How sustainability standards can contribute to landscape approaches and zero deforestation commitments

April 2016
Authors
Patrick Mallet, Marta Maireles, Elizabeth Kennedy and Maira Devisscher

About ISEAL Alliance
ISEAL is a non-governmental organisation whose mission is to strengthen sustainability standards systems for the benefit of people and the environment.

ISEAL is the global leader in defining and communicating what good practice looks like for these sustainability standards.

The four goals of ISEAL are to:
› Improve the impacts of sustainability standards
› Define credibility for these standards
› Improve their effectiveness, and
› Increase their uptake.

Further information about the ISEAL Alliance and its membership is available at www.iseal.org

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Correct Citation

Correspondence
Please contact Patrick Mallet, Innovations Director with any enquiries. Emailpatrick@isealalliance.org

For more information, please visit www.iseal.org

This study was supported by GIZ on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ). Responsibility for the information and views set out in the study lies entirely with the authors.
Executive Summary

Over the past half century we have collectively lost more than 50% of the world’s tropical forests to deforestation. In the last ten years, two-thirds of deforestation has been driven by the production of a small number of agricultural commodities: palm oil, soy and beef, as well as by timber harvesting.

Given the inextricable link to global supply chains, there is a critical role to be played by brands and retailers that are seeking to minimize their reputational, legislative and operational risks of exposure to deforestation. Significantly, much of the progress they have reported to date has come through their existing commitments to sustainability standards and certification.

Standards systems provide valuable mechanisms for delivering sustainable management of key environmental and social impacts. They also deliver business benefits through better practices and efficiencies and by mitigating reputational risks arising from key impacts.

At the same time, standards systems tend to focus on best practices related to social issues, land use, and production practices within a production unit (e.g., farm or concession). By contrast, the challenges we face with deforestation and loss of critical environmental services require broader responses that confront these wider pressures at a landscape level.

Standards systems are poised to address these challenges through testing new models such as jurisdictional approaches and through integration of new technologies that will transform how we assure good practices. As background for our Innovations Programme, ISEAL has conducted research on how sustainability standards are already applicable at a landscape or jurisdictional level and what strategies and innovations are necessary for standards systems to best contribute to meeting company zero deforestation commitments.

What are sustainability standards already doing?

Given the intuitive appeal of tackling sustainability through a landscape management approach, it’s not surprising that there are already a large number of initiatives focused on implementing these approaches both within and outside standards systems. In the standards space, agricultural commodity standards such as the Roundtable on Sustainable Palm Oil (RSPO), Rainforest Alliance, Bonsucro and the Roundtable for Responsible Soy (RTRS) are leading the innovation. Some of these initiatives are explicitly and holistically developing fully-fledged landscape or jurisdictional approaches. Other standards systems are developing tools and strategies for tackling individual pieces that contribute to a landscape management approach.

More generally, standards systems include content in their standards that already address a range of issues that have implications for the broader landscape in which certified enterprises operate. Among these are requirements to protect or restore riparian zones, establish buffer zones, respect protected areas and address land rights. Certified enterprises are also required in some standards to conduct high conservation value (HCV) assessments and produce land-use maps, as well as measure GHG emissions and impact on water resources.

In assessing impacts of these better practices on the ground, there is a similar depth of strategies that are applicable at a landscape scale. One of the most exciting innovations is the use of mapping technology to understand landscape suitability for agricultural expansion (e.g., RTRS) or sustainability and connectivity within land use mosaics. In this mapping work, standards systems are supported by leading technology platforms such as WRI’s Global Forest Watch. Standards systems’ monitoring and evaluation programmes additionally gather data for outcome and impact studies that assess broader ecosystem or landscape level changes.

In other activities, many of the leading standards systems are making strategic shifts in focus to partner with companies and governments on regional-level producer capacity building, taking advantage of their existing infrastructure and expertise to address this bottleneck to more sustainable production. Others are building on their stakeholder networks to become broader learning networks (e.g., Bonsucro). Finally, some standards systems are ambitiously trialing jurisdictional certification pilots with local government leadership (e.g., RSPO), to start producers on a stepwise path to more sustainable land management across a jurisdiction.
What else is happening?

The commitments to zero deforestation have spawned many new initiatives for responsible sourcing beyond what is offered by sustainability standards. A common theme running through these initiatives is their focus on risk mitigation strategies, seeking more accessible and scalable tools that limit company exposure to critical sustainability threats in their supply chains.

In the best cases, such as with the Responsible Sourcing from Smallholders (RSS) Framework, these tools are stepping stones that get producers on the improvement ladder and move them toward more sustainable practices; in other cases, they can provide light touch verification, confirming that single issues have been addressed, while lacking the framework to address sustainability more holistically.

Focusing solely on avoiding deforestation or minimizing carbon emissions runs the risk of unintentional trade-offs with negative consequences for sustainability.

Companies like Unilever and Marks and Spencer are taking the next step by committing to source only from responsibly-managed jurisdictions. Taking a more holistic approach like this requires coordinated land use management plans across a landscape or jurisdiction, taking different user needs and land uses into account. Mapping technology is proving to be an effective tool to understand potential suitability for production across a landscape by layering risks factors onto maps.

This is complemented by close to real-time data that enables the monitoring of impacts on a landscape such as deforestation or fire activity. These tools provide a foundation on which to build better informed land use plans. Landscape and jurisdictional approaches then apply a range of methodologies to align stakeholder interests and provide the necessary support and incentives to producers and other land users to move toward more responsible production.

Many of the landscape and jurisdictional pilots are in early stages of implementation so there is significant potential for learning and sharing of experiences. Research and academic literature is already starting to define the necessary prerequisites for successful engagement at a landscape level, including stakeholder buy-in and ownership, local government engagement and a shared vision.
What roles can sustainability standards play?

This report has been prepared in the context of consumer goods companies making ambitious commitments to achieve zero net deforestation in their supply chains. As we collectively seek ways to support companies to fulfil those commitments through the development and implementation of landscape approaches, we need to remember that standards systems have proven themselves over the last fifteen to twenty years to be one of the most effective tools for harnessing the power of the market to deliver more sustainable production. Through adaptation and innovation, standards systems will continue to provide leadership in supporting the transition of landscapes and jurisdictions to more sustainable management.

There are a number of potential roles that standards systems can play and steps that will need to be in place to support them to play these roles. See Table 1.

Sustainability standards systems have a critical role to play in meeting global commitments on zero deforestation and landscape sustainability. Through our ambitious Innovations Programme, ISEAL members will work together to realise innovative solutions so that sustainability standards continue to provide the leadership and vision required to transform sectors and achieve meaningful sustainability impacts.

| Table 1 Potential roles standards systems can play and steps that need to be in place |
|-----------------------------------------------|---------------------------------------------------------------|
| Facilitating or supporting multi-stakeholder platforms by building on their experiences with standard-setting processes and consensus building | Adopting new streamlined approaches to verification that shift the focus from auditing to data management, risk analysis, and participatory monitoring |
| Mapping certified production units across a landscape through the adoption of polygon-based location data, and integration with mapping platforms such as Global Forest Watch | Ensuring the rigour and credibility of landscape approaches by advising on appropriate verification frameworks and traceability solutions |
| Rolling out the High Conservation Value approach as a framework for land use mapping, to inform where there are areas of social and ecological value | Contributing to the definition of landscape monitoring metrics and adapting existing monitoring and evaluation programmes to support data gathering and management |
| Through the standard, providing the aspirational sustainability goals for producers to meet over time, and helping to identify the incentive structures that will keep them improving | Through ISEAL, capturing and sharing the learning about how sustainability standards and landscape approaches can best complement each other to shift regions to more sustainable production |
Many of the landscape & jurisdictional pilots are in early stages of implementation so there is significant potential for learning & sharing of experiences.
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Left: A worker loading oil palm fruit onto a truck in Sabah, Malaysia © CIFOR | www.cifor.org
In the last half century we have collectively lost more than 50% of the world’s tropical forests to deforestation. Over the last ten years, two-thirds of deforestation has been driven by the production of a small number of agricultural commodities: palm oil, soy and beef, as well as by timber harvesting.

The growing global demand for consumer goods will continue to increase pressure on forests worldwide.

‘The FAO predicts that continuing economic growth and further expansion of the world population to around 9 billion by 2050 will result in a 70% increase in demand for food, feed, fuel and fibre. A projected population increase of 27% and a wealth increase of 83% by 2030 would imply that the demand for agricultural production would be 50% higher than today’s.’ (Brasser 2012, p.4)

The unsustainable production of agricultural commodities and its associated deforestation not only compromises ecosystem services but also contributes significantly to global greenhouse gas (GHG) emissions. Local communities suffer a host of negative social impacts.

‘The combined effect of these processes undermines climate, food, energy, water and livelihood security locally and regionally and this, in turn, threatens supply chains globally.’ (Bregman et al. 2015, p.5)

Given the inextricable link to global supply chains, there is a critical role to be played by brands and retailers that are seeking to minimize their reputational, legislative and operational risks of exposure to deforestation.

In the last couple of years, there has been an exponential growth in high profile commitments to ‘deforestation-free supply chains’ or to ‘zero net deforestation’. This has been driven in large part by collaborative company commitments such as by members of the Consumer Goods Forum (CGF) in 2013 pledging to help achieve zero net deforestation by 2020, and helping to create the Tropical Forest Alliance (TFA). Then in September 2014, at the United Nations Climate Summit, 180 governments, companies, indigenous community networks, and civil society organizations endorsed the New York Declaration on Forests, which set a goal to halve natural forest loss by 2020 and end it by 2030. (Peters-Stanley et al. 2015)

While the pledges are significant, the hard work comes in figuring out how to implement activities that will enable companies to meet these ambitious targets. Here, the progress to date has been less pronounced.

The Forest500 website identifies, assesses, tracks and publicly ranks progress towards the adoption and implementation of policies on zero deforestation supply chains among the 500 most influential governments, companies and financial institutions in the deforestation economy. While some companies are performing well, the average score of 29 out of 100 raises concerns about the progress being made by key corporate actors in removing deforestation from commodity supply chains.

Significantly, much of the progress that has been reported by companies comes through their existing commitments to sustainability standards and certification.

Significantly, much of the progress that has been reported by companies comes through their existing commitments to sustainability standards and certification. Standards systems provide useful mechanisms for delivering sustainable management of key environmental and social impacts.

They also deliver business benefits through better practices and efficiencies and by mitigating reputational risks arising from key impacts. Standards systems offer a number of critical advantages that make them effective tools to fulfil company pledges, such as processes for stakeholder participation, auditing, chain of custody and traceability, controlling claims, grievance mechanisms, and monitoring and evaluation.

1 forest500.org
At the same time, standards tend to focus on best practices related to social issues, land use, and production practices within a production unit (e.g. farm or concession).

By contrast, the challenges we face with deforestation and loss of critical environmental services such as water supply, carbon sequestration, and biodiversity require broader responses that confront these wider pressures at a landscape and catchment level. We are interested to build on the strong track record of sustainability standards systems to see how they may apply at the landscape level.

This report summarizes how those standards systems are already being applied to landscapes and jurisdictions and what other tools they can learn from, integrate and collaborate with. We recognise that deforestation is one manifestation of increased commodity production but that if we want to address the root causes of deforestation, we need to look at how the affected landscapes as a whole are managed.

We explore factors that are important to the effective application of sustainability strategies at a landscape level and identify opportunities to strengthen the role that standards systems can play in implementing those strategies.
1.1 Defining landscape approaches

Landscape approaches have gained an increasingly high profile over the last two years. There have been a number of recent high profile publications extolling the virtues of a landscape approach and starting to define the parameters and good practices that underpin such an approach. (Bregman et al. 2015; Denier et al. 2015, Kissinger et al. 2013, Sayer et al. 2013, Smit et al. 2015) Important international NGOs including the Global Canopy Programme, EcoAgriculture Partners, the Sustainable Trade Initiative (IDH), The Nature Conservancy (TNC), and the World Wide Fund for Nature (WWF) are collaborating to better understand and implement this concept. (Denier et al. 2015)

Marks and Spencer and Unilever recently jointly committed to sourcing commodities from regions that have designed and are implementing jurisdictional forest and climate initiatives, a variation on the landscape approach. (TFA 2020 2015)

All this attention should not be surprising given increasing recognition that we need scalable solutions to transform global supply chains and to respond adequately to the urgent sustainability challenges we face.

While the concept is relatively new, the landscape approach is in some ways just an updated lens through which to promote integrated rural development. The following definition comes from the Global Canopy Programme:

‘A landscape approach aims to ensure the realisation of local level needs and action (i.e. the interests of different stakeholders within the landscape), while also considering goals and outcomes important to stakeholders outside the landscape, such as national governments or the international community.

A landscape approach may be undertaken by one or more stakeholders who engage in actions independently, or by multiple actors as part of a collaborative, multi-stakeholder process. This multi-stakeholder process is referred to as integrated landscape management.’ (Denier et al. 2015, p.10)

A jurisdictional approach is, as noted, a variation on the landscape approach in which governments play a leadership role and the scale is defined by jurisdictional boundaries:

‘A jurisdictional approach and a landscape approach are often used synonymously. However, the jurisdictional approach is a type of landscape approach that uses government administrative boundaries, primarily sub-national, to define the scope of action and involvement of stakeholders rather than social (e.g. indigenous community) or environmental (e.g. ecosystems, watershed) boundaries.’ (Denier et al. 2015, p.10)

The novelty of the landscape approach compared with traditional rural development lies in the links to global supply chains and the commitment by national and international consumer goods companies to drive this development through their supply chains. With a longer term view to both the inherent business risks associated with security of supply and their larger obligations to the global community, these companies are seeking to identify strategies that help them to fulfill their 2020 commitments. As noted by EcoAgriculture Partners, on behalf of the Landscapes for People, Food and Nature (LPFN) Initiative,

‘Landscape approaches hold potential to mitigate a constellation of risks in addition to on-going risk mitigation interventions at the farm level and through supply chain approaches. Thus, landscape approaches provide a framework to work deliberately in an integrated manner beyond the farm-scale to support food production, ecosystem conservation, and rural livelihoods across entire landscapes.’ (Kissinger et al. 2015, p.7)
2 Drivers

The significant negative global sustainability impacts we’re creating as a society and the projections for increasing population and consumption present us with a development quaudary.

