deforestation must be better defined at national or jurisdictional level, and legal and institutional frameworks need to be clarified and enforced, since they enable stakeholders to understand their rights, responsibilities and obligations. Credible monitoring and reporting systems also need to be built. Transparency increases the accountability of public and private actors, limits opportunities for corruption, and assists markets to understand supply chains and their impacts.

#### For more information

- VPAs: [www.euflegt.efi.int/vpa-unpacked](http://www.euflegt.efi.int/vpa-unpacked)
- FLEGT licensing (including news on Indonesia): [www.euflegt.efi.int/flegt-licensed-timber](http://www.euflegt.efi.int/flegt-licensed-timber)
- EU and FLEGT: [http://ec.europa.eu/environment/forests/illegal\\_logging.htm](http://ec.europa.eu/environment/forests/illegal_logging.htm)

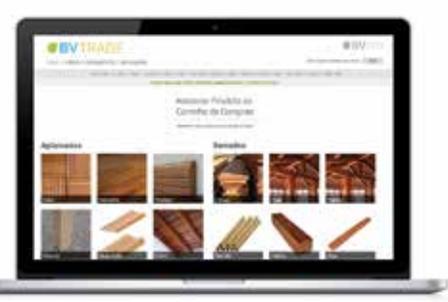
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## A trading platform for sourcing sustainable commodities

Recent commitments to deforestation-free supply chains, timber legality and sustainability standards can increase the demand for responsible commodities and reduce deforestation to unprecedented levels. Although the demand for some of these commodities is still small, there is potential to transform them from niche to mainstream products.



There are barriers to the rapid growth of market share for responsible commodities, however, including the lack of transparency in prices and volumes of production and the difficulty of buyers and sellers in finding each other in the global marketplace. Producers complain about the apparently low demand for their products, while buyers

face difficulties in procuring large and regular supplies of sustainable commodities with traceable and transparent supply chains, effectively, efficiently and with low transaction costs.

In response, BVRio Institute is developing a responsible commodities exchange. This is a multi-market negotiation platform for sourcing legal and/or sustainably produced agricultural and forest products, providing efficiency with transparency in order to accelerate the growth in the trade of responsible commodities.

A responsible timber exchange is already in operation, promoting trade in legal or certified wood in the Brazilian and international markets. This will be adapted to enable the trading of responsible agricultural commodities such as soy, sugar, palm oil, coffee and beef, which will contribute to the efforts of the various sustainability standards associated with these commodities.

A major challenge in sourcing legal and sustainable products is the difficulty of tracing products back to their source and, in some cases, rating these sources in terms of their sustainability or legality. BVRio's Due Diligence and Risk Assessment System uses big data analysis to screen tropical timber supply chains for their legal status, initially focused on Brazil. The system is an integral part of BVRio's platforms. It brings together and analyzes information on legality, including risks of non-compliance with environmental and social requirements during extraction, processing and transportation; supply chain inconsistencies; and social aspects such as abuses of labour legislation. The system has blanket coverage and will be adapted in order to trace agricultural commodities along their supply chains.

Creating a global responsible commodities exchange for agricultural and forest products would help to support a significant increase in the demand and supply of deforestation-free commodities, helping companies meet their zero deforestation commitments.

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## 4.4 The contribution of certification to the pulp and paper sector

JOHN HONTELEZ

### Introduction

Tropical forests continue to shrink, and expansion of agriculture is the main reason. Some of this is subsistence farming, but in recent decades commercial agriculture has taken the lead, first with beef and soy in Brazil, later with oil palm in Indonesia, Southeast Asia and also now in Africa. Zero deforestation campaigners and researchers today talk of the “big four,” adding the conversion of forest to fast-growing plantations for the production of paper, pulp and timber. Zero deforestation is not just about maintaining forest cover – maintaining forest quality is also essential. In tackling the drivers of deforestation, wood processing industries have had a reliable tool in FSC forest certification, which ensures transparency in compliance with measures that guarantee responsible forest management with both environmental and social safeguards. However, scientific research sometimes leads to confusing interpretations of the impact of certification on deforestation.

Whether a plantation is a forest is an important and recurring issue. FAO defines plantations for wood and paper production as “forests” (whereas oil palm plantations are regarded as “other land”; FAO 2015), so conversion from a forest to a plantation is strictly speaking not “deforestation.” But where such plantations are the result of conversion of (semi-)natural forests, this can cause an important reduction in biodiversity, carbon stocks and cultural values. FSC, along with many others, is critical about such conversion and includes prevention of this in zero deforestation ambitions. FSC does certify established tree plantations, however, recognizing that they play an important role in the production of forest materials, and in so doing, also reduce the pressure on natural forests. Plantations can fulfil important social and ecological functions provided that they are managed according to FSC standards. But FSC does not regard plantations as having equal ecological value to natural forests, and rejects forest conversion into plantations.



CERTIFICATION WORKS,  
AND HAS WORKED, AS  
PART OF A FORMAL  
ECONOMY.

## Increasing tropical supplies

Paper and paperboard are increasingly produced with recycled materials and a small part is of agricultural origin; this article focuses on the increase in pulp-for-paper production from tropical forests. Between 2010 and 2015, the tropical share of global pulp production increased from 11% to 15%, an increase of 29% in absolute figures (FAO 2011; 2016, which excludes India). Brazil was already the leading tropical pulp producer in 2010, when



it produced 7% of global pulp (61% of tropical pulp), reaching 10% (65% of tropical pulp) in 2015 after a 37% increase in volume. It is now the second largest pulp-producing country in the world after the USA, surpassing China and Canada, which both saw a 15% decline in this period. Indonesia is the second largest tropical pulp producer, but far behind Brazil, moving from 3% of world production in 2010 (26% of tropical pulp) to 4% in 2015 (still 26% of tropical pulp), which was a 28% increase in absolute production over that time. Together, Brazil and Indonesia now produce 91% of tropical pulp, with Thailand coming third (4%), and

no other tropical country surpassing 2%. Though this does not mean that the threat of unsustainable pulp production is limited to these few countries, as at smaller scales, pulp production can still cause serious forest degradation and deforestation impacts.

## Industry and the challenges

Working in countries with poor enforcement of forest, environmental and labour laws, with risks for those fighting against legal and illegal deforestation practices, individual paper and pulp companies make voluntary commitments to zero deforestation and zero degradation practices that are of utmost importance. Some companies made commitments to initiatives such as the Consumer Goods Forum or the New York Declaration on Forests. But the main driver for action in this sector has been the tool introduced originally in Western Europe and North America two decades ago — forest management and product certification — due to a growing concern that paper production was causing deforestation. One response was the increase in recycling; another was to require evidence of responsible origin. The FSC label in particular became a symbol for both responsible origin and verified recycling.

The efforts of individual companies, several of which joined FSC as members, led to a global commitment to sustainable production in 2013 by the International Council of Forests and Paper Associations (ICFPA). The council represents 90% of the world's paper production and 50% of the world's pulp and paper production forests, spread across most large production countries (but not Indonesia). ICFPA publishes biannual sustainability progress reports, and one of its six specific commitments is sustainable forest management, the indicator being forest certification. ICFPA's 2015 report claims that its members owned/sourced from 302 million certified ha in 2012–13, representing 52% of all the area used by its members, although 98% of this was in North America or Western Europe.

### Brazil and Indonesia

In Brazil, the paper and pulp industry has undergone major changes in the last decade. In 2015, there were 5.5 million ha of certified plantations (2.7 by FSC; 0.5 by CERFLOR, the national PEFC member, and 2.3 certified by both FSC and CERFLOR), representing 58% of all the country's pulp-producing forests. Paper production in Brazil is concentrated in the south and midwest in heavily degraded areas. FSC certification means that plantations either date to before 1994 or have been established on non-forest lands; it also means that forest managers apply improved environmental and social practices and set aside nature conservation areas.

In Indonesia, two domestic companies, APRIL and APP, produce more than 75% of the country's pulp (TFA 2016), and both of them have been accused of deforestation and forest degradation. APP-related companies held several FSC chain of custody (CoC) certificates, but FSC decided to cut ties with the company in 2007 due to substantial evidence that APP was involved in destructive forestry practices. In 2013, FSC also cut ties with APRIL; this was related to its first CoC certificates and following a complaint that the company was violating the FSC Policy for Association.

Pressure from clients and NGOs stimulated both companies to adopt non-deforestation policies and to work towards FSC recognition and certification. Both joined the Tropical Forest Alliance and PEFC International. APP is active in the alliance's Indonesia Initiative, which aims to "reduce and eliminate" deforestation from the palm oil and paper and pulp supply chains, and the company is now present at many international gatherings, sharing how it engages with local communities and smallholders in restoration projects. Greenpeace (which has been advising APP in the start-up of its transformation) and WWF maintain pressure, including through assessments of real progress. APP approached FSC in December 2012; APRIL in June 2014, and negotiations about lifting the disassociation decisions are ongoing. Required actions include compensation for converted or cleared natural forest areas through restoration and supporting conservation measures, alignment of new plantations with FSC definitions and rules (as long as they have resulted from natural forest conversion since 1994), due diligence on all forest material used, and public reporting about progress.



### FSC prohibits deforestation and degradation

FSC has strict requirements that ensure that certified forest managers maintain forest cover and maintain or enhance forest structure, function, biodiversity and productivity. These requirements include indicators for planning and monitoring forest management interventions, assessing risks, and evaluating impacts. FSC does not allow deforestation in certified forest areas or the conversion of natural forest areas to plantations or other

forms of forest ecosystem degradation (except in very limited areas and only under certain conditions, e.g., not high conservation value land, and only if this conversion would enable clear, substantial, additional and secure long-term conservation benefits). This is complemented by specific requirements for the maintenance and enhancement of high conservation value areas (FSC 2012). FSC requires forest owners and managers to minimize the negative impacts of management interventions to avoid or compensate for any form of forest degradation. In 2016 FSC started to phase in its new International Generic Indicators. These increase consistency among forest management requirements, while still allowing for specific interpretations depending on forest type and state, size of forest management units, and specific social and ecological situations (FSC 2016).

To avoid any risk of “greenwashing” earlier forest conversion, FSC has not allowed the certification of plantations that were converted from natural forest after 1994, except when there is sufficient evidence that the forest manager or owner is not responsible, directly or indirectly, or the conversion affected a very limited portion of the area and is producing clear, substantial, additional and secure long-term conservation benefits in the proposed management unit (FSC 2012). FSC is currently revisiting this rule, however, to see how it can allow certification where it may be instrumental in achieving positive environmental and social impacts by converting degraded forests.

Any company that is a member of FSC or uses FSC certificates (including CoC for processing and trade) has to comply with FSC’s Policy for Association. This requires companies to prevent specific forest-negative activities anywhere in their reach, including forest conversion to plantations or non-forest use, and destruction of high conservation value areas. FSC has a robust system of safeguards to make sure that certified forest managers adhere to these requirements, including third-party certification and control, accreditation of certification bodies by a specialized organization, annual audits, stakeholder consultations, and a dispute resolution system.



### The importance and impacts of FSC today

There are almost 200 million hectares of FSC-certified forests in the world today, sustainably managed and free of deforestation and degradation. Spread over 83 countries, this represents around one-eighth of the world’s managed forests, roughly

21 million ha of which are in the tropics and subtropics. In 2014, FSC estimated that 300 million cubic metres of wood came from FSC-certified forests: one-sixth of the world’s industrial roundwood production (FSC 2015).

Demand from processing industries plays an important role, and many corporations with global reach have committed to further increase their use of FSC-certified materials. For example, beverage carton producers Tetrapak, SIG Combiblock and Elopak have achieved their 100% FSC certification target (Proforest 2016). Kimberly-Clark has announced that

by 2025, it will strive to obtain 90 percent of the fibre for its tissue products from environmentally preferred sources. This includes FSC-certified wood fibre, recycled fibre and sustainable alternative fibres. Another example is IKEA, which has sourced 50 percent of its wood from either FSC-certified or recycled sources by 2015 and it is committed to reaching 100 percent by 2020 for all its wood, paper and cardboard (IKEA 2015). The cases of APP and APRIL in Indonesia also show that the popularity of FSC in the market creates a strong negotiation position to change the behaviour of companies that have been involved in deforestation.

Despite all the satellite data available, information about forest degradation and deforestation remains incomplete on a global scale. Analyzing the same data, various experts come to different results, due to their political agendas, research questions and approaches, and interpretations of degradation and deforestation. Evaluating the impacts of forest certification on avoided deforestation and forest degradation is important but challenging. It is particularly difficult to discern the impacts of certification from those relating to other forest management decisions, and the identification of comparable, uncertified forest management entities is often problematic.

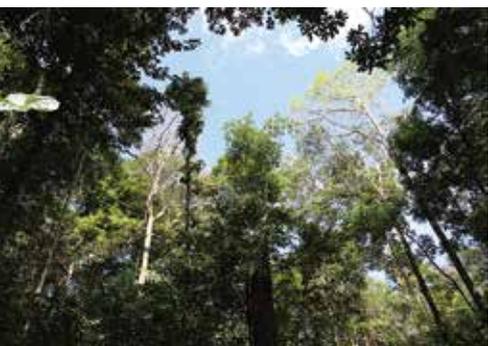
Research is often not designed to identify and assess direct certification-related effects separately, but looks at forest development from a broader angle. Inclusion of areas that were not certified at the start of the certification period complicates conclusions about impacts on deforestation during the period when certification determined the activities of the forest managers. While researchers are usually aware of this problem, summaries or media coverage of such studies can give the impression that FSC certification does reduce deforestation and forest degradation, but does not halt it. Other studies are more clear: FSC-certified forests had no significant negative impacts on species diversity or abundance in three certified forests in Bolivia, while in portions of Brazil's Atlantic Forest, certified forests retained more natural areas than other parts of the watersheds (Price 2010), with enhanced biodiversity conservation through measures such as expanded riparian protection, the identification and conservation of high conservation value areas, and protection for a broader range of rare species. According to Price 2010, "The certified areas resulted in improved conservation management status because under FSC, managers must develop a management plan for the area, monitor and inventory natural areas regularly and use the information derived from monitoring efforts to abate any threats (including fires and poaching)."

## Conclusions

Voluntary forest certification can be an effective tool to ensure deforestation-free supply chains for pulp and paper production. Standards such as FSC add value and ensure that the quality of natural forests and plantations is maintained and increased, and can provide social benefits for workers and local communities. Forest certification has the benefit of third-party verification, which may be more bureaucratic, but makes clients less dependent on company commitments, and builds trust with consumers. Forest certification makes it possible for consumers and the processing industry to insist on and reward

zero deforestation commitments and sustainable forest management practices. Most forest management interventions involve disturbances to the forest ecosystem; FSC standards require certified forest management to reduce and mitigate negative impacts as much as possible, to establish and learn from set-aside areas that increase biodiversity, and to more widely apply sustainable forestry best practice.

With the paper and pulp sector, certification works and has worked, since it is part of a formal economy, with producing companies exposed to societal demands and with



leverage with their suppliers. But certification is not a catch-all solution for the tropics. It requires clear and legal property and concession rights; it requires foresters who have an interest in planned management; and it requires either an economic benefit from certification in terms of price premiums and/or stable demand for products, or a sponsor who assists with the initial investment. It does not work where the market is informal and where illegal logging is the rule.

And finally, certification is voluntary (unless a government requires it by law or for its public procurement policies), so a company can decide to certify only part of its forests/ plantations and leave the rest outside the scope of the certificate, or at any point end its certificate, so that it is not bound to the certificate's rules. Although FSC's Policy for Association binds signatories to a non-conversion requirement for all operations, this does not exist with other forest certification schemes.

With the other three of the "big four" commodities — beef, soy and palm oil — certification schemes have also emerged as a tool to improve production methods, reduce environmental impacts and increase social benefits. For these schemes to help prevent deforestation, they must ensure that companies do not and have not for a certain number of years, been engaged in or benefited from, deforestation for clearing land for commodity production. Backtracking a number of years is important; otherwise, there is a risk of "greenwashing" the deforestation that happened before certification. FSC's experience over two decades has shown the crucial importance of a balanced multi-stakeholder decision-making structure, a membership organization, working with a specialized accreditation agency, and transparency and complaints procedures.

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## Connecting investments to commitments – the AXIIS platform

Just as private companies are taking action to eliminate unsustainably sourced materials from their supply chains through zero-deforestation commitments, financial service



providers (FSPs) with social responsibility commitments are also adopting measures to ensure that they do not invest in enterprises that degrade the environment, support illegal logging, or promote deforestation. This is a smart strategy from a social and environmental perspective, and it also lowers economic risk. Many FSPs have capital to invest that is tied to environmental outcomes, but have difficulty in finding clients that meet their requirements. On the other hand, there are forest-based, credit-ready small and

medium-sized enterprises (SMEs) that face barriers in navigating the financial marketplace. The Finance Alliance for Sustainable Trade (FAST) aims to address precisely this financial gap in the agriculture and forestry sectors.

FAST has developed the online platform AXIIS (Access and Exchange for Impact Investment and Sustainability). It facilitates the collection, aggregation and analysis of SME data, and increases the efficiency of connecting SMEs with prospective FSPs. AXIIS serves Latin America, the Caribbean and East Africa, with expansion planned to other regions. AXIIS builds on FAST's experience in facilitating more than \$US 43 million in private financing to SMEs. The alliance's tools and partner network provides three key services.

- **Training:** Technical assistance for SMEs through the FAST International Network of Local Financial Advisors supports them in improving their credit readiness and developing an investment profile.
- **Analytics:** Industry reports regarding financial demand for short-, medium- and long-term finance in selected sectors allows financial institutions to tailor specific financial products and services to identified needs. Impact reports on the financial, environmental and social performance of SMEs, including specifically developed metrics for natural forest and plantation forest enterprises, illustrate clear social and environmental returns.
- **Matchmaking:** Either in-person or virtual matches are made between SMEs with strong investment potential and interested investors, enabling investors to lower the costs of meeting new clients and have access to new sectors and regions.

These services aim to improve the ability of sustainable agricultural and forestry SMEs to obtain finance, with the potential to benefit buyers by strengthening their supply chains. Large corporations that deal in forest products often have many SME suppliers, and meeting sustainability commitments requires enforcing standards throughout these supply lines. Access to finance can help SMEs improve forest management practices, adopt certification, and avoid exclusion from markets that require sustainable practices or zero deforestation. Access to finance also allows SMEs to upgrade operations and utilize land more effectively, steps toward a better balance between economic and ecological priorities.

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## 4.5 Dealing with deforestation in the Brazilian Amazon

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### Introduction

The municipality of São Félix do Xingu is the size of Austria and has the largest cattle herd in Brazil. It also has one of the highest deforestation rates in the Amazon region, mostly due to pasture expansion. Nevertheless, large tracts of standing forest remain over 78% of its territory, and are distributed among private properties, rural settlements, protected forest, and indigenous areas. This array of land-use types makes it ideal to demonstrate the need for multiple approaches and partnerships to tackle deforestation in the Amazon. For the last eight years, The Nature Conservancy (TNC) has brought together key stakeholders to develop and implement complementary strategies for forest conservation and improving sustainable production and livelihoods. TNC is seeking to evolve from a command-and-control approach to a “green,” low-carbon development approach. Although not without challenges, this joint effort is yielding results on different fronts. More than 80% of private holdings are now in the federal land registry system, creating accountability for deforestation and improving governance, and in 2016, the municipality was the first to create a low-carbon agriculture plan. In addition, the Field to Table project is demonstrating viable and innovative alternatives for livestock production without deforestation, and the Cocoa Forest Initiative is so successful that it became a model for the Restoration of Degraded Areas state programme.



MULTIPLE APPROACHES  
TAILORED TO A RANGE  
OF CHALLENGES SHOW  
SUCCESS IN REDUCING  
DEFORESTATION.

### The context

The strategies in São Félix do Xingu build on initiatives with the potential to be disseminated across the Amazon. This is important, because whatever happens in the Amazon will affect far more than just the region. Brazil is the world’s seventh largest emitter of greenhouse gases — 30% of which are caused by deforestation — and the Amazon’s ecosystems harbour approximately 15% of global terrestrial biodiversity.

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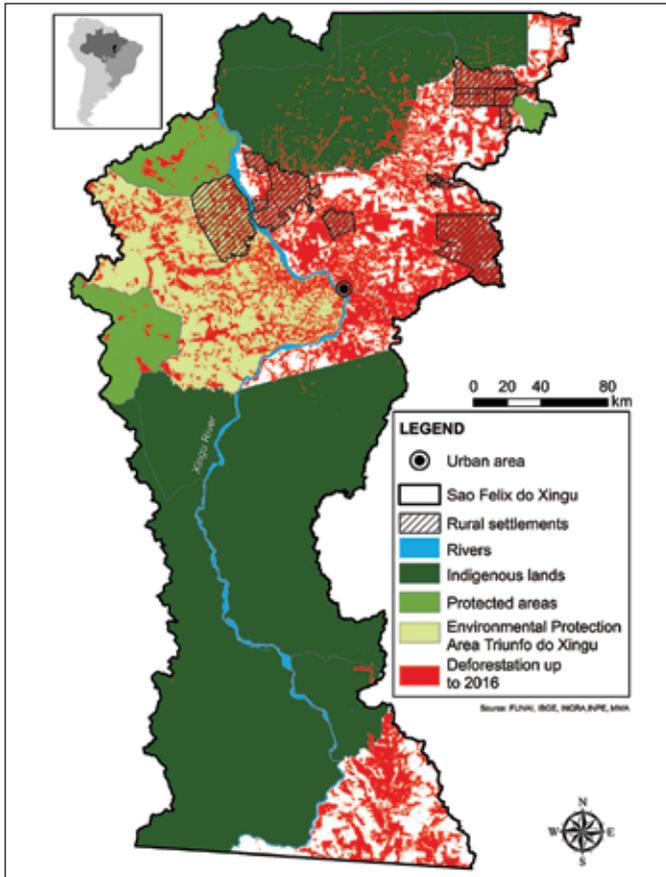
The sixth largest municipality in Brazil in area, São Félix do Xingu in the state of Pará (Figure 1). The municipality occupies 8.4 million hectares but has a population of only 111,633. Almost 60% is legally protected, with 4.5 million ha of indigenous lands and 1.6 million ha of protected areas. These lands play an important role in preventing the advance of deforestation, but they are not free from threats, especially illegal ranching and logging. The area most at risk is the 1.6 million-ha *Triunfo do Xingu* Environmental Protection Area; it is less strictly protected, since private use is allowed. In 2016, it accounted for 57% of all deforestation in the municipality, although it makes up only 19% of the land area. High rates of small-scale forest clearing are also seen in official land reform settlements. They occupy only 5% of the municipality but accounted for 25% of the deforested area in 2016.

