



Thematic Study: Produce-Protect Initiatives in Forest Landscapes

Cycle 2 – Thematic Case study 3a
Insights, Lessons and Learning Tools

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7 March 2019





Version Control

Version no.	Purpose/Changes	Author	Date
1.		Jan Joost Kessler and Valerie Nelson	21 Jan 2019
2.	Amended following comments from DFID	Jan Joost Kessler and Valerie Nelson	7 Mar 2019

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Acronyms

DFID	Department for International Development (UK)
EM	Evaluation Manager
EL	evaluative learning
FCI	forest conservation incentive
HCS	high carbon storage
HCV	high conservation value
MEL	monitoring, evaluation and learning
NGO	non-governmental organisation
NTFP	non-timber forest product
P4F	Partnerships for Forests
PES	payments for ecosystem services
PFES	payments for forest ecosystem services
PO	producer organisation
PPC	protection-production compact
PPCDAm	Action Plan to Prevent and Control Deforestation in the Legal Amazon – <i>Plano de Ação para a Prevenção e o Controle do Desmatamento na Amazonia Legal</i> (Brazil)
PPI	Produce-Protect-Include
RSPO	Roundtable on Sustainable Palm Oil
SDG	Sustainable Development Goal
SFM	sustainable forest management
VGGT	Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security
WCA	West and Central Africa

Executive Summary

The thematic study reported here is on the Partnerships for Forests (P4F) Produce-Protect strategic intervention area. Within the study, use was made of a literature review and expert interviews as the basis for an assessment framework that was then applied to selected projects in P4F programme. The following key points were derived from these project assessments; they illustrate the potential of the assessment framework for generating insights and specific recommendations.

- a. From the outset in project design, explicit mechanisms are needed to ensure that incentives and disincentives are linked to requirements for forest protection, and they should be subject to real-time monitoring and evaluation.
- b. In the early stages of a project there is a need to demonstrate whether agricultural intensification and proposed economic incentives will provide relevant landscape actors with living incomes and whether doing so will lead to changes in behaviour towards forests. It is also necessary to identify any additional conditions (e.g. land security) that need to be met to achieve zero deforestation.
- c. As part of project design, risk assessments should address the potential for proposed mechanisms to increase deforestation and, if necessary, mitigating measures should be integrated into project design.
- d. For effective landscape-scale governance, projects need to strengthen capacities among relevant landscape actors. To do so systematically, there is a need to agree on the principles and criteria for effective landscape governance, and private sector agencies should also provide incentives for effective governance.
- e. Scaling needs to focus on the wider uptake of effective design and implementation approaches rather than on the rollout of technologies or mechanisms that appear to have been successful in other contexts. Success depends strongly on the local and national contexts.
- f. To sustain the results, in the absence of support by P4F or other donors, practice changes are needed among key stakeholders. The P4F programme is designed to incentivize private sector investment rather than improving value chains and landscape governance directly, therefore, changes are especially expected within the private sector.
- g. To be effective, producer organisations need to prioritise their governance, service delivery to members, bargaining power and access to finance, requiring gap analyses and targeted capacity strengthening.
- h. In preparing for a project, a detailed assessment is needed of whether land and tree tenure, ownership and security are issues for private landowners and communities. If they are, the project design should ensure long-term engagement to address them.
- i. All project designs should ensure the effective monitoring of key production, livelihood and forest protection indicators. Independent agencies should monitor production indicators (e.g. yields and incomes) and protection indicators (e.g. forest cover and encroachment), and projects should ensure that sufficient capabilities and resources are available for this task.
- j. At the level of the P4F programme and projects, there is a need to define responsibilities and to make resources available to support learning on key landscape issues and mechanisms and to share insights widely with the aim of improving existing approaches.

The assessment framework, and specific learning tools that can be derived from it, have the following three potential uses:

- 1. Identifying projects for the pipeline.** As an initial guide to conditions, success factors and issues to consider, the assessment framework could be used in the early identification and review of potential projects. Gap analyses on identified key issues could help determine the potential for given types of project. The Evaluation Manager team, in close collaboration with P4F, could develop specific tools (e.g. checklists, a gap analysis framework and risk assessment) to assist in tailor-made designs and potentially to improve or replace existing internal assessment tools (e.g. T05). The role of the Evaluation Manager team would be to collaborate in developing effective tools and validating whether these work in practice, and possibly to provide regional teams with training on these tools.
- 2. Supporting project design.** The P4F programme and other project developers could use the assessment framework to support the design of new project ideas, such as by providing design checklists, and in the development of baseline studies. Specific tools could be developed aimed at building the governance capacity of producer organisations, landscape governance institutions and incentive/disincentive mechanisms to ensure linkages between production, protection and law enforcement objectives. The role of the Evaluation Manager team would be to collaborate in developing effective tools and validating whether these work in practice, and possibly to provide regional teams with training on these tools.
- 3. Informing project and portfolio monitoring and evidence-based learning.** The assessment framework could be used to inform and advise the P4F Monitoring, Evaluation and Learning Unit on data collection and lesson-learning for selected projects, particularly the monitoring of early outcomes (capacity and behaviour changes of key actors). The collected project-level data could feed into programme-level monitoring and learning and support the identification of areas where additional interventions may be required in design, resourcing and management. The Evaluation Manager team could play a role in informing or facilitating communities of practice within the P4F programme and at a broader scale on specific issues or themes, such as landscape governance.

The Evaluation Manager team will be conducting evaluative case studies on selected projects to validate the theory of change of each strategic intervention area and to obtain an in-depth understanding of underlying mechanisms. The evaluative case studies, which will address key issues identified in this thematic study, will be selected to cover P4F's various regions and intervention strategies. They will focus on individual P4F projects and related demand-side measures and enabling conditions. Indicators and evaluation tools and frameworks will be developed to enable sufficient standardisation to support cross-case analysis while also allowing tailoring to context. Well-defined scales will be used that reflect levels of performance and progress and the contribution of the P4F to change. The evaluative case studies will generate evidence on key issues and assumptions in the Produce-Protect strategic intervention area to inform P4F and the Department for International Development as well as the wider community of practice.

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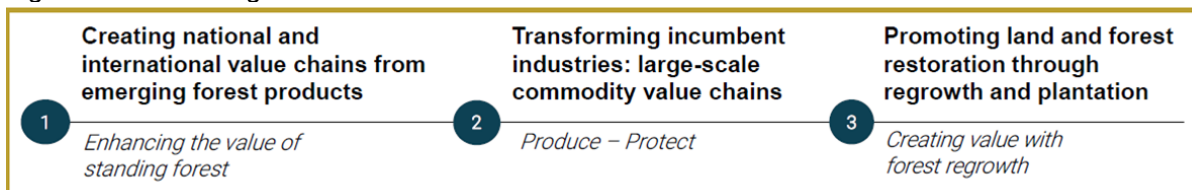
1 Introduction

“Produce-Protect in Incumbent Industries” is one of three strategic intervention areas identified by the Partnerships for Forests (P4F) programme (Figure 1). Based on documentation and discussions with the P4F team, this intervention area can be described as follows:

By transforming incumbent industries with large-scale commodity value chains, P4F is seeking to facilitate the strengthened capacity (including business acumen) and behaviour change of farmers and communities through the provision of packages of rural inputs and farm services, including access to markets and finance, to promote agricultural intensification and increase productivity while using and promoting incentive and reward mechanisms with robust local participatory governance mechanisms for forest protection.

“Produce-Protect in Incumbent Industries” (hereafter referred to as the Produce-Protect intervention area) is strategically important to the P4F programme, with strong links to the other two strategic intervention areas.¹ For example, producers receive support through the Produce-Protect intervention pathway to increase the productivity of their agricultural systems, but they may also be motivated to protect forests by the marketing of emerging forest products (strategic intervention area 1) or the restoration of degraded forest, including the provision of products with market value (strategic intervention area 3).

Figure 1: P4F Strategic intervention areas



Incumbent industries are industries based on established commodities such as palm oil, rubber, soy and cocoa and which involve large-scale companies. They tend to exist in landscape economies dominated by export-oriented or import-substituted commodities sourced by large commercial concerns, including from large-scale production areas. P4F focuses on the palm-oil and cocoa sectors but may consider other commodities in the future. This study reflects the P4F focus by prioritising palm oil and cocoa, but it also distils relevant lessons where these emerge from other commodities, such as rubber and soy.

The following five questions were agreed as the basis of the monitoring, evaluation and learning (MEL) approach for the Produce-Protect intervention area, with the P4F MEL representative indicating that the second question in the list was the priority:

1. What does wider evidence tell us about the effectiveness of different Produce-Protect mechanisms - as being adopted and used by P4F projects and others - that are needed to enhance productivity by producers/smallholders and incentivize communities/collectives to control encroachment in forested areas?
2. Which Produce-Protect mechanisms are the most effective at preventing encroachment in forested areas according to the available evidence? What are the key success factors (or key issues) to consider in terms of enabling conditions (i.e. pre-existing context) and in terms of internal design factors?
3. How far do the selected P4F FPs effectively integrate the identified success factors (so far as these are currently known) in terms of project design? To what extent are these success factors addressed by relevant DSM (demand-side measures) or EC (enabling conditions) measures?
4. For each of these identified Produce-Protect mechanisms, what is the potential for scaling?

¹ The central and strategic position of this thematic area can also be found in other international programmes, such as those of IDH, the Banking Environment Initiative and the Earth Innovation Institute.

5. What lessons can be learned from the Produce-Protect initiatives, relevant for this P4F intervention area, or relevant for the P4F programme as a whole? What lessons are relevant for the wider community of practice working to combat deforestation?

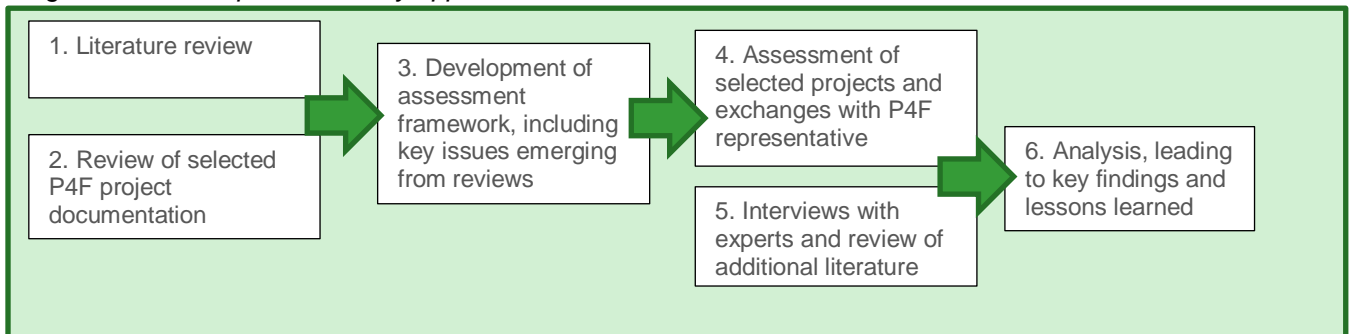
The report is structured as follows:

- Chapter 2 explains the approach and process used in the study;
- Chapter 3 summarises the main results of project assessments, showing the potential of the assessment framework to generate insights and recommendations;
- Chapter 4 provides recommendations for using the assessment framework and specific tools emerging from this at various places in the project development and management process;
- Annexes present the assessment framework used to undertake the assessment of selected projects and summarize the literature review.

2 Study Approach

Figure 2 shows the main steps in undertaking the study, as per the terms of reference. Each step is described in detail below.

Figure 2: Main steps in the study approach



Step 1. Conduct rapid literature review to gather evidence on the extent to which Produce-Protect initiatives can lead to sustainable forest management (SFM) and prevent the encroachment of forested areas. To guide the literature review and to gather evidence from specialist practitioners, the Evaluation Manager (EM) review team developed the following analytical framework:

- support for increased producer productivity, in terms of land or labour;
- support for improved producer access to markets and linkages to value-chain actors;
- support aimed at sustainable forest protection, either SFM or forest protection systems;
- mechanisms that create linkages between increased productivity and improved SFM or protection measures, either through incentives/disincentives or enabling measures; and
- positive impacts and potential for scaling.

With reference to “producers”, the literature review emphasised small-scale and smallholder producers but was not limited to these categories. It focused on a selection of relevant studies, especially meta-studies. A detailed search was made of relevant experiences and related documentation in the IDH Sustainable Trade Initiative (referred to here as IDH), which comprises 12 projects in this thematic area, including detailed designs and experiences.

Step 2. Select P4F projects in the Produce-Protect intervention area. In parallel with the literature review and in collaboration with the P4F MEL lead, the regional P4F teams were contacted to support the selection of projects for the study and to promote engagement in it. Table 1 shows the eight selected P4F Produce-Protect projects, comprising six in West and Central Africa (WCA), one in South East Asia and one in East Africa. There was discussion on the positioning of the selected projects in their respective priority strategic intervention areas: for example, project P4F 0269 (“Initiative for Sustainable Landscapes in Kenya”) was also classified as a restoration project because it includes important restoration elements, and P4F 0225 (“CEMOI Preservation of Forest through Farmers’ Professionalization”) also has important restoration elements but is classified as a Produce-Protect intervention. Thus, many projects take a broad landscape approach that includes the protection, restoration and sustainable management of forests.

Table 1: Overview of selected P4F Produce-Protect projects

P4F number	Title + commodity	Region	Country	Status
P4F-0010	Ghana Unilever – palm oil	WCA	Ghana	Memorandum of understanding
P4F-0011	Olam Partnership for Livelihoods and Landscapes in Western Ghana – cocoa	WCA	Ghana	Business plan
P4F-0075	Forest-smart Agriculture	WCA	Liberia and Sierra Leone	Business plan
P4F-0210	Touton Partnership for Productivity Protection Resilience in Cocoa Landscape	WCA	Ghana	Readiness for pilot
P4F-0225	CEMOI Preservation of Forest through Farmers' Professionalisation	WCA	Côte d'Ivoire	Memorandum of understanding
P4F-0269	Initiative for Sustainable Landscapes in Kenya	EA	Kenya	Implemented
P4F-0273	RLU Rubber	SEA	Indonesia	Readiness for commercial scale-up
P4F-0366	Adum Bansa Net Positive Carbon and Sustainable Oil Palm Pilot	WCA	Ghana	Unavailable

Note: Status is as per the P4F 2018 annual report.