While we ultimately need to decrease our total global consumption, as a transition, we need to find ways to do more with less. This is articulated by M&S and Unilever (TFA 2020 2015, p.2), informing their commitment to action:

‘As the world’s population grows, feeding billions more people is a critical challenge. Yet doing so, without depleting the Earth’s resources or exacerbating climate change, is necessary.’

Companies have supported sustainability standards and certification over the last fifteen years to be leading tools in driving a market-based solution to improved social, economic and environmental production, using the power of consumer choice and globalizing supply chains to incentivize farmers and enterprises to improve their practices. (Globescan 2015)

However, standards systems and their stakeholders recognise that even with impressive growth and impact, the scale of the challenges that we are collectively seeking to address means that we are unlikely to achieve the transformation we need with a model that recognises better practices at the scale of the individual farm or production unit.

‘We can’t certify the world farm by farm; we need to look at certifying areas or sub-regions.’ (Ninnes, 2015, pers. comm., 20 October)

From an ecological perspective, this point is reinforced by the reality that farms and production units don’t operate in isolation but are part of broader, interconnected landscapes. There is little ecological value derived from a well-managed and biodiverse farm situated in a degraded landscape. Additionally, while certification is an effective tool to recognise good practices at a unit level it does little to address the challenge of leakage or substitution, where certified production shifts destructive production practices to other places rather than eliminating them. Only through landscape or jurisdictional approaches, where mandatory minimum practices are legislated or required will leakage within a landscape be addressed.

Landscape approaches are also useful in creating shared value and long-term commitment to shared action across the range of stakeholders who have a role in managing the resource base. Jose Lopez from Nestlé S.A. expresses it this way:

‘In our work on rural development, building in resilience at a community level or ensuring that local people have access to public natural resources such as clean air, water, or unpolluted common land means that we need to go beyond the actions of individual farmers and operate at the landscape level.’ (Kissinger et al. 2015, Foreword)

From a company perspective, there are both risk-related and altruistic reasons why it is important to look beyond the farm gate. This applies to companies that are sourcing products through their supply chains as well as to those that are at the production end of the chain.

‘Companies pursue integrated landscape initiatives due to operational and reputational risks, regulatory risks, and compliance with voluntary production standards, to attain greater supply chain efficiency, and as a means to capture market shares.’ (Kissinger et al. 2013, p.279)

Case studies reviewed by the LPFN Initiative also identify the benefits of a well-functioning community for the broader security of production:

‘Community and operational risks… often provide the impetus to take action beyond the farm or plant… Local community risks in key sourcing areas can become operational and reputational risks, and are often not resolvable on the farm or in the plant. Thus, companies pursue interventions at broader scales to decrease exposure and support rural and sustainable development.’ (Kissinger et al. 2015, p.6)
Producing companies also have incentives to approach business development from a landscape perspective:

‘In some situations, it makes business sense for a private farm or food company to use the landscape as a lens to examine business development and operation, so as to:

 ›› Understand the landscape (and ecosystem) context for business development, reducing potential conflicts over natural resources;
 ›› Ensure reliable access to resources and ecosystem services critical to production and business models;
 ›› Ensure compliance—and reduce the cost of compliance—with current and future land policies and regulations: e.g., if production lies within a biological corridor;
 ›› Strengthen their negotiation position with public authorities, communities and supply chain partners;
 ›› Identify potential allies and business partners for scaling up: e.g., enroll more farmers, identify innovative suppliers;
 ›› Gain reputational benefits, or preferred access to markets, with buyers, suppliers and regulators from demonstrating good stewardship.’ (Brasser 2012, p.7)

2.1 Enabling environment

Landscape approaches are being picked up in part because of the increased engagement of the private sector but also because of the confluence of a number of external developments. First, there is

‘...increasing experience with and recognition of the benefits of multi-stakeholder participation in land use policy in many countries, with nongovernmental actors and the private sector becoming key players in decision-making processes.’ (Denier et al. 2015, p.40)

Examples include the national Voluntary Partnership Agreements (VPAs) under the EU’s Forest Law Enforcement Governance and Trade Action Plan (FLEGT), and the design and implementation of national climate change mitigation initiatives under REDD+ (Reducing Emissions from Deforestation and Forest Degradation). Both of these initiatives are supported by significant funding that requires operationalizing the plans through jurisdictional scale multi-stakeholder approaches.

On the policy front, there have been a number of high-profile international policy commitments unveiled in the last two years that support coordinated action between companies and governments at a jurisdictional or landscape level. These include:

 ›› The New York Declaration on Forests in which signatory companies committed to taking concrete steps to eliminate commodity-driven deforestation from their supply chains;
 ›› The Bonn Challenge through which companies and governments have committed to restore 150 million hectares of degraded lands by 2020, including agricultural land;
 ›› The Amsterdam Declaration in Support of a Fully Sustainable Palm Oil Supply Chain by 2020 signed by the governments of Germany, Netherlands, UK and Denmark, in support of a joint European company commitment to support 100% sustainable palm oil in Europe by 2020; and
 ›› The UN Sustainable Development Goals that define the global sustainability agenda through an ambitious set of 17 goals and 169 individual targets for positive economic, social and environmental outcomes.

In parallel there is an increasing body of evidence of how landscape approaches might work, with a proliferation of landscape initiatives being implemented, and some early signs of consolidation of some of these initiatives. The informal collaboration between leading international NGOs in this space was already detailed above.

The Landscapes for People, Food and Nature (LPFN) Initiative is a broader collaborative initiative, spearheaded by EcoAgriculture Partners and consisting of 70 organisations worldwide that promotes and supports integrated landscape management approaches. The initiative facilitates knowledge sharing and capacity development; provides technical support to landscape initiatives in Africa, Asia, and Latin America; and facilitates regional and national landscape learning networks in East Africa. A third example is the International Partnership for Satoyama Initiative comprising 172 member organisations, working to help maintain and rebuild more than 65 socioecological production landscapes and seascapes (SEPLS) in at least 30 countries. (Denier et al. 2015, p.48)
3 Applying landscape approaches

Given the intuitive appeal of tackling sustainability from a landscape management approach, it’s not surprising that there are already a large number of initiatives focused on implementing these approaches both within and outside standards systems.

Some of these initiatives are explicitly and holistically developing fully-fledged landscape approaches. Others are developing tools and strategies for tackling individual pieces that may support or contribute to a landscape approach. In this section we will explore what is already happening so that we can distill lessons and build on what already exists, first looking at standards systems themselves, then at other actors.

3.1 Examples from standards systems

Standards content

Looking at the content of sustainability standards is the obvious place to start. Most requirements in a sustainability standard apply to practices and procedures within the production unit, but there are often a minority of issues that look beyond unit boundaries. This includes criteria with a spatial impact such as setting aside lands, high conservation value identification, and resolving land tenure issues with local communities. Specifically on content, some standards include requirements around water management, carbon and climate impacts, and biodiversity. These recognise that while the influence of a company or producer is limited to its own operations, the impacts need to be seen in the context of the broader landscape.

The content of a standard and its enforcement contain essential ingredients that contribute to a sustainable landscape. Conservation of ecosystems, wildlife and water as well as management of community relations and implementation of sustainable Best Management Practices (BMPs) are perhaps the most relevant criteria to achieve this. While most of these standards requirements apply at the production unit level, they form a solid foundation on which to build landscape level practices.

Standards include criteria to ensure that primary forest or high conservation value (HCV) areas are not harvested or converted. For this purpose standards set cut off dates, after which time conversion of land cannot take place. For most standards systems, the cut-off date ranges between 2005 and 2009. Forest Stewardship Council (FSC) is the exception with a 1994 cut-off. Requirements to show compliance with cut-off dates typically ask for HCV maps, land use maps or even historical remote sensing imagery. In some cases, if land was converted prior to the cut-off date, restoration plans are requested. For example the Sustainable Agriculture Network (SAN) standard requires that if any natural ecosystems were destroyed because of farm management activities between 1999 and 2005, which is their cut-off date, the farm must carry out an analysis and implement a series of mitigating actions. (SAN, 2010)

Table 2 | Standards content relevant to landscapes

<table>
<thead>
<tr>
<th>Standards content with implications beyond the certified unit</th>
<th>Food security</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Conservation Value mapping</td>
<td>GHG emissions (measuring and reducing)</td>
</tr>
<tr>
<td>Riparian zone protection or restoration</td>
<td>Water use, remediation and protection</td>
</tr>
<tr>
<td>Environmental Impact Assessments</td>
<td>Chemical use and protection</td>
</tr>
<tr>
<td>Remediation/restoration</td>
<td>Land use maps</td>
</tr>
<tr>
<td>Buffer zones (e.g. around conservation areas)</td>
<td>Conditions on areas of expansion</td>
</tr>
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</table>
In order to prevent any agricultural expansion that could negatively impact the landscape and to reduce environmental risks, standards systems will normally outline a number of conditions for expansion to happen, including conducting environmental impact assessments. The Roundtable for Sustainable Palm Oil (RSPO), for instance, requests that prior to any conversion or expansion, enterprises have to conduct an ‘HCV assessment that includes both the planted area itself and relevant wider landscape-level considerations (such as wildlife corridors)’ (RSPO, 2013). The Roundtable on Responsible Soy (RTRS) has a similar requirement and provides guidance and maps to support this effort. Further information about HCV and the RTRS soy expansion maps is provided in later sections.

To protect the forest and avoid degradation of HCV areas, some standards require that corridors connecting HCV are conserved and ask for the creation of buffer zones of native vegetation around HCV areas. There are also standards that go beyond the protection of HCV areas and require protection and restoration of all natural ecosystems on the farm, as is the case with the SAN standard:

‘All existing natural ecosystems, both aquatic and terrestrial, must be identified, protected and restored through a conservation program. The program must include the restoration of natural ecosystems or the reforestation of areas within the farm that are unsuitable for agriculture’ (SAN, 2010).

Criteria that restrict burning of natural forest or burning to prepare land for plantations have a direct impact in reducing deforestation and greenhouse gas (GHG) emissions. Standards also establish limits on the amount and type of pesticides that can be used and disposal of waste (including the disposal of biofuels and chemicals) within certified operations. These actions contribute to the reduction of GHG emissions and help protect the soil, surface and ground water from contamination. Some standards include requirements directly on reduction of GHG emissions such as the development and implementation of plans to reduce emissions. Bonsucro and RSPO also include requirements to report on the emissions (Bonsucro, 2014; RSPO, 2013).

Water resources are critical to the healthy functioning of a landscape or ecosystem. The Alliance for Water Stewardship (AWS) has an interesting approach to landscape management of this critical common resource. The standard outlines a series of actions, criteria and indicators for how one should manage water at the site level and how water management should be stewarded beyond the boundaries of a site. While the standard continues to apply to a production unit or site, the certifying company is required to gather catchment level data and to make certain aspects publicly available, including data on overall water availability in the catchment and on what they are doing to mitigate the water risk or challenges if there are any.

In its Principle 7, the SAN standard summarises well the relationship between certified operations and the broader community: ‘Certified farms are good neighbours’ (SAN, 2010). Most standards systems require that entities seeking certification can demonstrate legitimate right to land use and tenure and/or that affected local communities have given their consent regarding the use of natural resources. In general, standards systems expect certified entities to reduce any conflicts and play a role in the development of the communities present in the landscape where they operate (e.g., by providing opportunities for employment and contributing to economic development of the region). Food security is particularly important for biofuels standards such as the Roundtable on Sustainable Biomaterials (RSB). The RSB standard requires certified entities to take responsibility if food security issues are present in the areas where they operate, mitigating any negative impacts that result from biofuel operations (RSB, 2011).

Some standards systems are addressing landscape level issues more directly through optional add-on modules to their core standards. RSPO Next is a recently approved voluntary addendum to the core RSPO Principles and Criteria, focusing on additional requirements for limiting deforestation and peatland development and protecting indigenous people’s rights. According to WWF, successful adoption and implementation of RSPO Next could be

‘...the most practical, robust and transparent way a company can prove it is eliminating unacceptable deforestation from its palm oil supply chain.’

The SAN add-on module on climate change is another example that can yield landscape-level benefits, providing a framework for farmers to receive added value from farming practices that sequester carbon.

1 ecological.panda.org/2015/08/31/rspo-next-the-next-step-for-sustainable-palm-oil
The Six High Conservation Values (HCVs)

**HCV 1 | Species diversity**
Concentrations of biological diversity including endemic species, and rare, threatened or endangered species, that are significant at global, regional or national levels.

**HCV 2 | Landscape-level ecosystems and mosaics**
Intact forest landscapes and large landscape-level ecosystems and ecosystem mosaics that are significant at global, regional or national levels, and that contain viable populations of the great majority of the naturally occurring species in natural patterns of distribution and abundance.

**HCV 3 | Ecosystems and habitats**
Rare, threatened, or endangered ecosystems, habitats or refugia.

**HCV 4 | Ecosystem services**
Basic ecosystem services in critical situations, including protection of water catchments and control of erosion of vulnerable soils and slopes.

**HCV 5 | Community needs**
Sites and resources fundamental for satisfying the basic necessities of local communities or indigenous peoples (for livelihoods, health, nutrition, water, etc...), identified through engagement with these communities or indigenous peoples.