With a cattle population that increased from 30,000 to 2.3 million between 1997 and 2013, São Félix do Xingu now has the largest municipal herd in Brazil. Although pasture expansion is more pronounced on medium to large properties, many small landholders also converted forest to pasture. Practised extensively and without proper management, cattle ranching typically forms only one part of a cycle that begins with deforestation and slash-and-burn and is followed by land degradation and abandonment, and the deforestation of new areas. By the time The Nature Conservancy started working in the area in 2009, the area was the symbol of a frontier out of control and among the first municipalities on the Brazilian government's "blacklist" of those with the highest deforestation rates. Inclusion in this list resulted in stricter federal oversight, and economic sanctions such as embargoes and reduced access to credit for farmers.



To find common ground for forest conservation and sustainable production in a region with a history of land conflicts and poor governance, TNC began an integrated, large-scale initiative involving diverse

actors working across many land-use types. Formal partnerships were established with the municipal and state governments, federal agencies, ranchers, slaughterhouses and beef retailers, smallholders and other critical local actors, such as the Alternative Cooperative of Small Rural and Urban Producers (CAPPRU), the Association for the Development of Family Agriculture of Alto Xingu, and the Rural Workers Union. To date, partnerships have focused on four main strategies: 1) compliance with environmental regulations; 2) improved livestock farming; 3) sustainable alternatives for smallholders; and 4) enhanced territorial and environmental management of indigenous land and protected areas. These strategies are synchronized with the state Green Municipalities Program, which aims to reduce deforestation and support sustainable agriculture and ranching, landscape planning and land titling. In addition, two other initiatives — cattle intensification and cocoa-based agroforestry — are inspiring Pará state to promote sustainable development in its 2030 strategic plan.

**Figure 1. São Felix do Xingu, Brazil**

Source: R.S. Vale, TNC

### Compliance with environmental regulations

Since 2009, TNC has helped local and state governments to fine-tune environmental management, compliance, control and monitoring models to increase the capacity of public agencies and the private sector to reduce deforestation and promote the rational use of natural resources. TNC's goal is to help bring rural properties and the beef supply chain into compliance with the Brazilian Forest Code. Under the Forest Code, 50–80% of all properties in the Amazon (the “legal reserve”), and all areas along watercourses, around springs and on steep slopes (“permanent preservation areas”), must be kept under native forest cover. If deforested, these areas need to be restored, or in the case of legal reserves deforested in excess prior to 2008, they can be offset. To strengthen environmental governance in support of this goal, TNC's actions have included the following initiatives.

### *Support for the rural environmental registry*

Demarcation and registration of farms and settlements within the federal *Cadastro Ambiental Rural* (CAR) is the first stage in meeting the requirements of the Forest Code, which involves mapping the border of all private land, permanent preservation areas and legal reserves. With financial support from the Amazon Fund of the Brazilian Development Bank, TNC mobilized land-owners and provided technical assistance, resulting in more than 80% of eligible land in São Félix do Xingu being registered. CAR is being used to link deforestation data with properties and property owners. This creates accountability, because even though Brazil has a very well-organized satellite-based deforestation monitoring system that covers the Amazon, without CAR it is nearly impossible to assign responsibility for areas with unclear or nonexistent land titles. CAR is also used by corporate commodity buyers to improve traceability in their supply chains.

### *Mapping and development of technical tools*

Using a combination of data from the CAR system, high-resolution digital land cover satellite images, hydrology and road maps, TNC has developed tools that enable detailed analysis of a farm's environmental condition, show how much land each farmer is legally required to restore, and indicates the optimal locations for productive land and protected forest. The tools also provide a robust foundation for the development and implementation of the Altered and Degraded Area Recovery Plan, as required by the Forest Code.

### *Support for the creation of the São Félix do Xingu Environmental Observatory*

This monitoring system was established to detect and investigate illegal deforestation throughout the municipality, involving training in GIS and remote sensing, logistical support, and provision of equipment and technical resources. The municipal government then hired the trained technicians to newly created permanent positions, a key factor in the sustainability of the observatory.

### *Facilitating the São Félix do Xingu Pact for the End of Illegal Deforestation*

This voluntary political commitment was made in 2011 by municipal, state, and federal government entities, producer organizations, community associations and NGOs. It includes a list of needs and actions to be prioritized in order to reduce deforestation and promote sustainable production.

### *Improving livestock farming*

In 2012, with support from the Moore Foundation, TNC launched the Field to Table project in partnership with the municipal farming union, the Marfrig Group (a company in the livestock sector), and the USA-based retailer Walmart. The aim was to establish a deforestation-free supply chain for beef. One component was developing a model for sustainable, low-carbon livestock intensification, based on the good agricultural practices program of the Brazilian Agricultural Research Corporation (EMBRAPA). The model was piloted on 13 farms occupying a total area of 40,000 ha, half under pasture (Garcia et al. 2017). Farmers received technical assistance on improved ranching practices and farm

business management, and degraded permanent preservation areas along watercourses were restored in compliance with the Forest Code.

Another component being developed is a monitoring system that integrates CAR, deforestation, and animal traceability information. Once farms are in the registry, meat buyers can track cattle back to their source farms, verify that suppliers are operating in deforestation-free areas, and exclude others from the market until they commit to restoration or other defined measures and ensure future environmental compliance. During the second phase of the project, starting in 2017, another 150 farms will be engaged, a voluntary protocol will be developed and an independent audit system will verify the origin of deforestation-free beef.

### Sustainable cocoa – a smallholder alternative

Looking for sustainable economic and food security alternatives for family farmers, TNC has been working since 2011 on the Cocoa Forest Initiative, with financial support from Cargill and the Norwegian Agency for Development Cooperation. This initiative promotes restoration of degraded pastures with cocoa-based agroforestry systems; the native cocoa forms the understorey below a canopy of timber, fruit and fuel trees. In addition to providing shade and microclimatic protection for young cocoa plants, trees produce goods, host pollinators and predators of cocoa pests, and contribute to increased biodiversity and carbon sequestration. Although constrained by high labour requirements, cocoa agroforests can also be an economically attractive option in complying with the Forest Code, which obliges land owners to reforest excess cleared land with native trees.

Following two years of preparation, the project began with 31 properties, mostly in official land reform settlements (Gomes et al. 2015). Today, 82 families are participating, each with an average of 4 hectares; projections estimate that by 2020, there will be 1,000 farms involved in cocoa-based agroforestry. Annual crops include cassava, maize and banana, which are grown as food crops before the cocoa starts to produce. Timber species represent the long-term investment that will motivate owners to maintain their land in forest cover. They include native mahogany (*Swietenia macrophylla*); this a timber tree, but farmers also prefer it due to the high market demand for its seeds. Copaiba (*Copaifera* spp.) and andiroba (*Carapa guianensis*) are both also planted and are commercially valuable for the extraction and sale of oil. The native acai palm (*Euterpe oleraceae*) can also be an early component of the system.

Participatory demonstration units are also being established, which are centres for dissemination and exchange of technical knowledge. Each unit is founded on a successful participant in the first phase, with the aim of attracting neighbouring farmers within a 15-km radius. This reduces logistical constraints in the provision of technical assistance and capacity building, and facilitates knowledge exchange and cooperation among small farmers, to foster gradual changes in perceptions and practices. The project took a multi-stakeholder approach, engaging grassroots organizations, government agencies and the private sector. An initial partnership was established with Cargill, CAPPRU, the São Félix Municipal Bureau of Agriculture, and the Ministry of Agriculture's Cocoa Research and

Technical Extension Agency. Due its success, the Cocoa Forest Initiative was used as a model for the state's restoration of degraded areas programme.

### Managing indigenous lands and protected areas

TNC works on two indigenous lands under a technical cooperation agreement with the Brazilian Indian Foundation to implement the National Policy of Environmental Management on Indigenous Lands, supported by the Amazon Fund. Management plans are being developed using tools that include life plans, monitoring plans, ethno-mapping and institutional strengthening, and will incorporate opportunities for generating sustainable income. One example is the collection of seeds and production of seedlings from high-value timber species, to be used in restoration projects throughout the municipality. Indigenous people are also being trained to monitor and protect the borders of their lands and the resources contained within them, to participate in state and municipal land-use planning and management processes, and to create a learning network to share experiences.

The Triunfo do Xingu Environmental Protected Area suffers from increasing deforestation and forest degradation, which are driven primarily by the expansion of inefficient ranching practices and worsened by the lack of resources to effectively enforce



boundaries. In partnership with the state and municipal environmental secretaries, TNC supported the formation of a management council and the development and implementation of the management plan. Farms located in this area will be a focus for the second phase of the Field to Table project.

### Remaining challenges

Reducing deforestation in the complex landscape of São Félix do Xingu presents multiple challenges.

Official data indicate that deforestation continues to

be among the highest in the Amazon, but it is not constant across the municipality.

A few CAR-registered private farms and official land reform settlements still have very high deforestation rates, but a significant proportion of deforestation is in the remaining unregistered land. In 2015, only ten farms — of more than 6,000 — were responsible for 15% of all deforestation in the municipality, and some had cleared at least 500 ha.

Given the investment required for forest clearance, there appears to be a belief in impunity from the consequences of such illegal actions. A solution will not depend solely on initiatives by NGOs or private companies. Effective law enforcement is clearly necessary, alongside complementary public policies that enable economic alternatives to deforestation, technical assistance and access to capital. Small-scale producers, particularly in official land reform settlements, ought to be the main beneficiaries.

Financial and capacity constraints may also have an impact. Effective implementation of activities under the Municipal Pact for the End of Illegal Deforestation is constrained by the fact that a fund to support it has not yet been launched. The municipality has limited capacity to implement actions across the entire area, which restricts the Environmental Observatory's operations and efficiency. Lack of land titling remains a barrier to obtaining credit, without which land-owners on more than 200,000 ha of previously deforested land will continue to be noncompliant with the Forest Code and will face exclusion from the responsible beef supply programme if they do not reforest mandated areas.

### Conclusions

The sustainable intensification of cattle ranching channels production into under-utilized areas that have already been deforested. In addition to avoiding future deforestation, there is a great opportunity to reforest and restore degraded lands in compliance with environmental laws, adding value to the entire supply chain. Diversifying income generation is essential to managing the risks of family farm production systems, and cocoa-based agroforestry presents a promising opportunity for restoration while strengthening food security among small-scale farmers in critical Amazon development frontiers.

Experiences in São Félix do Xingu suggest that preventing illegal deforestation requires approaches that are complementary to command-and-control, as well as active law enforcement. Effective national and state government policies and enforcement, combined with refined mapping and monitoring tools at the municipal and property levels, are essential in reducing high levels of deforestation. Positive incentives are also important. They include supporting alternatives to deforestation by increasing farm productivity and income while simultaneously reducing environmental impacts and ensuring the health of supporting ecosystems.

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## The SPOTT toolkit: holding commodity producers to account on sustainability commitments

The Sustainable Palm Oil Transparency Toolkit (SPOTT) is an online platform that provides assessments and public disclosure of the operations of many of the world's largest palm oil producers, and outlines their commitments to improving environmentally and socially responsible production and trade. SPOTT is primarily directed at investors and buyers to inform responsible investment and procurement decisions, and helps support corporate commitments. It encourages best practice by facilitating informed engagement between companies, financial institutions and purchasers.



SPOTT promotes transparency and accountability in order to drive the uptake and implementation of best practice in commodity production, providing the necessary company-specific and sector-specific data required to monitor, assess and manage the associated

risks. The Zoological Society of London (ZSL) launched SPOTT in November 2014 to assess palm oil production. Building on early experiences, the toolkit is being expanded, and will include timber, pulp and paper producers from early 2017.

ZSL conducts SPOTT assessments twice a year to capture progress made by companies using ten indicators: 1) company policy and operations; 2) availability of maps and a “land bank”; 3) reduced deforestation, protection of high conservation values (HCV) and high carbon stock (HCS) areas; 4) environmental management; 5) peat, fire and greenhouse gas emissions; 6) community and land rights; 7) labour rights; 8) certification and traceability; 9) smallholder and supplier support; and 10) governance and grievances. These indicators were developed in consultation with users, commodity producers and civil society organizations, and are likely to differ with different commodities or in different countries. Each assessment indicator allows companies and their stakeholders to use SPOTT to identify areas where better management of the risks associated with commodity production is needed.

ZSL is piloting SPOTT at the landscape level in South Sumatra with Kelola Sendang, with partners that include the regional government. Kelola Sendang is a public-private-people partnership that is addressing the challenges of deforestation, peatland degradation, wildfires and associated climate impacts, while supporting green growth and biodiversity conservation. The aim is to develop a scalable and replicable model for sustainable landscape management for South Sumatra and beyond. In this context, ZSL is exploring how SPOTT can support better dialogue and incentives for the implementation of best practice in a specific landscape, linking group-level commitments with on-the-ground implementation. Find out more at [www.sustainablepalmoil.org/spott](http://www.sustainablepalmoil.org/spott).

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## 4.6 Lessons from the soy and beef moratoria in Brazil

PAULO EDUARDO DOS SANTOS MASSOCA,  
MARTIN DELAROCHE and GABRIEL LUI

### Introduction

The Amazon rainforest is the largest continuous forested landscape in the tropics. Its ecosystem services support livelihoods at the local, regional and global scale. Since 60% of the Amazon biome is located in Brazil, the country has a large responsibility for its conservation and development. Between 1990 and 2015, Brazil experienced the highest annual rate of tropical forest loss in the world, and to date some 780,000 km<sup>2</sup> of native forests have been replaced by alternative land uses in the Brazilian Amazon.

Since the 1960s, the expansion of cattle ranching has been a major driver of deforestation in the Amazon. As of 2014 there were 480,000 km<sup>2</sup> of pasture — an area larger than Sweden — representing two-thirds of the cleared forest in the region. The conversion of land for soybean production began to play an important role in the region in the 1990s, but it became a major concern only starting in the 2000s, with the release of specially bred soybean varieties adapted to Amazonian conditions and with associated infrastructure investments. There are currently 39,200 km<sup>2</sup> of soybean fields in the Amazon, about one-tenth of the area planted nationwide. The rapid and widespread adoption of the crop to meet the increasing international market demand contributed to the major deforestation peaks observed in the Amazon after 2000. In that context, public and zero deforestation initiatives started emerging to tame uncontrolled deforestation.



**BEEF AND SOYBEAN MORATORIA  
PUT STRATEGIC PRESSURE ON A  
FEW POWERFUL ACTORS.**

### Supportive public policies

In 2004, to redress spiking deforestation rates in the region, the federal government launched the Action Plan for the Prevention and Control of Deforestation in the Legal Amazon. It fostered the creation of protected areas and focused on monitoring municipalities considered to be deforestation hotspots. A “blacklist” was drawn up, which sanctions and restricts federal credits for agricultural expansion in 52 of 760 municipalities, which

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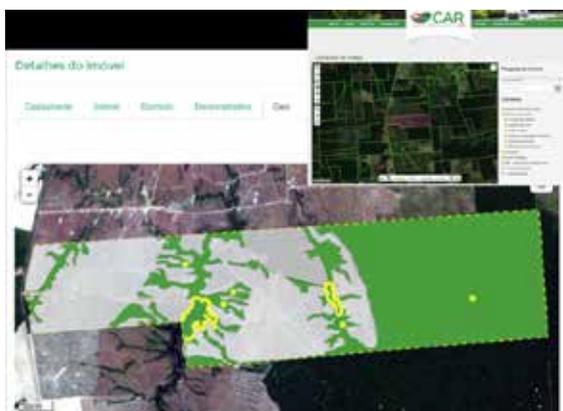
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are responsible for half of all deforestation in the Amazon. In 2008, the Brazilian Central Bank issued Directive 3545, which limits access to credit in the Amazon to those rural properties that comply with environmental rules.

The main environmental legislation regulating land use change in Brazil is the Forest Code; it protects sensitive areas (riparian zones, springs, hilltops and slopes) and limits clearing. In the Amazon biome, 50–80% of landholdings must be protected under the Code. It was first enacted in 1965, and was revised in 2012, with the inclusion of the important new Rural Environmental Registry (the *Cadastro Ambiental Rural* or CAR; see Figure 1). This national system, which is mandatory for all landholders, links them to their geo-referenced properties. Also, by registering the percentage of native vegetation cover, the CAR assists the government in identifying and punishing environmental misconduct.

All these initiatives rest on the federal Program for the Estimation of Deforestation in the Brazilian Amazon (PRODES), which was established in 1988. It detects clearings larger than 6.25 hectares, and provides the official estimate of annual rates of forest loss in the region (see Figure 2). Complementing PRODES, the DETER program has mapped forest conversion since 2004, identifying fire scars and forest clearings on a daily basis and supporting surveillance operations. These programmes indicated that forest loss rates dropped 44% in the 2006–16 period. This reduction was made possible by the outstanding efficacy of public policies and by two supply chain initiatives: the soybean and beef moratoria.

**Figure 1. The Rural Environmental Registry (CAR), Brazil**



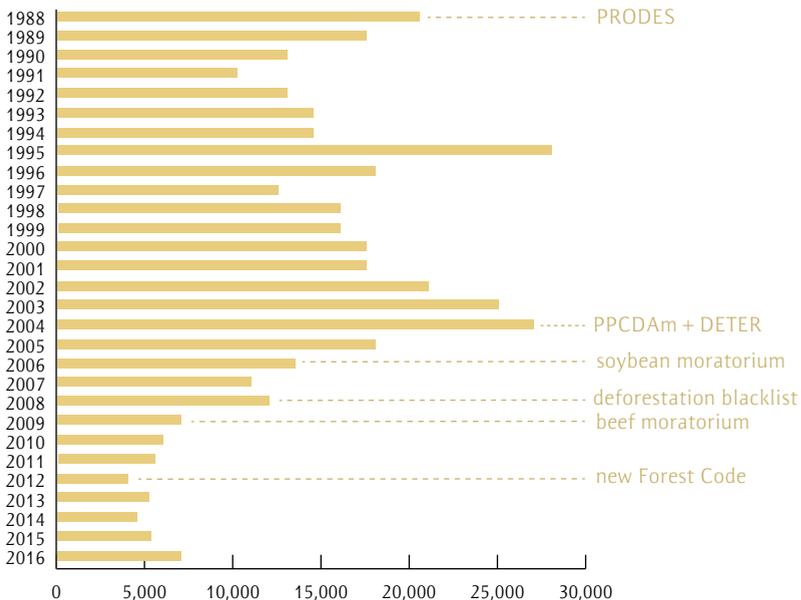
Source: Paulo Massoca

### The emergence of two moratoria

The implementation of the soybean moratorium in 2006 was triggered by two key events led by Greenpeace. First, the *Eating up the Amazon* report published in 2006 (Greenpeace 2006) revealed and tracked the actors behind the expansion of soybean cultivation, leading the way for public campaigns and protests in Europe against retailers who buy

soy and soy-derived products. Second, pressed by public opinion, some companies formed the European Soy Customer Group and asked commodity traders in Brazil to eliminate deforestation from their supply chains. Concerned with maintaining market share, the Brazilian Association of Cereal Exporters and the Brazilian Association of Vegetable Oil Industries (ABIOVE) — which together represent 90% of all soy purchased in Brazil — signed the Soybean Moratorium in 2006 and agreed to ban the purchase of soy grown on land cleared in the Amazon after this date. A broad group of traders, NGOs, banks and government officials meet regularly under the Brazil Soybean Working Group to ensure continued monitoring of and compliance with moratorium commitments.

**Figure 2. Deforested area (km<sup>2</sup>), Brazilian Amazon, 1988–2016**



Source: PRODES

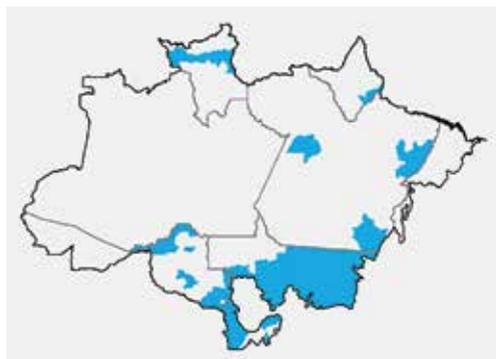
Two parallel initiatives started in 2008 that expanded in scope and complexity and led to what is known as the beef moratorium. The first was when the Federal Public Prosecutor's Office of Pará (MPF/PA) started suing ranchers and meat-packing companies, and threatened to prosecute beef and leather retailers for purchasing goods produced on illegally deforested land. The second involved international actors attacking the public image of commercial enterprises. Following the successful strategy of the soybean moratorium, Greenpeace released *A farra do boi na Amazônia* in 2015, another key report. It revealed how meat-packing companies, the Brazilian government, banks and retailers in Brazil and worldwide were contributing to deforestation in the Amazon. Thousands of farms breed, fatten and trade cattle in the region, but only three meat-packing companies own half of all the registered slaughterhouses in the Amazon: JBS/Bertin, Marfrig, and Minerva. In response to public pressure, many retailers stopped purchasing from these companies, even before the MPF-TAC Agreement between them and the government came into effect. See Table 1 for a comparison of the soy and beef moratoria.