Step 3. Review the selected P4F projects' theories of change and develop an assessment framework and theory of change for the Produce-Protect intervention area. The EM review team developed an assessment framework, including a three-level rating based on key issues identified in the literature review and a review of the documentation of the selected P4F case studies (see Annex 1 for the assessment framework). A theory of change was developed for the intervention area.

Step 4: Analyse project evidence using the assessment framework. The assessment framework was used to analyse available documentation for the eight selected projects and to discuss the findings (including the ratings) with the P4F representative in the WCA region. The P4F representative supported the EM review team by providing additional documents and information on several projects; this interaction led to adjustments in the findings and assessment ratings.

Step 5: Interview subject-matter specialists. Interviews were conducted with the following experts in landscape governance and value chains: Verina Ingram, Wageningen University; Sarah Lupberger, Landscape Standard; Cora van Oosten, Wageningen University; and Cathy Mackenzie, SFM consultant. The EM review team also attended two events related to landscape management. The authors used their networks to obtain recent documents, including on assessment frameworks.

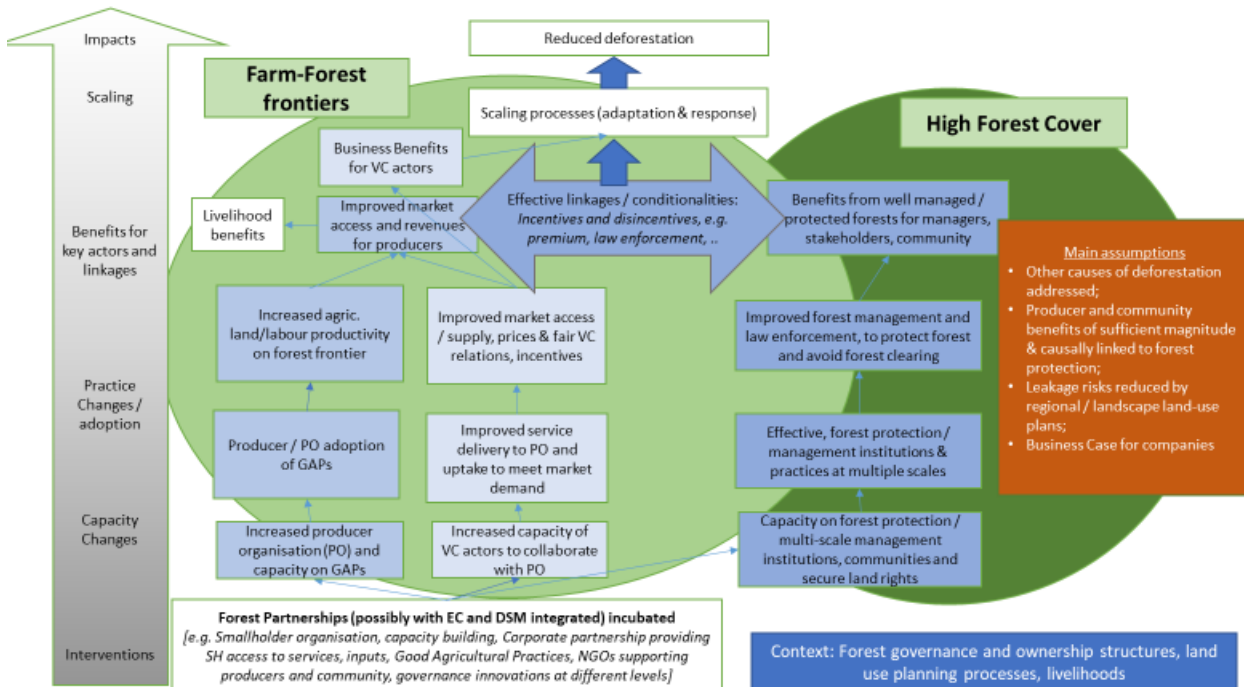
Step 6: Analyse evidence and lessons to address the MEL questions and support P4F adaptive management. The present report analyses the evidence collected in steps 1-5, summarises the lessons learned, and addresses the five MEL questions listed in Chapter 1.

3 Results

3.1 Theory of change for the Produce-Protect intervention area

To properly address the five MEL questions it is necessary to articulate how Produce-Protect mechanisms are expected to work. The EM review team, therefore, developed a theory of change for the Produce-Protect intervention area (Figure 3) based on an analysis of key issues and a review of P4F projects.

Figure 3: Theory of change for the Produce-Protect intervention area



Note: The intensity of blue reflects the importance afforded a given aspect by the P4F projects.

The theory of change for the Produce-Protect intervention area comprises the following key aspects:

- Producers are provided with support to improve their capability in certain agricultural practices and business development and thereby to enhance productivity for selected main commodities (a process referred to hereafter as agricultural intensification, defined as activities intended to increase the productivity or profitability of a given tract of agricultural land). In most projects, agricultural practices should also be environmentally sustainable and climate-smart. In addition, producers are supported to improve their access to inputs and possibly finance and to diversify their livelihoods. Such improved capacity is expected to enable producers to adopt practices that benefit them and their producer organisations, mainly as a result of increased productivity and access to markets.
- Assistance may be given to other actors in the value chain to provide producers with access to support services (e.g. knowledge, inputs and finance) and to facilitate producers' market access. Diverse models exist of value-chain relationships between producers and the private sector, with the nature of such relationships influencing the types of benefits generated for producers and companies.
- Support is provided to strengthen forest protection management institutions at different scales (e.g. community, landscape and jurisdictional), thereby generating forest protection benefits for communities and companies. Many projects are supporting measures to improve forest law enforcement and therefore strengthen forest protection (in others, this may be an assumption). Some P4F projects are addressing the need to secure land rights for producers and communities as an important precondition.

- Conditional incentives, disincentive mechanisms (e.g. landscape buyer compacts to source only deforestation-free cocoa) and legal measures (e.g. the enforcement of forest laws) are central to the theory of change because they link agricultural intensification and other benefits accruing to producers and communities to improved forest protection governance. The main assumption is that agricultural intensification and improved market access will enable smallholders to significantly increase their incomes and thereby their willingness to protect forests.
- Scaling can be achieved as (for example) other buyers crowd-in, landscape approaches are implemented elsewhere, and similar mechanisms and principles are adapted, leading to significantly reduced deforestation.

3.2 Evidence review

Availability of evidence

The following annexes constitute the evidence base obtained from various sources:

- Annex 2A: Results of the literature review on Produce-Protect linkages
- Annex 2B: Results of the literature review on landscape governance and jurisdictional approaches
- Annex 2C: Monitoring and evaluating the sustainability performance of companies and landscapes
- Annex 2D: Overview of IDH projects and experiences in Produce-Protect-Include initiatives.

Key insights emerging from the review

This section summarises the key insights arising from the initial literature review. The insights, associated with MEL questions 1, 2 and 4, informed the EM review team in developing the assessment framework used to assess the status of selected P4F Produce-Protect projects in this strategic intervention area (MEL question 3).

The focus on increasing producer productivity without linking it sufficiently to forest protection could have an adverse effect on forests, especially when global agro-commodities are involved, by providing producers with the technical and financial means to expand into standing forests. In recent decades there has been significant scientific, policy and practitioner interest in the relationship between agricultural intensification and cropland expansion. This interest has arisen from the potential of intensification to both reduce the poverty of producers (especially smallholders) and decrease the yield gap (i.e. the gap between potential and realised yields). More recently, the aim has expanded to include protecting forests from degradation and conversion to cropland (given that less land would be required to produce the same volume of production).

There is only limited evidence, however, that agricultural intensification leads to a reduction in the area of land used for crop production. Indeed, there is more evidence that the opposite may happen: that is, that an increase in productivity leads to an expansion of cropland and a consequent increase in forest conversion. This may occur when market demand increases along with productivity, meaning that prices do not drop and profitability per unit area of land increases, creating a strong driver for producers to increase land area or for other producers to crowd-in. This is likely to happen for global agro-commodities, especially those such as palm oil and soy for which consumption is increasing globally,² driven by the opportunity for profit and by rent-seeking behaviour.³ Without additional measures, therefore, it is likely that intensification will enable considerable cropland expansion to 2030, mostly in land-abundant tropical countries.

From the literature and based on empirical evidence, the following five causal relationships constitute significant risks that agricultural intensification will lead to the increased use of land and forests:

1. **The expansion of land use by targeted producers.** When intensification leads to higher land or labour productivity and thus higher incomes for producers it creates an incentive for producers to further

² Villoria et al. (2014); Pacheco (2012).

³ Byerlee et al. (2014).

increase production volumes and incomes by expanding production areas, thereby undermining the goal of protecting forests.

2. **The displacement of production to neighbouring areas and jurisdictions (leakage).** The implementation of effective protection mechanisms – thus minimising expansion into forests – in one locality could lead to the displacement of production (and deforestation) to other areas.
3. **Diversification or intensification of forest-resource activities by targeted producers.** The higher incomes earned by producers due to intensification may enable them to engage in new activities (or to intensify existing activities) that increase pressure on forest areas (e.g. the purchase of weapons, leading to an increase in wildlife poaching).
4. **Crowding-in by non-targeted producers in the targeted geographical area.** The higher incomes obtained by producers engaged in intensification could attract others to participate in the same activity by clearing forest areas.
5. **Displacement over time.** Intensification is often associated with specialisation and monocultures, which may be unsustainable (e.g. by exhausting soils or attracting pests). Over time, this may lead to environmental degradation (e.g. soil degradation) and thus to expansion into forests as producers search for more productive lands.

A combination of incentives and disincentives of adequate magnitude is required to avoid a situation in which agricultural intensification enhances forest clearing and degradation. The aim of any package of incentives, disincentives and governance measures should be to change the overarching economic logic and behaviour of both targeted producers and potential producers who may attempt to crowd-in. Incentives should provide additional benefits for forest protection and sustainable production, and disincentives should add to the cost of unsustainable production and forest degradation. In general, more information is available on incentives than on disincentives and their potential effectiveness in reducing the risk that intensification will lead to forest clearing and degradation.

Recently, attention has shifted towards landscape-based approaches that engage diverse actors with the aim of enabling mutually acceptable trade-offs between competing land uses. Mechanisms include multiscalar stakeholder governance and incentive mechanisms and criteria for sustainable landscape management. Jurisdictional approaches include the setting of – and ensuring compliance with – standards and regulations for a given geographical area to achieve sustainable management and forest protection. Few examples exist, however, of robust monitoring systems to demonstrate the effectiveness of such approaches.

Landscape approaches emerged through initiatives to encourage conservation, sustainable natural resource management and forest rehabilitation and restoration and through REDD+;⁴ in general, the aim is to resolve competing land uses by engaging diverse stakeholders in a given geographic area. Jurisdictional approaches – implemented at a scale matching the administrative boundaries of a given subnational government – emerged more recently as part of REDD+ initiatives and processes to certify certain commodities. In both landscape and jurisdictional approaches, market forces catalyse land-use planning and reduce business risks.

Jurisdictional approaches can re-energise subnational government entities and encourage new investments, with engaged, high-performing jurisdictions benefiting from preferential sourcing by companies. Such approaches are mainly being applied in locations where commodity production is well established. In 2016, a search for examples identified 25 initiatives in specific localities with zero-deforestation commitments attached (the Brazilian state of Mato Grosso was the most advanced). The biggest early benefit of multistakeholder dialogue is the convergence, among actors, of their goals, milestones and monitoring. The biggest strategic challenge is determining who drives the definition of success: many existing approaches

⁴ REDD+ is a mechanism to enable results-based payments for reducing emissions from deforestation and forest degradation and increasing carbon sequestration through forest conservation and SFM.

are top-down in nature, and there is a risk of marginalising national and local governments and producers.⁵ Sustaining political support over time at different scales is another key challenge.⁶

Given the risks associated with Produce-Protect approaches seeking to achieve forest protection and other positive outcomes, there is a clear need for ongoing monitoring to support learning. A study of incentive-based mechanisms found that, although some mechanisms have existed for more than a decade, their complex nature and the long timeframe for achieving outcomes means that all are essentially in a process of continual evaluation and adaptation. This has been seen, for example, in various evaluations of wetland and biodiversity offsetting in the United States of America.⁷

Although jurisdictional approaches have attracted significant interest, their implementation is at an early stage and attention needs to be paid to the potential for leakage to neighbouring jurisdictions. Box 1 describes three initiatives that are supporting landscape approaches by defining criteria for success and exploring the monitoring required to determine effectiveness in reducing deforestation.

Box 1: Initiatives for assessing corporate and industry sustainability performance

Three promising initiatives are developing metrics for assessing the performance of companies and industries at the landscape scale in meeting sustainability commitments, particularly where these include specific goals, targets and threshold measures:

- 1) Corporate sustainability – at the individual corporate level, the *Accountability Framework* is an initiative to guide companies in monitoring and verifying their sustainability commitments, including on zero-deforestation;
- 2) The *Landscape Standard* seeks to enable the assessment of sustainability at a landscape scale across commodities and sectors; it includes continuous improvement as well as threshold measures. The Landscape Standard, which comprises goals, targets and indicators, is being piloted in various countries, including Ghana;
- 3) *Verified Sourcing Areas* is a standard planned by IDH to enable the assessment of performance in key areas such as forest and peat protection, labour, tenure, governance and transparency.⁸

3.3 Results from the assessment of selected P4F projects

This section assesses the extent to which P4F projects address relevant challenges and success factors in their design and early implementation (related to MEL questions 3 and 4).

An assessment framework (Annex 1) was developed based on the literature review, in line with the overall conceptual framework of the thematic studies. In doing so, the EM review team recognised the complexity and diversity of the P4F portfolio and have created and tested an assessment framework which can help P4F staff make informed decisions about future investments and technical support.