**HCV 6 | Cultural values**
Sites, resources, habitats and landscapes of global or national cultural, archaeological or historical significance, and/or of critical cultural, ecological, economic or religious/sacred importance for the traditional cultures of local communities or indigenous peoples, identified through engagement with these local communities or indigenous peoples.

(Source: Brown 2013, p.3)

Images © HCV Resource Network
High Conservation Value (HCV)

The High Conservation Value approach is a particularly important concept because of its inclusion of both environmental and social values, and its emphasis on the wider landscape in commodity production settings. Originally developed within the Forest Stewardship Council, the HCV approach is a tool for documenting where there are features of critical or exceptional social and environmental value across a given area so that these can be protected and managed for. HCV mapping helps to guide responsible production, which can include stopping conversion, and provides a framework for developing better land use plans for areas that are not yet developed.

There are six core conservation values within HCV, four of which can be assessed within a defined unit (e.g., a forest, plantation, etc.) while two are assessed at a higher, regional level. See Figure 1 below. Other sectors outside timber and fibre (e.g., mining and oil palm) now regularly apply HCV identification criteria to guide their land-use planning.

HCV is centrally integrated into the RSPO standard which requires all operators to undergo a formal HCV assessment. In other standards systems, HCV is proposed as one approach along with more traditional planning tools such as Environmental Impact Assessments (EIAs).

The growth of the concept has spawned an independent network, the HCV Resource Network, which is responsible for developing the assessment methodologies and for training assessors to carry out the HCV assessments in a consistent and competent manner. The Network also supports certification schemes with the integration of HCV into standards, as well as its implementation in practice.

The value of the HCV framework is that HCV mapping can happen at any scale. A study by Daemeter looked at landscape-level HCV mapping across all of East Kalimantan province (approx 18 million ha), following methods outlined in the HCV Toolkit for Indonesia. This study highlights the flexibility and potential of the HCV approach as an organizing framework.

‘The Daemeter study combines detailed mapping and development of management recommendations that can be used directly by land use planners and forestry or oil palm managers with operations that fall within areas covered by the study. Past, present and future projected forest cover has been systematically evaluated to map large forest blocks (HCV 2) and rare and endangered ecosystems (HCV 3) over one-third of Kalimantan, and is [being used to develop] a framework for determining minimum required management action based on current and future threats... It will support a wide range of sustainability initiatives, including certification of responsible practices for forestry and agri-business, low emissions development planning, REDD+ program development and responsible investment screening.’ (Brasser 2012, p.20)
Country risk mapping/crop suitability mapping

Back in 2010 RTRS reached a temporary agreement to restrict the expansion of soy into forest areas and require the use of zoning tools for other areas. In a further adaptation and integration of the HCV approach, RTRS approved the development of macro-scale maps in four countries to guide the expansion of soy in a responsible manner. The overall goal of this project has been to reduce the negative impact of soy expansion on high biodiversity ecosystems and areas of high conservation value in Brazil via the development of a generic methodology and national processes to create broad-scale suitability maps and site-scale HCV assessment guidance for responsible soy expansion. (Brasser 2012, p.19)

The maps for Brazil and Paraguay are already available and accessible through the Global Forest Watch website. They were developed in collaboration with government agencies, ministries and representatives from the financial sector and categorise land into four land use options for future soy expansion, ranging from No Go Areas to areas that are certifiable.

Figure 2 | RTRS soy expansion map Brazil

![RTRS soy expansion map Brazil](image_url)

**Key**

1. Areas which are critical for biodiversity (hotspots), where stakeholders agree there should not be any conversion of native vegetation to responsible soy production.
2. Areas with high importance for biodiversity where expansion of soy is only carried out after an HCV assessment which identifies areas for conservation and areas where expansion can occur.
3. Areas where existing legislation is adequate to control responsible expansion (usually areas with importance for agriculture and lower conservation importance).
4. Areas which are already used for agriculture and where there is no remaining native vegetation except legal reserves and so no further expansion is occurring.

**Intact Forest Landscapes (IFL)**

Intact Forest Landscapes is a concept that was first developed for fast and cost-effective assessment and monitoring of forest degradation in the context of REDD+ initiatives. The concept was adopted by FSC at its most recent triennial assembly. An Intact Forest Landscape is an unbroken expanse of natural ecosystems within the zone of current forest extent, showing no signs of significant human activity, and large enough that all native biodiversity, including viable populations of wide-ranging species, can be maintained. In practical terms, the main ecosystem services for which a payments system has been developed include carbon, water and biodiversity, of which the carbon market is by far the most well-developed.

PES models are among the most mature examples of applying certification to a landscape.

‘The suitability of carbon for certification is reflected in the rapidly increasing number of forest carbon projects that have included some form of certification. For example, the over the counter (OTC) voluntary carbon market exhibits an intensifying use of standards, particularly those that emphasise the co-benefits of forest carbon projects and third-party verification. Hamilton et al.’s (2010) analysis indicated that 86% of all OTC forest carbon offsets originated from projects involving an internal or third-party standard.’ (Meijaard et al. 2011, p.15)

Among the leading certification initiatives for carbon offsets are the UN’s own Clean Development Mechanism that was developed in 1997 following ratification of the Kyoto Protocol, the Verified Carbon Standard, the Gold Standard, and the Climate, Community and Biodiversity (CCB) standards. The CCB standards are indicative of how carbon offset standards can recognise landscape level impacts. The standards

‘...identify land management projects that deliver net positive benefits for climate change mitigation, for local communities and for biodiversity. The CCB Standards can be applied to any land management project, including projects that reduce greenhouse gas emissions from deforestation and forest degradation or from avoided degradation of other ecosystems, and projects that remove carbon dioxide by sequestering carbon.’

It is important to note that the success of carbon accounting and certification in creating a global trading market is due in large part to the ability to disconnect the product (reduced carbon output) from its geographical origin. Someone wanting to offset their carbon footprint can purchase credits from carbon offset projects anywhere in the world. By contrast, the benefits of water and biodiversity as ecosystem services are much more localised. There is a potential market for water availability and quality but this is generally restricted to downstream users in a watershed.

‘Interviews with people active in various PES sectors showed that the overwhelming majority believe that in the short- to medium-term, demand for forest- and agriculture-based carbon credits will vastly exceed demand for other PES systems, although demand for these, notably PES for water and biodiversity conservation, will continue to grow.’ (Meijaard et al. 2011, p.8)

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1. [www.intactforests.org](http://www.intactforests.org)
2. [www.intactforests.org/world.map.html](http://www.intactforests.org/world.map.html)
Unit of certification

We have already established that since certification most often applies at a production unit level, the extent to which it can influence landscape level impacts is limited. However, it is not always the case that certification takes place at the production unit. In the case of the Marine Stewardship Council (MSC), the unit of certification is the fishery itself, bringing together numerous fishing vessels within a jurisdiction under a common management plan. With forest certification, there is potential for the same type of scale, where watershed or jurisdictional-scale forest management units are certified.

Where certificates are held either by groups of producers or at the mill level, there is potential to look at impacts across multiple producers. Individual producers that supply into a mill or producer group are generally clustered in geographic proximity. While geographic proximity is not the only factor that determines whether a producer joins a group, it is a useful indicator. As we start to better understand where exactly each production unit is situated (through mapping), standards systems or the groups themselves can be more proactive in recruiting additional producers from within a given landscape.

However, having groups of producers operating in a landscape is only a first step to achieving broader landscape impacts. In a note of caution, LPFN highlight that the coming together of a group of producers may not in itself be sufficient to derive landscape level impacts, without more explicit planning and coordination:

‘Our assessment suggests that aggregated interventions at the farm-level across an entire region may not sufficiently address risks beyond the farm, such as water scarcity or labour issues. Deliberate integrated planning and coordination of interventions across a landscape appears to yield more cost-efficient landscape scale results than many, uncoordinated, interventions in aggregate. This is particularly apparent in cases seeking to address multiple complex risks, such as poverty and climate change adaptation.’ (Kissinger et al. 2015, p.15)

A relatively new initiative that seeks to overcome the challenge of certifying at a production unit level is the Landscape Standard, being spearheaded by the Verified Carbon Standard (VCS). The Standard goes beyond current farm-level frameworks and allows users to assess and communicate the broad social and environmental outcomes of sustainability efforts (being undertaken by producers, governments, civil society and other actors) across entire landscapes. The Standard can help align the goals of the various stakeholders operating within a landscape and link measured performance to external incentives and sources of finance. (Ching, 2016, pers. comm., 26 February)

‘Rather than using a traditional certification model focused on end consumers, the [Landscape Standard] will provide the platform to monitor and report incremental progress over time, to identify sustainability risks and opportunities, and provide valuable information to decision makers and supply chain actors, including investors and commodity buyers.’ (Denier et al. 2015, p.134)

In their approach, VCS is seeking to leverage their experience in landscape applications of carbon offset standards (see section on Jurisdictional REDD+) to tackle a broader range of sustainability issues while ensuring the approach is streamlined and scalable.

Case study 1 | RTRS Community

RTRS is also developing a landscape level learning platform that supports certification. The concept, still in its early phase, has been defined as RTRS Community which is a group of producers that:

› were audited and certified for the first time (individually or group);  
› operate in a common geography/landscape;  
› voluntarily decided to integrate as a Community with a common binding factor; and  
› will develop exchange networks within the Community and with other interested producers (Frojan, 2015, pers. comm., December)

Producers will come together around a range of binding factors that could include belonging to the same association, participation in a development programme, or RTRS certification. This approach doesn’t necessarily rely on political boundaries to establish the geographic area under certification, which could in fact vary greatly depending on what binds the producers together.

The motivations for this approach include avoiding the exclusion of smallholders and creating an environment for continuous improvement and exchange of knowledge. Each RTRS Community is expected to encourage and support the lower performing producers within its Community and will carry out self-evaluations, promote learning and exchange, and include non-certified producers. RTRS planning to conduct a pilot project in India in 2016 and, as is characteristic with landscape approaches, is seeking government and industry support to facilitate knowledge transfer activities.
Learning platforms

In the agricultural sector in particular, standards systems are recognising that a range of other support activities beyond certification are required to move producers along the path to more sustainable production. In particular a number of the standards systems have integrated capacity building and community convening as key strategies through which to improve producer performance and, in some cases, to meet the certification standard.

This includes a focus on facilitating land use planning agreements and instituting peer learning and support models. By bringing a broader range of producers together at all levels of performance, there is more flexibility to address issues at a landscape level. Interventions can involve multiple actors across the landscape and can support activities like the development of ecological corridors or watershed-level water management that wouldn’t be possible when only working with certified producers.

Case study 2 | Climate Cocoa Partnership for REDD+ Preparation

In many cases landscape approaches that are focused on capacity building are implemented as a collaboration between standards systems and corporate actors. Olam, a global agribusiness that grows, sources, trades and processes food and industrial raw materials, partnered with Rainforest Alliance (RA).

The company identified that cocoa farming communities in the region of Western Bia-Juabeso, Ghana could be severely affected by deforestation and climate change and saw the SAN standard as an important mechanism to mitigate the risks affecting this particular landscape. Through this cross-sector (cocoa and forestry) landscape initiative, thousands of farmers were trained on the SAN standard and add-on climate change module.

The initiative sought to improve the quality of the cocoa, bring higher incomes for farmers, encourage intercropping and maintain carbon stocks, all with the aim of reducing the conversion of forest to farmland, conserving biodiversity, and reducing supply chain risks. By working with local communities and the Forest Commission, communities were also expected to increase their capacity for REDD+ readiness.

This project has also increased the capacity of farmers to monitor changes over time. RA staff trained 62 lead farmers in 2013 to map the boundaries of 1400 cocoa farms and collect information on household characteristics and best management practice adoption. Lead farmers were able to provide immediate farm area calculations to producers while also improving the capacity of the internal management systems. It allowed organisations in the project to have a clear baseline to compare to in order to quantify changes in adoption of practices and key outcomes.

Case study 3 | Bonsucro Landscape Origins

Bonsucro is beginning to explore how to work at a landscape level through a focus on growing origins (e.g., regions). Bonsucro members recognise that there are a variety of systemic issues in the sugar cane industry such as child labour, deforestation/forest restoration, and water availability that require collaboration by actors through a multi-sector approach. Bonsucro is in dialogue with a number of actors to conduct four pilots in regions where systemic issues have been identified and where cross-sectoral stakeholders are interested to work together. These include São Paulo (Brazil), New South Wales (Australia), Swaziland (Africa), and Tamil-Nadu (India). (Ogorzalek, 2015, pers. comm., December)

Bonsucro will act as convener and facilitator of the process while relying on local champions to advance the landscape agenda. Local leaders are ideally positioned to share best practices in sustainable sugar cane production, help set baselines for the region, and lead development of a locally owned vision and implementation plan. This landscape approach is not intended to lead to certifying a particular region or requiring certification in that region. Rather, the mills and sugar cane farmers will improve performance and address systemic issues in a manner that increases the uptake of the standard in the landscape origin while encouraging a more coherent approach to continuous improvement.