**Table 1. Comparison of soybean and beef supply chains, Brazilian Amazon**

Soybean supply chain	Beef supply chain
<b>Commodity characteristics</b>	
<ul style="list-style-type: none"> <li>▪ Cropland (2015–16): 332,000 km<sup>2</sup> (Brazil), 39,200 km<sup>2</sup> (Amazon biome)</li> <li>▪ 243,000 soybean farmers in Brazil</li> <li>▪ Soybean is harvested once or twice a year</li> </ul>	<ul style="list-style-type: none"> <li>▪ Pasturelands (2015): 1.67 million km<sup>2</sup> (Brazil), 480,000 km<sup>2</sup> (Legal Amazon)</li> <li>▪ Cattle herd (2014): 208.3 million head (Brazil), 60 m animals (Legal Amazon)</li> <li>▪ &gt;92% of cattle slaughtered before 36 months</li> </ul>
<b>Market (2015–16)</b>	
<ul style="list-style-type: none"> <li>▪ Brazil: second largest producer and exporter worldwide (95.6 m tonnes in 2015–16)</li> <li>▪ 70% of production (bean, meal, oil) is exported</li> <li>▪ Soybean sector exports: US\$ 28 billion, or 14.6% of Brazil's total exports in 2015</li> <li>▪ 70–90% used to feed livestock</li> </ul>	<ul style="list-style-type: none"> <li>▪ Brazil: second largest cattle herd worldwide</li> <li>▪ 79% of beef is consumed internally</li> <li>▪ Brazilian beef consumption: 39.2 kg/person/year (second highest rate worldwide)</li> <li>▪ Livestock sector economy: US\$ 120 billion (7% of Brazil's GDP in 2014)</li> <li>▪ Livestock sector exports: US\$ 7.2 billion</li> </ul>
<b>Supply chain</b>	
<ul style="list-style-type: none"> <li>▪ Soybean farmers (predominantly large farmers) -&gt; ABIOVE and ANEC (trading 90% of the soybean in Brazil) -&gt; Retailers (European Soy Customer Group)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Breeding, calving, and fattening farms (all property sizes) -&gt; Direct suppliers (fattening farms) -&gt; Meat-packing companies (slaughterhouses) -&gt; Retailers</li> </ul>
<b>Area currently covered by the agreements in the Amazon biome</b>	
<ul style="list-style-type: none"> <li>▪ 87 municipalities &gt;5,000 ha of soybean in the Amazon biome (extension to the cerrado biome currently debated);</li> <li>▪ see Figure 3</li> </ul>	<ul style="list-style-type: none"> <li>▪ 129 slaughterhouses purchasing cattle in Pará, Acre, Rondônia, Roraima, Amazonas, Mato Grosso, Maranhão;</li> <li>▪ see Figure 4</li> </ul>
<b>Commitment</b>	
<ul style="list-style-type: none"> <li>▪ No deforestation after July 2008 (including legal clearings)</li> </ul>	<ul style="list-style-type: none"> <li>▪ No illegal deforestation after 2008</li> <li>▪ Listing of properties in the Rural Environmental Registry (CAR)</li> <li>▪ Compliance with the Forest Code</li> <li>▪ No slave labour</li> <li>▪ No clearing of protected areas or indigenous land</li> </ul>
<b>Monitoring system</b>	
<ul style="list-style-type: none"> <li>▪ Federal monitoring program (PRODES) monitors 98% of soybean plantations</li> <li>▪ Independent monitoring by ABIOVE and ANEC since 2013–14, using satellite images to detect noncompliant soybean plantations</li> <li>▪ Blacklist of embargoed farms released by the Soybean Workgroup (GTS)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Federal monitoring program (PRODES) monitors deforestation in the Amazon</li> <li>▪ CAR provides georeferenced information on registered suppliers (fattening farms)</li> <li>▪ Cattle herd registry with agricultural agencies</li> <li>▪ Slaughterhouses disclose information on direct suppliers of cattle</li> </ul>

#### 4.6 LESSONS FROM THE SOY AND BEEF MORATORIA IN BRAZIL

Soybean supply chain	Beef supply chain
<b>Stakeholders committed to the agreements</b>	
<ul style="list-style-type: none"> <li>▪ Soybean Working Group (GTS)</li> <li>▪ Private sector: ABIOVE and ANEC</li> <li>▪ Public sector: Ministry of Environment, INPE, the Bank of Brazil</li> <li>▪ Civil society: Greenpeace, Imaflora, Earth Innovation Institute, IPAM, TNC</li> <li>▪ European Soy Customer Group: Carrefour, McDonald's, Nestlé, Ahold, Marks and Spencer, Waitrose, Sainsbury's, Tesco, MVO</li> </ul>	<ul style="list-style-type: none"> <li>▪ Direct suppliers (fattening farms)</li> <li>▪ Meat-packing companies (129 firms, or 38% of total)</li> <li>▪ Brazilian Supermarket Association (ABRAS)</li> <li>▪ Greenpeace</li> <li>▪ Brazilian Prosecutor's Office (MPF)</li> </ul>
<b>Costs of compliance</b>	
<ul style="list-style-type: none"> <li>▪ ABIOVE and ANEC pay for part of the monitoring system (satellite imagery is made available to the public by the government, but analysis of noncompliant soybean plantations has to be paid for)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ranchers pay the costs of registering their properties on the CAR</li> <li>▪ Ranchers pay the costs of registering their cattle herds with agricultural agencies</li> <li>▪ Meatpacking companies must verify the origin of cattle from fattening farms and inform their suppliers</li> </ul>
<b>Motivation for behavioural change</b>	
<ul style="list-style-type: none"> <li>▪ European Soy Customer Group companies' reputational concern to avoid linking deforestation and other illegal activities to their institutional image</li> <li>▪ ABIOVE and ANEC's desire to maintain their market share, by responding to international buyers' demand</li> <li>▪ Farmers' dependency on ABIOVE and ANEC to purchase and finance their production</li> </ul>	<ul style="list-style-type: none"> <li>▪ Meatpacking companies' concern about their institutional image, as well as with punishment and sanctions by the MPF</li> <li>▪ Cattle ranchers' desire to assure their market share with the main meat-packing companies in the region, as well as their concern with punishment and sanctions by the MPF</li> </ul>
<b>Drawbacks</b>	
<ul style="list-style-type: none"> <li>▪ Moratorium criteria are stricter than federal legislation, even prohibiting legal deforestation</li> <li>▪ The moratorium does not cover the cerrado (savanna) biome, where much soybean is cultivated (e.g., Mato Grosso), at the border of the Amazon biome, which may cause leakage of deforestation</li> </ul>	<ul style="list-style-type: none"> <li>▪ Calving and breeding ranches are not part of the agreements, allowing cattle laundering and deforestation leakage across the region</li> <li>▪ Agricultural agencies do not release information regarding cattle registered in their tracking systems</li> <li>▪ Supermarkets do not release their institutional policies regarding the purchase of beef</li> </ul>

**Figure 3. Soybean in the Amazon biome****Figure 4. Beef in the Amazon biome**

The companies then agreed to monitor and disclose information about their suppliers, and committed themselves to banning direct supply from ranches established following illegal deforestation. The same companies then signed the Zero Deforestation Cattle Agreement with Greenpeace, which committed them to eliminating all deforestation from their supply chain. These two agreements gained further signatories; they currently encompass 129 meat-packing companies, which represent 38% of the meat-packing facilities in seven states.

### What has worked, and what has not

Recent studies have provided data and analyzed the effectiveness of the agreements in the beef and soy supply chains (Greenpeace 2014; Nepstad et al. 2014; NWF 2016). Soybean expansion over forestlands dropped from around 30% before the moratorium to 1% after it, in 2014 (Gibbs et al. 2015b). The most recent report on the implementation of the soybean moratorium (ABIOVE 2016) stated that soybean plantations accounted for only 1.2% of the total area deforested in the Amazon after 2008 in the 87 municipalities that are responsible for 98% of soybean grown in the biome. This is a striking result considering that the soybean area in the Amazon increased three-fold between 2009 and 2015, from 12,800 km<sup>2</sup> to 39,200 km<sup>2</sup>. The explanation for this expansion without deforestation is that the soybean cultivation was carried out on pastures cleared before 2008.

The efficacy of efforts to remove deforestation from the beef supply chain in the Amazon is uncertain; there are few hard figures as available, as there are for the impacts of the soybean moratorium. But Gibbs et al. (2015a) show that meat-packing companies committed to the beef agreements have substantially reduced the purchase of cattle from fattening ranches associated with illegal deforestation in Pará state. Moreover, the authors found that beef agreements have strongly influenced farmers to register georeferenced information for their ranches with the rural environmental registry (CAR). However, the profile of direct beef suppliers has changed. The average area of fattening ranches has increased, and the average proportion of forests remaining on these ranches has reduced. Considerable illegal deforestation still appears to be associated with

ranching because of deforestation leakage and cattle “laundering” (i.e., animals and animal products from noncompliant ranches or slaughterhouses manage to enter the beef supply chain).

### The challenge of cattle

In spite of similarities in the history of the two moratoria and the way they are structured, their efficacy in tackling deforestation is strongly affected by the very different characteristics of each commodity and their respective supply chains. Soybean fields are static, whereas cattle herds are transient across the landscape, thereby complicating monitoring strategies. While the soybean moratorium essentially monitors deforestation in the fixed area where it is planted, the beef moratorium requires monitoring of both the suppliers’ farms and the cattle herd itself, as this dual monitoring is the only way to ensure that animals do not enter the supply chain from properties engaged in illegal deforestation.

Unfortunately, guaranteeing the individual traceability of cattle is still far from possible in the region. One hindrance to the verification of cattle origin is that the information regarding the registering of cattle and transportation required by governmental agencies is not publicly available (Barreto and Gibbs 2015). Another problem is that calving and breeding ranches are not included in beef agreements. Therefore, cattle raised and fattened on illegal properties continue to feed consumers in urban centres, and animals from illegal properties are still sold to smaller local slaughterhouses that have not committed to the agreements. Also, since slaughterhouses are not required to trace cattle from breeding and calving farms, fattening farms that supply meat-packing companies that have signed the agreements are able to launder illegal beef.

Such laundering is possible because the beef supply chain is broader and more complex than that of soybean. Cattle are almost everywhere in the region, on small and large properties and in both remote and consolidated rural areas. Local slaughterhouses that supply local and regional markets are also widespread. And while the soybean moratorium worked directly with the two major associations that control most of the soy purchased in Brazil, the two beef agreements focus on meat-packing companies that represent only one-third of the beef produced in the Amazon. Therefore, although beef agreements have succeeded in removing deforestation from much of the beef sold in large urban centres in Brazil, further initiatives are required to pressure the key actors who still supply and trade beef linked to deforestation.

### Moratoria as hybrid mechanisms

The soybean and beef moratoria are both multi-stakeholder initiatives and are examples of the hybrid mechanisms emerging around the world to fight deforestation (Lambin et al. 2014). They differ from traditional command-and-control approaches that rely solely on public sector initiatives, which burden governments excessively. As the two moratoria show, these hybrid mechanisms include private-sector and civil society stakeholders, engaging a larger set of actors to tackle the specific drivers of deforestation.

The beef and soybean moratoria have strategically narrowed the scope of the problem by targeting a limited set of supply chain actors who drive deforestation in specific geographic areas. Instead of pursuing cattle ranchers and soybean farmers, who comprise the weaker and more numerous part of the supply chain, the beef and soybean moratoria strategically pressure a small number of powerful actors, such as large meat-packing companies in Brazil and international retailers in Europe, who are more concerned with their institutional image. And since these agreements develop from collective initiatives — including stakeholders from the private sector — pressure from within the supply chain causes behavioural changes among participants, who are concerned with their market share. This distinguishes these market-led initiatives from top-down governmental policies to fight deforestation.

Since actors with a stake in these supply chains often withhold privileged information, it is important to engage a diverse set of stakeholders. This favours shared responsibility among those involved, and supports the task of collecting, disclosing and auditing information. This information sharing is further enhanced because communication barriers among decision makers tend to dissolve in the process, reducing the distance — literal and metaphorical — between interested parts and favouring the open exchange of information. Consequently, these hybrid mechanisms result in commitments that are developed and agreed to collectively, and that are based on detailed and reliable information. All of this increases the success of such initiatives in tackling deforestation.

## Conclusions

The beef and soybean moratoria have both contributed to the reduction of illegal deforestation in their supply chains. The expansion of soybean cultivation in the Amazon has occurred almost exclusively at the expense of pastureland, not forest, and meat-packing companies committed to the beef moratorium have excluded ranches involved in illegal activities from their supply chain.

The role of civil society (Greenpeace, in particular) in mapping and disclosing reliable information has been crucial in informing strategic actions against key actors within both supply chains. However, commodity characteristics and the organization of supply chains have influenced the effectiveness of these moratoria. Although satellite imagery has sufficed to monitor soybean expansion in the region, additional strategies are required to assure that cattle do not come from illegal ranches.

Both moratoria have successfully brought together key actors in collectively devising agreements and sharing responsibility for implementing, monitoring and enforcing their commitments. And by affecting institutional image and market share, both moratoria used direct economic pressure to trigger change. Contrary to command-and-control initiatives that enforce regulations by punishment and sanctions, market-led initiatives such as these moratoria rely on a small set of key actors to influence behavioural changes within the supply chain in a broad and effective way.

The soybean moratorium is managed by members of the Brazil Soybean Working Group, who control almost all national trade. Actors in the more complex beef supply chain are insufficiently represented in existing agreements. The beef moratorium still requires the involvement of additional actors, such as calving and breeding ranchers, to advance its goals, and engaging supermarkets to remove illegal slaughterhouses from their beef suppliers would apply more pressure to the supply chain.

The soybean and beef moratoria have been successful in leveraging government efforts, but additional initiatives are necessary to reduce deforestation, particularly in face of increases in deforestation rates in the region since 2013. Therefore, this analysis is important and timely. Despite the need for improvements in the existing moratoria, they are instructive for decision-makers and stakeholders in devising novel hybrid mechanisms to tackle other drivers of deforestation in the Amazon.

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## Equity valuation, revenue-at-risk, and divestment tools

The risk of losing buyers is changing companies' behaviour. As supply chains move towards zero deforestation, certification may provide assurance. In the oil palm sector, many companies have committed to "no deforestation, no peat, no exploitation" (NDPE)



policies. Certified sustainable palm oil often receives procurement preference. Certification can mitigate financial risks linked to deforestation and human rights abuses. Chain Reaction Research analyzes financial risks related to the impacts of corporate deforestation commitments and to noncompliance with emerging environmental and social responsibility standards. Here are some examples.

**Equity-valuation tools** – In February 2016, Chain Reaction Research reported alleged violations of RSPO policies by Malaysia's IOI Corporation. In March 2016,

after RSPO suspended the corporation due to reported forest clearance in violation of RSPO policy, IOI's stock price fell 18%, from MYR 5.00 to 4.12. Rather than making positive changes, the corporation decided to sue RSPO, resulting in a US\$ 800 million loss in its equity valuation; in addition, 27 corporate buyers, including Bunge, Cargill and Unilever, suspended palm oil purchases from IOI. The corporation's Q2 2016 results showed a US\$ 14.8 million net loss, compared to a US\$ 30 million profit in the same quarter the previous year. IOI then changed its approach. It withdrew its lawsuit against RSPO in June and announced it would improve its sustainability profile to meet buyers' NDPE procurement policies. IOI's share price increased to MYR 4.31, then to MYR 4.45 in August 2016, when RSPO lifted its IOI suspension, although it did not return to its 2016 high.

**Revenue-at-risk tools** – Chain Reaction Research reported that it is possible to forecast palm oil revenue at risk from corporations' failure to meet buyers' NDPE policies. Modelling three Indonesian companies' historical financial results and forecasting them into the future showed that when growers choose not to meet buyers' NDPE policies, they exhibit revenue at risk.

**Fund divestment tools** – The Government Pension Fund of Norway, with US\$ 850 billion assets under management, divested from 11 companies based on their involvement in rainforest destruction, including First Pacific and Indofood Agri Resources. The American investment firm Dimensional Fund Advisors, with US\$ 445 billion assets under management, recently divested palm oil companies from two of its portfolios.

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## 4.7 Comparative evaluation of zero deforestation governance

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### Introduction

This article assesses seven deforestation initiatives. The governance quality of a range of non-state zero deforestation initiatives, as assessed by stakeholder surveys, reveals a general level of satisfaction, but not overwhelming support. Respondents in developing countries felt that initiatives included their interests, but respondents in developed countries were less enthusiastic, and all respondents were concerned about the lack of resources provided for their participation. This assessment suggests that greater effort is required to build participatory capacity among under-resourced stakeholders, and to reach out to those with policy and community interests who feel excluded. Governance standards may also be required to demonstrate the legitimacy of these schemes.

### Initiatives to combat deforestation

Voluntary standards have become a defining feature of contemporary environmental regulation (Clapp 2005; Mackendrick 2005). Standard setting in the forest policy arena has been identified as one of the best ways in which to address how the inevitable trade-offs that arise from interactions between civil society and the market play themselves out (Overdevest 2004). Various initiatives to combat deforestation have been developed since the UN Conference on Environment and Development in 1992 (the Rio Summit) and the Statement of Forest Principles, which was built on the concept of sustainable forest management and which uses criteria and indicators for evaluating sustainability and legality and certification and labelling of related forest products. In addition, the UN REDD+ programme aims to reduce emissions from deforestation and forest degradation in developing countries and has helped to bring forests into the global climate regime (Cadman et al. 2015). More recent efforts have



GREATER EFFORTS ARE REQUIRED TO BUILD THE PARTICIPATORY CAPACITY OF UNDER-RESOURCED STAKEHOLDERS.

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focused on deforestation-implicated supply chains, including the corporations that invest in and benefit from such activities.

The principal commodities driving deforestation are livestock and soybeans in Latin America, and palm oil and timber for pulp and paper in Southeast Asia. Although Africa produces similar commodities and also has high rates of deforestation, Brazil and Indonesia are the two largest sources of commodity-driven deforestation globally.

Several supply-chain programmes have arisen as a consequence of post-Rio Summit corporate and intergovernmental commitments. They include the Tropical Forest Alliance's TFA2020, created in 2010 with the aim of eliminating deforestation from agricultural production within ten years, and the New York Declaration on Forests in 2014, with the overall objective of reducing emissions from deforestation. The aims of supply-chain initiatives vary; some seek to achieve zero (gross) deforestation or zero (net) deforestation, or more simply, to ensure that supply chains are deforestation free.

The main method of assessment is to monitor company activities and report on the implementation of commitments to avoiding impacts on forests. Some initiatives are information platforms that engage directly with member companies and report on their own actions, whereas others report on corporate performance using data from a range of sources (Climate Focus 2016).

### Initiatives assessed

The seven initiatives evaluated were selected because they were active across all major commodities (livestock, palm oil, soy and timber), were supply-chain oriented, and used criterion-type assessment and reporting methodologies:

- The Forest Trust, established in 1999, works with companies to provide a reporting and transparency platform against 14 commodities, using the information generated to track commodities and report on their environmental impacts.
- The Sustainability Consortium is also a membership-based organization. Since 2009 it has used a range of key performance indicators to evaluate companies.
- The Forests Program of the Carbon Disclosure Project (CDP) was initiated by the Global Canopy Project in 2009 as the Forest Footprint Disclosure Project, and made the transition to CDP in 2013. Companies in diverse sectors involved in forest-risk commodities may become signatories and report their performance.
- Forest Trends uses publicly available information for its Supply Change project. Since 2014 the project has collaborated with sources such as the CDP to track companies' commodities, commitments and extent of certification.
- Also since 2014, the Global Canopy Project's Forest500 initiative assesses the public commitments of companies, financial institutions and key players it identifies as leading actors in deforestation-implicated supply chains against a range of categorized indicators.

- The Supply Chain Transparency Network is another GCP programme. Since 2015, it has worked in collaboration with the Stockholm Environment Institute to encourage information sharing around reducing deforestation across supply chain initiatives, rather than directly targeting companies. The two organizations are also working on an online platform to track all commodities.
- In 2016, the Rainforest Alliance began developing an Accountability Framework, in collaboration with business and NGOs, to provide a more comprehensive, principles-based approach to monitoring corporate sustainability commitments by 2020, reflecting the objective of the Tropical Forest Alliance (Climate Focus 2016).

### Approach

The various interactions between the actors seeking to address deforestation represent the main elements of what can be termed the governance systems of these initiatives. The structures and processes that these systems use to steer or coordinate stakeholder interaction provide important information about the efficacy and legitimacy of these initiatives. Initiatives gain legitimacy from the extent to which activities within them are consistent with a range of governance values and from how comprehensive these participatory and deliberative values are (Cadman et al. 2016).