The EM review team used the assessment framework to review the documentation of the eight P4F projects and thereby gain insights into the extent to which the identified key issues were covered. Of the eight projects, three had inadequate documentation for the assessment. Table 2 lists the projects included in the assessment; in addition to the project concept notes, multiple additional documents were available for these projects, including market studies, feasibility studies, baseline studies and monitoring reports. Four of the five

⁵ Wolosin (2016).

⁶ Boyd et al. (2018).

⁷ Bull et al. (2013).

⁸ IDH (2018).

projects are in the WCA region and three of these are in Ghana. The P4F representative with whom draft assessment results were discussed is from Ghana and is well informed on the selected projects.

Table 2: Overview of selected Produce-Protect projects included in the assessment

P4F number	Title + commodity	Region	Country	Status
P4F-0010	Ghana Unilever – palm oil	WCA	Ghana	Memorandum of understanding
P4F-0011	Olam Partnership for Livelihoods and Landscapes in Western Ghana – cocoa	WCA	Ghana	Business plan
P4F-0075	Forest-smart Agriculture	WCA	Liberia and Sierra Leone	Business plan
P4F-0210	Touton Partnership for Productivity Protection Resilience in Cocoa Landscape	WCA	Ghana	Readiness for pilot
P4F-0269	Initiative for Sustainable Landscapes in Kenya	EA	Kenya	Implemented

Table 3 shows the four-level summary rating used in the assessment, and Table 4 provides an overview of the results.

Table 3: Assessment rating

Legend of rating	
	Sufficiently addressed in all projects
	Largely addressed in most projects
	Partly addressed in a few projects
	Weakly addressed or unaddressed in all or most projects

Table 4: Results of assessment of key issues and success factors in selected P4F projects in the Produce-Protect intervention area, based on a literature review

Component	Key issues or success factors	Summary rating of selected projects	
		Rating	Comments
1. Agricultural intensification	1.1 Producers and processors sufficiently organised or aggregated to access markets and support services and to provide bargaining power	Yellow	Project documentation recognises the importance of producers being well organised. The rating strongly depends on the context (e.g. country and sector) and the organisational model and experience. A model has been established in Ghana's cocoa sector, but this does not include capacities such as bargaining power in a wider sense. Kenya's dairy sector is also well organised, but remote producers lack access. Different models, such as cooperatives, may exist in other countries and sectors. Experiences globally and especially in Africa show that governance risks such as elite capture, poor benefit-sharing among members and financial mismanagement are most important; also important is the risk of overdependency on single buyers for the purchase of the main commodities. In Liberia, existing producer organisations are apparently underdeveloped and urgently require governance support
	1.2 The proven effectiveness of promoted agricultural practices and technologies to increase productivity, with a focus on sustainable intensification practices	Yellow	In general, the projects are based on good evidence that the proposed agricultural practices for sustainable and climate-smart intensification will be effective in increasing yields and product quality. The provision of access to knowledge and inputs is generally well covered, but access to finance may be missing. Access to labour is commonly overlooked, and this can form a constraint to the implementation of improved practices (e.g. in cocoa, which is characterised by significant youth outmigration)
	1.3 Analysis showing that the set of incentives (e.g. revenues from intensification and other livelihood benefits such as price premiums, alternative incomes, carbon credits and social services) is sufficient to generate a living income and outweigh unsustainable livelihood options	Red	In Ghana, the cocoa price set by the Ghana Cocoa Board is insufficient to ensure a living income for producer families, even with the addition of a premium for certified products. Other incentives under development include additional livelihood opportunities (such as the production of non-timber forest products – NTFPs), carbon credits and the provision of social services. None of the assessed projects has demonstrated that such incentives add up to a living income (or include additional costs such as those associated with labour and forest governance), which may vary according to household size and type. It is assumed that achieving a living wage is an important economic incentive for outweighing alternative unsustainable livelihood options such as palm oil and rubber that may lead to forest loss. Therefore, analyses of farmers' living wages and behaviours based on economic and non-economic incentives need to look beyond single commodities

	1.4 Established or formalised land rights and management responsibilities for producers		Although the issues of land tenure, tree ownership and community forest rights are “on the radar screen” of the assessed projects, they are far from being resolved. They may require more systematic attention to ensure adherence to the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGT) and adequate investment in community land rights, legal support, and negotiation capacity strengthening and support. Addressing these issues, including through community ownership models, requires long-term engagement; it is essential because of overlapping land and tree rights between customary and statutory systems and processes in which elites seek to exert authority
2. Markets and value-chain relations	2.1 Market demand for the main commodity targeted for productivity increase, and alternative livelihood products		Markets for deforestation-free or certified cocoa products are established and market studies have been carried out. The development of a high-quality cocoa product with high premium prices is expected in Liberia. Differentiated markets for certified and non-certified products may be unavailable for other products (e.g. palm oil and rubber), and a chain of custody may not always be established due to a lack of transparency. Certification is not an issue for dairy (e.g. in the Kenya project)
	2.2 Agreements with service providers to provide necessary inputs, knowledge and finance to support productivity increases		The rating for this success factor depends strongly on the national context and existing government services. Service provision is well established in Ghana’s cocoa sector and there is a variety of service providers, but this is much less the case in Liberia. Access to inputs such as high-quality seeds and fertilisers is crucial. In most countries, including Ghana, access to finance may be insufficient. There is a risk of high dependency where services are provided by a single public or private agency that is also the commodity exporter
3. Sustainable forest management or forest protection	3.1 Information on the suitability of forestland for agriculture used to design incentives for forest protection		In most cases, baseline, geographic information system and zoning studies have been carried out, and high-conservation-value (HCV)/high-carbon-storage (HCS) assessments are in use
	3.2 Intensification model that establishes linkages with landscape restoration or mixed (agroforestry) production systems		For the cocoa projects in the WCA, cocoa agroforestry systems – including shade-tree initiatives – are promoted within wider landscapes and may also be linked to the restoration of degraded forest areas, the establishment of buffer zones and the improved protection of protected areas. The P4F, however, does not directly support all these elements. In palm-oil projects, HCV/HCS assessments form the basis of the landscape design according to the Roundtable on Sustainable Palm Oil (RSPO) standard. It is unknown whether this approach is also applied in other projects in this strategic intervention area
	3.3 Presence of and effective support for community-based land and forest management organisations		The governance of forest landscapes is a focus area of cocoa projects in the WCA. In Ghana, capacities are being built at three levels of governance: community, landscape and jurisdictional. An important challenge is the enforcement of forest laws, which has been weak but which new models or

	<p>3.4 Presence of and effective support for multistakeholder processes and initiatives at the forest landscape level</p>		<p>approaches may address. A new model under development with the participation of various stakeholders involves cocoa buyers in landscape-scale compacts on sourcing. No standard or set of criteria for an effective management and governance structure has been agreed on, however. Forest governance plans are being developed in some cases but may not adequately cover the main criteria. Important issues that need verification are the equity of the agreed roles and participation, the risks associated with the top-down implementation of multistakeholder processes, and meaningful community engagement. Also, a baseline of the functionality and equity of these structures is missing, making it difficult to agree when a successful outcome has been achieved. The situation in Ghana and Kenya is relatively supportive for the development of such structures. The situation in Liberia seems more complex, given the country's overall poor governance</p>
	<p>3.5 Presence of and effective support for a regional or landscape-level territorial or jurisdictional plan and associated governance system</p>		
<p>4. Linkages between intensification and forest protection</p>	<p>4.1 Risk assessment that addresses all five identified risks of increased deforestation due to intensification</p>		<p>Risk assessments are being carried out but do not explicitly include all the risk categories identified in the literature review. Especially missing and relevant are the risk that intensification will act as an incentive for expanding or intensifying the cropping area (e.g. transitioning from agroforestry cocoa to cocoa farms) and the risk that migrants will enter a project zone or landscape, thereby increasing deforestation pressure. Migrants are important because they may not be included in community platforms and may not comply with forest management agreements</p>
	<p>4.3 Well-defined mechanisms to ensure that incentives are conditional on forest protection, with enforceable sanctions for non-compliance</p>		<p>Mechanisms for ensuring that incentives are conditional on the meeting of forest protection requirements and that incentives such as premium prices support compliance are often missing or poorly addressed in project documentation, even though they are key elements in the theory of change. In practice, it appears that projects are proposing, testing or further developing such mechanisms, but these efforts need to be more explicit. The EM team is aware that the P4F programme is designed to incentivize private sector change, rather than improving land governance directly. Evidence suggests that strong and clear land governance is critical for success for forest protection, but this can be addressed through complementary interventions by other actors. In the Ghanaian cocoa project, for example, the aim is to enable the identification and exclusion of cocoa producers who fail to comply with agreed rules on forest protection, and all cocoa buyers in the landscape are expected to exclude such producers. To ensure this works in practice, close monitoring and effective law enforcement are needed on the ground. The mechanisms for this approach should be articulated clearly, with well-defined incentives for compliance, consequences for non-compliance, and agreed responsibilities</p>

	<p>4.4 A robust monitoring or surveillance system to track deforestation in the area in which the Produce-Protect initiative is taking place</p>		<p>Information on whether an effective monitoring system is planned or established and functional is often missing or poorly addressed in project documentation. Such a system, which should capture forest cover as evidence of protection or encroachment and establish the underlying causes (including through the mining of traceability data and field research), should be a key element given the proposed intensification interventions and their associated risks. A monitoring system seems to be in place in Ghana, but it is unclear whether it is functional. Reliable forest monitoring systems appear to be absent in other countries. The functionality of monitoring systems often depends on donor support or REDD+ financing, which might be viable if the funding is long-term. More attention could be given to community-based surveillance systems, which can be less costly. The use of satellite images has also become relatively low-cost</p>
<p>5. Learning and potential for scaling</p>	<p>5.1 Systems and capacities in place to draw lessons on the effectiveness of Produce-Protect initiatives</p>		<p>MEL systems are not particularly well developed for the assessed projects, and the extent to which opportunities for collaboration are being identified and implemented is unclear. An integrated approach to sustainability is required, and MEL systems should address social and environmental issues in addition to those associated with deforestation, including unintended impacts. Developing governance systems for forest protection and making these systems work is a long-term process that requires significant investment in facilitation and ongoing support, including obtaining and sustaining buy-in from politicians. It is unrealistic to expect that effective governance will be well established in a four-year timeframe, but it is important to obtain initial indications of progress in terms of capacity strengthening and behaviour change</p>
	<p>5.2 Definition of scaling mechanisms if there is potential for the uptake of Produce-Protect initiatives in wider landscapes</p>		<p>In most cases, the assessed projects are already building on earlier initiatives to establish landscape-based (including jurisdictional) approaches. The literature review indicated, however, that the aim is mainly to scale up models or technologies. On the other hand, a focus on scaling up the mobilisation process itself would be more desirable: successful solutions are context-specific and thus the process must be put in place first to meet certain crucial criteria (e.g. of participation and inclusiveness). Systems for learning and continuous improvement should recognise that each landscape system requires a tailored approach that will evolve</p>

3.4 Main insights from the overall study

The following insights and recommendations have emerged from the literature review, expert interviews and the assessment of selected P4F projects, with reference to the MEL questions. Note that the assessed P4F projects have only limited diversity, with a focus on the cocoa sector and the WCA region (and, in that region, Ghana).

Priority insights and resulting recommendations

- a. **From the outset in project design, explicit mechanisms are needed to ensure that incentives and disincentives are linked to requirements for forest protection, and they should be subject to real-time monitoring and evaluation.** The literature review shows that the conditionality of incentives on forest protection, appropriate disincentives and a favourable enabling environment are crucial for effective Produce-Protect interventions. Existing incentive mechanisms focus on the commodity (e.g. increased yields and quality and, often, obtaining premium prices) and greater market access for it, but some projects also provide support for livelihood diversification and carbon credits. Less information is available on disincentives and how these are linked to intensification initiatives. In practice, the most commonly mentioned disincentive-based mechanisms are fines and penalties for non-compliance based on reliable law enforcement systems. Information on these mechanisms is often missing or inadequate in the P4F project documentation studied. For most projects, the literature review revealed that such mechanisms are being proposed, tested or further developed. For example, the mechanism documented in the Ghanaian cocoa project operates through the identification, via improved forest monitoring and traceability systems, of those cocoa producers who are not complying with no-deforestation standards and landscape compacts, and such non-complying cocoa producers are excluded from sourcing. Disincentive-based mechanisms need to be explicit, and clear definitions should be provided of the sanctions proposed and the consequences in terms of producers' market access; such definitions would then provide the basis for determining the success of the approach. Importantly, incentives for compliance can include non-financial benefits, such as improved land security or increased social services.
- b. **In the early stages of a project there is a need to demonstrate whether agricultural intensification and proposed economic incentives will provide relevant producers with living incomes and whether doing so will lead to changes in behaviour towards forests. It is also necessary to identify any additional conditions (e.g. land security) that need to be met to achieve zero deforestation.** In the sustainable commodities' community of practice, increasing attention is being given to what constitutes a living income. There is good evidence that intensification can be realised, but it is unclear whether doing so translates into increased revenues for producers to the extent of achieving living incomes. In most cases, an additional price premium linked to "no deforestation" or sustainable certification is also expected. Such a premium is unlikely to make a significant difference, however: in the cocoa sector, for example, the cocoa price is low and the premium represents only about \$50 per year per family, part of which is returned to the Land Management Board to fund its operations.⁹ Most projects, therefore, propose additional measures, such as alternative livelihoods (e.g. through new income-generating activities and entrepreneurship initiatives) and carbon credits. In some cases, social services, which may reduce household costs, are also supported. Nevertheless, it is unclear whether, in combination, these additional amounts would sum to a level that leads to changes in household behaviour and what other factors may also affect decision-making in households given the multiple benefits of forestlands for livelihoods. Improved production practices may require additional investments or labour, which may also influence household decision-making. The risk is that unless economic incentives are of sufficient magnitude and other factors shaping household decision-making are addressed, farmers may choose other, more attractive, income-generating opportunities, some of which (such as palm-oil and rubber production) may involve deforestation, in the target landscapes.
- c. **As part of project design, risk assessments should address the potential for proposed mechanisms to enhance forest clearing or degradation and, if necessary, mitigating measures should be integrated into project design.** International literature suggests that agricultural intensification can have the effect of increasing forest clearing or degradation, driven by market

⁹ P4F representative in Ghana, personal communication.

opportunities and attractive global prices for agro-commodities. Potential risks include: that intensification acts as an incentive for expanding or intensifying cropping area (e.g. a transition from agroforestry cocoa to cocoa farms); that migrants will enter the project zone or landscape, attracted by project incentives and thus adding pressure to forest resources; and the displacement of production to neighbouring areas and jurisdictions (leakage). Mitigation measures and robust monitoring would be required to know whether these risks materialise.