Jurisdictional approaches

As we shall see in Section 4, there are a number of initiatives that are trialling jurisdictional approaches, bringing together state or provincial governments, producers and companies in multi-stakeholder land use planning and monitoring. In response to the desire to find scalable solutions for certification, RSPO is trying a similar approach (see Case Study 4). The jurisdictional approach has various advantages:

‘... it can benefit from economies of scale to lower certification costs, reduce costs for monitoring deforestation and has the potential to link-up with a country’s REDD+ programme, possibly taking advantage of a source of funds and the ability to account for leakage. A jurisdictional approach could cover a range of products in supply chains in a region, identify high risk areas where strict requirements of no deforestation are needed, help mitigate risks for commodity buyers in their sourcing practices and link producers to incentives and markets.’ (Smit et al. 2015, p.21)

RTRS is also experimenting with the design and implementation of low-emissions jurisdictional approaches. In Paraguay, for example, RTRS is developing a multi-stakeholder platform that includes local governments, soy producers, international donors such as USAID, and other roundtables such as the Round Table on Sustainable Finance, to pilot jurisdictional approaches. They are carrying out similar activities in Brazil, where the standards system is working in the state of Mato Grosso and through the Task Force Brazil to explore the possibility of jurisdictional approaches at the municipality level.8

Monitoring and evaluation

The monitoring and evaluation (M&E) systems of sustainability standards can be robust tools to learn about and demonstrate the contributions that standards systems are making at a landscape level. As one example, Rainforest Alliance developed a Natural Ecosystem Assessment (NEA) set of tools that they use to assess the condition of natural and semi-natural ecosystems on and near certified farms.

The NEA works by tracking changes in on-farm vegetation, including tree diversity and structure; land use on and adjacent to certified farms; and, broader effects on forest encroachment, conservation and connectivity. Monitoring is conducted at the landscape, farm and plot scales, and usually occurs before and after training and certification. The results of the NEA can help to answer questions about land cover changes, the degree to which certain practices...
to determine the extent to which observed changes can be attributed to the work of the standards system as opposed to other external factors.

When assessing sustainability impacts, standards systems also pay attention to the unintended (positive and negative) long-term consequences of its interventions. In this undertaking, the focus clearly goes beyond the boundaries of the certified unit. For example, certification may contribute to the intensification of agriculture and pose a challenge for food security in a community. Conversely, standards may have positive, unintended spill over effects on neighbouring non-certified enterprises that adopt better practices from nearby certified enterprises.

Table 3 provides a sample of standards systems’ M&E indicators that can yield valuable information for landscape level objectives, such as achieving zero deforestation and conserving biodiversity:

Table 3  Examples of M&E indicators of ISEAL members that can help inform landscape issues

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land area of natural forests in certified operations</td>
<td>Type of RTE species</td>
</tr>
<tr>
<td>Land area under sustainable management</td>
<td>Fertiliser usage</td>
</tr>
<tr>
<td>Land area of identified HCV classes</td>
<td>GHG emission</td>
</tr>
<tr>
<td>Land areas of set aside areas</td>
<td>Water quality in water bodies on or near production or business unit</td>
</tr>
<tr>
<td>Land areas managed for ecosystem services exclusively</td>
<td>Amount of water used per ha or tonne of product for irrigation</td>
</tr>
<tr>
<td>Land use change</td>
<td>Redistribution of eroded soil</td>
</tr>
<tr>
<td>Percentage of tree cover</td>
<td>Soil fertility and soil loss</td>
</tr>
<tr>
<td>Vegetation structural diversity</td>
<td>Number of beneficial organism/ microorganism</td>
</tr>
<tr>
<td>Plant functional type diversity</td>
<td>Soil organic carbon</td>
</tr>
<tr>
<td>Presence and absence of RTE species</td>
<td>Number of predatory mites</td>
</tr>
<tr>
<td>Reduction in the use of highly hazardous pesticides</td>
<td>Soil erosion (loss of top soil in percentage per annum)</td>
</tr>
</tbody>
</table>
At the landscape level, where multiple certification and actors operate, the existence of common M&E indicators and robust location data is paramount. Common M&E indicators make it easier to collate and analyse information across organisations working in the same region, increasing and deepening learning about sustainability challenges at the landscape level. Having common indicators also facilitates shared testing and further improvement of indicators. In this context, a number of ISEAL members working in agriculture and forestry have made commitments to incorporate ISEAL Common Core Indicators\textsuperscript{10} into their M&E systems over time. Other initiatives have also developed common indicators that can serve as additional sources of information, such as the Sustainable Food Lab 2016 document, Shared Approach to Smallholder Performance Measurement.\textsuperscript{11}

The following ISEAL Common Core Indicators are particularly relevant to help understand the collective impact of sustainability standards on environmental issues such as deforestation and could be compiled at regional or landscape levels:

- Hectares of land covered by the standard
- Hectares in conservation management areas or set-asides
- Tree cover density and diversity
- Observed erosion rating or Erosion risk level
- Waste management
- Efficiency of water use
- Reduction in use of highly hazardous substances
- Efficiency of fertilizer use
- Soil health

Location data

Location data is a fairly basic prerequisite for land use planning. At minimum, this is about locating certified operations on a map but more progressively it is about creating polygon maps of the area within certified production units so that these can be overlaid on land use maps to get a better sense of land use patterns and interaction with other landscape features such as protected areas or areas of high conservation value. Additionally, they can provide insight into opportunities to improve connectivity and ecosystem benefits.

Standards systems have only recently started to integrate location data into their systems and have begun by focusing on point information about their certified operations. These interactive maps provide basic data about the name, size and product focus of each certified operation. Two examples are from Rainforest Alliance and UTZ.\textsuperscript{12}

At a broader scale, a project led by the University of Cambridge and supported by the Cambridge Conservation Initiative (with partners including Rainforest Alliance, RSPB, and Birdlife International) has developed a global database of the locations and basic characteristics of certified farms in the tropics. The database is being used to assess the distribution of certified crops in relation to areas important for biodiversity, frontiers of land clearance, and places with a density of smallholder farmers who might potentially benefit from certification. The project is also using this information to identify priority regions and policy interventions for better spatial targeting of certification.\textsuperscript{13}

Looking to polygon maps, Cambridge Conservation Initiative and Rainforest Alliance are working together to build a database and map of the locations of certified farms in the tropics. The database will be used to assess the distribution of certified crops in relation to areas important for biodiversity, frontiers of land clearance, and places with a density of smallholder farmers who might potentially benefit from certification. They will use the results to identify priority regions for better spatial targeting of eco-certification.

Similarly, mapping of concessions is being undertaken by initiatives outside of standards systems, including the Sustainable Palm Oil Transparency Toolkit of the Zoological Society of London,\textsuperscript{14} powered by data from Global Forest Watch (GFW). RSPO is also working with GFW and has recently confirmed\textsuperscript{15} that it will publish all digital maps of its members’ oil palm concessions worldwide, except for Malaysia, where

\textsuperscript{10} www.isealalliance.org/sites/default/files/ISEAL%20Common%20Core%20Indicators-%20July%202013.pdf
\textsuperscript{11} www.sustainablefoodlab.org/performance-measurement/tools-resources/deep-dive
\textsuperscript{12} www.rainforest-alliance.org/work/impact/map and www.utzcertified.org/products/interactivemap
\textsuperscript{13} www.conservation.cam.ac.uk/collaboration/eco-certification-tropical-crops
\textsuperscript{14} www.sustainablepalmoil.org/about
the legality of the public disclosure of concession maps continues to be ambiguous within the laws of the country. RSPO will make this information publicly available during the second quarter of 2016 via the GFW platform.16

Another project in development is the Transparent Forests initiative of FSC. FSC is part of a consortium that is designing and evaluating a customized GIS-based service that will combine accurately time-tagged optical and radar satellite imagery—at medium to high resolution—with geo-referenced, in-situ forest management data to improve transparency and stakeholder engagement. Testing of the platform is anticipated in Q1 of 2016 with the tool being launched in the second half of 2016.17

It is clear that there is a real added value for sustainability standards and partners to collect location data. Not only is it useful to understand the impact of one standards system on a landscape, but when data is combined from multiple standards systems, there are added benefits. For example, standards systems like the Alliance for Water Stewardship would then be able to identify concentrations of certified enterprises and build add-on modules to help these enterprises to collectively address water issues within a landscape.

Based on ISEAL’s experience working with sustainability standards, we recommend that location data is collected for the six categories outlined below. Each category requires a different level of effort, which has implications for human and financial resources. Categories 4 to 6 are particularly challenging for most sustainability standards but feasible in certain circumstances. In category 6, for example, these types of maps often do exist for large forest management units and plantations but are not easily accessible or systematically available for use in research and other types of analyses.

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16 www.globalforestwatch.org
<table>
<thead>
<tr>
<th>Categories for location data</th>
<th>Applies to</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Country The boundaries of the country (and potentially sub-divisions) are used to specify location of certified operations.</td>
<td>Certificate holder (individual and group)</td>
</tr>
<tr>
<td>2 Geographic point identifier for certified production area Latitude and longitude point for production area associated with a particular certificate (e.g., group certificate with multiple certified entities).</td>
<td>Certificate holder (individual and group)</td>
</tr>
<tr>
<td>3 Digitized geographic polygon of estimated certified area Although this is only an estimate of area certified, it improves specificity and magnitude of geographic coverage for improved analyses. There are different methods to generate this, either through circle bubbles that represent area under certification or by manually drawing and digitizing more discrete polygons as KML/KMZ files.</td>
<td>Certificate holder (individual and group)</td>
</tr>
<tr>
<td>4 Geographic point identifier for certified production area Latitude and longitude point for production area associated with a defined certified entity within a certificate holder (e.g., group members)</td>
<td>Certified entity (group members)</td>
</tr>
<tr>
<td>5 Digitized perimeter of certified production area for each certificate holder For group certificates, this increases the specificity of distribution and location of the certified production units (individual farm plots, FMU, mills, mines, etc). Similarly, for individual certificates, this would provide a more defined perimeter.</td>
<td>Certificate holder (individual and group)</td>
</tr>
<tr>
<td>6 Detailed certified area maps These maps detail how the certified area is used. Includes the actual area of certified commodity and important set aside areas like riparian buffer zones, high conservation value areas, other crops, worker housing, etc.</td>
<td>Certified entity (group members)</td>
</tr>
</tbody>
</table>
3.2 Examples from other initiatives

Mitigating risks

The commitments to zero deforestation have spawned many new initiatives for responsible sourcing beyond what is offered by sustainability standards. A common theme running through these initiatives is their focus on risk mitigation strategies, seeking more accessible and scalable tools that limit company exposure to critical threats to social and environmental integrity within their supply chains.

In the best cases, these tools are stepping stones that get producers on the improvement ladder and move them toward more sustainable practices; in the worst cases, they can provide superficial assurance that single issues have been addressed, while creating disincentives for addressing sustainability more holistically.

Responsible Sourcing from Smallholders (RSS)

Smallholders face particular challenges in achieving certification and accessing global supply chains, including basic requirements such as securing land tenure and accessing financing. Much like the learning platforms above, there are other tools that complement certification by providing a framework to support producers in their journey toward more sustainable practices. These tools define minimum entry requirements based on mitigating key risks in the supply chain, then build out support programmes to improve producer practices beyond those minimums.

One example is the Responsible Sourcing from Smallholders (RSS) framework from the Smallholder Acceleration and REDD+ Programme (SHARP) that sets out an approach for supply chain companies to engage with their smallholder suppliers on responsible production of agricultural commodities. The RSS framework is intended to complement and act as a stepping stone to achieving certification. The approach seeks to define minimum requirements for responsible production that smallholder producers must meet, while in parallel ensuring that incentives and support are provided to improve agricultural practices and livelihoods. It requires that two ‘pillars’ are implemented in parallel:

- **Pillar 1** on core sustainability issues, provides for assessment of risks relating to core issues in the smallholder supply base and identifying measures to mitigate them.

- **Pillar 2** on farmer support focuses on the active support that supply chain and producer companies commit to provide to smallholders, relating to better agricultural practices, improving livelihoods, building robust smallholder institutions and increasing yields and food security. This can then provide the basis for long-term improvement and sustainability.18

Figure 4 | Schematic representation of the two RSS pillars

<table>
<thead>
<tr>
<th>Pillar 1 Minimum core issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land rights and conflict</td>
</tr>
<tr>
<td>Deforestation and land conversion</td>
</tr>
<tr>
<td>Labour rights and working conditions</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pillar 2 Support for smallholders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Better agriculture practices</td>
</tr>
<tr>
<td>Improved livelihoods and institutions</td>
</tr>
<tr>
<td>Better yields and food security</td>
</tr>
</tbody>
</table>

Source: (SHARP n.d.)

18[www.sharp-partnership.org/sharp-programmes/responsible-supply-chains-for-smallholders](http://www.sharp-partnership.org/sharp-programmes/responsible-supply-chains-for-smallholders)
**TFT ‘Mass balance+’**

The Tropical Forest Trust (TFT) has developed an approach through which they hope to streamline the availability of traceable palm oil from responsible sources. Improving upon the traditional approach to mass balance certification of palm oil, TFT starts by working with the mill or refinery to see if they can source all their inputs from certified production or from those suppliers willing to improve their practices over time. By ensuring that 100% of what comes out of their facility is environmentally and socially responsible, there is no need for further segregation downstream, with its commensurate costs and complexities.

The plus in mass balance+ is that the system requires traceable production and no deforestation. It is essentially creating a lower entry bar for recognition of palm oil suppliers that have not achieved certification but that have committed to no deforestation and to improve their practices over time. The refineries are required to commit to the following criteria:

- Achieve full traceability back to the farm, plantation, or group of smallholders;
- Create a way to assess and monitor its suppliers’ current practices but also their willingness to improve, and support to achieve real change;
- Eliminate from the supply chain those plantations and growers who are not performing well in terms of sustainability and who are not interested in changing.