A review of international relations and public policy literature reveals that participation within governance systems is meaningful if a broad range of interests is represented, is inclusive, treats stakeholders equally, and makes resources available — technical, institutional and financial support — for stakeholder involvement where capacity is limited. Responsible behaviour by participants is also important, and is determined by the degree of accountability and transparency that actors demonstrate to each other. Deliberation is productive if decision-making is democratic, with specified methods for reaching agreement, and, where agreement cannot be reached, for settling disputes. Implementation of these initiatives needs to aim to change the behaviour of actors that cause deforestation, and must ensure that the solutions are resilient, adaptable and long-lasting. In this way, the legitimacy of these initiatives has a close linkage to the quality of governance (Cadman 2011).

In a similar way, many forest sector programmes apply principles, criteria and indicators (Table 1) to operational activities that may be equally applied to the governance and institutional aspects of forest management (ITTO 2015). As a consequence of the Rio Summit and Agenda 21, principles, criteria and indicators are now widely used to evaluate environmental performance, including sustainable forest management (Rametsteiner et al. 2009). This enables consistent assessment by ensuring that each aspect under consideration is correctly positioned, avoiding overlap or duplication. Principles are the central values to be determined, usually divided into criteria, or categories for assessment. Since neither principles or criteria can be directly measured, they are characterized into indicators, or parameters, that can be assessed in a hierarchical framework (Lammerts van Beuren and Blom 1997).



**Table 1. Principles, criteria and indicators**

Principle	Criterion	Indicators
Meaningful participation	Interest representation	Inclusiveness, equality, resources
	Organizational responsibility	Accountability, transparency
Productive deliberation	Decision making	Democracy, agreement, dispute settlement
	Implementation	Behavioural change, problem solving, durability

Source: Cadman 2011 (reproduced with permission from Palgrave Macmillan)

Participants for this research were drawn from a 2015 study of the political economy of sustainable development (Cadman et al. 2015), and supplemented by calls posted on LinkedIn; the survey closed on 30 December 2016. The respondents came from 27 countries. Most countries had only one or two respondents: the USA had the largest number (ten), followed by Nepal (five) and the UK (four). Africa provided the largest number of respondents (14), followed by North America (11), and Asia (eight). Of the 47 individual respondents, 31 were from the global South (developing countries) and 16 were from the global North (developed countries). The largest sectors they represented were environment (21), academic (12), social (6), other (4), government (3) and economic (1). See Tables 2a and 2b.

### Analysis

A number of caveats to the results should be noted, including the relatively small number of respondents and the uneven spread of respondents across sectors. The survey should be seen as a small “n” sample only, and largely anecdotal. The distribution of respondents also varied across the selected initiatives; some (such as the Rainforest Alliance’s Accountability Framework) are relatively new while others (such as The Forest Trust) are more established. Results for each initiative are broken down for analytical purposes into global North and global South.

Looking first at the overall results (far right-hand column), respondents appeared to be generally satisfied with the governance quality of these initiatives, with a score of 32.82 out of 55, or 60% (with rounding) — but not overwhelmingly impressed. Respondents from the South were more favourable (35.37 or 64%), compared to the North (30.27 or 55%), and the higher score from developing country respondents compared to their developed country counterparts is consistent across the initiatives. Interestingly, despite the small sample and the predominance of environmental stakeholders in the global North, the results concur with findings from another survey of market-based instruments in the sustainability arena with larger respondent numbers (Cadman et al. 2015).

**Table 2a. Assessment of meaningful participation of seven deforestation initiatives**  
 maximum score: 25    minimum score: 5

Criterion	a. Interest representation Maximum score: 15; minimum: 3				b. Organizational responsibility Maximum score: 10; minimum: 2			Principle score
	Inclusive-ness	Equality	Resources	Criterion score	Account-ability	Transparency	Criterion score	
<b>The Forest Trust Program (1999) – range of respondents: 13–15 North; 28–30 South</b>								
Global N	3.00	3.07	1.40	7.47	2.57	2.71	5.28	<b>12.75</b>
Global S	3.57	3.17	2.28	9.02	3.17	2.93	6.10	<b>15.12</b>
<b>The Sustainability Consortium Programme (2009) – range of respondents: global North: 13–15; 27–29</b>								
Global N	2.40	2.57	1.47	6.44	2.29	2.43	4.72	<b>11.16</b>
Global S	3.55	3.46	2.36	9.37	3.21	3.11	6.32	<b>15.69</b>
<b>CDP Forests Programme (2013) – range of respondents: global North: 13–16; S: 29–30</b>								
Global N	3.19	3.00	1.50	7.69	2.80	3.13	5.93	<b>13.62</b>
Global S	3.93	3.41	2.41	9.75	3.48	3.34	6.82	<b>16.57</b>
<b>Forest Trends Supply Change Programme (2014) – range of respondents: global North: 12–15; 30–31</b>								
Global N	3.13	3.00	1.67	7.80	3.00	3.31	6.31	<b>14.11</b>
Global S	3.68	3.33	2.27	9.28	3.33	3.20	6.53	<b>15.81</b>
<b>Global Canopy Project Forest 500 Programme (2014) – range of respondents: global North: 12–15; 28–30</b>								
Global N	2.93	3.00	1.47	7.40	2.71	2.64	5.35	<b>12.75</b>
Global S	3.53	3.21	2.31	9.05	3.34	3.31	6.65	<b>15.70</b>
<b>Stockholm Environment Institute and Global Canopy Project Supply Chain Transparency Network (2015) – range of respondents: global North: 12–15; 27–30</b>								
Global N	2.93	2.79	1.60	7.32	3.36	3.43	6.79	<b>14.11</b>
Global S	3.40	3.36	2.32	9.08	3.36	3.18	6.54	<b>15.62</b>
<b>Rainforest Alliance Accountability Framework Program (2016) – range of respondents: global North: 13–16; global South: 27–30</b>								
Global N	3.14	2.67	1.44	7.25	2.87	2.87	5.74	<b>12.99</b>
Global S	3.70	3.50	2.25	9.45	3.43	3.29	6.72	<b>16.17</b>
<b>Total average</b>								
Global N	2.96	2.87	1.51	7.34	2.80	2.93	5.73	<b>13.07</b>
Global S	3.62	3.35	2.31	9.29	3.33	3.19	6.53	<b>15.81</b>
All	3.29	3.11	1.91	8.31	3.07	3.06	6.13	<b>14.44</b>

Notes: fields in blue are the highest-scoring indicators; light brown the lowest; scores in dark brown did not meet the threshold value of 50%; November–December 2016.

**Table 2b. Assessment of productive deliberation of seven deforestation initiatives**  
 maximum score: 30    minimum score: 6

a. Decision-making maximum score: 15; minimum: 3				b. Implementation maximum score: 15; minimum: 3				Prin- ciple Score	Total, Tables 2a and 2b
Democracy	Agreement	Dispute settlement	Criterion score	Behavioural change	Problem solving	Durability	Criterion Score		
<b>The Forest Trust Program (1999) — range of respondents: global North: 13–15; 28–30</b>									
2.69	3.46	3.15	9.30	3.50	3.50	3.29	10.29	<b>19.59</b>	<b>32.34</b>
2.86	3.14	3.10	9.10	3.50	3.48	3.45	10.43	<b>19.53</b>	<b>34.65</b>
<b>The Sustainability Consortium Programme (2009) — range of respondents: 13–15 North; 27–29 South</b>									
2.75	2.69	2.46	7.90	2.36	2.50	2.93	7.79	<b>15.69</b>	<b>26.85</b>
2.86	3.19	3.12	9.17	3.43	3.48	3.44	10.35	<b>19.52</b>	<b>35.21</b>
<b>CDP Forests Programme (2013) — range of respondents: 13–16 North; 29–30 South</b>									
2.57	3.15	2.64	8.36	2.80	2.67	3.27	8.74	<b>17.10</b>	<b>30.72</b>
2.93	3.34	3.00	9.27	3.52	3.59	3.48	10.59	<b>19.86</b>	<b>36.43</b>
<b>Forest Trends Supply Change Programme (2014) — range of respondents: 12–15 North; 30–31 South</b>									
3.00	3.00	2.77	8.77	2.50	2.50	2.64	7.64	<b>16.41</b>	<b>30.52</b>
2.93	3.17	3.20	9.30	3.50	3.50	3.40	10.40	<b>19.70</b>	<b>35.51</b>
<b>Global Canopy Project Forest 500 Programme (2014) — range of respondents: 12–15 North; 28–30 South</b>									
2.62	3.00	2.54	8.16	2.79	2.64	2.93	8.36	<b>16.52</b>	<b>29.27</b>
2.83	3.14	3.00	8.97	3.46	3.57	3.29	10.32	<b>19.29</b>	<b>34.99</b>
<b>Stockholm Environment Institute and Global Canopy Project Supply Chain Transparency Network (2015) — range of respondents: 12–15 North; 27–30 South</b>									
2.85	3.25	2.85	8.95	2.93	3.15	3.00	9.08	<b>18.03</b>	<b>32.14</b>
2.89	3.30	3.14	9.33	3.46	3.52	3.32	10.30	<b>19.63</b>	<b>35.25</b>
<b>Rainforest Alliance Accountability Framework Program (2016) — range of respondents: 13–16 North; 27–30 South</b>									
2.79	2.92	2.71	8.42	2.93	2.93	2.80	8.66	<b>17.08</b>	<b>30.07</b>
2.86	3.14	3.04	9.04	3.48	3.57	3.32	10.37	<b>19.41</b>	<b>35.58</b>
<b>Total average</b>									
2.75	3.07	2.73	8.55	2.83	2.84	2.98	8.65	<b>17.20</b>	<b>30.27</b>
2.88	3.20	3.09	9.17	3.48	3.53	3.39	10.39	<b>19.56</b>	<b>35.37</b>
2.82	3.14	2.91	8.86	3.15	3.19	3.18	9.52	<b>18.38</b>	<b>32.82</b>

Notes: fields in blue are the highest-scoring indicators; light brown the lowest; scores in dark brown did not meet the threshold value of 50%; November–December 2016.

Results differed between initiatives. The CDP Forest Programme received the highest score (36.43 or 66% — global South) and the Sustainability Consortium the lowest (26.85 or 49% — global North). Universally, Resources was the lowest-rated indicator (North and South), and Inclusiveness was generally the highest among Southern respondents (with the exception of the GCP Forest 500 programme and the SEI/GCP Supply Chain Transparency Network). This is in contrast to respondents from the North, where only one initiative received the highest rating for inclusiveness (Rainforest Alliance Accountability Framework).

A common theme was the disconnect between corporate promises and on-the-ground action. One Environment-North respondent noted that the metrics used by the initiatives could be misleading as they were often “based on company self-reporting against policies, not on actual implementation.” One Government-South respondent added that research in least developed countries was very rare and should be a priority to ensure sustainable development. Another (Environment-North respondent) thought that all of the “frameworks appear to have high-level buy-in, which should help with their durability,” but considered that “funding — especially for the non-profits — will remain a challenge.” Several USA-based respondents (all Environment) expressed disappointment in the level of inclusion of NGOs in the CDP’s information generation and dissemination activities. As one put it, “since we are not an investor, a large company, or part of the supply chain, there are limited opportunities for engagement.” Others commented on The Forest Trust, with one (Environment-South) arguing that because it “acts mostly like a consultant, but also promotes its own labels, lines between a sustainability standard, an independent auditor, and a consultant paid by companies are blurred, creating potentially a conflict of interest.” A UK-based respondent (Environment-North) suggested that there were similar problems in the Rainforest Alliance, since it “depends on commissions from companies seeking to minimize reputational risk and gain competitive advantage.”



## Conclusions

Given the ongoing loss of the world’s forests, the policy community response, and the number of initiatives that have arisen in recent years, efforts to tackle deforestation look likely to continue for some time to come. Regarding initiatives “from” the North “for” the South, greater efforts are required to build participatory capacity among under-resourced stakeholders, and to reach out to those policy community interests who feel excluded to date. Perhaps it is time for those initiatives that promote the sustainable management of forests and the removal of deforestation-implicated commodities from global supply chains to develop a higher quality of governance and standards in relation to their own activities.

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# Section 5

## Moving forward

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## 5.1 Public- and private-sector roles in achieving zero deforestation

KATIE MCCOY and RAFEL SERVENT

### Introduction

Evidence suggests that companies are committed to, and increasingly committing to, deforestation-free supply chains. The focus now is on implementation, and the pressure is on to deliver on these promises. The private sector does not operate in a vacuum, and to achieve their ambitious goals, businesses will need to work together and cooperatively as well as on their own. Having a supportive external enabling framework will also be critical for the success of these commitments; this framework needs to outline a clear role for the world of finance and policy alike.

In late 2015, two crucial international agreements laid a framework for a more environmentally and socially sustainable global economy. The Sustainable Development Goals (SDGs), agreed to in September 2015, and the Paris Agreement on climate change three months later, represent significant steps in efforts to address some profound challenges that the world faces.



FORESTS ARE CRUCIAL TO A SUSTAINABLE POST-2020 GLOBAL ECONOMY.

The need to halt deforestation and forest degradation is not in question. Many companies have recognized their role in helping to address this issue by pledging to remove deforestation from their supply chains through making commitments to zero deforestation. But what progress has been made with implementation? And are these commitments realistic? This article will argue that they are, but that success depends on the enabling environment the company operates in — meaning that actors outside of the company also have a critical role to play.

### Increasing commitments

Reducing deforestation has become an important business issue for any company active in global trade in soy, palm oil, or cattle and timber products — whether they know it or not. The production of these forest-risk commodities can contribute to habitat loss, greenhouse gas emissions and social conflict, resulting in risks to supply chains for suppliers and customers alike.

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Slowly but surely companies are moving to recognize deforestation risks as a business priority. An example is CDP's forests program, which asks companies each year to detail information about their efforts to understand, assess and manage business risks related to deforestation. In 2016, CDP had responses from over 200 companies, up from 180 in 2015, including Archer Daniels Midland, Bunge Limited and Cargill. They make up three of the four "ABCD" global commodity trading giants (the fourth, Louis Dreyfus Company, did not respond to CDP's disclosure request). CDP also received responses from the three largest slaughterhouses in Brazil, and big-name brands from Nestlé to Starbucks.

Company data show that sustainability risk within commodity supply chains is real and is having an impact on company performance. For example, 81% of agricultural producers and 45% of food and staples retailing companies report impacts related to forest risk commodities that have led to major changes in operations, revenues or expenditures over the past five years. And 68% of producers, processors and traders, and 65% of manufacturers and retailers recognize risks that could cause supply chain impacts within the next six years. Business is at risk, and for many companies, the financial case for tackling this issue has never been clearer, with US\$ 906 billion in corporate turnover of publicly listed companies linked to these commodities (CDP 2016).

This has resulted in a surge in the number of companies that have made commitments to address this issue in the past three years. But are these commitments actually being implemented? Are they really achievable? And can they be monitored? The question of implementation is key, because although companies should be commended for making strong commitments to zero deforestation, it is taking action that counts. The majority of commitments have been made for oil palm and wood-based products; less attention has been paid to soy and cattle commodities (Climate Focus 2016). Any corporate commitment must be worth the paper it is written on, which means that it must be strong, actionable and time-bound and that its progress can be tracked.

### Inadequate implementation

Data shows that implementation of these commitments is falling short of what is needed to meet individual corporate goals, and is also not enough to achieve collective goals such as those under the New York Declaration on Forests. The private sector must be central to meeting the objectives of both the Paris Agreement and the SDGs, which, unlike the Millennium Development Goals before them, were crafted with input from the business community.

Worryingly, although companies are confident that they will meet these goals, recent CDP data (CDP 2016) shows that progress is slow, including on key actions with suppliers. Across the four main forest risk commodities 72% of companies believe that they will be able to obtain a secure and sustainable supply of these in the future, but only one in five companies assess risks associated with deforestation beyond a six-year time horizon. Their long-term planning and commitment must therefore be questioned, and this highlights the need for goals and supporting incentives that are truly long term — heralding the end of business as usual.

Deforestation risk must be monitored and managed from the board of directors level and should in turn feed into the business strategy. Despite this, more than one-third (34%) of companies reporting to CDP in 2016 do not have board-level responsibility for managing deforestation risk. Fewer than half of those manufacturers and retailers with procurement standards in place reported to CDP in 2016 to monitor compliance with these standards and audit their suppliers across commodities. And only 56% reported across commodities that they work beyond the first tier of their supply chain — suggesting that implementation measures are not extending throughout the chain.

### Overcoming barriers

CDP's analysis of company responses shows that although a majority of them recognize deforestation as a risk, fewer than half have considered deforestation as part of a company-wide risk assessment for their full supply chain across commodities. This means that its potential impact on a company and the potential impact of the company itself is under-appreciated.

Companies often adopt a combination of approaches to meet their goals for zero deforestation, including certification and traceability systems. A programme of meaningful supplier engagement is also critical in delivering these commitments. Despite a high proportion of companies reporting that they work with their direct suppliers, analyzing the concrete actions that companies are taking with their suppliers tells a different story. For example, for those manufacturers and retailers that reported to CDP in 2016 on palm oil, 87% report working with their direct suppliers. Looking at the responses in more detail, however, shows that only 37% of manufacturers and retailers conduct supplier audits, less than one-third (31%) run workshops and training for their suppliers, only 17% run joint projects, and a mere 9% offer technical support (Figure 1).

**Figure 1. Ways that companies work with suppliers**



The main barriers to implementing zero-deforestation commitments that companies report have remained the same since 2013: inadequate traceability systems; weak governance (and compliance enforcement) of national deforestation policies; and the limited availability and high cost of certified materials. Companies that depend on secure supplies of forest-risk commodities need to look both within themselves and to the external enabling environment to guarantee sustainable growth and to implement their commitments. They must ensure that internal policies, processes and procedures are adequate to manage existing and potential commodity-related risks, but they also need to work with external stakeholders to ensure that commodity supply chains are free of deforestation.

The external environment in which companies operate will also influence the success or failure of their efforts to remove deforestation from their supply chains. This points to a critical role for policy makers and financial institutions in accelerating progress, since it is clear that companies cannot succeed in isolation.

### What companies can do

#### *Ensure that governance and risk assessments are equal to the challenge*

Meeting zero-deforestation commitments requires that internal governance is strong and that planning is adequate. Disclosures to CDP suggest that companies are not always adopting the right internal practices. Work more closely and effectively with suppliers

For example, German consumer goods giant Henkel AG reports that it is providing targeted support to oil palm plantations and smallholders to promote sustainable farming practices, improve livelihoods and ensure that sufficient volumes of sustainable oil are available on the market.

#### *Ensure transparency at each stage of the supply chain*

This is critical for meeting zero-deforestation commitments. However, fewer than half of manufacturers and retailers audit their suppliers across commodities. If monitoring and supplier selection is not followed up with audits, reviews, and improvement plans, there is no guarantee that these internal practices will have the anticipated external effects. Audits can help embed best practice throughout supply chains. For example, UPM-Kymmene Corporation, the Finnish pulp and paper company, subjects second-tier suppliers to audits, which it describes as “an excellent training opportunity.” Lack of supplier disclosure and transparency can lead to missed opportunities as well as hidden risks.

#### *Work together to address market-wide issues*

Companies are struggling on their own to accelerate efforts to drive deforestation out of commodity supply chains. The Consumer Goods Forum — which has identified deforestation as one of the key challenges it seeks to address — shows how progress can

be made by competitors working together, and by bringing together corporate leaders to support its work. The next challenge is to ensure that this leadership is effectively transmitted throughout the organizations involved (GCP and CDP 2016).

### *Tackle deforestation through landscape or jurisdictional approaches*

Both approaches have the potential to address several challenges regarding the sourcing of sustainable forest-risk commodities. Landscape approaches aim to meet the needs of different stakeholders within a landscape by moving away from a sectoral approach to land management and by seeking to simultaneously address competing social, economic and environmental objectives. A jurisdictional approach is a type of landscape approach that uses government administrative boundaries (usually sub-national) to define the scope of action and involvement of stakeholders; this can include companies that operate in and source from the jurisdiction. An increasing number of companies are interested in exploring these approaches to sourcing commodities. For example, Unilever Plc has announced that it will prioritize commodity sourcing from areas that are pursuing comprehensive forest climate programmes under what it describes as “production protection paradigms.” This approach allows the company to improve the security of its supply chains within specific landscapes while making monitoring and verifying environmental and social impacts more straightforward, rather than monitoring each plantation individually (Unilever 2016).



### **What financial institutions can do**

#### *Increase scrutiny of companies' management of deforestation risk*

This scrutiny is growing; in 2016, for example, investor group Ceres tracked five shareholder resolutions calling for reporting around deforestation impacts (Ceres 2016). Financial institutions such as Morgan Stanley and UBS, who are signatories to CDP's forests programme, are concerned because the very real business risks involved have become more clear. Meanwhile, the value of forests and climate-smart agriculture is becoming more tangible to investors, as is illustrated by the issuance of a forest carbon bond by the World Bank in October 2016. The first bond of its kind, it raised US\$ 152 million, which will be used to prevent deforestation in emerging markets (IFC 2016).

#### *Use investments and lending to improve the sustainability of supply chains*

Financial institutions have a key and influential role to play in outlining their clear expectations and engaging with companies on these expectations to accelerate progress toward supply chains that are free of deforestation. For example, 12 banks have adopted the Soft Commodities Compact to help Consumer Goods Forum companies work towards implementing their commitments.

## What policy makers can do

### *Commit to zero deforestation at the national level*

A total of 190 governments, private-sector entities and civil organizations have endorsed the New York Declaration on Forests; it sets ambitious targets to end natural forest loss by 2030, with a 50% milestone at 2020. The Norwegian parliament has committed the government's public procurement to becoming deforestation-free, and similar commitments by other countries will send a strong signal to the private sector.