- d. **For effective landscape-scale governance, projects need to strengthen capacities among relevant landscape actors. To do so systematically, there is a need to agree on the principles and criteria for effective landscape governance, and private sector agencies should also provide incentives for effective governance.**¹⁰ Landscape and jurisdictional approaches are receiving increasing global attention, and criteria and standards for landscape governance are being developed. In some cases, the active engagement of functional, community-based land and forest management organisations has been shown to be effective.¹¹

Forest landscape governance is a focus area for several P4F projects in the Produce-Protect intervention area. Interventions may be required at three interrelated levels of governance – community, landscape and jurisdictional – with appropriate linkages between these. The strengthening of existing institutions or the establishment of new ones may be needed to address important organisational challenges. This, in turn, will require intensive support, particularly to ensure equitable participation where significant power inequalities exist and there is a risk of elite capture and land conflicts.

One of the main challenges is effective forest law enforcement. New models to improve enforcement are being explored and developed with the participation of various stakeholders, but the literature review shows that multistakeholder initiatives can be top-down and the participation of local actors weak. Initiatives to strengthen capacity in forest law enforcement should be based on participation, inclusiveness and accountability. Assessing the performance of institutions and governance systems requires baselines, targets and criteria and indicators for assessing progress. Some criteria and indicators should be context-specific: for example, there may be a need to address the specific risk of crowding-in by migrants. Additional affirmative actions may be required to ensure that marginalised and community groups have adequate voice in governance processes.

Researchers at Wageningen University have proposed a preliminary list of five landscape governance capabilities,¹² which the EM review team could adapt for assessing progress in landscape governance and the P4F contribution. The five capabilities are to:

- 1) “think” landscape, which entails the capacity to access and exchange information (dialogue), understand identity, dynamics and potentials, and act strategically on these;
- 2) achieve internal coherence, which requires landscape leadership and the capacity to facilitate multistakeholder networks, establish a common vision, leverage power relations and manage conflicts;
- 3) make institutions work for landscapes, which entails the capacity to recognise and build on local landscape institutions, secure access rights to resources and benefits, and link with external policy frames and markets;
- 4) create landscape market value by nurturing entrepreneurship, creating landscape business models and attracting landscape finance; and
- 5) manage resources, which requires deep knowledge of resource dynamics and spatial information management, feeding into participatory spatial planning and decision-making.

¹⁰ Landscape governance capacity can be defined as the collective capabilities of actors to govern their shared landscape from an integrated perspective, in view of shared concerns and goals (van Oosten et al., 2016).

¹¹ Arts and de Koning (2015).

¹² van Oosten et al. (2016).

- e. **Scaling needs to focus on the wider uptake of effective design and implementation approaches rather than on the rollout or replication of technologies or mechanisms that appear to have been successful in other contexts. Success depends strongly on local and national contexts and whether systemic changes have been achieved.** The literature review and expert interviews clearly show that achieving successful Produce-Protect initiatives and landscape approaches is not easy. Moreover, successes tend to be localised and to arise from tailor-made approaches and long engagement processes. Thus, scaling should not be understood as replicating a tool or mechanism in a wider context. Rather, it should take into account and focus on understanding the contextual factors that help achieve success. Local non-governmental organisations (NGOs) can be instrumental partners in ensuring that approaches take into account local policy and sociocultural contexts. Systemic changes, i.e. those addressing root causes of non-sustainable forest management, will also contribute to scaling to take place once new models have proven to be effective. Policy changes are one type of systemic change.
- f. **To sustain the results, in the absence of support by P4F or other donors, practice changes are needed among key stakeholders, especially within the private sector.** The P4F programme is designed to incentivize private sector investment rather than improving value chains and landscape governance directly. However, the approaches being pioneered and advanced through increased private sector investment should make explicit the role of the private sector and other actors in supporting more sustainable value chains and improved forest landscape governance if forest and climate-related goals are to be achieved. The business models and investment propositions being catalyzed would be expected to generate both business benefits for private actors, as well as benefits for other value chain and landscape actors. This will be one area that requires close monitoring.

Other relevant insights

- g. **To be effective, producer organisations need to prioritise their governance, service delivery to members, bargaining power and access to finance, requiring gap analyses and targeted capacity strengthening.** The organisation of producers into viable bodies is an essential element of any Produce-Protect initiative. Producer organisations may already exist in an area, but they may not be well governed or provide their members with high-quality services, or they may be unable to cope with the increased revenues and profits arising from P4F support. Effective governance is a key factor: many examples exist of organisations collapsing due, for example, to elite capture, mismanagement and poor service delivery. A key issue is the ability of producer organisations to enable members to participate meaningfully in multistakeholder processes and to bargain effectively on price and market access. Access to finance is another priority issue.
- h. **In preparing for a project, a detailed assessment is needed of whether land and tree tenure, ownership and security are issues for private landowners and communities. If they are, the project design should ensure long-term engagement to address them.** Land tenure, tree ownership and community forest rights are “on the radar screen” of the assessed projects but are far from being resolved. The challenges pertaining to land and tree tenure in sub-Saharan Africa are well known. Addressing these in responsible business investments, including through landscape-based approaches, requires long-term engagement, including from governments and civil society. For some projects, the reviewed project documentation is weak on explaining approaches to land and tree tenure. It would be advisable to review all the projects on the extent to which they accommodate the VGGT and its associated guidance.
- i. **All project designs should ensure the effective monitoring of key production, livelihood and forest protection indicators. Independent agencies should monitor production indicators (e.g. yields and incomes) and protection indicators (e.g. forest cover and encroachment), and projects should ensure that sufficient capabilities and resources are available for this task.** Information on effective forest monitoring systems that capture forest cover (as evidence of protection or encroachment) and establish linkages with the underlying causes of encroachment is often missing or poorly addressed in project documentation, but it should be a key element. The study found that a forest monitoring system is in place in Ghana, but it is unclear whether this is functional and whether capacities and resources are sufficient (its current functionality seems to depend on donor support). For other countries, the study indicates that reliable independent forest monitoring systems are missing.

- j. **At the level of the P4F programme and projects, there is a need to define responsibilities and to make resources available to support learning on key landscape issues and mechanisms and to share insights widely with the aim of improving existing approaches.** The challenges vary by landscape: although there are commonalities, the establishment of governance systems and incentive mechanisms requires tailored interventions and long-term support. There is only limited evidence that landscape approaches work in practice (see, for example, the risks outlined in section 3.2). It is important, therefore, that the implementation of landscape approaches includes a MEL component with adequate resourcing. In addition to monitoring forest cover and encroachment in real time, this would address foundational issues such as land tenure, food security, livelihoods and community engagement in economic planning and human rights. There is significant and growing investment in landscape approaches as well as questions about their effectiveness, and it is important, therefore, that lessons are learned and shared in the international community of practice working on forestry, agriculture, climate, human rights, food security and responsible business. Challenges pertaining to accessing private-sector data for landscape MEL need attention – additional public-sector investment in data collection may be required, and issues of data control and access for local communities both merit consideration. Recent support for community empowerment via legal activism can improve the outcomes of land investments.

3.5 Discussion on study questions

As set out in the MEL questions enumerated in Chapter 1, this study explored evidence of the effectiveness of Produce-Protect mechanisms and approaches in achieving production intensification and forest protection; success factors and key issues; the extent to which P4F projects address these issues; and the potential for scaling.

The central challenge for Produce-Protect initiatives is ensuring the effectiveness of the mechanisms linking increased productivity arising from the strengthened capacity and changes in behaviour of farmers and communities with additional benefits (e.g. livelihood diversification benefits, social services and entrepreneurship schemes) and the governance system – including incentives and disincentives – for forest protection and sustainable land management. These mechanisms should be made explicit and tested through participatory approaches and implementation of business models led by the private sector, in partnership with local community, civic and governmental actors. The functionality of Produce-Protect initiatives will depend on whether the private sector recognizes the benefits of improved landscape management and whether producers achieve livelihood and community benefits. This would then catalyse behavioural change of such actors towards sustainable landscape management and away from less-sustainable but potentially more lucrative livelihood activities.

All potential mechanisms for linking intensification and forest protection depend strongly on specific contextual factors (i.e. the projects' theories of change include context-specific assumptions). Nevertheless, the following emerging success factors, derived mainly from the WCA and cocoa-sector initiatives, are likely to be applicable in a range of contexts:

- a reasonable overall governance situation in the country that is conducive to achieving effective landscape governance (e.g. the overall governance situation is comparatively less favourable in Liberia);
- a reasonable level of organisation in the sector, and supportive public policies for it;
- prices for the main commodity that reward sustainable production and enable living incomes, and the differentiation of sustainably produced products from those produced unsustainably;
- demand for products produced according to sustainability standards with robust assurance mechanisms, and a willingness among consumers to pay higher prices for such products (this is favourable for cocoa but much less so for soy and palm oil, especially due to emerging Chinese markets for these products);

- existing experiences with forest and landscape governance, including community engagement, which are relatively favourable in some countries that have received substantial donor support on this aspect; and
- political support over time – maintaining support from key officials at various levels is necessary to sustain landscape and jurisdictional approaches.

3.6 Potential application of learning tools

The assessment framework and its emerging insights have several potential applications, including the following three:

1. **Identifying projects for the pipeline.** As an initial guide to conditions, success factors and issues to consider, the assessment framework could be used in the early identification and review of potential projects. Gap analyses on identified key issues could help determine the potential for given types of project.
2. **Supporting project design.** The P4F programme and other project developers could use the assessment framework to support the design of new project ideas, such as by providing design checklists, and in the development of baseline studies. One option for the future would be to work with the P4F Monitoring and Evaluation team to create a checklist for staff based on the assessment framework (i.e. based on the maturity of the FP, identify which elements of the assessment framework are most useful to explore in an in-depth manner).
3. **Informing project and portfolio monitoring and evidence-based learning.** The assessment framework could be used to guide data collection and lesson-learning, particularly on early project outcomes on capacity strengthening and behaviour changes among key actors and to test theories of change and associated assumptions. Such data collection and lesson-learning could feed into programme-level monitoring and learning and support the identification of areas where additional interventions may be required in design, resourcing and management.

Another possibility would be the development of evaluative scales and associated indicators to reflect performance levels. This could be used in upcoming evaluative case studies to generate lessons on progress, discern the contributions of the P4F programme, and identify potential improvements to inform the programme and the wider community of practice. In all the above cases the EM team will work closely with the P4F Monitoring and Evaluation team to ensure the evaluation products can be used efficiently by staff.

Table 5 summarises how key insights could be used to develop specific tools for use in MEL case studies and more widely in the P4F programme and beyond to assist in project identification, design and evidence-based learning.

Table 5: Potential use of key insights in project design and P4F evaluative learning

Key insight	Use for project design	Use in P4F evaluative learning
Mechanisms linking incentives (agricultural intensification and others) to forest protection and disincentives to deforestation	<ul style="list-style-type: none"> • Checklist for establishing whether mechanisms are sufficiently explicit and well defined, including necessary changes in practices by key actors and the specification of incentives and disincentives • Checklist of associated assumptions, such as law enforcement • Definition of threshold at which an incentive/disincentive mechanism would be judged successful 	<ul style="list-style-type: none"> • Indicators and questionnaire for assessing the extent to which proposed mechanisms have been effective, leading to changes in practice under given conditions • Lessons learned based on evidence • Guidance on the exchange of lessons learned and development of generic insights • <i>Baseline studies</i> on compliance with forest protection requirements and challenges to legal enforcement

<p>Effectiveness of incentives (intensification and others) in stimulating desired behaviour change</p>	<ul style="list-style-type: none"> • Checklist for assessing the extent to which a project design includes the assessment of current income levels for different types of producers and the expected contribution of the targeted commodity • Study of other factors and challenges that play roles in behaviour change • Study on market opportunities for additional price premiums and other incentives and whether these would sum to a living income 	<ul style="list-style-type: none"> • Assessments of current level and recent changes of income for different socio-economic groups • Cost-benefit analyses at the level of producers and producer organisations, including labour costs • Assessments of living income and current gaps at household level • Qualitative studies of livelihood assets and strategies and drivers of behaviour change, including gender issues • <i>Baseline studies</i> on incomes, living incomes and additional factors required for behaviour change
<p>Effectiveness of forest governance based on a set of capabilities</p>	<ul style="list-style-type: none"> • Gap analysis of existing landscape governance at various scales (with effective bridging between scales), capacities and enabling environment • Checklist for overview of earlier experiences and lessons learned and the expected added value of new support • Definition of associated assumptions 	<ul style="list-style-type: none"> • Questionnaires for stakeholders involved in multiscale landscape governance systems on their current roles and responsibilities, levels of satisfaction, perceptions of governance criteria, etc., as well as challenges and desirable changes • Questionnaires on the effectiveness of landscape governance systems for general use • <i>Baseline studies</i> on governance systems and multistakeholder initiatives, and their effectiveness
<p>Mitigation of risk that intensification will promote encroachment</p>	<ul style="list-style-type: none"> • Risk assessment format that addresses relevant risks associated with dynamics that may lead to increased deforestation, as emerging from literature review and baseline studies 	<ul style="list-style-type: none"> • Reviews to assess whether expected risks have materialised or the extent to which the causes of deforestation have been addressed and thus the need to integrate additional elements in the project design to address emerging risks • <i>Baseline studies</i> on the causes of deforestation and assessments of the extent to which a given project is likely to address these