If a refinery or mill achieves full compliance on all three points, then the totality of the palm oil which flows into the plant can be considered:

- Traceable;
- A mix of responsible and moving towards responsible (with the entry level of responsibility being a commitment to implement a no deforestation policy);
- Certified as containing a certain percentage of RSPO certified oil from plantations that have also committed to no deforestation. (Smit et al. 2015, p.15)

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**Figure 5 | Schematic representation of TFT’s ‘Mass Balance+’**

Source: Smit et. al 2015
GCP INFORM

The Global Canopy Programme is developing a tool in conjunction with the Oxford e-Research Centre and the EU-REDD Facility, hosted by the European Forest Institute. INFORM, the International Forest Risk Model, aims to provide businesses, public procurers, and financial institutions with assessments of their risk of exposure to deforestation through their purchases and supply chains.\textsuperscript{19}

Through criteria-based assessments and probability calculations using a wide range of global data sets, INFORM assesses the risk that a product or commodity is linked to deforestation. By assigning risk ratings to specific supply chains, it allows companies to avoid the costs of internal supply chain assessments and to focus their supply chain audits in the areas that carry the highest risks. This is an example of how technology and data availability is enabling us to develop a more nuanced understanding of where the risks are within landscapes and, in this case, supply chains, to inform not only where to source from but where to focus additional capacity building or auditing resources.

The risk model platform under development calculates the deforestation ratio of a certain commodity during a particular year in a given region, and how this commodity is fed into export and import pipelines. This ratio focuses on the proportion of a commodity at different points within the supply chain that has made a contribution to deforestation. An example of the calculation is given here:

\textsuperscript{19}globalcanopy.org/projects/international-forest-risk-model

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**Figure 6 | GCP INFORM Representation of contributions to deforestation**

Source: GCP 2016
Monitoring deforestation

**High Carbon Stocks (HCS)**

One of the fundamentals underlying zero deforestation commitments is an understanding of what constitutes a forest. While straightforward on the surface, this question has spawned the development of two competing methodologies under the rubric of High Carbon Stocks. The HCS Approach was developed first in 2014 by leading Indonesian palm oil companies, Greenpeace and the Tropical Forest Trust (TFT) in the context of oil palm plantations. The HCS Approach uses satellite images of a concession together with ground plots to classify vegetation and identify potential HCS forest areas. Degraded areas that are not HCS forest may then be developed.

For example, areas in the lower vegetation classes (low carbon and biodiversity), such as shrub and grassland can be considered for conversion into plantations. The methodology includes a participatory mapping process with communities to identify their land uses and integration of conservation science principles to assess forest patch size, shape, ‘core’ area, connectivity, and biodiversity values in smaller patches. HCS forest areas are then integrated with High Conservation Value (HCV) areas, peat land, and riparian zones to propose a conservation plan for the concession. (Greenpeace 2014)

In early 2015, a second methodology was released by the Sustainable Palm Oil Manifesto under the title of the High Carbon Stock Study (HCSS). In addition to identifying HCS forests that must be protected, this second methodology also focuses on balancing socio-economic interests:

‘The key to this is to seek carbon-neutrality across an entire concession, balancing carbon losses through conversion, against carbon gains elsewhere, while promoting socioeconomic improvements for local communities in and around concessions.’

(Raison et al. 2015, Foreword)

HCS+ has been criticised as too costly because it is more scientifically rigorous and requires plane-based LIDAR remote-sensing mapping. It also reduces the definition of
zero deforestation to zero net carbon emissions, thereby focusing solely on climate issues to the detriment of other ecosystem values.

While there are significant political interests battling to determine which methodology will succeed, ultimately this is one tool that will help to provide basic information for landscape maps and planning approaches. HCS in itself is not sufficient because it doesn’t recognise encroachment into non-forest areas, e.g., commodities expanding into grasslands. Ideally, the HCS methodologies will be integrated with HCV mapping to provide a more complete picture of the conservation values in a given landscape.

Land use mapping

One of the concepts that is gaining most traction is the categorization of landscapes by layering risks factors onto a map to get a picture of the potential sustainability of production in different areas.

Much like the RTRS soy suitability maps, these initiatives define risk categories, each of which then elicits different responses. For example:

- **a low risk area** may be deemed suitable for sourcing or for future expansion of production;
- **a medium risk area** might require a more detailed assessment, such as a high conservation value assessment, or an action plan to mitigate identified risks;
- **a high risk area** may disqualify production or sourcing from within that area.

An example of this is a collaboration between WRI, Proforest, Rainforest Alliance and Daimeter in which they are working to develop a risk-based categorization of mills based on an assessment of social and environmental data within a 50km radius of the mill, which is the likely producer catchment area. (Lake, 2015, pers. comm., 14 December)

This risk-based mapping gives an indication whether there are high risk activities in the catchment of the mill. As with all risk-based modelling, it is based on probabilities. Just because a mill is located in a high risk area doesn’t automatically mean that the mill is sourcing high risk inputs. Ruth Nussbaum of Proforest notes that in these cases, certification provides an easy way to show that the mill is doing a good job in a high risk area. (Nussbaum, 2015, pers. comm., 14 December)

SNV FLOW

Together with Akvo, the Netherlands Development Organisation (SNV) developed a traceability system that can trace production from the processor to the farm level at very low costs. FLOW is a geo-traceability tool for collecting, evaluating and displaying geographically referenced data on yields, inputs and management. Complemented with a forest monitoring system using remote sensing, FLOW provides a cost efficient option to demonstrate no deforestation in supply chains.

In the implementation of the system, the plantations of a farmer group are mapped and are given a unique code that is placed at the collection point and tracked using a mobile application. In parallel to the tracking and monitoring of production, forest cover around the plantations is monitored through remote sensing. Combined with web-based tools, up to date and high resolution data on forest cover is collected using drones. After an initial scoping to map the set aside forests in detail, in particular the frontiers, regular surveys are carried out to track changes in forest cover over time. When working with companies and smallholders in a landscape, sourcing agreements are made about which areas can and cannot be sourced from. Once it is clear where a company is sourcing from, sourcing from unsustainable areas can be prevented and deforestation around production fields can be monitored. (Smit et al. 2015, p.23)
SNV Siting Tool

SNV has developed a siting tool that aims to identify degraded lands suitable for sustainable agricultural expansion.

‘Instead of creating a new set of criteria, this tool uses existing criteria from leading sustainability initiatives for the relevant sector and ‘translates’ these into spatially relevant measurable indicators that enable site selection in line with selected sustainability criteria.’ (SNV 2015)

Interestingly, the development of criteria for the siting tool was based on a consolidation of criteria from three sustainability standards relevant to the test case (palm oil in Indonesia):

› RSPO
› Roundtable on Sustainable Biomaterials (RSB)
› EU Renewable Energy Directive (EU RED)

The table below shows the principles, criteria and indicators chosen to inform the Siting Tool. See Figure 7.

Subsequently, low, medium, high and unsuitable risk classes were developed for each of the indicators. With data collected across a landscape, SNV was able to develop an agricultural land use expansion risk map for West Kalimantan. The results of the biophysical suitability analysis are then combined with an analysis of high conservation values for the region and depicted in a Risk Indicator Map which identifies zones in the landscape that could be converted for agricultural use without significant conflict with conservation values. The combined results permit a visualisation of the areas which are suitable for sustainable agricultural expansion (low risk areas), where forests should be conserved (high risk areas), as well as a suite of options in-between. (SNV 2014, p.40) The spatial information then informs appropriate intervention options and the types of risks involved.

Figure 7 | SNV Siting Tool Criteria and Indicators

<table>
<thead>
<tr>
<th>Principle</th>
<th>Criteria</th>
<th>Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 The area is biophysically suitable for palm oil cultivation</td>
<td>1.1 Suitable climate</td>
<td>1.1.1 Rainfall</td>
</tr>
<tr>
<td></td>
<td>1.2 Suitable topography</td>
<td>1.2.1 Slope</td>
</tr>
<tr>
<td></td>
<td>1.3 Suitable soil</td>
<td>1.2.2 Elevation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.3.1 Drainage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.3.2 Soil texture</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.3.3 Soil depth</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.3.4 Soil erosion risk</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.3.5 Soil chemical properties</td>
</tr>
<tr>
<td>2 Conservation values must be maintained or enhanced</td>
<td>2.1 Valuable biodiversity is protected or enhanced on a population, meta-population and ecosystem level</td>
<td>2.1.1 Formal conservation values and conservation areas (HCV1.1)</td>
</tr>
<tr>
<td></td>
<td>2.2 Ecosystem services are maintained</td>
<td>2.1.2 Distribution and habitats protected and endangered species (Red list, CITES) (HCV1.2, HCV1.3, HCV1.4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.1.3 Endangered ecosystems, intact landscapes, and large scale intact forest (HCV2, HCV3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.2.1 Hydrological functions (HCV 4.1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.2.2 Erosion risk (HCV 4.2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.2.3 Buffer zones large scale fire (HCV 4.3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.2.4 Carbon stocks</td>
</tr>
<tr>
<td>3 Human wellbeing is ensured and land (use) rights are respected</td>
<td>3.1 Community use is respected</td>
<td>2.1.1 Displacement of current land use is avoided or compensated for through FPIC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.1.2 Valid ownership claims are respected</td>
</tr>
</tbody>
</table>

Source: SNV 2015
The World Resources Institute (WRI) offers a wide range of publicly available interactive maps that allow for modelling and land use management decision-making. Of most relevance here are the Global Forest Watch (GFW) database and more recent variations, GFW Commodities and GFW Fires. The GFW database is quickly becoming the backbone for many of the landscape mapping initiatives. Global Forest Watch is a dynamic online forest monitoring and alert system that brings together satellite technology and open data to provide access to timely and reliable information about forests. GFW-Commodities provides business-relevant analyses through several tools, including the Forest Analyzer, Suitability Mapper, and RSPO assessment tools.

In complement to the GFW database, WRI is working on a suite of new projects assessing risks to deforestation at different levels of detail. The first is looking at mill level risk for palm oil. The second is working at the jurisdictional level with WWF, developing a model that adapts the mill methodology for application to jurisdictions. WWF’s interest is in governance, to get a picture of how governments are enforcing local regulations or best practices. The third initiative is landscape level heat mapping where WRI is creating a grid map that can indicate relative threat level at a 500m² resolution by overlaying different indicators and scoring relative risk (e.g., peat, primary forest, fire, etc. all weighted). The data quality available to GFW varies by indicator, e.g., tree cover loss data is excellent with close to real-time updates at 30m resolution, while forest type and previous land use data is less detailed.

WRI is committed to ensuring data remains freely available and useful for different applications. They are interested to continue to build partnerships for improved data sharing with e.g., the Zoological Society of London (see ZSL SPOTT tool) so that when ZSL gets data from companies they can also share this with GFW to strengthen their data set. WRI tools are complementary to certification and are starting to be more deeply integrated into them. For example, RSPO wants to move from visualizing location data for certified operations and for fires to analysis or alerting functions, e.g., when a fire is noted in a certification unit then the company is alerted and they can post evidence (photos) when they have addressed the problem. In 2016 WRI plans to work on a core template or wireframe that can be adapted for various uses. They are also exploring a verification platform to share data between companies that have overlapping assessments of mills and could set up a portal with different levels of access. (Lake, 2015, pers. comm., 14 December)
ZSL Sustainable Palm Oil Transparency Toolkit (SPOTT)

The Sustainable Palm Oil Transparency Toolkit is a project of the Zoological Society of London (ZSL) to provide practical information and resources to stakeholders in the palm oil industry, in order to reduce its negative environmental impacts. SPOTT features a company scorecard that assesses fifty of the world's largest palm oil producers with quarterly tracking of progress against a range of indicators including GHG emissions, peatlands, fire, and RSPO reporting requirements. ZSL also includes site level KPIs in SPOTT to demonstrate progress to company commitments. The scorecard is supplemented by a dynamic, interactive map of the palm oil concessions that draws its data from WRI Global Forest Watch. See Figure 8.

ZSL is seeking to develop a transparent framework around environmental commitments, providing the information their stakeholders, including financial institutions, have indicated is important. Current work under SPOTT is starting with assessments of whether policies are in place. From there, they are starting to look at how these policies are implemented by including sections on Media stories and additional criteria that they plan to layer onto the map.

ZSL also has a separate tool, the Spatial Monitoring and Reporting Tool (SMART) that looks at HCV 1-4, seeking to standardize the approach. Additionally, they are working with the Forest People’s Programme on application of the tool to HCV 5 and 6. For example, in South Sumatra they are supporting a proposed jurisdictional approach, covering forestry, oil palm, and some oil and gas. ZSL helps to develop the landscape level management plans and use tools from the project. (Clarke, 2015, pers. comm., 14 December)

Figure 8 | ZSL SPOTT map of palm oil concessions

Source: www.sustainablepalmoil.org/about
Jurisdictional and landscape approaches

M&S and Unilever recently raised the profile of jurisdictional approaches by making a commitment to preferential sourcing from jurisdictions moving toward sustainability. (TFA 2020 2015) They require that these jurisdictions have:

›› A strategy for how to reduce emissions from forests and other lands whilst increasing agricultural productivity and improving livelihoods;
›› A system for measuring and monitoring reductions in greenhouse gas emissions from deforestation and an established baseline;
›› A commitment to adhere to social and environmental safeguards and monitor these efforts;
›› High-level political commitment to, and support for, the compact’s design and implementation from government partners;
›› Stakeholder engagement in the compact’s development and implementation; and
›› Location in a country with an ambitious national UNFCCC target (currently called an Intended Nationally Determined Contribution or INDC).

While this commitment is focused narrowly on emissions reductions, it shows that companies are starting to recognise the importance of engaging governments and other local stakeholders in landscape level dialogues. As Daniel Nepstad, a long-time advocate and leading actor on jurisdictional approaches, has noted,

‘Supply chain approaches will not go to scale without the help of government. Public policies will not work without effective engagement of businesses and farm sectors. Neither will succeed without the effective involvement of rural communities... Currently, these strategies are operating in isolation, working towards very similar goals, but with very different metrics, narratives, and processes.’ (Nepstad et al. 2014, p.2)

We are starting to understand the importance of a holistic approach to landscape management.