### *Work on governance through bilateral agreements*

Governments are using bilateral agreements to tackle the issue of illegal timber and are already starting to realize results. The 2016 issuance of the first EU Forest Law Enforcement Governance and Trade licences

for timber (resulting from the EU-Indonesia Voluntary Partnership Agreement) is a good example of prioritizing improvements to regulatory governance that other governments can replicate.

### *Treat REDD+ as an opportunity for national compliance with Paris and the SDGs*

REDD+ holds the potential to attract new investment, particularly from the private sector, to reduce deforestation and forest degradation. CDP data shows that companies are realizing these opportunities by examining existing supply chains to identify where REDD+ activities could add value. Treating REDD+ as an opportunity will allow governments worldwide to achieve their deforestation targets by harnessing this private-sector interest.

### *Embrace innovative public–private partnerships*

Governments can partner with the private sector to create the future we want to see through public-private partnerships such as the Tropical Forest Alliance 2020. This initiative fosters cross-sector collaboration where voluntary actions are taken by partners such as the Government of the Netherlands and companies Nestlé and Mars to reduce tropical deforestation driven by commodities.

### *Explore jurisdictional landscape approaches*

Sub-national governments can make a strong contribution to reducing deforestation, but will need to be empowered to meet their environmental goals through appropriate high-quality regulation. This will require national governmental support and avoidance of regulatory duplication or overlap.

## Conclusions

If progress is not accelerated to meet deforestation commitments, a real danger exists. Unless the pace of action steps up, as the 2020 target date for many corporate deforestation commitments approaches there is a risk that many of the issues and challenges identified by CDP's forests program remain unresolved. Voluntary action by companies can be accelerated and broadened to the necessary pace and scale if governments provide enabling policy environments. A virtuous circle can be created, where governments encourage companies to act, companies respond to policy signals and take action, and this in turn enables governments to set more ambitious time frames for reducing deforestation.

The commitment is there, the political stage is set, but too few companies grasp the extent of the risks they face — or the opportunities that exist to build more resilient businesses that also differentiate them from their competitors. The only way to meet the commitments that have been made to the world's forests — at the international, national, sub-national and corporate levels — is if all actors across the public and private sectors play their part. Sustainable development and the climate depend on it.

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## 5.2 Business unusual: aligning government, finance and corporate actions

IVO MULDER

### Introduction

Many seemingly conflicting issues are factored into the 17 Sustainable Development Goals (SDGs). On the one hand are environmental issues; some 13 million hectares of forest were lost every year from 2000 to 2010 (FAO 2010). Although the rate of net global deforestation has slowed by more than half over the past 25 years (FAO 2015), greenhouse gas emissions from agriculture, forestry and other land uses (AFOLU) make up between 20 and 24% per annum of total global emissions (IPCC 2014). Hence, in order to keep global temperature rises to below 2°C, as set out in the Paris climate agreement, it is vital to reduce emissions from land use in addition to decarbonizing the energy sector. The Convention on Biological Diversity (CBD) states that unless governments and other parties take urgent action, it will be difficult to meet the Aichi targets set in 2010 (CBD 2016).

On the other hand, there are social and development issues. For example, about 800 million people are hungry today (Delgado, Wolosin and Purvis 2015). To address food insecurity and feed the expected population of 9 billion people by 2050, food production would have to increase by 60% (FAO 2009).

It is clear that without a different way to use land — both for production and to protect ecosystems — it will be difficult, if not impossible, to meet some of these SDGs. The solution needs to include more efficient use of existing agricultural land and restoration of degraded areas to stimulate rural economic development and reduce pressure to convert more forests (Figure 1).



TO DECOUPLE DEFORESTATION FROM COMMODITY PRODUCTION, ALL STAKEHOLDERS MUST DO THEIR SHARE.

### Diversified approaches to finance

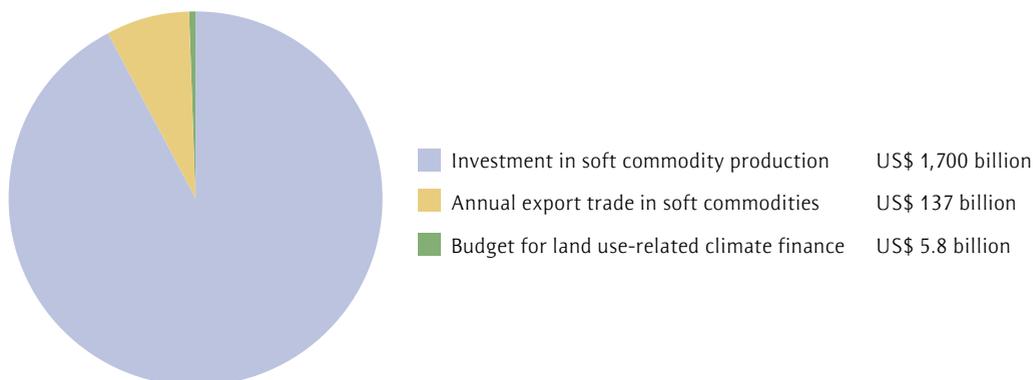
A diversified approach that includes both domestic and international and public and private finance is critical to move towards sustainably managing land that can achieve the SDGs. One incentive for developing countries to tackle deforestation and forest

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degradation is the possibility of being rewarded for verified emission reductions or removals against a baseline, called the forest reference (emission) level. Visualizing and pricing carbon increases the market value of tropical forests and stimulates the restoration of degraded land. To date, at least US\$ 10 billion has been pledged, mostly by public donors (Norman and Nakhouda 2014).

**Figure 1. Financing sustainable land use, in context**



Note: Budget data is 2014.

In addition to international public funding, there are other incentives for developing country governments and the private sector to reduce deforestation. Beyond carbon, most of the benefits of sustaining ecosystem services are accrued by the countries themselves, such as additional fuel and fodder from forests, pollination for agriculture, and attractive landscapes that draw tourists from far and wide. The United Nations Environment Programme calculated that a range of forest ecosystem services provides Zambia with a value equivalent to US\$ 957 million. This corresponds to 4.7% of the country's gross domestic product (UNEP 2015), although many of these values are currently not fully reflected in Zambia's System of National Accounts. That is not to say that these values do not provide real wealth to the Zambian society and economy. On the contrary, sustaining these services should provide national economic motivation beyond any international payments provided by donor governments to reduce deforestation and forest degradation.

Last but far from least are the impacts of finance and trade. The magnitude of private finance invested in the production of commodities that drive most deforestation around the globe is huge: in the order of US\$ 1.7 trillion. Annual trade in soft commodities related to palm oil, beef, soy and timber is around US\$ 137 billion, around half of which originates in illegally cleared land (Bregman 2016). But a growing number of consumers are putting pressure on companies to produce food with lower environmental impact. Given that around 70% of deforestation is caused by the production of palm oil, soy, beef and timber (Kissinger, Herold and de Sy 2012), there is an urgent need for companies across the agricultural value chain — producers, processors, traders and retailers — to decouple the production of such commodities from forest impacts. And their main

motivation does not need to be carbon-related, but rather based on a need to maintain (or regain) reputation and consumer confidence, and to meet more stringent requirements imposed by importing countries.

### Decoupling impact from production

At the forefront of increasing efficiency in the agricultural sector are certification programmes and initiatives that decouple production from forest impacts through corporate zero-deforestation and zero net deforestation commitments. Zero deforestation means no forest areas are cleared or converted, while zero net deforestation allows for the clearance or conversion of forests in one area as long as an equal area is replanted elsewhere (Brown and Zarin 2013). One of the platforms that drives change is the Consumer Goods Forum, an organization that includes more than four hundred consumer goods companies, with combined sales of around US\$2.6 trillion. In 2010 the forum recommended that its members achieve zero net deforestation by 2020. Another more recently established platform, which mainly includes companies at the production level, is the CEO-led private sector Global Agri-business Alliance (GAA). It aims to mitigate the impacts of climate change and sustainably manage natural capital, among other goals. Many other relevant initiatives, including the Tropical Forest Alliance 2020 and the Sustainable Trade Initiative, include companies that operate “downstream” in the food supply chain.

These initiatives have stimulated many companies to adopt zero net deforestation policies, but overall, it appears that progress is too slow to achieve the 2020 target for zero net deforestation that many (downstream) consumer goods companies have committed themselves to (GCP 2016). A recent analysis found that 25% of Consumer Goods Forum members had internalized policies and procedures that required their suppliers to provide products that did not lead to net forest loss (Bregman 2016). This means that 75% do not have such policies. In addition, only 5% of agribusiness firms that are not Consumer Goods Forum members have put such zero net deforestation policies in place. In addition, there is scarce information on the effect of the implementation of these policies on the ground in terms of combating deforestation. In 2016 in Brazil, for example, after many years of reduced forest loss, the country reported the loss of 8,000 km<sup>2</sup>, the greatest annual amount since 2008. It is clear that urgent action is required to achieve the objectives as stated by the New York Declaration on Forests: halving natural forest loss by 2020 and ending it altogether by 2030.

### Everyone must do his or her share

Achieving success in combating deforestation, climate change and biodiversity loss — while also increasing agricultural productivity and combating poverty — requires companies, government bodies and international organizations to do their share and work together as much as possible (Figure 3). Finance and technological improvements will need to be at the heart of the solution. The following five elements are especially relevant:

1. Remove deforestation from the agricultural sector.
2. Decouple deforestation from the financial sector.

3. Align domestic agricultural policies with efforts to reduce deforestation.
4. Increase international public funding for REDD+.
5. Improve transparency through technological improvements in monitoring.

### *Remove deforestation from agriculture*

This requires the stepping up of corporate policies and implementation towards zero net deforestation. As mentioned, a growing number of consumer goods companies have made such pledges, but the large majority of agribusiness firms still lack such commitments, let alone implementing them. Most companies upstream in the agribusiness supply chain lack forest policies that detail how to decouple the production of beef, soy, palm oil and other commodities from forest impacts. Retailers such as Carrefour, Walmart and others downstream in the supply chain can take concrete actions by requiring suppliers to buy products only from farms and areas that are committed to zero deforestation.

### *Decouple deforestation from finance*

Financial institutions — including institutional investors such as pension, insurance and sovereign wealth funds, banks and fund managers — need to increase their efforts to require clients and investee companies to adhere to zero net deforestation commitments and to require reporting to track progress. Financial institutions can make immediate concrete efforts, such as pledging that a certain percentage of loan and investment portfolios in agriculture, infrastructure and extractive sectors do not contribute to deforestation; and developing new loan and investment products that decouple forest impacts from the production of commodities that cause forest loss (crops, metals, minerals). An excellent example is the Production, Protection and Inclusion Fund, a new facility launched by the Sustainable Trade Initiative, the Government of Norway, UN Environment and the Global Environment Facility in collaboration with major food companies and international NGOs. It aims to trigger private investments in deforestation-free agriculture in countries by requiring strict targets on forest protection or restoration on and off concessions. It provides an opportunity for commercial banks to lend to the agricultural sector at favourable financial terms in exchange for forest protection and restoration. The fund makes this possible by taking away some of the credit risk that banks are exposed to, by taking a junior subordinate debt position, or by providing credit guarantees.



### *Align agricultural fiscal policies with deforestation*

Agricultural subsidies often vastly outweigh funding for forest conservation. Brazil and Indonesia together provided more than US\$ 40 billion in subsidies to palm oil, timber, soy, and biofuel sectors between 2009 and 2012. This is more than one hundred times greater than the US\$ 346 million these countries received through REDD+ to reduce emissions from deforestation and forest degradation, stimulate conservation and sustainable

forest management, and enhance forest carbon stocks (MacFarland, Whitley and Kissinger 2015). International climate funding may not deliver the intended outcomes unless parallel efforts focus on bringing coherence to fiscal incentive frameworks to align sustainable economic growth with food production and reduced deforestation. Governments can make efforts to coordinate analysis and action among relevant ministries, including Finance, Planning, Economic Affairs, Agriculture and Environment, to reform the estimated US\$ 200 billion in conventional agricultural subsidies that require farmers to obtain sustainability certifications for soy, palm oil, timber, etc., and stimulate yield increases on existing land or use of degraded land.

### *Increase public funding for REDD+*

Climate finance related to land use was approximately US\$ 5.8 billion in 2012–13 (Falconer et al. 2015). The International Resource Panel of UN Environment estimated in 2014 that around US\$ 30 billion in annual funding is needed to support developing countries to significantly reduce deforestation. It is crucial for governments to increase financial support to less developed nations to ensure that they will achieve their Nationally Determined Contributions under the Paris climate agreement. Concrete actions that governments can take include the provision of more long-term and predictable funding in the form of results-based payments to developing countries to reduce emissions from agriculture, forests and other land use.

### *Improve transparency*

Governments and businesses must have more reliable ways to track the origin of commodity production, and through that tracking, to advance deforestation-free production. There has been tremendous progress in recent years in the availability and use of satellite imagery to monitor deforestation and see what is happening on the ground, but commodity trade flows continue to be difficult to untangle and track (EU REDD Facility 2016). International initiatives such as Transparency for Sustainable Economies, together with national information systems to track the production, trade and import of commodities, enhances the transparency that is necessary for retailers, governments and finance institutions to know with confidence where products originate.

### **Conclusions**

Flying over Sumatra, Indonesia, in October 2014, one could hardly see the island, since it was covered in smoke and haze from peat and forest fires. The fires were set to clear land for agriculture and to produce palm oil and other commodities. These commodities are consumed domestically and are also traded on international markets and used in all sorts of products thousands of kilometres away. To address the deforestation challenge it isn't sufficient to increase the financial value of carbon through REDD+ alone. A more concerted effort is needed that includes removing deforestation from the finance sector and from agribusinesses up and down the supply chain, as well as concrete government support to make this possible.

All of that has to happen in a context in which more people will populate the planet, mostly in developing countries, with increased needs that will require producing more food and per capita economic growth. Business as usual won't work to resolve these seemingly conflicting issues. The solution will have to include making use of degraded land and enlarging food production on existing land and especially on smallholder farms, and which needs to be stimulated through subsidies and tax rebates, but also by traders and retailers as well as financial institutions along the agricultural supply chain.

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## 5.3 Implementing commitments in the Indonesian palm oil sector

PABLO PACHECO and HERU KOMARUDIN

### Introduction

Private-sector commitments to zero deforestation are a major step forward, with great potential to foster more sustainable production and consumption. But the implementation of these commitments has to confront diverse challenges, such as the ambiguity in policy processes, the politics surrounding what is desirable, and the difficulty of regulating a largely informal economy.

Expansion of crop plantations in the tropics continues to cause numerous negative social and environmental impacts, and oil palm is the most significant of the crops concerned, especially in Indonesia. This is particularly challenging, considering the legacy from policies on resource distribution that are embedded within patronage systems and the less than transparent political and policy processes associated with the questionable origins of palm oil development in Indonesia. State policies in the name of economic growth and rural modernization supported the expansion of a sector concentrated in the hands of a few large-scale companies by using policy incentives and granting state forests for conversion. These contributed to the original capital accumulation in the palm oil sector, which also benefited from a declining timber industry that was exhausting natural forests (Casson 2000).

Companies committing to zero deforestation include those that have caused much deforestation in the past, including conversion of primary forests in Sumatra and Kalimantan, which triggered social conflict by ignoring customary tenure rights (Pirard et al. 2015). But due to pressure from consumers and civil society groups, they now have the opportunity to upgrade their corporate image (Gnych, Limberg and Paoli 2015).

Indonesian palm oil sector commitments to zero deforestation have been framed more broadly as “No Deforestation, No Peat, No Exploitation.” These pledges, therefore, address a more complex goal than just halting deforestation, by also committing to no



SOLVING THE OIL PALM  
PUZZLE REQUIRES A  
COLLABORATIVE  
APPROACH.

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more plantations in peatlands, protecting local community rights, and stimulating greater social inclusion in the supply chain.

### A controversial crop with contrasting impacts

Official statistics report that after rapid expansion, there were 11 million ha of oil palm plantations in Indonesia in 2015. This has been accompanied by fervent controversy, due to the contradictory social and environmental impacts of this controversial crop (Sayer et al. 2012). Production is dominated by large-scale companies, but involves an ever larger number of smallholders, who contributed to an estimated 40% of total planted area in 2014 (Directorate General of Estates 2014). The palm oil industry generates significant earnings for the government and stimulates economic growth in rural areas, with spillover effects on the development of infrastructure and support to rural livelihoods (Edwards 2015). But large-scale plantation development has also been implicated in numerous social conflicts, and the unequal distribution of benefits remains an issue (Colchester and Chao 2013).

The crop's greatest offence is that oil palm expansion often occurs at the expense of primary and secondary forests and peatlands, and is amplified by the use of uncontrolled fire during clearance (Tacconi 2016). The result is a major loss of biodiversity and increased greenhouse gas (GHG) emissions, which certainly raises questions about when, if ever, palm oil can qualify as "carbon neutral" (Khasanah et al. 2015). The Government of Indonesia estimates that deforestation and fires account for 63% of the country's GHG emissions (Government of Indonesia 2015), but others suggest that this could be as high as 80%.

### The Indonesian palm oil sector

Major corporate groups — including Musim Mas, Wilmar, Golden Agri Resources, Asian Agri and Sime Darby — have embraced the concept of sustainable palm oil production, mainly by adhering the Roundtable on Sustainable Palm Oil (RSPO). This certification system has seen a slow but steady increase in uptake. About 21% of total global supply is now RSPO certified (RSPO 2016); this includes many older and less problematic concessions, which may limit prospects for further uptake. In addition, in order to export to biodiesel markets under the European Union's Renewable Energy Directive, producers have to obtain International Sustainability and Carbon Certification. Also, plantations are supposed to comply with Indonesian Sustainable Palm Oil (ISPO) standards, which are mandatory. ISPO was established in 2011 and based on existing Indonesian legislation, and its uptake is also slow. This has forced the original deadline for compliance to be postponed.

However, increasing pressure from civil society groups, through attacks on corporate brands and reputations, led several major consumer goods manufacturers to go above and beyond these standards and pledge to completely delink their supply chains from deforestation. Momentum began in 2010 when the Consumer Goods Forum and its

members committed to zero net deforestation by 2020. This was followed by individual and collective pledges, notably the Sustainable Palm Oil Manifesto (SPOM), the Indonesia Palm Oil Pledge (IPOP), and, in late 2014, the New York Declaration on Forests.

These private-sector commitments relied heavily on the concept of high conservation value (HCV) areas, which was already embraced by RSPO. However, there was no agreement on a definition of forests or on a methodology for designating “go” and “no-go” areas. The Steering Group of the NGO-driven High Carbon Stock (HCS) approach developed a toolkit to inform companies about suitable zero-deforestation practices, and HCS Plus, driven by the private sector, commissioned a high carbon stock study linked to SPOM. Both groups arrived at different carbon thresholds to define HCS forests, and gave different guidance on what rules to follow, but the two definitions and methodologies were aligned in late 2016.



By December 2016, 269 companies in the world had made commitments to support sustainable supply in the palm oil sector, mainly consumer goods companies,

retailers, traders and processors. Of these, 114 included zero-deforestation commitments (Forest Trends 2016), but these have yet to be fully embraced by their third-party suppliers, which are often controlled by Indonesian groups, or by a large number of smallholders.

## Implementation challenges

### *Legal barriers and government opposition*

The legality of current practices is the major constraint to implementing commitments to zero deforestation and/or achieving RSPO certification. Current laws still allow areas to be cleared for plantations if they are classified as convertible production forests whose definition is not based entirely on carbon stocks. Companies keen to set aside areas for conservation or carbon values within their concessions find that these areas are not fully recognized by Indonesian law or ISPO. Only parts of HCVs, such as riparian or threatened habitat, are recognized. However, the recently established multi-stakeholder task force to strengthen the ISPO has endorsed the legalization of a broad concept of HCVs for potential inclusion into ISPO principles and criteria, and has adopted sustainability principles endorsed by the Council of Palm Oil Producer Countries.

In 2014 the five most influential palm oil corporate groups in the country signed the Indonesia Palm Oil Pledge (IPOP) and established a secretariat to implement their commitments. The pledge aimed to harmonize commitments with existing regulations, embracing a comprehensive agenda for enhancing traceability, improving the image of Indonesian palm oil, and supporting smallholder inclusion. This broad agenda surpassed the capacity of IPOP, however, and intruded on the role of the national government, who

strongly opposed the pledge, branding it a cartel that violated competition laws. The government also argued that IPOP's zero-deforestation commitments actively excluded smallholders and SMEs from global markets. IPOP was disbanded in June 2016 after a tense relationship with the government, which eventually imposed state views on oil palm over those of private corporations.

In addition, the government chose to prioritize peatland restoration and fire prevention, and new regulations outlaw oil palm plantations on burned areas in addition to the existing moratorium on primary forests and peatlands. However, the government is also working on a law to protect the economic importance of oil palm, which makes its commitments somewhat ambiguous.

### *Moral and economic dilemmas*

Zero-deforestation commitments have exposed two dilemmas. The first is moral, with the desirable goal of halting deforestation a possible constraint to maintaining or increasing smallholder livelihood opportunities from oil palm production. The second is economic: preventing the negative environmental impacts of oil palm expansion while not jeopardizing the potential to support economic growth and poverty reduction.

The social exclusion argument was used to oppose zero-deforestation, arguing that it would exclude smallholders from supply chains controlled by the companies that embrace such commitments and reduce the opportunities for oil palm to contribute to rural poverty alleviation goals. A complementary discussion was how to reduce the significant yield differences between smallholders and company plantation; although some companies are making progress, they are not fully supported by government actions.