4 Recommendations

The study conducted a literature review and expert interviews and, on this basis, developed an assessment framework and applied it to selected P4F projects. This process generated a wealth of information on key issues that are highly relevant to the P4F programme and its capacity to realise its objectives. It is recommended that the P4F programme, and potentially other project developers, use the assessment framework developed in the present study to:

- 1. Identify projects for the pipeline.** The assessment framework constitutes an initial guide to the conditions, success factors and issues to consider and can therefore help in the early identification and review of potential projects. For example, gap analyses on specific identified key issues can help determine the potential for a given type of project. The EM review team, in close collaboration with P4F, could develop specific tools (e.g. checklists, gap analysis frameworks and risk assessments) to support tailor-made designs. Existing internal assessment tools (e.g. T05) could be replaced or improved. The role of the EM review team would be to collaborate in developing effective tools and validating whether these work in practice, and possibly to provide regional teams with training on these tools.
- 2. Support project design.** The P4F and other project developers could use the assessment framework to support the design of new project ideas, such as by providing checklists for design, and in the development of baseline studies. Specific tools could be developed aimed at strengthening the governance capacity of producer organisations, landscape governance institutions and incentive/disincentive mechanisms to ensure linkages between production, protection and law enforcement objectives. The role of the EM review team would be to collaborate in developing effective tools and validating whether these work in practice, and possibly to provide regional teams with training on these tools.
- 3. Conduct evaluative case studies.** The EM review team can use the results when conducting evaluative case studies on selected projects to validate the theory of change of each strategic intervention area and to obtain an in-depth understanding of underlying mechanisms. Case studies will be selected among P4F projects and associated demand-side measures and measures to address enabling conditions. Indicators, tools and frameworks will be developed for these studies and may include the use of scales and associated indicators for evaluating the performance, progress and contributions of the P4F programme. The evaluative case studies will generate evidence on key issues and assumptions in the Produce-Protect intervention area to inform P4F, DFID and the wider community of practice.
- 4. Inform project and portfolio monitoring and evidence-based learning.** The assessment framework could be used to inform and advise the P4F MEL unit on data collection and lesson-learning for selected projects, particularly the monitoring of early outcomes (capacity and behaviour changes of key actors). The collected project-level data could feed into programme-level monitoring and learning and support the identification of areas where additional interventions may be required in design, resourcing and management. The EM review team could play a role in informing or facilitating communities of practice within the P4F programme and at a broader scale on specific key issues or themes, such as landscape governance.

5 Bibliography

- Albani, M. (2015). TFA 2020 partners: the triple win of “Produce-Protect”. Retrieved January 3, 2019, from <https://www.tfa2020.org/en/the-triple-win-of-Produce-Protect>
- Arts, B., & De Koning, J. (2015). Community forest management in the tropics: a QCA of its performance. Paper to be presented at the First Annual FLARE Network Conference, November 2015, Paris, France.
- Boyd, W., Stickler, C., Duchelle, A. E., Seymour, F., Nepstad, D., Bahar, N. H. A., & Rodriguez-Ward, D. (2018). *Jurisdictional approaches to REDD+ and low emissions development: progress and prospects*. Working Paper. Washington, DC: World Resources Institute. Available at <https://wriorg.s3.amazonaws.com/s3fs-public/ending-tropical-deforestation-jurisdictional-approaches-redd.pdf>
- Bull, J. W., Suttle, K. B., Gordon, A., Singh, N. J., & Milner-Gulland, E.J. (2013). Biodiversity offsets in theory and practice. *Oryx*, 47, 369–380. doi: 10.1017/S003060531200172X
- Byerlee, D., Stevenson, J., & Villoria, N. (2014). Does intensification slow crop land expansion or encourage deforestation? *Global Food Security*, 3, 92–98.
- Cotula, L. (2018). Legal activism key to securing land rights in new investment phase. Retrieved January 3, 2019, from <https://www.iied.org/legal-activism-key-securing-land-rights-new-investment-phase>
- Cross H., & McGhee, W. (2015). *PES incentives for smallholders to avoid deforestation: lessons learned and factors for success*. Bioclimate Research & Development.
- Cunningham, S. A., Attwood, S. J., Bawa, K. S., Benton, T. G., Broadhurst, L. M., Didham, R. K., McIntyre, S., Perfect, I., Samways, M. J., Tschardtke, T., Vandermeer, J., Villard, M-A., Young, A., & Lindenmayer, D. B. (2013). To close the yield-gap while saving biodiversity will require multiple locally relevant strategies. *Agriculture, Ecosystems and Environment*, 173, 20–27.
- Deininger, K. W., Selod, H., & Burns, A. (2012). *The land governance assessment framework: identifying and monitoring good practice in the land sector*. Washington, DC: The World Bank.
- Earth Innovation Institute (n.d.). Retrieved January 3, 2019, from <http://produceprotectplatform.com>
- FAO & PROFOR (2011). *Framework for assessing and monitoring forest governance*. Rome: Food and Agriculture Organization of the United Nations & Program on Forests.
- Haggard, J., Phillips, D., Kumar, R., & Nelson, V. (2014). *Market and incentive-based mechanisms to support integrated landscape initiatives: a summary report of their potential and limitations*. Report commissioned by EcoAgriculture Partners. Chatham, UK: Natural Resources Institute.
- Gollnow, F., & Lakes, T. (2014). Policy change, land use, and agriculture: the case of soy production and cattle ranching in Brazil. *Applied Geography*, 55, 203–211.
- Gulbrandsen, L. H. (2012). Dynamic governance interactions: evolutionary effects of state responses to non-state certification programs. *Regulation & Governance*, 8, 74–92. doi: 10.1111/rego.12005
- Ickowitz, A., Sills, E., & de Sassi, C. (2017). Estimating smallholder opportunity costs of REDD+: a pantropical analysis from households to carbon and back. *World Development*, 95, 15–26.
- IDH (2018). *Verified sourcing areas: reaching sustainability at scale*. Retrieved January 3, 2019, from www.idhsustainabletrade.com/news/verified-sourcing-areas-reaching-sustainability-at-scale
- Jones, K. W., Holland, M. B., Naughton-Treves, L., Morales, M., Suarez, L., & Keenan, K. (2016). Forest conservation incentives and deforestation in the Ecuadorian Amazon. *Environmental Conservation*, 1, 1–10.

- King, D., Hicks, F., Gammie, G., Galarreta, V., Szott, L., Coronel, D., Ormeño, L. M., & Leal, M. (2016). *Towards a protection-production compact for Peru: elements and lessons from global experience*. Washington, DC: Forest Trends.
- Lambin, E. F., Gibbs, H. K., Heilmayer, R., Carlson, K. M., Fleck, L. C., Garrett, R. D., le Polain de Waroux, Y., McDermott, C. L., McLaughlin, D., Newton, P., Nolte, C., Pacheco, P., Rausch, L. L., Streck, C., Thorlakson, T., & Walker, N. F. (2018). The role of supply-chain initiatives in reducing deforestation. *Nature Climate Change*, 8, 109–116.
- Lan, L.N. (2016). Household opportunity costs of protecting and developing forest lands in Son La and Hoa Binh Provinces, Vietnam. *International Journal of the Commons*, 10, 902–928.
- Lapeyre, R., & Pirard, R. (2013). *Payments for environmental services and market-based instruments: next of kin or false friends?* Working Paper 14/13. Paris: Institut du Développement Durable et des Relations Internationales.
- Martin, A., Coolsaet, B., Corbera, E., Dawson, N., Fisher, J., Franks, P., Mertz, O., Pascual, U., Rasmussen, L., & Ryan, C. (2018). Land use intensification: the promise of sustainability and the reality of trade-offs. In K. Schreckenberg, G. Mace, & M. Poudyal (Eds.). *Ecosystem services and poverty alleviation: trade-offs and governance*. London: Routledge.
- Pacheco, P., 2012. *Soybean and oil palm expansion in South America: a review of main trends and implications*. Working Paper 90. Bogor, Indonesia: Center for International Forestry Research.
- Rasmussen, L. V., Coolsaet, B., Martin, A., Mertz, O., Pascual, U., Corbera, E., Dawson, N., Fisher, J. A., Franks, P., Ryan, C. M. (2018). Socio-ecological outcomes of agricultural intensification. *Nature Sustainability*, 1, 275–282. doi: <https://doi.org/10.1038/s41893-018-0070-8>
- Ros-Tonen, M. A. F., Leynseele, Y.-P. B. V., Laven, A., & Sunderland, T. (2015). Landscapes of social inclusion: inclusive value-chain collaboration through the lenses of food sovereignty and landscape governance. *The European Journal of Development Research*, 27, 523–540. doi:10.1057/ejdr.2015.50
- Rudel, T. K., Schneider, L., Uriarte, M., Turner, B. L., DeFries, R., Lawrence, D., Geoghegan, J., Hecht, S., Ickowitz, A., Lambin, E. F., Birkenholtz, T., Baptista, S., & Grau, R. (2009). Agricultural intensification and changes in cultivated areas 1970–2005. *Proceedings of the National Academy of Sciences*, 106, 20675–20680.
- Scherr, S. J., Shames, S., Gross, L., Borges, M. A., Bos, G., & Brasser, A. 2017. *Business for sustainable landscapes: an action agenda to advance landscape partnerships for sustainable development*. Washington, DC: EcoAgriculture Partners and IUCN, on behalf of the Landscapes for People, Food and Nature Initiative.
- Szott, L. T., Ormeño, L. M., Suárez de Freitas, G., Galarreta, V., Edwards, R., Alcántara, I., Coronel, D., Saavedra, O., Leal, M., & Mendoza, E. (2017). *The production-protection compact in the Peruvian context*. Washington, DC: Forest Trends.
- Thorlakson, T., Zegher, J. F. D., & Lambin, E. F. (2018). Companies' contribution to sustainability through global supply chains. *Proceedings of the National Academy of Sciences*, 115, 2072–2077. doi:10.1073/pnas.1716695115
- Tropical Forest Alliance 2020 (2017). *Annual report 2016-2017*. World Economic Forum.
- van Oosten, C., Wigboldus, S., Mulkerrins, J., & Brouwers, J. (2016). *Landscape governance capacity: towards a framework for assessment and strategic guidance of landscape initiatives*. Wageningen Centre for Development Innovation.
- Villoria, N. B., Byerlee, D., & Stevenson, J. R. (2014). The effects of agricultural technological progress on deforestation: what do we really know? *Applied Economic Perspectives and Policy*, 36, 211–237.

Wolosin, M. (2016). *WWF discussion paper: jurisdictional approaches to zero deforestation commodities*. WWF.

Annex 1: Assessment framework

Component and criteria	Key issues for evidence of rating			Key issues for Produce-Protect initiatives
	Rating 1 (low, red)	Rating 2 (orange)	Rating 3 (high, green)	
Component 1. Intensification				
1.1 Producers or processors are sufficiently organised or aggregated to access markets and support services and to increase their bargaining power	<ul style="list-style-type: none"> Producers are not organised or aggregated, were brought together recently, or lack capacity A producer organisation exists but does not have a governance structure Producer organisation lacks bargaining power Producer organisation is dependent on one buyer 	In between	<ul style="list-style-type: none"> Producer organisation exists, or producers are aggregated in another way Producer organisation benefits from knowledge, input supply, finance, processing, transportation and/or marketing to increase productivity Producer organisation has the ability to produce at scale Producer organisation has bargaining power and a certain level of autonomy 	<ul style="list-style-type: none"> Cooperatives represent one form of producer organisation; alternative forms include savings-and-loans groups; producer associations; outgrower programmes; community groups; and networks of producers
1.2 Proven effectiveness of the promoted agricultural practices and technologies to increase productivity, with a focus on sustainable intensification practices	<ul style="list-style-type: none"> The intensification model has not been tested for targeted producers/smallholders and their context The intensification model does not include ecologically sustainable practices 		<ul style="list-style-type: none"> Proof of concept of the intensification model has been established for targeted producers Evidence exists of increased productivity 	<ul style="list-style-type: none"> Included may be practices such as improved fertility management, integrated pest management, improved seeds or seedlings, reduced post-harvest losses, and climate-smart practices
1.3 Analysis of whether the set of incentives (e.g. revenues from production increase and other livelihood benefits such as price premiums, alternative incomes, carbon credits and social services) is sufficient to generate a living income and	<ul style="list-style-type: none"> The additional revenues from increased productivity are unclear The additional incentives are unclear Whether the full set of incentives adds up to a living income is unclear 		<ul style="list-style-type: none"> The additional revenues from intensification and additional incentives are well-defined Evidence exists that producers will receive the proposed incentives It has been demonstrated that the full set of incentives adds up to a living income 	<ul style="list-style-type: none"> Incentives could include price premiums, access to markets, carbon credits, buyer arrangements, alternative livelihood incomes and social services To determine whether incentives and disincentives outweigh the expected revenues of the default situation (i.e. forest degradation or