In addition to the work of standards systems such as RSPO to develop jurisdictional approaches, there are a range of initiatives implementing approaches that look to landscape management at a jurisdictional level. Among these are numerous examples of jurisdictional REDD+:

›› National programs such as the Brazilian Government’s Green County program for the Amazon;
›› The Forests, Farms and Finance Initiative (3FI) of the Earth Innovation Institute;\(^{21}\)
›› Ecoagriculture Partner’s Landscapes for People, Food and Nature (LPFN) initiative;\(^{22}\) and
›› IDH’s Initiative for Sustainable Landscapes (ISLA).\(^{23}\)


\(^{22}\)[peoplefoodandnature.org](http://peoplefoodandnature.org)

Jurisdictional REDD+

Reducing Emissions from Deforestation and Forest Degradation (REDD) is an effort to create financial value for the carbon stored in forests, offering incentives for developing countries to reduce emissions from forested lands and invest in low-carbon paths to sustainable development. Jurisdictional REDD+ looks at emission reductions holistically across jurisdictions. In general, governments working on REDD+ are moving to support jurisdictional accounting because countries have committed through UNFCCC to national level baselines. This means that provincial or state jurisdictions now need to figure out how to meet these targets. UNFCCC has incentivized this approach but full REDD accounting remains complicated. (Ching, 2015, pers. comm., 14 December)

The Verified Carbon Standard’s Jurisdictional and Nested REDD+ (JNR) framework takes carbon accounting focused on forestation-related issues one step further. The jurisdictional proponent applying JNR is usually the government, such as in Acre Brazil, Costa Rica, Ghana or the Democratic Republic of Congo. Governments establish a jurisdictional baseline based on a governance or landscape unit, then, if they are able to reduce emissions over time, they can qualify for Verified Carbon Units (VCUs) or credits.

JNR also enables the integrated accounting and crediting of individual projects operating within the jurisdiction, based on site-level performance. By supporting carbon accounting at both scales, JNR has the potential to link to emerging UNFCCC mechanisms operating at the national level, while attracting private investment into projects. Not surprisingly, government leadership is key to these jurisdictional REDD+ approaches. (Ching, 2016, pers. comm., 26 February)

With the exception of RSPO, where the goal is to get every producer in a jurisdiction certified over time, the common perception and application of the jurisdictional approach is to encourage minimum sustainability performance across a landscape, through the use of carrots and sticks. We can see jurisdictional approaches as part of the solution, acting as an entry point for producers to work towards certification or other higher performance bars. In this way, certification can help to take the pressure off jurisdictional approaches by preventing them from trying to be everything to everyone, while jurisdictional approaches can take pressure off standards systems to lower their standards. (Nussbaum, 2015, pers. comm., 14 December)

IDH’s Initiative for Sustainable Landscapes

IDH, the Sustainable Trade Initiative, convenes public and private partners in pre-competitive action to drive sustainable market transformation in 18 international trade sectors. Their Initiative for Sustainable Landscapes (ISLA) complements IDH’s work on supply chain transformation, focusing in on eleven agricultural commodity producing landscapes. ISLA brings public and private sector actors together to co-invest in a landscape agenda – the sustainable management of natural resources in the area where agri-commodities are produced. They place a strong focus on the development of the business and investment case for various stakeholders. Company engagement and co-funding are important elements but the initiative is also seeking to involve governments directly as project implementers, which helps to build their buy-in to the initiative.

In each of the first six regions IDH has found that they needed to support the development of new governance structures since none existed that brought together the necessary range of stakeholders across multiple commodities and production sectors. With the governance bodies now in place, each region has defined baseline data and is starting to develop 10 to 15 year master development plans within which projects will operate. Projects are mainly developed by local actors starting to work together.

The reasons why companies are engaging vary by region and commodity. In some cases zero deforestation commitments are driving engagement. Most often though, company interests are in long-term productivity and security of supply. For palm and soy there is also an element of reputational risk to be managed. In Mato Grosso, and in the Liberian and Indonesian landscapes where ISLA is working, emphasis is on reducing pressure on forests through investment in land use intensification and ‘produce and protect’ agreements.

In these landscapes, stakeholders are considering mechanisms to verify progress toward addressing sustainability challenges and risks. These models could include a defined target or risk to be addressed, a monitoring system defined by local stakeholders, and a verification programme managed by national and international stakeholders. Critically, the landscape level stakeholders own the agenda for transformation, with the markets providing additional support and incentives through a verified area sourcing mechanism. (Wensing and Stam, 2016, pers. comm., 12 January)
Another example of a landscape management project is the GEF UNDP and Government of Malaysia six year project in the heart of Borneo, initiated in 2012 and managed by the Sabah Forestry Department and UNDP. The initiative aims to institutionalize a multi-use forest landscape planning and management model to bring the management of critical protected areas and connecting landscapes under a common management umbrella.

The proposed 261,264 ha project landscape forms an important connecting landmass to three key protected areas in Sabah.

Figure 9  Biodiversity conservation in multi-use forest landscapes in Sabah, Malaysia

The project will support the design and development of three alternative revenue generation schemes and disbursement using pilots of REDD+, biodiversity offsets and PES for scaling-up to the whole project landscape. The overall aim will be to increase the amount of funding flowing to multiple-use forest landscape authorities while also providing financial incentives for other stakeholders to participate more actively in biodiversity conservation.

UNESCO Biosphere Reserves

Just by way of historical perspective, the UNESCO Man and Biosphere Programme has been operating for 35 years, establishing a global network of biosphere reserves that seek to reconcile the conservation of biodiversity with its sustainable use. In many ways, this initiative mirrors the goals of today’s integrated landscape management approaches. Biosphere reserves are nominated by national governments and remain under the sovereign jurisdiction of the states where they are located. There are currently 651 biosphere reserves in 120 countries, including 15 transboundary sites. They each have three interrelated zones that aim to fulfill complementary and mutually reinforcing functions:

› The core area(s) comprises a strictly protected ecosystem that contributes to the conservation of landscapes, ecosystems, species and genetic variation.

› The buffer zone surrounds or adjoins the core areas, and is used for activities compatible with sound ecological practices that can reinforce scientific research, monitoring, training and education.

› The transition area is the part of the reserve where the greatest activity is allowed, fostering economic and human development that is socio-culturally and ecologically sustainable.

The main characteristics of biosphere reserves are:

› Achieving the three interconnected functions: conservation, development and logistic support;

› Outpacing traditional confined conservation zones, by combining core protected areas with sustainable development zones, where economic activity is fostered by local groups and enterprises with often highly innovative and participative governance systems;

› Focusing on a multi-stakeholder approach with particular emphasis on the involvement of local communities in management;

› Fostering dialogue for conflict resolution of natural resource use;

› Integrating cultural and biological diversity, especially the role of traditional knowledge in ecosystem management;

› Demonstrating sound sustainable development practices and policies based on research and monitoring;

› Acting as sites of excellence for education and training;

› Participating in the World Network.

As we establish new integrated landscape management approaches, it seems like it would be worthwhile to draw on the lessons of this well-established model.


*Percentage figures show rounding error. Source: www.my.undp.org
4 Necessary components of a landscape approach

Landscape approaches represent a new lens through which to look at the traditional development challenge of integrated rural development. They bring an increased focus on sustainability, impact on global issues like carbon sequestration, and more explicit engagement of companies as drivers through their supply chain commitments. But at their core, these landscape approaches are more of an evolution than a completely new approach to rural development.

Table 5 Ten core principles to define good practice

In thinking about what is necessary for landscape level initiatives to succeed, the seminal work of Sayer et al. (2013, p.8351) lays down a strong set of ten core principles based on published literature and a consensus-building process to define good practice:

1 **Continual learning and adaptive management**
   Recognising that landscape processes are dynamic and uncertain, and that adaptive processes are needed to respond to changing circumstances

2 **Common concern entry point**
   Solutions are built on shared negotiation processes based on trust, which emerges when objectives and values are shared.

3 **Multiple scales**
   Outcomes are affected by system influences that operate at multiple scales.

4 **Multi-functionality**
   Landscapes and their components have multiple uses and purposes, each of which is valued in different ways by different stakeholders. The landscape approach acknowledges the various trade-offs among these goods and services.

5 **Multiple stakeholder**
   Stakeholders and their unique interests and objectives need to be recognised and integrated

6 **Negotiated and transparent change logic**
   Transparency is the basis of trust, which is achieved through a mutually understood and negotiated process of change helped by good governance.

7 **Clarification of rights and responsibilities**
   Rules on resource access and land use need to be clear, as a basis for good management. The rights and responsibilities of different actors also need to be clear, and accepted by all stakeholders.

8 **Participatory and user-friendly monitoring**
   Stakeholders will share an interest in assessing progress. To facilitate shared learning, information needs to be widely accessible.

9 **Resilience**
   System-level resilience can be increased through an active recognition of threats and vulnerabilities. Actions need to be promoted that address threats and that allow recovery after perturbation through improving capacity to resist and respond.

10 **Strengthened stakeholder capacity**
   The complex and changing nature of landscape processes requires competent and effective representation and institutions that are able to engage with all the issues raised by the process. Such participation presupposes certain skills and abilities.
Landscape approaches also imply a shift from project-oriented actions to process-oriented activities. This requires a different approach to project management, focused more on governance mechanisms and stakeholder negotiation and cooperation. It ties stakeholders to long-term, iterative processes, giving them responsibilities and empowering them. This is more of a bottom-up process in which stakeholders collectively find their way through to agreed long-term objectives and plans of action. (Sayer et al. 2013, p.8352)

**Multi-stakeholder platforms**

Given the critical importance of engaging a broad range of stakeholders, we look first at some parameters for ensuring the success of these multi-stakeholder platforms. The LPFN Initiative observed in all their landscape-related case studies that ‘...partnerships, multi-stakeholder dialogue, planning and management [appear] to be critical enablers of landscape approaches.’ (Kissinger et al. 2015, p.15)

There has been a long history of multi-stakeholder platforms and dialogues engaged in development work, not least of which are the many leading sustainability standards systems that have a multi-stakeholder constituency at their core. However, in the context of landscape approaches, this is about engaging stakeholders in shared dialogue and action within a defined and limited geographical region.

‘Multi-stakeholder initiatives move from simple collaborations to landscape approaches when the dialogue and planning (at wider scales beyond the production unit) result in modified management practices based on a landscape approach.’ (Kissinger et al. 2015, p.13)

The multi-stakeholder dialogue process is not unique to landscape approaches and borrows heavily from existing multi-stakeholder processes. The Global Canopy Programme identifies a series of steps that constitute the dialogue process (Denier et al. 2015, p.59) **See Table 6.**

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**Table 6** **Steps in a multi-stakeholder dialogue process**

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Interested stakeholders in the landscape come together for cooperative dialogue and action in a multi-stakeholder platform.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 2</td>
<td>They undertake a systematic process to exchange information and discuss perspectives to achieve a shared understanding of the landscape conditions, challenges and opportunities.</td>
</tr>
<tr>
<td>Step 3</td>
<td>This enables collaborative planning to develop an agreed action plan.</td>
</tr>
<tr>
<td>Step 4</td>
<td>Stakeholders then implement the plan, with attention to maintaining collaborative commitments.</td>
</tr>
<tr>
<td>Step 5</td>
<td>Stakeholders also undertake monitoring for adaptive management and accountability, which feeds into subsequent rounds of dialogue, knowledge exchange and the design of new collaborative action.</td>
</tr>
</tbody>
</table>

Source: Denier et al. 2015
Stakeholders will generally not participate actively in a multi-stakeholder process unless they see that it is of benefit to them or helps to achieve their objectives. At the heart of a good multi-stakeholder process is a set of shared objectives. Sayer et al. note that:

’Solutions to problems need to be built on shared negotiation processes built on trust. Trust emerges when objectives and values are shared.’ (Sayer et al. 2013, p.8351)

Beyond common objectives and shared values such as increasing productivity and profitability, market access, and improved ecosystem services, there are other drivers that will bring stakeholders together. Foremost among these is when joint action will address shared risks.

‘Identification of shared risk among sourcing area stakeholders that cannot be mitigated by one actor alone provides a crucial way to build commitments to shared solutions. In some cases, landscape approaches to shared risk already exist, led by government and/or civil society groups, but lack private sector involvement, which offer the critical link to enable solutions (or ensure conflicts are addressed and minimized). Thus, value can accrue to all partners via landscape approaches.’ (Kissinger et al. 2015, p.2)

**Strong governance**

The IDH Initiative for Sustainable Landscapes (ISLA) has defined the following key criteria for ‘best practice’ governance structures for landscape or jurisdictional approaches:

- a robust, collaborative decision-making process, able to negotiate for multiple objectives
- balances benefits and costs for all stakeholders involved and supports longer term resource requirements of stakeholders
- financially self-sustaining (i.e. does not predominantly hinge on donor funds)
- inclusiveness of different stakeholders, transparency and a level playing field
- legitimacy and capacity of leadership
- capable of appropriately allocating available resources and sharing risk across different stakeholder groups
- aligned with national and regional legislation and the capacity of (governmental) institutions for implementation
- effectiveness (capacity to deliver its objectives) and efficiency (the ability to deliver the objectives) in which resources are used for the greatest impact1


**Local Government Engagement**

The importance of local and national government engagement is recognised in the literature on landscape approaches.

‘The issues of set-aside lands, land tenure and land use governance have an impact on the landscape level, which makes national and local governments in producing countries important stakeholders.’ (Brasser 2012, p.24)

SNV produced a report recently: ‘Finding the right balance: exploring forest and agriculture landscapes’ which revealed that stronger regulation and planning at a landscape level are critical ingredients in order to balance competing land use goals. (McNally et. al 2014) Governments also play a critical role through legislation in ensuring that all producers operate at the same level, and can use that leverage to increase minimum performance over time.