In July 2015 the Indonesian government launched the Crude Palm Oil (CPO) fund. Fed by a levy on palm oil exports, the fund is used to subsidize biodiesel production and support intensification of smallholder oil palm production. The government claims that this has resulted in reduced GHG emissions and has cut the country's dependency on fossil fuel, but it is unclear how this is linked to goals associated with avoided or reduced deforestation in oil palm plantations. In addition, very little of the CPO fund has actually been distributed to smallholder farmers so far, being constrained by their unclear legal tenure. Current policies are not effectively linked to incentive policies, and it remains unclear how the issue of tenure rights will be resolved.

### *Regulating informal relations*

Major corporate groups have made considerable progress in the traceability of supplies from mills to refineries, and from plantations to mills, but more work is needed to put systems in place that trace supplies from independent mills. These mills purchase from



an extended network of intermediaries, who in turn source from many tens, hundreds or thousands of small smallholders, often through informal relations.

Implementation of zero-deforestation commitments has made evident the clash between the formal industrial palm oil sector and the large informal smallholder economy. Tenure and finance are strongly shaped by informal local transactions. For example, in many



cases, local elites with access to political power benefit from allocating land permits or from stimulating informal and speculative land transactions fuelled by oil palm expansion. Many smallholders have no formal access to land, and lack clear rights when they illegally encroach on state forests. They make use of informal financing from local banks via intermediaries, and the state has proven that it is unable to regulate the informal economy.

The persistence of the informal economy creates significant challenges for corporations that attempt to implement traceability systems involving independent smallholders. Smallholders lack formal claims to land and cannot access public funding and incentives, which hinders compliance with sustainability standards, threatening to further alienate smallholders from the formal (sustainable) economy.

### Potential and risks

Zero-deforestation commitments create an important incentive to invest in more efficient use of inputs, intensification, and improvements in plantation environmental management. These commitments may also include upgrading smallholder production systems, and expanding plantation development into degraded or low-carbon land, which helps to meet national emission reduction targets under Indonesia's Intended Nationally Determined Contribution.

Intrusion of large-scale producers into communally- or smallholder-owned degraded land also carries risks, as it could lead to increased social conflicts. But the main risk is excluding smallholders who cannot meet, or report on, stringent zero-deforestation standards because of unresolved legal issues and capacity constraints. This would result in fragmentation into "green" (clean) and "brown" (dirty) supply chains, and prompt leakage as suppliers might target less demanding markets. Of primary concern to the national and regional government — along with many local governments — is the potential risk of slowing development, since so much hope for rural economic growth is associated with the development of plantations, of which oil palm is currently the preferred choice.

## Conclusions

Overcoming the challenges that face the future of zero-deforestation requires harmonizing perspectives from the private and public sectors to navigate the politics around the moral and economic dilemmas, and tackling the deep roots of the informal economy. Commitments to achieving deforestation-free supply chains have the potential to improve the smallholder supply base while reducing pressure on forests and peatlands, but only if they are synchronized with state actions and are complemented by policies that penalize illegal expansion on forests and peatlands.

The government's main issue is how to regulate the industry so that it supports smallholder and medium-scale producers under credible and enforceable national governance standards. Furthermore, it needs to do so while also reducing yield gaps, given the lack of access to capital and training, and while increasing human resources to enforce such standards. At the same time, the government must maintain its competitive edge in international markets, part of which is related to the credibility of mandatory standards, so that the industry can continue to contribute to national fiscal earnings and associated economic spillover benefits.

The private sector must continue to respond to pressure from civil society and buyer demands if it is to maintain its market share, but it must do so in a way that doesn't risk losing third-party suppliers. Businesses can do this while making a profit, finding investments to upgrade their value chains, and improving production efficiency and supply chain design and management. But, ultimately, they must protect their position in the market without risking any chance to expand their plantations. Third-party suppliers and smallholders also face multiple challenges, many of which they are unprepared for.

Solving the oil palm puzzle requires a collaborative approach that brings together public and private initiatives. Neither public regulation nor private commitments should dictate the rules of the game. The private sector must do what it does best — invest and innovate to improve efficiency and increase profits — while the government must look to protect wider national interests and natural capital.

In summary, five points are important:

- Oil palm is a controversial crop due to contradictory impacts associated with its expansion.
- Zero-deforestation pledges were easily embraced, but with little clarity on implementation.
- Strong political disputes on which rules to follow have added confusion to the process.
- Several challenges make it difficult to implement private-sector commitments.
- Overcoming obstacles requires collaboration between private- and public-sector actors.

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## 5.4 Wood-based incentive mechanisms for green growth

GERHARD DIETERLE

### Introduction

The forestry sector has tremendous potential for climate change mitigation and economic development. Forests provide ecosystem services and regulate climate processes through their role in the water and carbon cycles. If managed sustainably, afforestation, reforestation and management of forest commodity production can over time provide efficient and low-carbon opportunities for economic development and create additional income for households in developing countries. Harvested wood products also have huge potential for contributing to climate change mitigation through substitution of non-renewable materials and energy, and by providing efficient and low-cost carbon storage.

The mitigation benefits of wood products include the direct substitution of fossil fuels by renewable, forest-based energy sources such as fuelwood, charcoal and wood chips. Wood products can also substitute for energy-intensive and non-renewable construction materials and consumer products made from metal, concrete, etc. Using more wood this way would also add to the carbon stored in durable, long-lived wood products such as furniture and construction timber, although this is not yet appropriately recognized and accounted for. The forestry sector also offers opportunities for increasing economic resilience. Recent research findings indicate that the overall mitigation potential of the combined forest management and sustainable use options of wood products could amount to up to 8 GtCO<sub>2</sub> in 2050, which would be a significant contribution to closing the global mitigation gap (Oliver et al. 2014; Galbert et al. 2013).



WE MUST ABANDON THE ARTIFICIAL SEPARATION BETWEEN DEVELOPMENT FINANCE AND CLIMATE FINANCE.

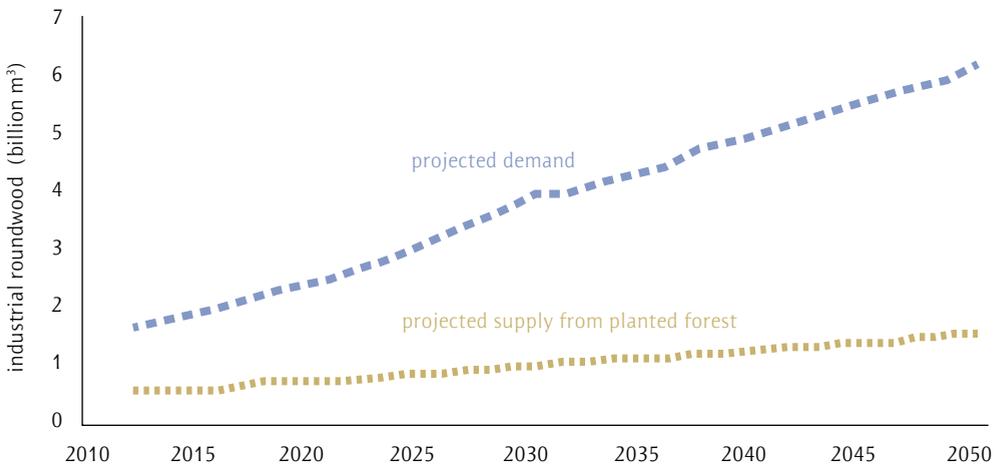
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## Increasing demand–supply gaps

Significant gaps between the demand and supply of timber products are expected to rise (Figure 1). At the same time, research evidence suggests that sustainably managed forests and supply chains offer the promise of climate change mitigation and adaptation, environmental benefits, food security and sustainable growth potential. However, sustainable management practices and productive supply chains within forests are still underdeveloped for a number of reasons. Growing populations are adding pressure to forests, contributing to continued degradation from the rapidly increasing supply gap, and a lack of infrastructure and forestry knowledge further hampers the forest sector in many developing countries. Also, poor governance favours informality and illegal logging and trade. This undercuts the economic gains from legal forestry operations and widens the gap between supply and demand for wood products.

**Figure 1. Projections of industrial roundwood demand and supply, 2010–50**



Source: Indufor (2012).

## Case study methodology

The objective of this article was to quantify the potential for climate change mitigation and green growth in six tropical forest countries that are engaged in forest development, climate policy and investment processes: Ethiopia, Colombia, Mexico, Mozambique, Peru and Vietnam. These are also countries that depend heavily on the continued supply of wood products. To estimate the potential mitigation effects from forest-based supply chains in each country, a green growth scenario was developed, envisioning future demand for wood products being met by increasing domestic production. The term “green growth” is used in as a proposed scenario that aligns economic growth with environmental benefits by increasing the use of environmentally sustainable investments.

Demand for wood products in 2040 — including industrial roundwood, sawn wood, wood-based panels, paper and paperboard — was estimated using a simple modelling approach

based on historical patterns, reasonable future policy targets, and World Bank indicators for demographic and economic development. Demand was extrapolated using trend parameters, independently of any supply considerations. The basic assumption in the green growth scenario was that domestic forestry sectors would meet increased demand for roundwood in 2040 by increasing domestic production from productive forests.

Mitigation potential was calculated based on volumes consumed and areas needed under the green growth scenario. Mitigation effects for both wood products and supplementary forest resources were estimated using a stock change approach, following guidelines from the Intergovernmental Panel on Climate Change (IPCC), which was simplified to suit the study focus and structure. Additional mitigation benefits were estimated for avoidable emissions in the construction sector by using wood products, rather than other materials such as brick, steel or concrete, to fill the supply gap. Substitution effects were calculated with a factor derived from a meta-analysis of German timber markets; for each additional 4 m<sup>3</sup> of timber used (equivalent to 1 tonne of carbon), 1.5 tonnes of carbon emissions (5.5 tCO<sub>2</sub>) are avoided (Knauf et al. 2015).

Carbon stocks and annual changes in wood product pools until 2040 were estimated based on IPCC default values, following an equation that factored in yearly inflows and rates of decay for each wood product category. To address the complexity over the six countries, only certain wood products and no fuelwood supply chains were considered. In addition, sample business cases were developed that demonstrated the potential investments that public and private actors can make to support the sector. These samples used country-specific data to estimate investment costs, productivity, revenues, and social and environmental benefits. The business cases also consider investment barriers in each country and how donors can help overcome them and catalyze private-sector investment.

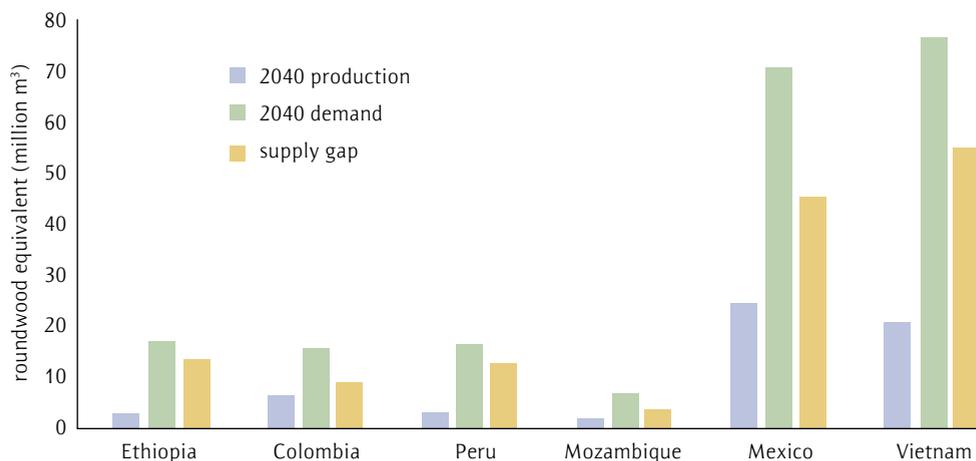
### Analysis of supply and demand

Results projected that Ethiopia's demand for wood products will grow from 4.1 to 16.7 million m<sup>3</sup> between 2013 and 2040; this could be addressed by establishing an additional 750,000 ha of managed productive forests. Projections for Colombia suggest that roundwood demand in 2040 will be 15.2 million m<sup>3</sup>, compared to national production of 6.5 million m<sup>3</sup> in 2014; this requires an increase in productive forest area of 480,000 ha to close the anticipated gap. In Peru, production for the domestic market will require 15.6 million m<sup>3</sup> of industrial roundwood in 2040, more than five times the amount in 2014, creating the need for 420,000 extra ha of productive forests. Mexico's consumption is projected to be 70 million m<sup>3</sup> in 2040, resulting in a potential gap in roundwood supply of 45 million m<sup>3</sup> and a need to plant an additional 2.6 million ha of managed productive forests. Vietnam's projected demand for wood products is expected to almost triple, from



27 to 75 million m<sup>3</sup> between 2014 and 2040, resulting in a gap in roundwood supply of 54 million m<sup>3</sup> that would require planting additional 3.1 million ha. In Mozambique, between the same years, demand for wood projects is expected to rise from 2.5 to 6.4 million m<sup>3</sup>, leading to supply gap of 3.7 million m<sup>3</sup> by 2040, requiring the planting of 177,000 ha of productive forest if this demand is to be met by domestic supply (see Figure 2).

**Figure 2. Projected gap in roundwood supply gap in 2040 under current conditions**



Source: World Bank 2017

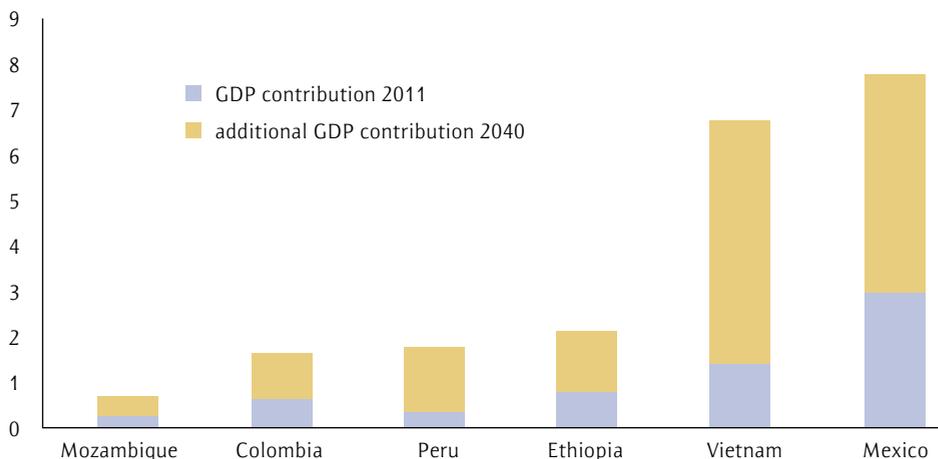
### Climate mitigation and green growth potential

Under the green growth scenario assumed in this study, supply gaps would be met by increasing domestic production, and achieving this would have significant climate change mitigation benefits. Of the six case study countries, Vietnam has the largest mitigation potential, followed by Mexico and Ethiopia, and wood product substitution offers the greatest benefits. Sources of carbon sequestration potential differ by country; Vietnam offers the most mitigation through sawn wood, while in Ethiopia and Mozambique this mitigation is achieved through industrial roundwood. The mitigation potential from pulp and paper products is marginal compared to other wood products. These products play an important role in some countries, but land prices, site conditions and poor infrastructure reduce profitability in others. Mexico, for example, is unlikely to be able to establish the necessary area of profitable short-rotation plantations to support needed growth in the pulp and paper sector, although inadequate information about the availability of alternative fibres (e.g., from agriculture) and recycling techniques make it difficult to thoroughly quantify this subsector.

Beyond the potential to address climate change, investing in wood products can help countries bolster their economies through increased employment and GDP (Figure 3) of the forestry sector under the green growth scenario. All countries show significant potential to boost economic growth through supporting the forestry sector. Vietnam and

Mexico would experience the greatest increases in forestry-related GDP and employment. Although Mozambique has the smallest absolute gain, relative GDP growth would still be significant.

**Figure 3. GDP contribution (US\$ billion) of green growth scenario, 2011 and 2040**



Source: World Bank 2017.

### Maximizing growth

To realize this potential, governments must improve their measures for growth in wood products through economic policy reforms, and strengthen law enforcement, governance and incentives related to the forestry and wood-product sector. Governments should also attract more private investment by identifying and promoting specific opportunities, and by supporting procurement policies that promote the use of wood products in construction. International development partners can make an important contribution by reducing non-financial barriers to scaling up wood product production through four key areas.

1. Offering technical assistance to improve the technical and management capacity in the forestry and wood processing sectors.
2. Improving access to market information through developing regional dialogues with producers, federations, buyers, processors and financial intermediaries, in order to reduce uncertainty surrounding investments in productive forests and processing industries.
3. Providing dedicated funds for market and feasibility studies to develop and demonstrate the feasibility of wood product business models, and offering business development support to forest management and processing companies to improve their bankability for private investors.
4. Supplying targeted finance to concessions to reduce credit risk and attract private investment.

## Innovative incentive mechanisms

Learning from the experience of encouraging current initiatives, it is clear that more effective tools are needed to provide an enabling context for investment. The elements of the tools could build on the benefits of sustainable forest and landscape use that lead to responsibly produced commodities. Such incentives need to be efficient and catalytic if they are to achieve lasting benefits for development and climate change. They should involve enterprises of all sizes, foster demand from green consumer markets, and improve the governance and transparency of public sector efforts.

Fiscal and tax incentives are important elements, not only for private sector companies, but also for smallholders and their communities, since such incentives help them participate in commitments and certification. One option would be to leverage REDD+ and relevant development funding to compensate participating governments for the costs associated with implementing such financial incentives. The experiences of existing commodity or climate-smart agriculture roundtables with initiatives that promote deforestation-free commodities underline the need for a change in mind-set, in order to effectively complement current supply-driven approaches. For example, REDD+ efforts can be strengthened from the demand side by promoting sustainable products and value chains. Similar approaches can also be applied with efforts in landscape restoration, but it is not clear how products from restored landscapes should be classified. To be effective, such approaches would depend on active support for capacity building.

## Conclusions

Increasing the supply of harvested wood products to meet future demand — through afforestation, reforestation, landscape restoration, sustainable forest management, and rational use of resources — would have many social and economic benefits. These include GDP growth and increased rural employment as well as climate change mitigation and associated environmental impacts. The projected demand supports a strong business case

that should encourage investment in productive forests and processing industries. If expected private-sector investments are realized, wood products are expected to contribute significantly to achieving Nationally Determined Contributions regarding the reduction in greenhouse gas emissions.

The six study countries combined could sequester more than 150 million tonnes of CO<sub>2</sub>e through the increased production and use of wood products. Failure to do so would undermine the opportunities for many countries to meet their national emissions targets. Sustainable

production will also help reduce pressure on protected forests and biodiversity conservation and contribute to REDD+ objectives. In addition, voluntary country commitments for forest landscape restoration, as a part of the Bonn Challenge, are fully compatible with and even dependent on sustainable use. Moving toward the increased use of wood in



construction and away from non-renewable materials such as brick, concrete and metal is probably the single most effective means of meeting these commitments. Although rural areas are important for wood production, growing infrastructure demands in cities will affect the demand and long-term green growth potential of the forestry sector.

The increased production and use of wood products is in line with existing international climate and development goals. The findings in this article provide a strong rationale for abandoning the artificial separation between development finance and climate finance. Instead, efforts should favour an integrated and holistic approach that incorporates upstream analytical tools, investment in physical assets, downstream performance-based finance (ex-ante proxy indicators), and performance-based payments (ex-post carbon indicators). This is also indicated in the draft REDD+ strategy of the Green Climate Fund. Unleashing the full potential of productive forests for green growth will depend very much on the capacity of different countries and the demand of their people on forests. It also requires a fundamental change in the way that those involved think about these issues and their resolution.

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## The key role of tenure arrangements

Many companies have made commitments to meet environmental safeguards and standards established to achieve supply chains that are free of deforestation. The Tropical Forest Alliance 2020 aims to help realize these commitments through dedicated public-private collaborations. Among its key areas of work, it seeks to address land tenure, agricultural land use, and landscape-level planning and management. The relationship between deforestation and tenure of land and natural resources within specific commodity supply chains remains an under-examined area of analysis and programming. What role does tenure insecurity play in driving deforestation? How can strengthening tenure security provide an enabling framework? What type of public-private collaborative approaches can improve tenure conditions? Does achieving reduced deforestation through tenure improve supply chain tracking and transparency?



The dynamics of land and natural resource tenure within commodity supply chains are varied. Very often, manufacturers and traders source commodities from producers on land that they do not know much about, let alone own or lease. Besides large-scale plantations, commodities are often sourced by companies from independent smallholders, those who are part of outgrower schemes, or a combination of these. All too often, sourcing or processing companies are not knowledgeable about the tenure conditions within their areas of operation. There is a strong need to build an empirically grounded understanding of the specific role of tenure — laws, policies, governance institutions, and rules and practices — to identify its particular effects. Secure tenure arrangements can create incentives for investing the time, labour and knowledge needed to make the transition to sustainability. Understanding tenure arrangements can help to support the development of appropriate tools and guidance that are adapted for local producers, supply chain companies and government bodies, to support the transition.