Component and criteria	Key issues for evidence of rating			Key issues for Produce-Protect initiatives
	Rating 1 (low, red)	Rating 2 (orange)	Rating 3 (high, green)	
outweigh unsustainable livelihood options	<ul style="list-style-type: none"> • There is no indication whether the set of incentives will outweigh unsustainable livelihood options • The assumptions are not considered 		<ul style="list-style-type: none"> • Consideration has been given to ensuring that the set of incentives will outweigh unsustainable livelihood options • Assumptions have been considered 	clearing), there is a need to analyse opportunity costs of both options
1.4 Producers have established or formalised land rights and management responsibilities	<ul style="list-style-type: none"> • Land titles for producers are uncertain • There has been no land mapping, negotiations with companies or national policy reforms <i>in advance</i> of individual land investments by producers 		<ul style="list-style-type: none"> • Land titles for producers are well established and supported by legal documents • Land titles have been established <i>in advance</i> of individual land investments by producers 	<ul style="list-style-type: none"> • Complex land- or forest-tenure systems • Local resource management systems
Component 2. Markets and value-chain relations				
2.1 Market demand for the main commodity targeted for productivity increase, and alternative livelihood products	<ul style="list-style-type: none"> • Market demand is not established • Markets do not differentiate sustainably produced products from those produced unsustainably • Access to markets is uncertain for producers • No market-oriented incentives exist 	In between	<ul style="list-style-type: none"> • Market demand is well established • Markets differentiate sustainably produced products • Access to markets for targeted producers is established • Market-oriented incentives exist, such as long-term buying commitments, access to services and premium prices 	<ul style="list-style-type: none"> • High risk of deforestation or forest degradation where market demand is high but there is no differentiation of sustainably produced products • Certification systems or standards include criteria for land and forest use, with incentives provided to encourage producers to meet these criteria
2.2 Agreements with service providers to provide necessary inputs, knowledge and finance to support productivity increases	<ul style="list-style-type: none"> • Services are non-existent or of low quality, or are not responding to the needs of producers • Services do not meet requirements for productivity increases 		<ul style="list-style-type: none"> • Services are tailored to the need of various producer categories • Services are aligned with requirements to increase productivity • All producers have access to affordable finance 	<ul style="list-style-type: none"> • Remoteness or other inaccessibility influencing service delivery • High levels of risk for producers • High levels of poverty • Capacity to engage in processing

Component and criteria	Key issues for evidence of rating			Key issues for Produce-Protect initiatives
	Rating 1 (low, red)	Rating 2 (orange)	Rating 3 (high, green)	
Component 3. Sustainable forest management and forest protection				
3.1 Information on the suitability of the forestland for agricultural use is used to design incentives required for forest protection	<ul style="list-style-type: none"> No information is available on the suitability of forestland for agricultural use No information is available on trends in forest conversion and degradation No information is available on existing causes of deforestation 	In between	<ul style="list-style-type: none"> Good information is available on the suitability of forestland for agricultural use Up-to-date information is available on trends in forest conversion and degradation Good understanding exists of the main causes of deforestation 	<ul style="list-style-type: none"> High risk of deforestation or forest degradation where there is high land suitability for agriculture Low risk of deforestation or forest degradation in remote or inaccessible areas and areas where the socio-cultural values of local and indigenous peoples are strong
3.2 Intensification model that establishes linkages with landscape restoration and mixed (agroforestry) production systems	<ul style="list-style-type: none"> The intensification model only addresses farm-level practices The intensification model does not include land or forest restoration or mixed production systems Product diversification is not included 	In between	<ul style="list-style-type: none"> The intensification model includes linkages with broader landscape dynamics There is development of, or support for, a mixed production landscape Product diversification is addressed 	<ul style="list-style-type: none"> Preference for a mosaic of land uses with potential for forest conservation in a mixed production landscape
3.3 Presence and effective support for community-based land and forest management organisations	<ul style="list-style-type: none"> No information is available on community-based land or forest management organisations, or justification if missing Monitoring and surveillance systems are top-down, without community involvement There is no support for community-based forest management 	In between	<ul style="list-style-type: none"> Community-based structures are involved in forest management There is capacity building for such structures, for example in participatory land mapping, land-use scenario exploration and securing land rights Co-management structures have been established with public agencies Communities are involved in forest management surveillance 	<ul style="list-style-type: none"> Preference for community-based or co-management land or forest management systems
3.4 Presence and effective support for multistakeholder	<ul style="list-style-type: none"> No information is available on multistakeholder processes 	In between	<ul style="list-style-type: none"> Support is available for existing multistakeholder processes 	<ul style="list-style-type: none"> Communities to be well represented in multistakeholder processes

Component and criteria	Key issues for evidence of rating			Key issues for Produce-Protect initiatives
	Rating 1 (low, red)	Rating 2 (orange)	Rating 3 (high, green)	
processes and initiatives at the forest landscape level	<ul style="list-style-type: none"> If multistakeholder processes exist, no information is available on their effectiveness in sustainable land and forest management There is no support for existing multistakeholder processes, or no initiatives exist to establish these 		<ul style="list-style-type: none"> Support is aimed at increasing the effectiveness and equity of existing multistakeholder processes If no multistakeholder processes exist, initiatives are underway to engage relevant stakeholders in forest management 	<ul style="list-style-type: none"> Importance of multistakeholder processes where public governance systems are less effective Importance of effective, equitable and inclusive multistakeholder initiatives
3.5 Presence of, and effective support for, a regional or landscape-level territorial or jurisdictional plan and associated governance system	<ul style="list-style-type: none"> No information is available on regional or landscape-level territorial or jurisdictional plans If such information exists, no linkages have been established with existing regional or landscape-level territorial or jurisdictional plans and associated regulations 		<ul style="list-style-type: none"> Information exists on regional or landscape-level territorial or jurisdictional plans Support is provided to establish or improve regional or landscape-level territorial or jurisdictional plans and associated regulations Regional or landscape-level territorial or jurisdictional plans are aligned with sustainability objectives 	Quality criteria for land or forest management plans include: <ul style="list-style-type: none"> spatial land-use zoning command-and-control measures promotion of sustainable practices real-time satellite-based monitoring
Component 4. Linkages between intensification and forest protection				
4.1 Risk assessment that addresses all five identified risks of increased deforestation due to intensification	<ul style="list-style-type: none"> No assessment has been done of the risk that intensification will lead to increased deforestation or forest degradation 	In between	<ul style="list-style-type: none"> An assessment has been made of the risk that intensification will lead to increased deforestation or forest degradation The risk assessment looked at all five possible processes The risk assessment led to the inclusion of mitigation measures in project design The risk assessment process included stakeholder consultation 	The five risk categories are: <ol style="list-style-type: none"> 1) expansion of land or forest use by targeted producers; 2) displacement of production to neighbouring areas and jurisdictions (leakage); 3) diversification or intensification of forest-resource activities; 4) crowding-in by non-targeted producers; and 5) displacement over time

Component and criteria	Key issues for evidence of rating			Key issues for Produce-Protect initiatives
	Rating 1 (low, red)	Rating 2 (orange)	Rating 3 (high, green)	
4.2 Well-defined mechanisms on how incentives are conditional on forest conservation requirements, with enforceable sanctions for non-compliance	<ul style="list-style-type: none"> • There is a lack of clearly defined disincentives • If incentives are provided, no conditionality is included for producers to receive these incentives • The consequences of non-compliance with no-deforestation agreements are unclear 		<ul style="list-style-type: none"> • The conditionality for receiving incentives is well defined and included in agreements or contracts with producers • Incentives and disincentives are complementary (consistent) 	<ul style="list-style-type: none"> • Examples of conditionality in forest conservation include the cessation of forest cutting (conversion) and degradation, and involvement in restoration or regeneration activities
4.3 A robust monitoring or surveillance system to track deforestation in the area where the Produce-Protect initiative is taking place	<ul style="list-style-type: none"> • There is no robust monitoring or surveillance system of forest condition • It is not possible to assess whether the project is achieving forest protection objectives 		<ul style="list-style-type: none"> • A robust monitoring or surveillance system of forest condition is in place • It is possible to assess whether the project is achieving forest protection objectives 	<ul style="list-style-type: none"> • Monitoring should focus on relevant forest margins and other locations where the risk of forest encroachment is highest • Use of real-time satellite images
Component 5. Positive impacts and potential for scaling				
5.1 Systems and capacities are in place to draw lessons on the effectiveness of Produce-Protect initiatives	<ul style="list-style-type: none"> • No systems or resources are in place to draw lessons from the Produce-Protect initiative and assess its effectiveness 	In between	<ul style="list-style-type: none"> • Systems and resources are in place to draw lessons from the Produce-Protect initiative and assess its effectiveness • Learning is based on the results of robust monitoring and evaluation systems 	<ul style="list-style-type: none"> • Lessons should support conclusions on the effectiveness of the Produce-Protect initiative before scaling is promoted
5.2 Scaling mechanisms are defined if potential exists for Produce-Protect initiatives in the wider landscape	<ul style="list-style-type: none"> • No specific measures have been defined for scaling • Scaling is not discussed in the partnership model 		<ul style="list-style-type: none"> • Mechanisms for scaling have been defined • Support is available for multistakeholder or national industry platforms to enhance scaling • Strategic partnerships exist with sector organisations to enhance scaling 	<ul style="list-style-type: none"> • Possible scaling mechanisms include: jurisdictional sourcing standards and certification; multistakeholder initiatives; and financial mechanisms to enhance scaling (which might comprise blended finance mechanisms or an investment facility for Produce-Protect initiatives)



Component and criteria	Key issues for evidence of rating			Key issues for Produce-Protect initiatives
	Rating 1 (low, red)	Rating 2 (orange)	Rating 3 (high, green)	
			<ul style="list-style-type: none"> Financial mechanisms exist to support scaling 	

Reporting scheme for the assessment of Produce-Protect projects

Component and criteria	Rating (1, 2, 3)	Justification, referring to relevant issues	Reference to issues covered by partners or in earlier initiatives or the current project	Key issues for follow-up (gaps)
Component 1. Productivity increase/intensification				
1.1 Producers or processors are sufficiently organised or aggregated to access markets and support services and to increase their bargaining power				
1.2 Proven effectiveness of the promoted agricultural practices and technologies to increase productivity, with a focus on sustainable intensification practices				
etc.				

Annex 2A: Results of the literature review on Produce-Protect linkages

Byerlee, D., Stevenson, J., & Villoria, N. (2014). Does intensification slow crop land expansion or encourage deforestation? *Global Food Security*, 3, 92–98

1. Production intensification

- Intensification is defined as crop production per hectare. Two pathways to intensification are studied: technology-driven and market-driven.
- The technology-driven pathway is defined as technologies that enhance the efficiency of the production system, such as improved fertility management, integrated pest management, the use of improved seeds or seedlings, and reduced post-harvest losses. There are examples showing that this type of intensification can lead to land savings, but there are also many examples showing that increased efficiency leads to increased production area, whereas the opposite was expected (a pattern that recalls the Jevons Paradox). The key factor determining these dynamics is *market elasticity*. This has been a common pattern in many agricultural sectors.
- Results by technology-driven intensification are sensitive to changes in land use (e.g. the area under one crop does not expand but there is expansion of other crops).

2. Markets and value-chain relations

- The market-driven pathway is defined as intensification driven by profitable markets. Considerable evidence – including from soy and palm oil – suggests that land-use expansion is especially responsive to commodity prices. Also, the opening up of forests increases access and thus lowers production costs (and increases profits), thereby stimulating land expansion. *Local positive effects from technology-driven intensification can be outweighed if global markets are elastic*. This has been the case for palm oil, for example.

3. SFM or protection systems

- *Evidence of wide-scale adoption of natural resource management technologies by smallholders in developing countries is either absent or restricted to small niches*. Barriers include opportunity costs for labour, the absence of institutions (e.g. for securing property rights or land tenure), and high investment requirements.
- Locally, intensification (especially market-driven) tends to expand the crop frontier due to “more profitable opportunities for land use and stimulating rent seeking behaviour, which undermines good governance of forest resources”.

4. Linkages between intensification and SFM/protection

- *On its own, productivity improvement is unlikely to halt cropland expansion without improved governance and incentives for preserving natural systems*. Programmes promoting expansion at the intensive margin are unlikely to succeed if it is cheaper for farmers to expand at the extensive margin where forestland is readily available and poorly governed. *Policies to reduce the effects of intensification and land-use change need to be targeted spatially on the tropical forest margins*. An estimated 80% of agricultural expansion in the tropics has been at the expense of primary and secondary forests.
- Three groups of policies are proposed to enhance the linkages:
 - 1) *Land and forest governance*, including the protection of HCV forests, environmental regulations on forests clearing, land-use zoning and satellite monitoring of forest clearing. Combinations of such measures have been most effective in slowing deforestation in Brazil, where a moratorium by export companies on purchases of soy from newly cleared forestland has been effective, although it has possibly displaced deforestation to neighbouring countries lacking equivalent moratoria (leakage).

- 2) *Market certification* to ensure that the production of agro-commodities meet social and environmental standards, including with respect to land-use changes.
 - 3) *Payments for ecosystem services*: carbon sequestration in tropical forests and the implementation of REDD+ should incentivise producers to conserve natural vegetation by intensifying existing cropland, but carbon prices are too low to achieve this. There is little evidence that the implementation of payment schemes for ecosystem services has reduced deforestation.
- Available evidence indicates that demand for food is still far from peaking and that considerable cropland expansion will occur to 2030 and 2050, mostly in tropical land-abundant countries.

5. Potential for scaling and key factors

- Efforts to scale up investments in technological improvements, improve the governance of HCV forests, and encourage land expansion in less environmentally sensitive areas can reduce the impacts of cropland expansion but must be considered globally, taking into account the potential for leakage through trade.
- Key factors:
 - market elasticity;
 - product profitability (low costs, high prices), also influenced by cheap access to finance and easy access to land (infrastructure);
 - land tenure (for smallholders, landowners);
 - opportunity costs for smallholders; and
 - land-use shifts whereby land freed for intensified crops is used for other crops (i.e. not forest protection).

Rudel, T. K., Schneider, L., Uriarte, M., Turner, B. L., DeFries, R., Lawrence, D., Geoghegan, J., Hecht, S., Ickowitz, A., Lambin, E. F., Birkenholtz, T., Baptista, S., & Grau, R. (2009). *Agricultural intensification and changes in cultivated areas 1970–2005. Proceedings of the National Academy of Sciences, 106, 20675–20680.*

4. Linkages between intensification and SFM/protection

- In inelastic markets, intensification would be expected to lead to price decline and thus reduced crop expansion. With increasing global consumption, however, markets are elastic and the opposite may occur.
- Between 1970 and 2005, the area under cultivation increased more slowly than the world population, but actual declines in the area under cultivation occurred infrequently at the global, regional and national scales. The most common pattern involved simultaneous increases in agricultural yields and the area under cultivation.
- With the exception of the early 1980s, demand for agricultural commodities in an era of globalising markets remained sufficiently elastic to induce farmers, on net, to cultivate more land, even as they increased productivity (i.e. yield per hectare).
- The analysis in this paper does not cover livestock production. Nevertheless, approximately one-third of all global croplands now produces feed grain for animals, and significant but difficult-to-measure dynamics between intensification and area under cultivation may occur in this sector.
- Empirical studies show both possible effects of intensification. Yields increased in most countries, but the area under cultivation did not decline, raising questions about the ability of intensification to spare land, at least through declines in the area under cultivation. In 21% of countries, mostly in temperate locales, intensification between 1990 and 2005 was associated with declines in the area of cropland. Such countries have *conservation set-aside programmes and have also increased their net imports of grains* (import substitution).