‘Government is key to effective jurisdictional approaches because they have systems in place. The South Sumatra government put regulations in place to require companies to share records; smallholders need that legal framework.’ (Clarke, 2015, pers. comm., 14 December)

While standards systems have commonly not engaged directly with governments, this has been changing as they start to work more deeply at local and national levels. They too are recognizing the critical role that local governments need to play for transformation of practices in a region. An illuminating example is the case of RSPO where the standard’s requirement to set aside lands that are considered to have high conservation value resulted in those lands being repossessed by the government and redistributed to other actors willing to exploit them. The lack of government alignment with sustainability objectives can have negative repercussions.
Mapping

One of the most interesting and dynamic developments in sustainable supply chain sourcing has been the rapid evolution of mapping tools that take advantage of increasing amounts of data to present near real-time pictures of the impacts that production is having on ecosystems and communities. At a very basic level, for landscape approaches to be effective, we need to understand the current state of affairs and how that is changing. As a prerequisite for effective landscape approaches, ‘Spatial mapping and planning allows companies to see the interconnections and synergies between risks, how their operations and supply chains connect with other stakeholders and users, and where opportunities and solutions may lie.’ (Kissinger et al. 2015, p.21)

Tools such as the WRI’s Global Forest Watch are leading this evolution.

For mapping to contribute effectively to land use planning, there is a need for both an understanding of current land uses and how that is changing, and the ability of the land to deliver different types of social and ecological benefits and services. For example, it is important to know which pieces of land benefit from different levels of protection, where productive land operates under the strict guidelines of a sustainability standard, where there are areas of native or mature forest, and what other high conservation values might exist across the landscape. Mapping these various features and processes across a landscape gives a much more complete picture of where the pressures lie within the landscape and how different land uses interact and complement or oppose each other.

Tenure

A basic prerequisite for effective landscape approaches is that there is clarity over issues of tenure, or at minimum, a process that involves the necessary government agencies and affected parties to find workable solutions.

‘A crucial element in the success of an ecosystem services project is clarity about ownership or tenure of the forests that provide the services. Security of tenure becomes increasingly important when participation in PES programmes requires long-term investments such as reforestation (Wunder et al. 2008b, Meijaard et al. 2011, p.38)

‘Overcoming the challenges of certifying aspects of tenure, jurisdiction and regulation of ecosystem services should at least involve a clear description of the legal and customary aspects of tenure, and some joint agreement between government, industry and communities about tenure and revenue sharing.’ (Meijaard et al. 2011, p.40)

Incentives

As noted above, stakeholders are less inclined to participate in a multi-stakeholder process unless they see some benefit for themselves or those they represent. Incentive structures have been a central challenge for standards systems in considering how best to engage producers at their current level of performance and create the incentives necessary to encourage continued improvement over time. The strongest incentives are ones in which there is a direct economic benefit for the producer.

‘For certification of ecosystem services to work [for example], such projects have to be economically viable in the first place. In other words, the value of the services obtained from forests needs to be higher than the opportunity costs of foregone development, unless such projects are subsidized as a social good.’ (Meijaard et al. 2011, p.36)

In a landscape approach, the task is significantly more challenging since there are now a range of actors with different interests, each of whom need to see incentives to participate. M&S and Unilever note that,

‘a package of incentives must be designed to convincingly demonstrate that commitments to reducing deforestation, improving land use, and reducing emissions holds the most promise for increased and sustained economic growth, as well as for safeguarding the environment and agricultural production capacity.’ (TFA 2020 2015)

There needs to be significantly more work to document and demonstrate that these types of landscape approaches do deliver the long-term security of income along with improved social and environmental performance. This speaks to the importance of a strong monitoring programme alongside regional pilots and case studies.
Support for producers

Producer support lies at the heart of most interventions that focus on improving the sustainability of production practices.

‘An opportunity for providing incentives for practicing no deforestation is linking increased production to reducing environmental impacts. In general, across the commodities, smallholder productivity is relatively low compared to the potential yields.’ (Smit et al. 2015, p.17)

For a number of standards systems working in agricultural commodities, there has been a significant shift in strategic approach to integrate producer capacity building and local government engagement as core strategies. Standards systems recognise that in order to reach the millions of producers who are furthest from meeting the standard, they need to engage in direct technical support to producers to improve their performance and productivity and to strengthen their engagement and commitment.

‘Producer support programs implemented at a regional scale often combine certification or management objectives with livelihood improvements while simultaneously combating sourcing risks. These programs can be for a single commodity or for a combination of commodities (e.g., cocoa and tea/charcoal), but, in either case, they often lead companies to define interventions beyond the farm-scale, which, when combined with long-term planning, can constitute landscape approaches.’ (Kissinger et al. 2015, p.13)

The World Cocoa Foundation’s Cocoa Action plan, which focuses on capacity building of cocoa producers in West Africa, is an example of this.2

‘Technical support in the form of rural extension services could provide the necessary knowledge transfer to farmers that are making the transition to improved production systems. These programmes could be designed to reward successful performance measured at the jurisdictional level with additional advantages flowing to individual farms and farm communities that are elevating their social and environmental performance, for example, through certification under a roundtable standard.’ (Nepstad et al. 2013, p.9)

2 www.worldcocoafoundation.org/about-wcf/cocoaaction

Traceability

A robust traceability system is important for the credibility of a landscape approach and the claims that may result.

‘Without traceability it is not possible to identify where the products originate and hence the impact on the forest. The robustness of the traceability and monitoring systems, combined with the degree of regulatory support, is directly related to the actual implementation on the ground.’ (Smit et al. 2015, p.10)

At the same time, we have seen that many types of traceability systems create significant costs in the supply chain. One of the potential advantages of mature landscape approaches is that traceability back to the individual production unit is not necessary, as all products from the landscape can be considered to be coming from responsible sources.

Standards systems are well-placed to support robust traceability systems given that this has formed an integral part of most leading standards systems. This does not mean that current models of traceability are directly transferable but rather that we can use the existing models as a foundation and continue to innovate to find ways to streamline and improve how traceability supports credible landscape approaches.
Monitoring

One of the concerns expressed about landscape approaches is that producers and other stakeholders will be rewarded for minimally acceptable performance. Landscape assessments are unlikely to match the rigour of farm by farm certification in knowing whether a producer is complying with a set of practices or achieving a set of defined sustainability outcomes. However, the reason we’re exploring landscape assessments is because it provides the possibility of a scalable model which has previously limited the farm by farm approach. One of the ways that we get to scalability is by finding new and innovative ways to assure performance. Monitoring then comes in to ensure these new models are suitably robust.

A robust monitoring system, taking advantage of new information technologies, data sources and data management tools, will help to ensure that all stakeholders are committed to the common objectives and will identify where individual stakeholders need specific types of support. Monitoring systems will need to focus on the sustainability outcomes and impacts that a landscape approach aims to achieve. It will be less about individual compliance with a standard and more about the direction that the landscape as a whole is moving. As highlighted by Sayer et al. (2013) the monitoring process needs to be transparent and inclusive to keep stakeholders engaged. Where rural communities are directly engaged, ‘...the development of locally-relevant monitoring protocols is potentially critical for enhancing adoption and generating trust among providers and beneficiaries.’ (Meijaard et al. 2011, p.36)

Nepstad et al. (2013, p646) recommend characteristics of a ‘Jurisdictional Performance System’ that could be used to measure progress of a jurisdictional approach. The characteristics are equally applicable to other landscape approaches. See Table 7.

In complement, the Landscape Measures Resource Centre\(^3\) provides a wide range of tools, methods and case studies to help define realistic goals, set targets, and design viable indicators and cost-effective measurement methods.

\(^3\) landscapemeasures.info

<table>
<thead>
<tr>
<th>Table 7 Jurisdictional Performance System</th>
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<tbody>
<tr>
<td><strong>Simple</strong> focusing on three or four key issues initially, but growing more complex over time.</td>
</tr>
<tr>
<td><strong>Easy and inexpensive to implement/monitor</strong> building on existing monitoring systems.</td>
</tr>
<tr>
<td><strong>Focusing on performance, not practices</strong> featuring the measurement of jurisdiction-wide performance, not the means for achieving that performance.</td>
</tr>
<tr>
<td><strong>‘Homegrown’</strong> aligned with, ‘owned’ and developed by the rural sectors of each region.</td>
</tr>
<tr>
<td><strong>Compatible with international standards/commitments</strong> Compatible with, and supportive of:</td>
</tr>
<tr>
<td>– <strong>standards</strong> (e.g., commodity roundtables, Forest Stewardship Council and REDD+ safeguards),</td>
</tr>
<tr>
<td>– <strong>processes</strong> (e.g., soy and beef moratoria and Consumer Goods Forum 2020 agenda) and</td>
</tr>
<tr>
<td>– <strong>commitments</strong> (e.g., Unilever’s sustainability goals) that have been developed within sustainable supply chain initiatives.</td>
</tr>
<tr>
<td><strong>Progressive</strong> encouraging improvement over time, with clear incremental steps towards higher performance.</td>
</tr>
<tr>
<td><strong>Scalable</strong> designed to easily scale across the hierarchy of jurisdictions (from counties, to states, to nations).</td>
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5 Adapting standards systems to landscapes

This paper has been prepared in the context of consumer goods companies making ambitious commitments to achieve zero net deforestation in their supply chains.

As we collectively seek ways to support companies to fulfil those commitments through the development and implementation of landscape approaches, we have been tasked specifically with exploring how sustainability standards can contribute. As we have seen above, standards systems are already contributing in many ways to bring about more sustainable landscapes, and are testing a range of new tools and approaches that will position them well going forward.

In thinking about how to make landscape approaches most effective, it is important to remember that standards systems have proven themselves over the last fifteen to twenty years to be one of the most effective tools for harnessing the power of the market to deliver more sustainable production. Company interest in the use of sustainability standards continues to increase. (Globescan 2015) We recognise that taking a landscape approach is a complementary strategy that shifts the focus from certifying farm by farm but these approaches need to build on the experience and credibility of this successful tool. Standards systems have important roles to play in supporting the transition of whole sectors to more sustainable practices, which can be complemented by the implementation of responsible practices through landscape approaches.

While the initial entry point for this discussion was deforestation, it is clear that we need to talk about landscape sustainability in an integrated way, including the full suite of sustainability issues such as food security, tenure, biodiversity, water, workers’ rights, etc. A strength of sustainability standards is that they work across all these issues. Standards systems also bring to the landscape discussion experience with the multi-stakeholder process, deep learning on core elements of landscape planning such as High Conservation Values, and high level sustainability principles that can inform land use planning objectives. (Nussbaum, 2015, pers. comm., 14 December)

The following sections highlight the potential roles that standards systems can play and the steps that will need to be in place to support them to play those roles.

Multi-stakeholder platforms

It is clear from existing experience with landscape approaches that an inclusive, local multi-stakeholder process is a prerequisite for successful buy-in and participation by stakeholders. Standards systems are very well placed to support or even convene multi-stakeholder processes given how central these are to their own systems. The standard-setting process offers many parallels in facilitating a consensus approach between a diverse set of stakeholders. Many standards systems also engage local stakeholders in national or regional interpretations of their standards, so they have direct experience applying the consensus-building approach to a local context. This is not to say that the existing multi-stakeholder processes can be used as a foundation for landscape level platforms but rather that standards systems’ knowledge should be tapped on how to engage stakeholders in these types of processes.

Critically, landscape approaches require the active participation and commitment of local governments. This is especially the case where governments have committed to a REDD process but is generally relevant across all jurisdictions where legislated action will act as either a carrot or stick. Standards systems have not traditionally engaged with governments but there are examples such as RSPO’s jurisdictional approach where this has changed. If standards systems are to make a positive contribution, we need to ensure that they are perceived positively by local governments. In some cases, this may mean stepping away from standards systems as certification and focusing more on their roles as aspirational guideposts for sustainable practice and as vehicles for building local capacity.

Mapping

A pre-requisite for effective land use planning is to know what the different existing land uses are across a landscape. Technology is enabling the layering of different types of information across interactive maps to create that picture. For standards systems it is an absolute priority that they are able to map the location of their certified units using polygon data. A few standards systems have already embarked on this activity, primarily in conjunction with Global Forest Watch. It will be useful for standards systems to agree on a protocol and methodology for mapping their certified operators and then be supported to implement this approach within their systems. Ideally, their might even be potential for one central organisation like GFW to implement this polygon mapping exercise as a service to the standards systems.
Although there are a range of relevant content issues with which standards systems have a depth of experience, it is worth singling out the High Conservation Value approach as a potential organizing framework for landscape mapping and land use planning. HCV has gained significant traction with standards systems, most notably in FSC and RSPO. However, there is interest across the board from agricultural commodity standards systems in ISEAL to increase integration of HCV into their respective standards. There is a coordinating body, the HCV Resource Network, that develops tools and guidance to ensure consistent interpretations and application of the methodology and that is available to support certification schemes with integration of HCV into their standards.

The strength of HCV is that it is a universally applicable methodology for documenting where there are areas of social or ecological value across a landscape. HCV is a useful organizing framework because it provides a methodology for guiding responsible production, including halting conversion when applicable, while establishing the context for better land use planning in areas not yet developed. HCV assessments can form an integral part of land use mapping processes, acting as a filter to guide development and to define no-go zones across a landscape. This filter can be added to other mapping layers to improve the quality of analysis and definition of different land uses. The assessment process is also participatory, engaging local stakeholders and, as such, is a useful tool to build stakeholder awareness and participation in the broader land use planning exercise.