Examples include USAID's Tenure and Global Climate Change Program, which implements projects to understand and address tenure conditions within cocoa and beef supply chains, and Winrock International, which work with the private sector in Ghana's cocoa sector to improve customary land and tree tenure within smallholder cocoa farms in order to decelerate the continued conversion and degradation of old-growth forests. The World Resources Institute is seeking to reduce high deforestation levels within cattle ranching operations in the Paraguayan Chaco by drawing on lessons from tenure regularization in the Brazilian Amazon, and is supporting greater understanding of and accountability for the link between deforestation and land tenure risk in supply chains. Through these and related initiatives, it is hoped that the crucial importance of tenure in achieving zero-deforestation, along with the means to ensure that best practices are adopted, will be highlighted. For further information, see USAID's *Land Rights Matter*: [www.land-links.org](http://www.land-links.org).

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## 5.5 Corporate deforestation pledges: five risks and seven opportunities

DANIEL NEPSTAD, JOHN WATTS, JOKO ARIF, SILVIA IRAWAN and JOÃO SHIMADA

### Introduction

Corporate zero-deforestation pledges have been the source of considerable enthusiasm in recent years. They could provide important market reinforcement for the many policies and programmes established by tropical nations and sub-national governments to slow deforestation. They could also lead to unintended consequences, however.

Deforestation commitments have been made by more than 300 major companies that buy large volumes of commodities whose production can drive tropical deforestation (Forest Trends 2015). The logic of these pledges is quite simple. When companies announce that they will no longer buy products that are associated with tropical deforestation, farmers and businesses that grow and sell these commodities will no longer cut down trees. If enough companies come forward with these commitments, as has happened for palm oil, then it is possible to imagine entire markets for a particular commodity excluding farmers and companies who continue to clear forests.



CORPORATIONS SHOULD COLLABORATE WITH THE FARM SECTORS AND LOCAL GOVERNMENTS OF THEIR SUPPLY REGIONS.

It is essential that these pledges succeed. But as with any proposal for slowing tropical deforestation in dynamic agricultural frontiers where the rule of law is often weak and land grabbing prevails, the details are important. Corporate zero-deforestation pledges are an important opportunity to reinforce the development and implementation of effective governance, public policies and programmes designed to slow deforestation and foster sustainable development (Nepstad et al. 2014). This positive influence is by no means assured, however, and there are risks that deserve special consideration.

This article builds on previous work on this topic (Pacheco 2015; Pirard et al. 2015; Rainforest Alliance 2015) by discussing case studies from Indonesia and Brazil that

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highlight the fragility of these commitments in both their durability, their ability to ensure reductions in deforestation rates and their potential negative outcomes.

## Five risks

### 1. *Splitting the market*

One way for a company to meet its deforestation pledge is by distancing itself from the problem; i.e., pulling out of regions where deforestation is taking place. Companies are already choosing not to buy commodities from, or make investments in, regions with deforestation. For example, in 2006, McDonald's Brazilian branch (*Arco Dourado*) decided to end its sourcing of beef and soy grown in the Brazilian Amazon region in response to NGO campaigns (Kaufman 2007). But when companies vulnerable to reputational risks pull out of a region, others less committed to sustainability are ready to step in, and will face less competition. The net effect could be a split market, with responsible companies moving away from areas of active deforestation; this could result in an increase in tropical forest clearance.

### 2. *Deepening rural food insecurity and poverty*

Indigenous people and other smallholders throughout the tropics overcome low soil fertility and crop pests by clearing and burning patches of forest, then planting crops in the ash-enriched earth. These swidden agricultural systems can be sustainable and carbon neutral if fallow periods are long enough, but farmers who engage in this practice may be excluded from a potentially lucrative new form of revenue from growing commodities



because they are clearing forests (Greenpeace 2014). Smallholders can also be excluded from supply chains because they are difficult to monitor. For example, with small volumes of production, many more small farms are needed to supply commercial volumes of palm oil. This increases the costs of deforestation monitoring. Smallholder farm boundaries are often not clear and informally designated, with little data or information about them. Just as companies with zero-deforestation commitments may move away from areas of active deforestation, companies may also shift their procurement strategies away from smallholders. By October

2015, smallholder oil palm farmers in Indonesia had reported difficulties in selling their produce to companies who had made zero-deforestation commitments.

### 3. *Penalizing farmers and farm businesses who are striving to comply with the law*

Some companies make commitments without considering the laws, public policies and regulations for forest clearing in the tropical forest regions they buy from. This means that they may inadvertently penalize farmers and businesses who are striving to comply with the law. In Mato Grosso, Brazil, for example, there are 7 million ha of forests that can be legally cleared for agricultural expansion. If farmers and businesses lose their legal right to clear these forests, the future value of their properties will decline by several

billion dollars (Stickler et al. 2013), and there is currently no viable mechanism to compensate farmers who forego their legal right to clear forests on their land. This is one reason why few farmers have supported the soy moratorium. It imposes a restriction on forest clearing on private land that is more onerous than the Forest Code, and provides no compensation to law-abiding farmers for the opportunity costs associated with it.

#### *4. Antagonizing governments and farmers in target regions*

Corporate commitments to zero deforestation can trigger negative reactions from governments, farmers and other groups where deforestation is taking place. Government agencies responsible for law enforcement, public policies, economic development, rural extension and agricultural credit are critically important actors in the fight against deforestation. If they are not engaged in the dialogue, they can become opponents. A unilaterally announced commitment without discussion with key stakeholders is tantamount to defining forest cover goals without talking to those on the ground. Many nations have policies that discourage land grabbing and encourage the productive use of rural land that use forest cover as a metric for

“unproductive use.” In Brazil and Indonesia, a private landholding or concession can be lost if it is kept in forest cover above the legal mandate. Commitments that are not well aligned with policies have little likelihood of success. In Indonesia, palm oil companies are operating in state lands allocated to them through concessions that are zoned for conversion to agriculture, and are expected to use land according to government designations and regulations. If the concept of zero deforestation proposed by a company is different than the government’s, it is unlikely that the commitment will be supported.



#### *5. Companies creating too many new rules and requirements*

Implementing performance criteria across tens of thousands of farms is difficult and costly. Reliable traceability and monitoring systems, third-party audits, and systems for reporting and responding to grievances are essential features of farm-by-farm or mill-by-mill performance systems that each company that makes a commitment must put in place. The proliferation of individual company rules and requirements that are passed along to processors and farmers increases the risk of failure.

#### **Seven opportunities**

Some companies have already embraced ways of mitigating such risks. The key conceptual shift is from a corporate risk management approach — in which companies seek to distance themselves from the problem — to a sustainable development approach, where companies become part of the solution. This forms the basis of a jurisdictional approach (Earth Innovation Institute 2017) to sustainable development, such as the territorial performance systems being implemented in Mato Grosso, Brazil (Box 1), Central Kalimantan, Indonesia (Box 2), and other regions (Nepstad et al. 2015).

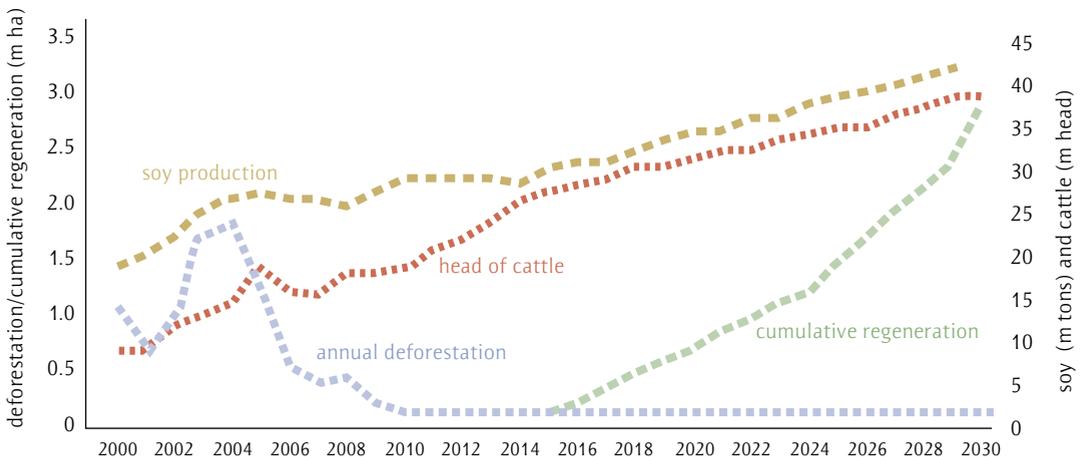
**Box 1. Reducing deforestation in Mato Grosso, Brazil**

The giant Brazilian state of Mato Grosso, more than twice the size of Germany, has launched the bold Produce, Conserve, Include plan. The plan aims to reduce deforestation, reestablish critical forests along streams and rivers, support small-holder farmers through technical assistance, increase the production of soy, beef and wood products, end illegal deforestation, and reestablish new forests (see Figure 1). If it succeeds, it will keep four million tonnes of CO<sub>2</sub> out of the atmosphere by 2030. The plan's chances of success have increased with the collaboration of companies that have pledged their support. The Brazilian soy conglomerate Grupo Amaggi, one of Brazil's largest meat processing companies, Marfrig, and the Norwegian food and feed industries, led by Denofa, have already stated their support. A formal multi-stakeholder governance structure has been established, and rules for a possible large-scale sustainable soy sourcing agreement between China and Mato Grosso are being investigated.

*1. Support roundtables and other international certification standards*

The Roundtable on Sustainable Palm Oil (RSPO), Roundtable on Responsible Soy (RTRS), Better Sugar Initiative (Bonsucro), and other international certification standards have developed rules and systems for measuring success, reporting, and for responding to grievances. Memberships are large and include businesses and farm organizations that are key to the success of deforestation strategies. They are also evolving to achieve greater impact. In 2015, for example, RSPO launched three pilot projects for the jurisdictional certification of palm oil production; i.e., certification across entire districts and states.

**Figure 1. Goals of the Produce, Conserve, Include plan, Mato Grosso, Brazil**



## *2. Collaborate with regional governments and farmer organizations*

Companies can lower implementation costs and increase the impacts of their deforestation pledges through partnerships with producer organizations and governments within commodity sourcing regions. This helps avoid rejection of deforestation pledges, while building a shared and locally owned agenda for addressing deforestation and other sustainability issues. Cargill's recent forest policy, the Norwegian Feed and Food Companies' sustainability commitment, and Unilever's sustainability strategy are important examples of corporate commitments to such partnerships. There are excellent platforms for building these partnerships, including the Governors' Climate and Forests task force (GCF). The 35 states and provinces that make up its membership, many in Indonesia, Brazil and Peru, include about one third of the world's tropical forests. The GCF recently launched the Rio Branco Declaration, which commits members to an 80% reduction in deforestation by 2020.

### **Box 2. A jurisdictional approach in Central Kalimantan, Indonesia**

On 17 November 2015, a Memorandum of Understanding was signed by the government of Seruyan District, Central Kalimantan, the provincial government, and the Indonesian Palm Oil Pledge (IPOP). This was the first formal public-private partnership involving the provincial and district government to promote sustainable palm oil production in Indonesia. It aimed to ensure that all palm oil produced and processed in the district would be certified as sustainable. Seruyan District covers 1.6 million ha, with 200,000 ha of oil palm plantations of which smallholders own 15,000 ha. Through this jurisdictional approach to certification, the government of Seruyan would implement a model of rural development to improve the welfare of the rural poor, reduce deforestation, and recognize the rights of indigenous people. This initiative was followed in April 2016 by the government of the neighbouring Kotawaringin Barat District; it signed an MOU with the provincial government and Unilever. These public-private partnerships have endured, although the IPOP was dissolved in September 2016 (Vit 2016).

## *3. Participate in processes that develop regional definitions for addressing deforestation*

An important aspect of a more respectful, nuanced approach to deforestation is a commitment to participate in regional processes whereby the main sectors and stakeholders identify key issues, targets and milestones to define success. Companies can offer positive market signals to strengthen these processes, and their participation and support also provides political cover to governments that are preparing to establish formal sustainable development targets.

#### *4. Help develop positive incentive systems for supporting the transition to sustainable production systems and for compensating for lost land revenues*

Brazil has demonstrated that it is possible to slow deforestation across a large region (the Brazilian Amazon) through command-and-control measures. It has also revealed the fragility of this approach if it is not accompanied by positive incentives to establish agricultural systems that are less dependent on deforestation. Companies are well positioned to send immediate, positive incentives to farmers who make the transition to low- or no-deforestation production systems. This includes help in mapping and titling community or smallholder lands, investments in high-quality production systems, long-term purchase agreements, and better contractual terms. Also, companies may be better positioned than government agencies to provide technical assistance to smallholders.

#### *5. Contribute to the development of monitoring systems*

Reliable monitoring systems are essential to the success of regional approaches to deforestation and other dimensions of sustainable development. Monitoring allows companies to gauge how well they are meeting deforestation targets, and it facilitates the creation of regional incentive systems based on performance. For example, Brazil's annual publication and dissemination of data on deforestation patches for the Amazon region has been central to the success of policy interventions that reduced deforestation rates.

#### *6. Participate in multi-stakeholder governance structures*

Once goals, incentive systems and monitoring systems are in place, a governance structure is needed to drive implementation of the jurisdictional plan; it must also allow for key decisions and adjustments as new issues arise. This structure must include representation from key stakeholders, governments, farmers, commodity-buying businesses, indigenous peoples, and civil society.

#### *7. Be patient*

Governments may have limited capacity for or initial interest in supporting regional sustainable development agendas. In these situations, companies should first seek local actors — farmer organizations, cooperatives, NGOs and local companies — who could become partners in developing strategies for regional, low-deforestation sustainable development.

### **Conclusions**

Corporate zero-deforestation pledges are most successful if they are implemented with full understanding of both their potential and the risks. Risks include splitting the market, deepening rural food insecurity and poverty, penalizing farmers and farm businesses who strive to comply with the law, and antagonizing governments and farmers in target regions. Commitments are most effective if they are developed and implemented collaboratively — instead of unilaterally — through partnerships with farmers and local governments, and if they support sustainability certification systems such as RSPO and

RTRS, instead of trying to replace them. Companies can also help develop the monitoring and incentive systems that are essential elements of regional strategies for slowing deforestation.

Corporate deforestation pledges have sent a powerful signal to farmers and local governments in tropical forest provinces, states and nations: clear forests and you may be shut out of markets. Now, a second message is urgently needed from these same corporations: be ready to work together to achieve sustainable, equitable development. Some have already made this transition.

### Acknowledgements

This paper was made possible with funding from NORAD, the Gordon and Betty Moore Foundation, and the Grantham Foundation. It is a product of the Forests, Farms and Finance Initiative. Thanks for significant inputs go to Earth Innovation Institute deputy director David McGrath, research associates and scientists, Tathiana Bezerra, Claudia Stickler and Briana Swette, all based in San Francisco, USA, and the Colombia National Coordinator, Maria Teresa Becerra.

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## Ten elements for deforestation-free company policies on agro-commodities

Companies can mix and apply these recommendations in tailor-made policies.

1. **Identify your impacts and leverage.** How much soy, palm oil, cacao, coffee, etc., does your company use and what risks are involved? Guidance to map supply chain risks includes a Natural Capital Protocol. In known high-risk chains or areas, recommendations #2 and #3 could be applied immediately.
2. **Adopt quality standard systems.** Such systems have inclusive principles and criteria and robust governance and verification. Include quality standards in company guidelines, preferably standards in the ISEAL global movement ([www.isealliance.org](http://www.isealliance.org)), and use them in combination with special attention to high-risk items. Verifying only some elements (such as no deforestation) is not a responsible option.
3. **Pay the right price and create volume.** End customers ultimately have to pay the price for sustainable production, including the (often hardly noticeable) additional costs of certification. Help create volume in the market for responsible products.
4. **Support stronger natural capital protection.** Moratoria can be effective measures, but they do not prevent expansion into other vulnerable zones, and additional steps are required before they can be safely lifted. Permanent legal protection of high conservation value areas is preferred. Companies can support private reserves or strengthen existing conservation initiatives.
5. **Identify where to make a difference.** Responsible companies that source only from low-risk zones may not make sufficient changes in high-risk areas. In those areas, companies could possibly support farmers to meet sustainability requirements by providing compensatory payments for conservation. Companies can also support forest regeneration and can establish and maintain wildlife corridors.
6. **Monitor compliance.** Support independent field monitoring of deforestation and conversion at the landscape level, and promote corrective actions. Putting pressure on suppliers to respect the law and high conservation value areas is important, and applying quality standards (see #2) that include regular audits can support compliance at the farm level.
7. **Invest in “smart” production solutions.** Companies can promote integrated, climate-smart land use, e.g., using the waste products from one type of land use as inputs in another, or using the interest on investment funds to help farmers maintain forest cover and improve long-term productivity.
8. **Promote resource efficiency.** Avoiding food and energy waste in value chains makes a real difference. Think innovatively, explore “cascading” options for raw material use, and invest in “landless” alternatives for producing, food, feed, fuel and other products.
9. **Communicate.** Tell suppliers and partners when you expect them to take action and how you can help them achieve it. Good examples of “through-the-chain” communication are given in *Assessing and managing environmental and social risks in an agro-commodity supply chain: Good practice Handbook* (International Finance Corporation 2013).
10. **Reach out.** Share lessons learned, build coalitions and become an example to others!

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## 5.6 Scaling up deforestation-free production and trade with jurisdictions

THOMAS SEMBRES, ALESSANDRO TREVISAN, TOBY GARDNER, JAVIER GODAR, SARAH LAKE and NIKI MARDAS

### Introduction

Agricultural commodities move along complex supply chains, exposing thousands of public and private institutions worldwide to the risks of unsustainable land-use practices and deforestation. A handful of forest-risk commodities — including palm oil, beef, soy, and pulp and paper — account for more than 70% of all deforestation in tropical forests (WRI 2015). This article outlines steps to facilitate the wider implementation of deforestation-free commitments at the jurisdictional level. A jurisdiction is understood here as the geographical area corresponding to a political authority, such as countries and their sub-national administrative provinces, districts, municipalities and other areas.

An unprecedented number of companies have made corporate commitments to remove commodity-driven deforestation from their supply chains. By 2016, hundreds of companies with a total market value of over €3.5 trillion had joined the Consumer Goods Forum, which is committed to achieving zero net deforestation in major supply chains by 2020. The actions of civil society organizations, increasing consumer awareness and corporate leadership are vital in establishing zero deforestation as a new global business norm. However, recent data indicates that the implementation of such commitments is slower and more difficult than expected (Rautner et al. 2015).

In particular, deforestation-free commodity production is hindered by weak law enforcement, lack of land-use planning, and insufficient monitoring (Streck and Lee 2016). Deforestation caused by the production of globally-traded commodities shows no clear sign of diminishing (Kissinger, Herold and de Sy 2012; Hansen et al. 2013).

To improve this situation, governments in both consumer and producer countries have also stated their intentions to stop deforestation in major commodity supply chains (New York Declaration on Forests 2014; Amsterdam Declaration 2015). In 2008, the European



INNOVATIVE ANALYSIS OF  
TRADE, CUSTOMS AND  
PRODUCTION DATA IS  
NEEDED.

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Union (EU) pledged to at least halve tropical deforestation by 2020, compared to 2008 levels. In the Amazon, Colombia aims to achieve zero net deforestation by 2020, and Brazil pledges to eliminate illegal deforestation by 2030. In addition, more than 45 tropical countries are developing jurisdictional programs to reduce emissions from deforestation and forest degradation (REDD+). There is now a global community of influential actors, public and private, southern and northern, calling for eliminating deforestation and favouring so-called deforestation-free products. But the 2020 targets are less than three years away.

### Scaling up implementation

Public and private actors are debating how to implement deforestation-free supply chains. There are significant challenges but also new opportunities to facilitate larger-scale implementation of zero-deforestation commitments. This article outlines a three-step process for action within jurisdictions.

#### Step 1. Determine commodity origins

Although there has been tremendous progress in the use of satellite imagery to monitor deforestation and the situation on the ground, commodity trade flows continue to be difficult to track and untangle. Supply chain routes and actors provide only a fraction of the global trade in commodities such as certified products. Just knowing the country of origin is not enough when assessing deforestation risks, and municipal- or district-level information is crucial in order for actors to take effective actions in terms of sourcing deforestation-free commodities and making deforestation-free investments.



Companies that source and trade commodities such as beef, palm oil and cocoa face challenges in systematically identifying the areas where these commodities are produced. Investors and governments that try to encourage responsible trade also struggle to monitor the impacts of businesses whose exposure to high-risk supply chains is unknown. Although the business case for mitigating deforestation risks related to reputation and securing access to sustainable

supplies is increasingly well-understood, the limited availability and transparency of information on complex supply chains is a critical barrier to action.

The information needed to track commodity movements does exist in many countries. Most import-export transactions are systematically recorded by customs authorities, if only for fiscal purposes. This information is not easily accessible or usefully compiled, but new transparency initiatives such as Trase (Box 1) have the potential to change this. Tracking in near real time of who trades forest-risk commodities internationally, and when and where they do so, is becoming possible through data analysis of import-export transactions at the port level. With the help of customs authorities, unprecedented levels of transparency in global supply chains could be achieved before 2020.