5. Potential for scaling and key factors

- Thus, *intensification cannot be assumed to increase protection without policies that support cropland abandonment*. Links between yield increases and declines in the area under cultivation emerged in a historical period marked by agricultural surpluses and declining prices for agricultural commodities. Changes in these conditions could sever the links between yield and cultivation area. For example, when prices of agricultural commodities rose dramatically between 2005 and 2008, the European Union reacted by eliminating the conservation set-aside provisions in their Common Agricultural Policy – that is, the continuation of certain conservation programmes seemed to depend on continued agricultural intensification and accompanying surpluses of agricultural commodities.
- Link between declines in cultivated areas, conservation policies, international trade and agricultural intensification may have changed recently in one or more important ways as the prospect of payment schemes for ecosystem services in the tropics has increased as part of global climate stabilisation policies. Reducing emissions from deforestation and forest degradation and making payments for ecosystem services on abandoned agricultural lands are politically palatable policy options when crop yields rise on the remaining lands and temper increases in commodity prices. Increased demand for biofuels, coupled with growth in the feed-grain trade, have contributed to higher agricultural commodity prices in recent years; thus, *the political conditions that encourage the emergence of a dynamic of intensification and a static or declining area of land under cultivation seem precarious*.
- Key factors:
 - Policies aimed at land-sparing (cropland abandonment) and import substitution; and
 - Global commodity demand.

Gollnow, F., & Lakes, T. (2014). Policy change, land use, and agriculture: the case of soy production and cattle ranching in Brazil. *Applied Geography*, 55, 203–211.

3. SFM or protection systems

- Policy changes in 2004 (i.e. implementation of the Action Plan to Prevent and Control Deforestation in the Legal Amazon – *Plano de Ação para a Prevenção e o Controle do Desmatamento na Amazônia Legal*, or PPCDAm) significantly decreased deforestation. The action plan, which was implemented between 2004 and 2007, had three focus areas:
 - 1) territorial management and land use (e.g. expansion of the protected-area network);
 - 2) command and control (i.e. improving monitoring, licensing and the enforcement of environmental laws and promoting sustainable practices, for example through credit policies); and
 - 3) additional campaigns, such as a soy moratorium in 2006 and a cattle moratorium in 2009, both of which showed promise in changing patterns of deforestation.
- The study looks at the association between cattle and soy production and deforestation processes in the Amazon along the BR-163, a dynamic forest frontier region in Brazil Amazon, linking soy production in Mato Grosso state with forested areas in the state's north and in Pará state.
- The association between cattle ranching, soy expansion and deforestation along the BR-163 were affected by changes in land-use policies and management following the implementation of the PPCDAm. Cattle ranching was closely associated with deforestation before the PPCDAm but a temporal decoupling occurred after 2004. Similarly, the transfer ratio of deforestation and soy expansion declined following implementation of the PPCDAm.
- Findings on the pre-PPCDAm period support earlier studies on land-use displacement, but the post-PPCDAm period was not equally affected by displacement; thus, changes in policy affected the dynamics and are of major importance.
- Even though deforestation rates declined strongly during the transition period after implementation of the PPCDAm, more land was deforested than was used for cattle or soy production in the region.

If deforestation dynamics stay decoupled from the displacement processes in Mato Grosso, cattle ranching and soy production along the BR-163 will depend largely on the effort made to promote sustainable intensification and actions to stop deforestation.

4. Linkages between intensification and SFM/protection

- No linkages with intensification were studied.

5. Potential for scaling and key factors

- Plans to introduce oil-palm plantations on a large scale might move the displacement process to a new level – displacing cattle production into forest regions or other more distant places.
- A new increase in deforestation rates in the Cerrado raises questions about whether current strategies are sufficient to prevent future deforestation.
- Possible pathways for achieving a persistent reduction in deforestation include *subsidies for semi-intensive cattle pasture systems*, *taxes on conventional cattle production*, and the expansion of technology transfer and training services.
- Key factors:
 - linkages between different commodities, in this case cattle ranching and soy production;
 - *the availability of degraded lands for cropland expansion*, which can be used for further crop production increases provided the right incentives or disincentives are in place; and
 - leaching effects, with soy production now being displaced from the Amazon to the Cerrado due to the soy moratorium in the Amazon.

Rasmussen, L. V., Coolsaet, B., Martin, A., Mertz, O., Pascual, U., Corbera, E., Dawson, N., Fisher, J. A., Franks, P., & Ryan, C. M. (2018). Socio-ecological outcomes of agricultural intensification. *Nature Sustainability*, 1, 275–282. doi: <https://doi.org/10.1038/s41893-018-0070-8>

1. Production intensification

- The authors of this paper reviewed 53 studies into the outcomes of agricultural intensification – defined broadly as activities intended to increase either the productivity or profitability of a given tract of agricultural land – for human well-being and ecosystem services.
- The authors considered it important to also look at how intensification is introduced, for example whether farmers initiate it or have it forced on them. Change is often imposed on vulnerable population groups, who lack sufficient funds or security of land tenure to take advantage of such change. Smallholders in the cases studied often struggled to move from subsistence to commercial farming, and the challenges were not well reflected in intensification strategies.

4. Linkages between intensification and SFM/protection

- *In general, agricultural intensification is rarely found to lead to simultaneous positive outcomes for ecosystem services and well-being.* This is particularly the case when ecosystem services other than food provisioning are taken into account.
- *Lose-lose categories are often associated with increased crop specialisation* and a shift towards monocultures of cash crops, such as maize cropping in the Lao People's Democratic Republic, shrimp production in Bangladesh and tea crops in Rwanda. These shifts have been associated with impacts that have occurred relatively quickly – such as an increase in pests that feed on maize, a concentrating of landholdings in Rwanda and the Lao People's Democratic Republic, and the acceleration of salinisation in Bangladesh. Moreover, drivers of land-use intensification often act to limit the choices available to marginal groups. In Rwanda, government policy has dictated crop change; in the Lao People's Democratic Republic, the reservation of land for conservation has driven a switch to continuous maize cropping. A common factor in all these cases is that the smallest landholders lack command of the assets needed to succeed with the induced crop change. Thus, a repeated observation is that negative outcomes for well-being arise from an inability to

achieve the necessary intensification of inputs, including investments in labour, fertilisers and pesticides.

- There is no blueprint for achieving positive socio-ecological outcomes. Only a minority of cases demonstrate positive interactions, in apparent contradiction to the heavy weight of expectation on sustainable intensification. In contrast, negative pathways are common.
- *Losses for biodiversity and food security tend to go together.* The study found a positive association between species richness and dietary quality across seven low- and middle-income countries.
- Few cases show that agricultural intensification is contributing to Sustainable Development Goal (SDG) 1 (“No Hunger”) and SDG 15 (“Life on Land”). *These infrequent win-win outcomes occur mostly in situations where intensification involves the increased use of inputs such as fertilisers, irrigation, seeds and labour.*

5. Potential for scaling and key factors

- There is a need to build on what is known about the contexts leading most frequently to undesirable outcomes – such as the lose-lose of reduced fallow times in swidden systems and changes in crops towards monocultures. Generally, it is not the higher-input cases that lead most commonly to lose-lose outcomes.
- Policymakers and practitioners should moderate their expectations. What alternative practices are available? Only a few cases were identified in which intensification has led to an enhancement of ecosystem services beyond short-term food production or to well-being benefits beyond an increase in incomes. *Those cases in which intensification has enhanced ecosystem services have combined landscape-scale intensification with landscape restoration and the diversification of agronomic practices.*
- A key knowledge gap is on causal linkages between gains and losses in ecosystem services and multiple dimensions of well-being. Some ecosystem services are little-studied – especially cultural (e.g. heritage) and regulating ecosystem services (e.g. pollination). Beyond incomes, few data exist on indicators of well-being such as livelihood security, perceptions of social justice, secure property rights, education and health. Thus, there is a lack of systemic understanding. The authors caution about categorising cases as “ecosystem wins” based on food production gains when there has been little or no research into impacts on other ecosystem services, trade-offs across scales, or systemic off-stage burdens on ecosystem services.
- Key factors:
 - issues required for successful intensification by smallholders, such as land security, training and access to finance;
 - the need to look beyond short-term agricultural production and income increases;
 - negative factors such as reduced fallow systems and change towards monocultures; and
 - the relationship between biodiversity/species richness and dietary quality.

Martin, A., Coolsaet, B., Corbera, E., Dawson, N., Fisher, J., Franks, P., Mertz, O., Pascual, U., Rasmussen, L., & Ryan, C. (2018). Land use intensification: the promise of sustainability and the reality of trade-offs. In K. Schreckenberg, G. Mace, & M. Poudyal (Eds.). *Ecosystem services and poverty alleviation: trade-offs and governance*. London, UK: Routledge.

This article covers much of the same ground as that of Rasmussen et al. (2018), summarised above.

Cunningham, S. A., Attwood, S. J., Bawa, K. S., Benton, T. G., Broadhurst, L. M., Didham, R. K., McIntyre, S., Perfect, I., Samways, M. J., Tscharntke, T., Vandermeer, J., Villard, M.-A., Young, A., & Lindenmayer, D. B. (2013). To close the yield-gap while saving biodiversity will require multiple locally relevant strategies. *Agriculture, Ecosystems and Environment*, 173, 20–27.

4. Linkages between intensification and SFM/protection

- *Agricultural intensification has historically been a driver of biodiversity loss*, and it is unlikely that supportive regulation alone can avoid this. The strategy of “closing the yield gap” is most likely to lead to further biodiversity loss. The singular attention of intensification on yield increase is expected to further drive this negative trend. Options exist for win-win strategies, but these require location-specific approaches.

5. Potential for scaling and key factors

- Figure 4 offers insight into the development of local-solution strategies, depending on the two main factors depicted on the axes. The y-axis represents the degree to which a production system extends across the landscape of interest: if production has a relatively low extent, for example, many large areas exist in the landscape where endemic biodiversity can persist without coming into conflict with production practice. The x-axis represents the degree to which the production system contrasts with the pre-conversion ecosystem in its structural traits and disturbance regimes: low-contrast production systems mimic endogenous structural complexity and disturbance regimes. High-contrast production systems, on the other hand, share little in common with the pre-conversion ecosystem and often involve high levels of inputs and mechanisation.

Figure 4: A global typology of agricultural landscapes, and the top priorities for the management of local biodiversity in a context of increasing demand for agricultural products (dot points)

Wide Extent of production system across landscape	A: Low contrast, wide extent <ul style="list-style-type: none"> • Ensure that new technologies do not endangered ecosystem services • Avoid overexploitation of natural resource base • Manage for those native species intolerant of the production system 	B: High contrast, wide extent <ul style="list-style-type: none"> • Reduce off-site effects of production • Develop systems that optimise both yield and ecosystem services • Protect and restore remaining natural ecosystem elements, accommodating dispersal
	C: Low contrast, limited extent <ul style="list-style-type: none"> • Historical impact of production in these landscapes is low. Prioritise land-use planning in advance of land-use change 	D: High contrast, limited extent <ul style="list-style-type: none"> • Control the expansion of high-contrast land uses • Reduce off-site effects of production • Limit other impacts of humans in the wider landscape
Limited	Low	High

Contrast between production system and endemic system

Redrawn from Cunningham et al. (2013).

Ickowitz, A., Sills, E., & de Sassi, C. (2017). Estimating smallholder opportunity costs of REDD+: a pantropical analysis from households to carbon and back. *World Development*, 95, 15–26.

4. Linkages between intensification and SFM/protection

- Compensating forest users for the opportunity costs of foregoing deforestation and degradation is a mechanism for incentivising forest stakeholders to protect forests. In the early days of REDD+, such opportunity costs were believed to be quite low. A decade after the concept was first proposed, however, direct payments to forest stakeholders remain rare and concerns about safeguarding livelihoods are increasing. Households facing restrictions on forest-based activities need to be compensated, but evidence is limited on the actual costs to households, the distribution of these costs, and the implications for efficiency and equity. The authors found that, in 16 of the 17 sites studied, the opportunity costs of deforestation per tonne of carbon dioxide (tCO₂) were less than the social costs of emissions (\$36/tCO₂). At only six of the 17 sites, however, were opportunity costs less than the 2015 carbon price in voluntary markets (\$3.30/tCO₂). Although the opportunity costs of emissions is of interest from an efficiency perspective, opportunity costs per household are more relevant for safeguarding the incomes of local people. The study found that, at all sites, poorer households faced lower opportunity costs from deforestation and forest degradation. This implies that flat payments would be “pro-poor” in the sense that poorer households would earn higher rents from REDD+ payments (as long as any differences in transactions costs did not outweigh the difference in opportunity costs). If participation in payment schemes is voluntary, *this also implies*

that richer households would be unlikely to participate in generating reductions in emissions from deforestation and degradation.

5. Potential for scaling and key factors

- *Understanding how the unequal distribution of income from deforestation and forest degradation interacts with compensation systems is a key factor in designing effective REDD+ systems that safeguard local livelihoods. REDD+ payments should be tailored for different income groups because opportunity costs vary between them; opportunity costs will also vary according to market opportunities for alternative sources of income.*
- Key factors:
 - opportunity costs, for different types of household, of activities leading to deforestation or forest degradation;
 - carbon credit values; and
 - benefit-sharing mechanisms for carbon credits.