In order to support its broader uptake, there are a number of areas where the HCV approach could be further developed. These include helping more certification schemes to implement the HCV approach through new risk-based approaches to HCV assessment and management. For high risk situations with potential conversion of natural habitat – this means scaling up the Assessor Licensing Scheme.

For other situations with less likelihood of HCV presence and lower threats of conversion, HCV assessments may be conducted using less intensive inputs of resources. The Network should be supported in the development and piloting of these approaches with interested certification schemes. Thinking about the application of HCV to a landscape approach, it would be useful to explore whether HCV national interpretations could be developed or updated to support consistent application across sectors within a country. This could then be complemented by HCV mapping within a country that can be used by multiple standards systems and stakeholders. Finally, HCV is a useful methodology for identifying existing resources with conservation value but it does little to address restoration of degraded lands. For this it will be important to integrate the newer concept of High Carbon Stocks into the HCV framework.

Stepwise approaches

One of the attractions of a landscape approach for companies is that they can potentially focus on a limited set of requirements and metrics that address critical sustainability outcomes like deforestation. While sustainability standards mostly take a holistic view of sustainable production by integrating a full suite of environmental, social and economic issues, they are presented with a challenge to simplify. As CIFOR notes in the context of certification for ecosystem services:

‘The lesson might be that ecosystem service certification needs simpler sets of criteria and indicators, with monitoring and auditing systems that can be implemented without incurring high costs or regularly requiring expensive outside advice. Greater emphasis on planning and evaluation is more important than endless lists of criteria. Self-monitoring by communities or other forest managers might also be an option, although this may still require some form of third-party audits to ensure that standards are met. Pilot ecosystem service certification projects should focus on developing broad criteria for environmental and social sustainability, with the requirement that enough criteria are in place to satisfy the monitoring requirements of buyers regarding the quality and quantity of delivered ecosystem services.’ (Meijaard et al. 2011, p.44)

The way this could manifest for standards systems is that a landscape approach recognises the commitment of producers in a region to improve over time. Sourcing from a responsibly managed landscape will not likely mean that all producers are certified to a high bar standard, but rather that the key sustainability outcome measures have been achieved or are moving in the right direction. This means that producers in the region can be at different levels of performance, while the region as a whole is improving on those sustainability outcomes.

Much like the RSS programme of SHARP, a landscape approach is likely to focus on the elimination of a few key practices such as deforestation and unacceptable labour practices. Once a landscape or jurisdiction has addressed these issues, their products can be accepted into company supply chains while the focus shifts to improving management practices and productivity. It will be important that landscape initiatives retain the aspirational goal for producers to meet certification standards over time and that there are adequate incentive structures built in to ensure producers’ continuing progress. Standards systems should also engage in discussions about what constitutes minimum acceptable practice that would enable a region to qualify as committed to moving toward sustainability. At the same time, standards systems need to examine whether their standards are too complex and how fewer sustainability outcomes may serve as sufficient proxies for the broader suite of sustainability issues.
Support for producers

The capacity of producers to implement better management practices is now recognised as a significant bottleneck to scaling up the application of sustainable practices and the transformation of sectors. Unfortunately there is also no shortcut to building the capacity of those producers. Companies have begun to recognise this and are investing heavily in capacity building programmes, sometimes engaging standards systems directly in the delivery of training and support.

Standards systems themselves are also broadening out their core business and undertaking their own capacity building activities, sometimes at large scales. This expansion of roles has come in conjunction with significant funding for these activities from donors who realise that standards systems are well placed with their networks and qualified technical practitioners to deliver training efficiently and cost effectively. Standards systems have built a level of trust with local organisations that gives them unique levels of access. This trust and competence should be put to good use by supporting the further delivery of capacity building programmes by standards systems.

Another way producers can be empowered to improve their practices is through the sharing of data about the impacts of their production practices and the progress they are making. Individual production data can also be compared anonymously with peers to provide a picture of comparative performance, a significant motivator for improved practices.

As monitoring systems start to automate collection and management of certain data, such as carbon sequestration rates or water conservation potential, this data can be compiled, analysed and fed back to the producer to help inform their future management practices. Standards systems should be supported to make better use of the data they are collecting and improve the value proposition for producers of engaging with standards.

Verification

Verification is all about giving customers confidence that a set of defined practices are being met. Even within existing standards systems there is a spectrum of verification models that provides different levels of assurance for different purposes. One of the perceived attractions of the landscape approach is that we imagine that farm-level audits can be substituted at least in part by jurisdiction-wide, automated or satellite-based monitoring.

Additionally, with a narrow focus on fewer core issues or outcome metrics, the scope of verification will decrease. This would, in turn, decrease the costs of measuring performance at the individual farm level, particularly for smallholders.
At the same time, there are significant risks of greenwashing when less robust verification practices are put in place. The greenwashing arises when the level of verification does not match the types of claims being made. For example, claiming that all products in your supply chain are sustainably produced if they come from a jurisdiction that has made a commitment to zero net deforestation is not an accurate representation. Standards systems are well-placed to both explore new, streamlined models of verification and to advise on what verification models need to be put in place that are credible for verifying sourcing from responsible landscapes or jurisdictions.

Another tool that can support credible verification and ensure that all tools being used to assess sustainability conform to minimum practices like transparency and impartiality would be a simple accountability framework. A recent gathering of leading US NGOs and standards systems focused on addressing deforestation explored the idea of developing just such an accountability framework. (Milder, 2015, pers. comm., 1 December) Through a consensus-building process, stakeholders could agree to a set of basic principles, possibly based on the ISEAL Credibility Principles, that can then be adapted to local contexts but which would apply some consistency and rigour to the different verification models that are developed.

Monitoring

There is an important role for standards systems to play in developing and managing monitoring systems at a landscape level. They already have a wealth of experience in implementing M&E systems, measuring the outcomes and impacts of their programmes. In their M&E systems, many initiatives already include indicators that are relevant at a landscape level. That knowledge and experience, combined with new technologies to collect, manage and analyse data, will enable adaptation of these M&E systems to apply at a landscape level.

The collaboration between standards systems to develop and measure common core indicators should be supported and expanded. When bringing together multiple actors in a landscape approach, it is a prerequisite to have broadly-shared performance milestones and metrics. Multi-stakeholder processes can draw on the experience of standards systems to inform the definition of those metrics.

Another role for standards systems in monitoring is in data collection. While it is likely that technology advances such as satellite imagery and data from remote sensors will decrease the necessity of on-farm audits, there will continue to be some metrics and types of data that need to be collected in person, if only on a sampling basis. With their network of certification auditors, standards systems have a built-in body of trained data collectors with the right skills to collect hard-to-get data points.

Coordination across landscape initiatives

At the outset of this paper, we noted the burgeoning growth of initiatives and networks focused on implementing sustainable landscape approaches. There has also been a reasonable body of research documenting the lessons learned and seeking to define relevant principles or operating practices for successful implementation of landscape approaches. As we are very much in a learning and exploration phase with landscape approaches, it will be important that these experiences are captured and shared, ideally through a supported network of practitioners.

Standards systems operating within the ISEAL network have committed to innovate and evolve to improve the relevance and effectiveness of their programmes. Many of the prioritized areas for piloting new innovations such as risk-based assurance, new technologies, producer access, and traceability are directly relevant for the application of standards systems to landscapes.

By exploring how standards systems need to adapt to be applied at a landscape level, we have a lens through which to test these innovative solutions. ISEAL will support our members through a learning network and innovation fund to pilot new innovations and share experiences and knowledge. With adequate support, standards systems will continue to be leaders in providing scalable solutions that transform sectors toward sustainability.
Annex 1  Landscape measures framework

A landscape monitoring and evaluation (M&E) framework (referred to as ‘the landscape measures framework’), developed by EcoAgriculture Partners and Cornell University, with some 25 other science and development organisations, was designed to help managers and evaluators determine whether landscape outcomes are moving in the right direction.¹

A1.1  Goals and Criteria of the Landscape Measures Framework

| Goal C  Conservation                                                                 | Goal P  Production                                                                 |
|--------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| 'The landscape conserves, maintains, and restores native biodiversity and ecosystem services.' | 'The landscape provides for the sustainable production of crops, livestock, fish, forest, and wild edible resources.' |
| **Criterion C1** The landscape contains an adequate quantity and suitable configuration of natural and semi-natural habitat to protect native biodiversity. | **Criterion P1** Production systems satisfy demand for agricultural products (crops, livestock, fish, wood) by consumers inside and outside the landscape. |
| **Criterion C2** Natural and semi-natural habitats within the landscape approximate the composition and structure of the habitats historically found in the landscape. | **Criterion P2** Production systems are financially viable and can adapt to changes in input and output markets. |
| **Criterion C3** Important species within the landscape are biologically viable. | **Criterion P3** Production systems are resilient to natural and anthropogenic disturbances. |
| **Criterion C4** The landscape provides locally, regionally, and globally important ecosystem services. | **Criterion P4** Production practices have a neutral or positive impact on wild biodiversity and ecosystem services in the landscape. |
| **Criterion C5** Natural areas and aquatic resources are not degraded by productive areas and activities. | **Criterion P5** Species and varietal diversity of crops, livestock, fisheries and forests is adequate and maintained. |

### Goal L Livelihoods

*The landscape sustains or enhances the livelihoods and wellbeing of all social groups who live there.*

**Criterion L1** Households and communities are able to meet their basic needs while sustaining natural resources.

**Criterion L2** The value of household and community assets increases.

**Criterion L3** Households and communities have sustainable and equitable access to critical natural resource stocks and flows.

**Criterion L4** Local economies and livelihoods are resilient to change in human and non-human population dynamics.

**Criterion L5** Households and communities are resilient to external shocks such as flooding, drought, changing commodity prices, disease epidemics, and others.

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### Goal I Institutions

*The landscape hosts institutions that support the planning, negotiation, implementation, resource mobilisation, and capacity building needed to realise the goals of integration (conservation and production).*

**Criterion I1** Mechanisms are in place and functioning for cross-sectoral interaction at landscape scale.

**Criterion I2** Producers and other community members have adequate capacity to learn and innovate about integrated landscape planning and management.

**Criterion I3** Public policy supports integrated landscapes.

**Criterion I4** Markets provide incentives for integrated landscapes.

**Criterion I5** Knowledge, norms, and values support integrated landscapes.
List of Interviewees

Nicole Tanner, Alliance for Water Stewardship (AWS)
Kevin Ogorzalek, Sonia Slavinski and Simon Usher, Bonsucro
Daan Wensing and Nienke Stam, Sustainable Trade Initiative (IDH)
Dan Nepstad, Earth Innovation Institute (EII)
Paulina Villalpando, High Conservation Value Resource Network (HCVRN)

Peter Feilberg and Judy Rodrigues, NEPCon
Ruth Nussbaum and David Hoyle, Proforest
Jeff Milder, Rainforest Alliance (RA)
Jimena Frojan and Veronica Chorkulak, Roundtable on Responsible Soy (RTRS)
Salahudin Yaacob and Sanath Kumaran, Roundtable on Sustainable Palm Oil (RSPO)

Carolyn Ching and Julianne Baroody, Verified Carbon Standard (VCS)
Nigel Sizer and Sarah Lake, World Resources Institute—Global Forest Watch (WRI GFW)
Liz Clarke and Leonie Lawrence, Zoological Society of London (ZSL)

Abbreviations and acronyms

3FI  Forests, Farms and Finance Initiative
AWS Alliance for Water Stewardship
CCB Climate, Community and Biodiversity
CIFOR Center for International Forestry Research
CGF Consumer Goods Forum
EIA Environmental Impact Assessment
EII Earth Innovation Institute
FAO Food and Agriculture Organization
FLEG Forest Law Enforcement Governance and Trade Action Plan
FSC Forest Stewardship Council
GCP Global Canopy Programme
GEF Global Environment Facility
GFW Global Forest Watch
GHG Greenhouse Gas
HCS High Carbon Stocks
HCV High Conservation Value
IDH IDH Sustainable Trade Initiative
IFL Intact Forest Landscapes
INDC Intended Nationally Determined Contribution
INFORM International Forest Risk Model
ISLA Initiative for Sustainable Landscapes
JNR Jurisdictional and Nested REDD+
KPI Key Performance Indicator
LIDAR Light Detection and Ranging
LPFN Landscapes for People, Food and Nature Initiative
M&E Monitoring and Evaluation
M&S Marks and Spencer
MSC Marine Stewardship Council
NEA Natural Ecosystem Assessment
PES Payments for Ecosystem Services
RA Rainforest Alliance
RED Renewable Energy Directive
REDD+ Reducing Emissions from Deforestation and Forest Degradation
RSB Roundtable on Sustainable Biomaterials
RSPO Roundtable on Sustainable Palm Oil
RSS Responsible Sourcing from Smallholders
RTRS Roundtable for Responsible Soy
SAN Sustainable Agriculture Network
SHARP Smallholder Acceleration and REDD+ Programme
SMART Spatial Monitoring and Reporting Tool
SNV Netherlands Development Organisation
SPOTT Sustainable Palm Oil Transparency Toolkit
TFA Tropical Forest Alliance
TFT Tropical Forest Trust
TNC The Nature Conservancy
UNDP United Nations Development Program
UNESCO United Nations Educational, Scientific and Cultural Organization
UNFCCC United Nations Framework Convention on Climate Change
VCS Verified Carbon Standard
VCU Verified Carbon Unit
VPA Voluntary Partnership Agreements
WRI World Resources Institute
WWF World Wide Fund for Nature
ZSL Zoological Society of London
Referenced publications


Sayer, J. et al., 2013. *Ten principles for a landscape approach to reconciling agriculture, conservation, and other competing land uses*.

SHARP, RSS 2: *Overview of the RSS framework*, Smallholder Acceleration and REDD+ Programme (SHARP).