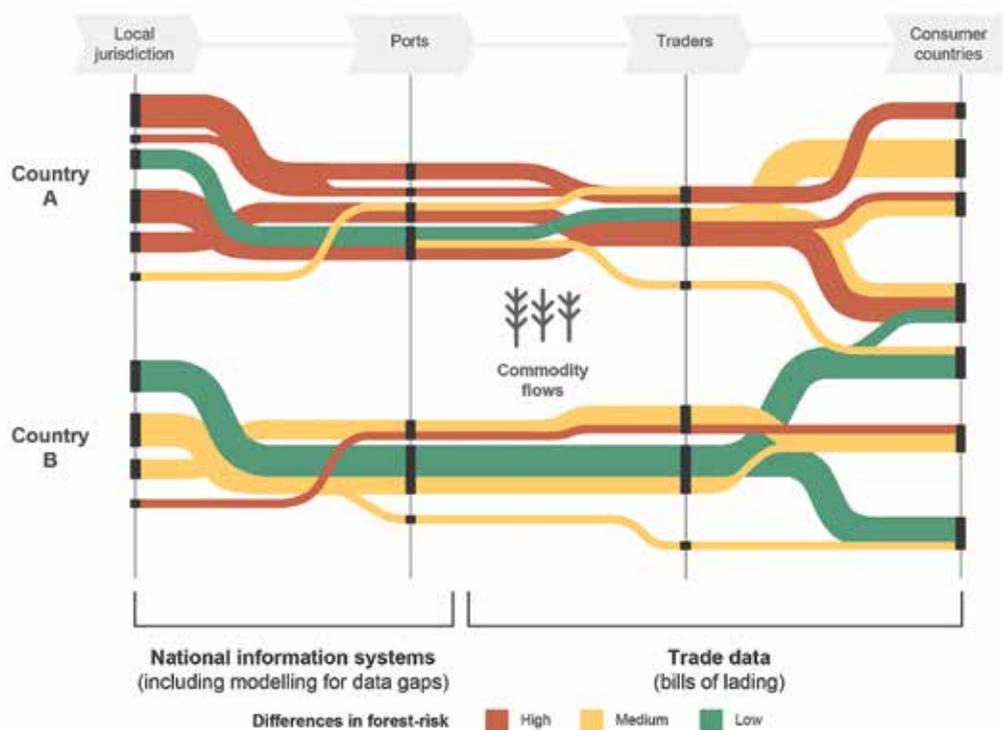
**Box 1. The Trase initiative**

Transparency for Sustainable Economies (Trase) is the first initiative to obtain and compile a critical mass of previously untapped data on production, trade and customs, including databases of import-export commercial documents and maritime bills of lading, in a way that is useful to the sustainability community. This reveals how forest-risk commodities navigate international trade routes and link specific actors such as trading companies, ports and consumer-goods companies to local areas of production such as municipalities and districts. Trase also provides information on environmental and social risks, and on sustainability performance associated with production localities, and allows that information to be linked to the various actors who comprise a supply chain. The initiative's aim is to report at least 70% of global trade in forest-risk commodities by 2021, and potentially 100% if additional data can be obtained from a handful of key customs authorities. It also aims to provide frequent updates to track the implementation of zero-deforestation commitments and other aspects of responsible trade. The initiative is led by the Stockholm Environment Institute and the Global Canopy Programme. The European Forest Institute, also a partner in Trase, helps develop innovative applications tailored to the needs of governments, trade and customs authorities to monitor forest-related risks and opportunities in commodity production and trade.

National information systems that monitor production, trade, legal and fiscal compliance, among other issues in commodity value chains, are largely untapped sources of fine-resolution data for tracking forest-risk commodity flows. They range from specific supply-chain systems managed by producer associations (such as Côte d'Ivoire's Natural Rubber Association) to comprehensive land registration systems maintained by governments (such as Brazil's Rural Environmental Registry). They also include legality assurance systems developed during bilateral trade negotiations, such as those for timber supply chains in countries that negotiate a Voluntary Partnership Agreement with the EU. Linking these systems to global commodity-tracking platforms offers huge potential to increase and continuously improve the quality of information on the origin of forest-risk commodities and to link local producers to downstream supply-chain actors. See Figure 1.

**Step 2. Assess risks and opportunities**

Risks associated with forest-risk commodities vary considerably, depending on where the commodities are produced and who the actors involved are. Once the local origin of the traded commodity has been established, examining detailed deforestation rates in the local area of production is the first risk assessment that any commodity buyer can make. This should use data for the smallest possible geographical area. Publicly available tools — such as those that Global Forest Watch use — help to assess deforestation risks in commodity production, although users should bear in mind the uneven quality of deforestation data across the world. And assessing deforestation rates is only the starting point for comprehensive due diligence in commodity sourcing and investment.

**Figure 1. Tracking the flows of forest-risk commodities**

Source: EU REDD Facility

### *Looking beyond deforestation rates*

To develop or maintain responsible business relationships with the many parts of the world that experience significant deforestation, more sophisticated risk assessments are needed. These require information on local drivers of deforestation and on other land-related issues, such as biodiversity, local crop diversity and food security. Impacts on smallholder farmers are emerging as an important issue in this context; companies could reduce the number of smallholder suppliers in an effort to implement and monitor zero-deforestation sourcing.

A risk-based approach can also identify examples that could encourage and sustain progress, such as supply-chain networks that have decoupled from deforestation rapidly and with few recorded conflicts. Although private companies may focus on fully dissociating their products from deforestation, governments should pursue a broader approach to managing risks and opportunities in trade. This could include identifying local jurisdictions that are most rapidly reducing deforestation and still have important forest cover, rather than focusing on those jurisdictions that have no deforestation, possibly because they have very little or no forest left. Governments should also focus on those jurisdictions with a high potential for improving farm productivity in non-forested areas.

### *Clarifying jurisdictional-level zero deforestation*

The different deforestation risks in varying contexts pose challenges that cannot be resolved with better monitoring technologies alone. Definitions of forest and legality aspects are context specific, and attributing deforestation risks to specific commodities and supply chains raises political and technical questions. A balance between the general concept of zero deforestation and local socio-political realities has to be found.

This balance is evident, for instance, in the high carbon stock methodology aimed at mapping forests areas for deforestation-free agriculture. The methodology recommends that the results of remote sensing should be aligned with the priorities of local stakeholders through participatory land-use planning. Governments and local stakeholders can proactively clarify what deforestation-free agriculture means in their jurisdiction. Interpreting global standards in the context of local socio-political circumstances is a key opportunity for national stakeholders to define the criteria for legal, deforestation-free commodity production in their jurisdictions through participatory processes. Mainstreaming such discussions in major commodity-producing countries would help responsible trade partners to understand how and where to source legal, deforestation-free commodities from specific jurisdictions according to local priorities and circumstances.

### *The power of information*

The information needed for finer and more comprehensive assessments that consider local drivers and indicators of deforestation is still scarce, but is expected to become increasingly available through further advances in forest, land-use and REDD+ monitoring, combined with rapidly developing supply chain transparency platforms such as Trase (see Box 1). The online availability of data also creates new incentives for private companies to disclose more information, and the burden of proof may shift to other actors, encouraging them to cooperate to reduce their collective risk exposure in relation to specific places and supply chains.

### **Step 3. Encourage jurisdictions to support zero deforestation**

The increased transparency and reliability of forest-risk assessments will bring to light high-risk places and actors, and thus encourage jurisdictions to support legal and deforestation-free sourcing. At the same time, more transparency offers committed national and local governments an opportunity to promote ongoing efforts to improve forest governance by communicating progress. In time, consolidating and sharing critical supply-chain and land-use information with independent third-party observers will help monitor progress and support effective action.

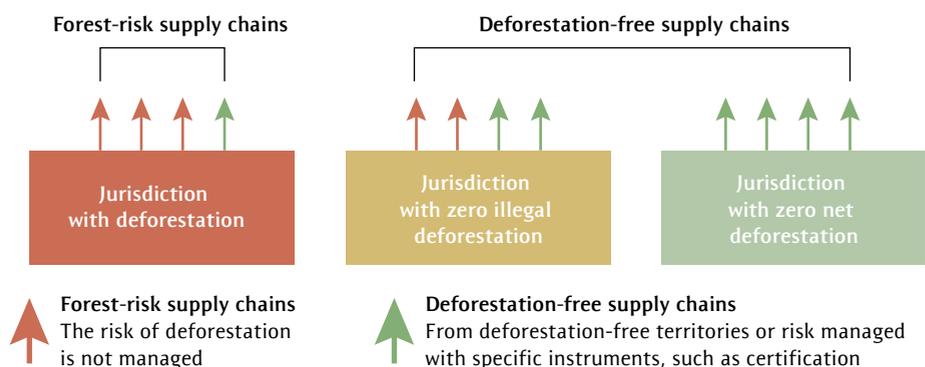


Most tropical countries are officially seeking to reduce deforestation, but few commit to fully eliminating it, so zero-net deforestation may be a medium- to long-term prospect. And while a strict zero-deforestation target has been adopted by some companies, the

more flexible zero net deforestation objective might be more adaptable to jurisdictions, although it still requires specific attention to the definition of “forest.” In order to engage, national and sub-national authorities have agreed to performance measures at the jurisdictional level, ranging from zero illegal deforestation (as put forward by Brazil for the whole of its Amazon region by 2030) to net gains in forest cover. These measures will help all committed governments to end deforestation. Empowering national stakeholders to strengthen the governance of supply chains and land use are other key steps. There is ample experience of this in the forest sector from Forest Law Enforcement, Governance and Trade (FLEGT) Voluntary Partnership Agreements.

Achieving zero illegal deforestation could be a major step on the path to zero net deforestation, providing an enabling environment that stimulates further action by the private sector toward zero deforestation (Figure 2). According to Forest Trends (2014), nearly half of all recent tropical deforestation is the result of ongoing illegal clearing of land for commercial agriculture. Targets for zero illegal deforestation continue to be debated by the governments of the main forest countries (FAO 2014).

**Figure 2. Jurisdictional paths to zero net deforestation**



Source: EU REDD Facility

## Conclusions

Analysis of trade, customs and production data is starting to uncover information about the global flows of commodities that present risks to forests. This removes a key barrier faced by public and private actors in implementing deforestation commitments. But measuring the success of deforestation-free supply chains is context-dependent, and ultimately, success will be linked to the implementation of sustainable land-use planning in the jurisdictions where commodities originate. Producer countries that seek preferential access to emerging deforestation-free markets can be proactive in clarifying the criteria for deforestation-free commodity production within their jurisdictions.

To trigger a change from business as usual in the commodity sectors, there need to be significant incentives for jurisdictions that are taking action to improve land-use governance and phase out deforestation. This requires a coherent combination of supportive policies and incentives; these include “green” investments, REDD+ performance payments, preferential market access for deforestation-free products resulting from public procurement policies, tax exemptions, and simplified import procedures. In addition, and importantly, fiscal cooperation between trading partners is important in the combination of incentives. Renewed efforts against tax avoidance in international commodity trade on the basis of this increased transparency could greatly reinforce governments’ willingness to cooperate and support this movement towards higher transparency and accountability in the production and trade of forest-risk commodities.

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## 5.7 Local government must lead at jurisdictional levels

CHRIS MEYER and BREANNA LUJAN

### Introduction

In reducing the deforestation of natural forests, certification has got us to a certain point (FSC 2017). It now appears that to progress to the next stage, we must adapt, adopt and scale up local governance solutions that truly meet the problems the world is facing. Jurisdictional-level and multi-stakeholder processes — led by sub-national (regional, district and local) governments — are clearly the measures that are most likely to achieve immediate and lasting impacts. Mato Grosso in Brazil (Box 1) is one example. To succeed, private-sector actors must proactively engage in discussions; donor governments have to support these processes financially, and CSOs need to provide technical assistance and watchful eyes to guarantee true transparency and ensure that community views are represented.

### Mato Grosso: how to advance a jurisdictional programme

Mato Grosso is the largest producer and exporter of agricultural commodities in Brazil (IMEA 2016). Aware of the responsibility that comes with governing an agricultural powerhouse, the governor of the state of Mato Grosso announced during COP 21 a proposed strategy for reducing CO<sub>2</sub> emissions by as much as 6 gigatonnes by 2030. Known as Produce, Conserve, Include (PCI), this initiative encapsulates the state government's ambition to decrease deforestation while increasing agricultural production. It aims to expand and increase the efficiency of agricultural production and forestry, conserve remaining native vegetation, restore deforested areas, and enhance production and land regulation for family farmers (Domingues 2015). Acknowledging that Mato Grosso's strategy was ambitious and was possible only with cross-sectoral collaboration, the state government included NGO, private, public and government representatives. The partnerships that were established among the diverse stakeholders have been an integral part of the success in elaborating the PCI strategy. Approved in November 2015, the PCI generated momentum for a national strategy by signalling multi-stakeholder interest, attracting international



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LEVEL PROCESSES.

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attention, and encouraging financial investment. After the official launch in March 2016, the PCI partners created the State Strategy Committee for PCI (CEEPI) to govern the initiative's design, implementation and monitoring. CEEPI has set up an ad hoc working group, terms of reference, subgroups, and an overall work plan to approve new membership requests for both the committee and the PCI Executive Secretariat.

A year after its inception, the PCI is still evolving. During COP 22 in Marrakech, multiple events featuring the PCI were held to facilitate discussions about its design, implementation and significance. While the vision for the programme is clear, and the goals have been defined, the Mato Grosso state government is still in the process of determining how to most efficiently and effectively implement it. A primary concern is securing sustainable funding. Another outstanding issue is the broader ambiguity surrounding defining deforestation in Brazil. The PCI focuses mainly on reducing deforestation by 90% in Mato Grosso and on reaching zero illegal deforestation in the state by 2020. It remains to be seen how these objectives can be reconciled with and can further national goals.

Despite these obstacles, the PCI is making headway. The number of PCI partners has increased to 40, and now includes a broader array of participants. To ensure that PCI goals will be met, the Mato Grosso Institute of Agribusiness Economy (IMEA) compiled a report detailing progress to date (IMEA 2016). Geospatial and remote-sensing data were used to calculate the area, productivity and production allocated to agriculture, cattle ranching and planted forests; this provided a baseline for monitoring PCI goals. Results indicate that despite the challenges of achieving the PCI goals, progress is achievable (IMEA 2016). Although less than two years old, the ambitious PCI strategy represents a promising approach to reducing CO<sub>2</sub> emissions from deforestation. In December 2016, the Brazilian government announced that national-level deforestation had increased by 29%, but data from Mato Grosso showed a reduction of 19% in the state from the previous year. Although this decrease in deforestation cannot be attributable to the PCI alone, the programme may have played a role.

### The problem

Deforestation is a global issue, but is most acute in tropical forest nations. Although overall rates of deforestation are tending to decrease, it continues to account for some 10% of global greenhouse gas emissions. Major agriculture commodities also remain the leading driver of deforestation, particularly the “big four” of beef, soy, palm oil, and wood products (Henders, Persson and Kastner 2015).

Although some deforestation is legal, most is not (Lawson 2014). This creates a governance problem, particularly for the massive deforestation that has occurred over the past 20 to 30 years. This period of time also corresponds with significant efforts to try and stop the illegal deforestation associated with the production of agricultural and forest commodities. One proposed solution was the use of third-party certification in the supply chains of the big four. This governance solution, applied to varying degrees and at different stages of the diverse supply chains, represents an agreement among members of a multi-stakeholder group that is enforced by independent auditors.

The most relevant certification bodies associated with solving the deforestation problem present in the supply chains are the Forest Stewardship Council (FSC) for timber, paper and pulp, the Roundtable on Sustainable Palm Oil (RSPO), and the Roundtable on Responsible Soy (RTRS). While RSPO and FSC have small but relevant effects on markets, the RTRS has only a minimal presence. Beef, the most significant driver of deforestation, is not governed by a certification scheme (Streck, Franziska and Roe 2016). One reason for this lack of certification is that beef is not traded internationally nearly as much as the other commodities, so a global certification would have little impact.

### Beyond certification

Many private-sector actors and partners have realized that certification is not the cure-all for stopping deforestation. Many are disappointed by the significant amount of deforestation still linked to certified commodities, despite the resources allocated to implementation of certification. At the same time, the market demand from industrialized countries for certified products has more or less peaked. Furthermore, it appears as if consumers in the emerging economies are not sensitive to the deforestation problem. As a result, some producers participate in certification programmes, but their neighbours do not have to, because there is significant demand for non-certified products. This phenomenon also applies to other agricultural crops — rubber in the case of Southeast Asia, for example — that compete for land and do not have a certification system in place (Ahrends et al. 2015).

Additionally, few local, state, and/or national governments from emerging countries choose to support certification because they view such systems as undermining their legitimate roles (Hospes, Dermawan and Termeer 2016). Certain government institutions are also concerned that some certification schemes use reference dates to exclude producers in their jurisdictions from participating, even if they stop deforestation and meet the rest of the certification criteria.

Another significant critique of certifications is the “race to the bottom” that commonly results from a consensus governance approach that focuses on maximizing participation by the private sector (Haufler 2003). It happens when minimal private-sector participation in the certification market does not generate the desired impacts, so certification standards are modified lower to attract the private sector while still trying to incrementally improve the situation.

Additionally, few if any private-sector actors would be willing to submit to a certification scheme that does not include them in its governance structure. Therefore, private-sector actors are often (but not always) the ones arguing — or demanding — that governance and standard setting processes not change existing practices too drastically, because a new higher standard could put them at a competitive disadvantage.

Given these circumstances, it seems as if the externally created governance solution of certification to reduce deforestation in major commodity production is probably at its zenith. However, rather than do away with certification initiatives and call them a failure,

companies and policy-makers need to use them as a bridge until local and national governance can be improved, and should leverage those aspects that are working in order to create a more comprehensive solution.

### Holistic long-term solutions

The valuable parts of certification systems are the platforms that bring together the many and varied actors involved in the production of commodities. These multi-stakeholder platforms are essential for getting civil society, private-sector players — from small producers to multinationals, and including representatives from various levels of government — to sit down and discuss challenging topics in a constructive manner. However, certification processes have not been led by governments nor in many cases have they even included local governments. In future, governments need to act as conveners and make these platforms available on a national and sub-national, rather than a global, level.

Fortunately, many national and sub-national governments have already started convening similar types of platforms, with financing from REDD+ readiness programmes. However, very few if any private-sector actors participate, which prevents these platforms from making a notable impact. There is a need to merge global certification platforms with these newer national and sub-national government-convened initiatives. What will result is a more comprehensive (but more complicated) set of actors, whose efforts are moderated by governments but who are better positioned to develop much-needed long-term governance solutions. Platforms convened by governments should be inclusive and should seek inputs from all sectors. Ultimately, though, the governments themselves must make the final decisions on definitions, activities to be supported, and on implementing monitoring systems, to ensure that the standards are upheld.

Recently, RSPO has embraced the jurisdictional approach, but what that actually means has yet to be determined. RSPO's recent press releases (dating from 2015) congratulate national and provincial governments from Ecuador, Indonesia (Central Kalimantan) and Malaysia (Sabah) for committing to a jurisdictional approach. It is positive news that RSPO is recognizing local government leadership and embracing such platforms, but no details are available on how it is actually engaging with its members regarding these new pledges.

### Easy in theory

Multi-stakeholder platforms should start by focusing on definitions; specifically, what deforestation means in each jurisdiction and what zero deforestation looks like. Those definitions are key; the private sector must be able to report against the commitments they make and are held accountable for. Some countries and jurisdictions may permit a certain amount of deforestation under current legal frameworks, so an additional definition of zero deforestation may be needed.

After agreeing on a definition of zero deforestation, various sets of activities and policy changes are needed for different contexts; these should be discussed and agreed upon.

The platforms should provide all actors with the assistance they need to achieve the end result and to monitor progress. Government monitoring is essential for enforcing the law and for giving private-sector and civil-society actors the confidence to continue participating.

### Other key actors

Although the importance of government and private sector actors is paramount, civil-society actors also have key roles to play, and their efforts should be respected and incorporated by other participants. Civil society can and should provide independent technical assistance and analysis to governments and platforms, and should function as watchdogs to ensure that environmental and social integrity standards are upheld.

Multinational private-sector players also need to change who participates in these platforms. For those operating upstream, operational staff at the relevant jurisdictional level should be engaged, rather than their global colleagues headquartered in different countries or continents. Similarly, downstream multinationals need to mandate that their suppliers participate and support such participation with guidance from their sustainability teams. And both should ensure that governments are being realistic in what they might be proposing, especially the potential benefits for various actors. Civil society needs to monitor and safeguard environmental and social standards, and the private sector needs to ensure that governments are not setting unreasonable expectations.

### But who pays?

Successful platforms will need sufficient resources to allow them to convene frequently, contract for technical analysis, and subsidize participation by key actors, who are often financially challenged. This includes the governments themselves and representatives of smallholder producers. Initial financing will have to come from external sources. Currently, some financial resources are available from global programmes to support governments in convening platforms. These include various multilateral REDD+ readiness initiatives, such as the Forest Carbon Partnership Facility and UN-REDD Programme, the Green Climate Fund, and bilateral ODA programmes. In some cases, multinational companies or civil society groups might be willing to provide technical and analytical help, logistical assistance, and other support.

### Conclusions

Trying to solve the local governance issues that lie at the heart of deforestation through global certification processes and without the inclusive participation of local governments has achieved as much as it can. Local governments must take the lead in developing, proposing and implementing solutions, and certification can and should play a part. Certification does support efforts that help to reduce deforestations, but it has its limits. Certification schemes should be leveraged for the value of their existing multi-stakeholder platforms and to encourage the engagement of private-sector participants in new jurisdictional programmes that are being created, as RSPO is doing. Mato Grosso is one example that local governments can look to, regarding how to create

multi-stakeholder platforms and make progress on other components of a programme to achieve zero deforestation.

To make this work, donors need to target more of their support to building much-needed multi-stakeholder platforms and supporting local governments to do so. Private-sector actors need to change who engages in discussions at these platforms. Civil-society efforts as watchdogs and providers of technical assistance needs to be supported and respected. If that can be done, it will put governments on the path to solving the deforestation problem in the medium to long term.

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INT = Interview; T&I = Tools and Instruments







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