Jones, K. W., Holland, M. B., Naughton-Treves, L., Morales, M., Suarez, L., & Keenan, K. (2016). Forest conservation incentives and deforestation in the Ecuadorian Amazon. *Environmental Conservation*, 1, 1–10.

1. Production intensification

- This study evaluated the effects on deforestation of forest conservation incentives (FCIs) in the Ecuadorian Amazon. FCIs are voluntary agreements that landowners make to conserve forests in exchange for direct economic incentives. In 2009, about 1 000 households in cooperatives received individual formal land titles as part of a government-sponsored titling campaign. Because of the overlap with “patrimony forest” land, titles included a restriction that 70% of a property had to remain in forest conservation; government officials and legal experts acknowledge, however, that enforcement of this environmental restriction is very low. *Each landowner in the FCI programme enrolled an average of 49 hectares, or 77% of their parcels. At \$30 per hectare per year, this amounts to an average annual payment of \$1 470 (compared with the average annual household income of \$3 200). Livelihoods in the study area are a mix of subsistence agriculture and the production of coffee, rice, cocoa and livestock for sale.*
- Programme participants cited three reasons for enrolling in FCIs: 1) the financial incentives; 2) environmental protection; and 3) the paucity of alternative land uses. Participants indicated that they used the incentives payments to meet personal expenses, mostly comprising school fees, health care and food. Most participants also mentioned using the money to mark boundaries on their land (a requirement of FCI contracts). Only one participant indicated using the economic incentive to invest in off-farm activities (ecotourism, in this case).

3. SFM or protection systems

- *The FCI programme reduced average annual deforestation by 56-76%. There was a clear indication that lands under FCI contracts were not used intensively before implementation of the programme, with most participants reporting previously only using the land they had enrolled to harvest single trees or for subsistence hunting. Participants also said that the land they had enrolled was marshy and unsuitable for agriculture or was remote. Nevertheless, when asked what they would do if the programme ended, several participants indicated that, without the economic incentives, they would have to find ways to make their land productive, or sell the land (now an option because of the acquisition of formal title).*

4. Linkages between intensification and SFM/protection

- A crucial factor in understanding the relationship between production and protection (i.e. payments for ecosystem services) is recent land titling. The issuance of formal land titles in the region allowed landowners to enrol in FCIs as well as in alternative incentive programmes. For some landowners, FCIs were an attractive investment. *For titled landowners who did not enrol in FCIs, changes in land tenure created opportunities to participate in programmes of the Ministry of Agriculture to increase agricultural production, leading to titled households clearing land to produce higher-value commercial crops, such as coffee, or simply to sell their land.* The associated increase in

deforestation shows that titled non-participants responded to underlying drivers of land-use change, whereas FCI participants did not. Given the dynamic nature of deforestation in the region, the rate may fall again on titled non-participant lands. Thus, land tenure acts as an indirect driver of land-use change.

- *Enforcement is a second crucial factor in decreasing deforestation on enrolled FCI lands.* Both participants and non-participants perceived that there were more restrictions on FCI lands than on un-enrolled lands. A few participants recounted enforcement benefits on enrolled lands, relating instances in which they contacted authorities due to illegal activity and that the government had responded quickly. *Many participants also noted that they were using the cash incentives from the FCI programme to demarcate their land as part of fulfilling their conservation contracts. Proper demarcation of property may prevent others from mistaking land as unclaimed.* These potential added layers of enforcement due to FCIs suggests that the programme may complement existing forest restrictions, providing more enforcement than regulatory policies alone.
- Enrolment in FCIs is related to lower opportunity costs and higher conservation motivations. This means that participation is challenging for the very poor, for whom opportunity costs are relatively high due to labour constraints and a lack of liquidity. *In many rural areas, poor farmers depend on trees and land for emergency expenditures, and the potential loss of access to forests as economic safety nets was a main reason for not enrolling.* The local scarcity of productive land and lack of access to off-farm employment and credit means that smallholders are reluctant to sign off on forest use for 20 years. If households lack direct access to credit and may not engage in complementary activities such as sustainable timber management on enrolled land, many in remote tropical regions will find it difficult to lock in their land to strict forest conservation. Beyond poverty-related obstacles to participation, there was a consistent lack of willingness among smallholders to enrol in FCIs, with some of their anxiety stemming from previous cases in which non-titled land had been expropriated from individuals living in protected areas. Experiences elsewhere with FCIs have shown that, where trust between communities and implementing agencies is low, there is only limited willingness to participate if providers must commit to long-term contracts. Without improving relationships between communities and relevant agencies, it is doubtful that many more households will accept economic incentives in exchange for use rights over 20-year periods.

5. Potential for scaling and key factors

- The land-tenure characteristics of the study area, including recent acquisitions of land titles and their overlap with patrimony forests, limit the generalisations that can be made from the study.
- Key factors:
 - land title/land ownership rights – both positive (increasing ability to participate) and negative (title-holders may opt for more profitable land-use options);
 - opportunity costs, which vary within communities depending on the level of poverty and access to land and income opportunities;
 - complementary activities for improving law enforcement, including demarcation of land; and
 - the extent of trust between communities and implementing agencies.

Cross, H., & McGhee, W. (2015). PES incentives for smallholders to avoid deforestation: lessons learned and factors for success. Bioclimate Research & Development.

This report is a desk-based study of various projects to develop payments for ecosystem services (PES) involving smallholder farmers in tropical forest areas. The authors present an inventory of 28 relevant projects and select seven cases for in-depth assessment. PES schemes are more common in Latin America than in Asia and Africa, and the schemes implemented in Africa in particular are relatively recent. Most PES projects involve activities such as agricultural improvement; enterprise development; training in forest regeneration; tree-nursery establishment and management; sapling establishment; and the re-introduction of native species. Many advocate and assist in the development of enterprises based on NTFPs. Training activities provided through PES projects are designed to facilitate capacity building, support legal representation for smallholders in tenure disputes, assist empowerment, and coordinate land-use planning or protected-area management.

The projects studied commonly targeted the most vulnerable in society, such as low-income groups and indigenous minorities, with a focus on women's involvement.

Below are the study's key findings, classified under our headings.

1. Production intensification

- Successful PES schemes use *participatory approaches*, build local institutions, instil good governance, identify marginalised groups early on in the project development process, and adhere to the principles of free, prior and informed consent.
- *Collaborative capacity building* with local partners will strengthen PES projects. Ideally, targeted smallholder groups already know and trust the local partners.
- PES proponents should *understand the local context* and the needs and circumstances of potential smallholder participants. PES projects in agro-industrial landscapes must take into account smallholders' use of forests for agriculture and food security.
- *There is a need to gain insight into the costs and benefits, including in relation to other opportunity costs.* The efficiency of a PES project should be gauged by setting project development and management costs against the expected PES outputs and livelihood benefits. To this end, PES project developers should clearly detail the costs of development and the likely costs of ongoing management, monitoring, recording of project outputs and assessment of the socio-economic benefits accruing to the smallholders.
- In the case of REDD+ and carbon credit schemes, determine in advance *how smallholders will be paid* if the carbon credits are not purchased.

4. Linkages between intensification and SFM/protection

- *Make payments directly or indirectly conditional on the delivery of ecosystem services* by participating smallholders. Conditionality refers to the environmental services that must be protected or increased if payments are to be made under a given PES scheme. Examples of activities that might constitute conditionality in forest conservation include tree planting, the cessation of activities that cause forest degradation, and involvement in regeneration. *If conditionality is not clearly stipulated, PES schemes will not be recognized as such and will be viewed, rather, as integrated conservation and development programmes involving compensatory payments.*
- Related to conditionality, provide *clear, transparent and enforceable sanctions for non-compliance*, in combination with risk-management mechanisms.
- *Conventional economic inducements are not always appropriate as compensation* in PES projects and cannot ensure behavioural changes in smallholder farming communities that will encourage forest protection. Options involving land tenure, improved agricultural activities, civic projects, village savings-and-loans schemes and alternative enterprise models are often as appropriate as direct cash incentives.
- The *risks associated with direct cash payments*, such as escalating resource conflict or potential for financial misappropriation and corruption, should also be investigated.
- *Secure land tenure* can be particularly valuable as an incentive or form of compensation for participating smallholders. At the same time, insecure tenure may pose a barrier to entry in PES schemes. Existing tenure arrangements in the proposed project area should be investigated during the project design phase.

5. Potential for scaling and key factors

- It is important to gather *good-quality baseline information* for use as reference points. Baseline data should be collected again at an agreed time after initiation of the PES scheme. Robust monitoring and evaluation processes should be implemented.

Lan, L.N. (2016). Household opportunity costs of protecting and developing forest lands in Son La and Hoa Binh Provinces, Vietnam. *International Journal of the Commons*, 10, 902–928.

Viet Nam has pilot-tested a programme of payments for forest ecosystem services (PFES) in an effort to restore and protect forest areas, some of which have been severely degraded by the excessive cutting of trees by small-scale farmers planting annual crops on steeply sloping lands. The pilot in southern Viet Nam appears to have been successful, but the pilot in northern Viet Nam has not produced the desired rates of planting and maintenance of forest areas. The reasons for these mixed results include differences in socio-economic characteristics and in the production and marketing opportunities available to rural households in the two pilot areas.

1. Production intensification

- *Small-scale farmers in Hoa Binh Province, who have limited financial resources, prefer the annual revenue stream provided by crops such as maize and cassava, rather than waiting for seven years to obtain revenue from forest planting.* Farmers in Son La Province, with limited access to markets, prefer annual crops because they are unable to sell bamboo shoots and other forest products harvested in their small plots. In both provinces, the payments offered for planting and maintaining forest trees are smaller than the opportunity costs of planting and harvesting annual crops. Thus, most households would likely choose not to participate in the PFES programme at current payment rates.
- *Household-level opportunity costs and insecure land tenure are responsible for the limited success of the PFES programme and other conservation efforts.* Willingness to participate increases when payments exceed local opportunity costs, as well as with the length of time over which the payments are available. In China, plots are more likely to be enrolled in the Sloping Land Conversion Programme with increasing distance from paved roads and increasingly steep slopes.

4. Linkages between intensification and SFM/protection

- In southern Viet Nam, a programme payment of \$99 per hectare should be sufficient to encourage most households to forego maize production in favour of planting and maintaining an acacia plantation interplanted with cassava. *A substantially higher annual payment, perhaps as high as \$357 per hectare, is needed to persuade households to forego both acacia and maize production in favour of maintaining a protection forest.* Poorer households lose access to the NTFPs that sustain their livelihoods when “bare hills” that actually contain many plant species are replaced by uniform plantings of single cultivars. Thus, reforestation efforts and PES programmes that promote mixed stands of trees might provide greater economic, social and environmental benefits than programmes involving single tree species. In northern Viet Nam, the PFES programme currently pays \$10 per hectare per year, which is substantially lower than the median reported value of net revenue from maize production (\$964 per hectare).

5. Potential for scaling and key factors

- The combination of *small plot sizes and inadequate payments per hectare* are likely to continue limiting the success of programmes designed to encourage forest protection and tree planting in Viet Nam, particularly in upland areas with limited access to markets for timber and non-timber products. Larger payments per hectare, probably originating from the *diversification of income sources* or other incentive programmes, will likely be needed to achieve Viet Nam’s forest planting and protection objectives through voluntary initiatives. PES schemes in other countries also might obtain greater success in sustaining protected areas *if annual payments are sufficient to offset the opportunity costs of participation and compliance.*
- Key factor:
 - opportunity costs – however, there are many ways in which these can be calculated, with variation by, for example, type of producer, community, smallholder, market opportunity and forest quality.

King, D., Hicks, F., Gammie, G., Galarreta, V., Szott, L., Coronel, D., Ormeño, L.M., & Leal, M. (2016). *Towards a protection-production compact for Peru: elements and lessons from global experience.* Washington, DC: Forest Trends.

1. Production intensification

- The following are crucial for making agriculture more productive and sustainable:
 - aggregation of producers;

- provision of improved services to them;
- associated incentives for companies and financial institutions to provide these services; and
- adding value based on improved product quality and sustainability attributes.
- Producers may be suspicious of cooperatives given the problems that many such organisations have experienced, such as poor performance, bankruptcy, corruption and political interference. Examples of alternative forms of organisation are:
 - In Colombia, Catholic Relief Services works with savings-and-loans groups in rural coffee farming communities;
 - In Ghana, some producers are members of the Masara N'Arziki Association, organised in community groups;
 - In Peru, NGOs have established groups of coffee producers around lead farmers and linked these “nodes” to others, creating a network of producers. The NGOs have offered technical assistance, access to inputs on credit, product certification, and improved market access.
- A meta-analysis of the impact of land rights on productivity suggests an average 40% gain in productivity associated with land titling over an average 12-year study period. Gains have been even higher – between 50 and 100% – in Latin America and the Caribbean.

3. SFM or protection systems

- *The main element for effective protection is a territorial or jurisdictional plan and performance system.* The Mato Grosso Territorial Performance system (in Brazil), for example, includes the following specific goals identified by the multistakeholder platform: 1) by 2030, reduce deforestation by 90% in Amazonian forests and by 95% in Cerrado forests; 2) achieve zero illegal deforestation by 2020; 3) provide 104 000 smallholder families with technical support by 2030; 4) support soy expansion into cattle pastures; 5) achieve higher beef yields while planting 2.7 million hectares of new forests; and 6) avoid 6 billion tonnes of carbon dioxide emissions by 2030.
- The following two lessons apply:
 - 1) Clearly-defined scopes that focus on either single crops or single regions have enabled successful working groups to align the attentions and efforts of their constituents to produce results;
 - 2) The careful selection of working-group participants based not only on representation of the various sectors but also on their skills and commitment to the process and outcomes has enabled working groups to achieve operational impacts.
- A recent survey found *the following common success factors among territorial programmes* intended to achieve reduced deforestation and low-emissions development at the level of a state or region:
 - alignment of political will at both the national and subnational levels;
 - a strong legal and regulatory environment;
 - the effective enforcement of regulations;
 - transparency and accountability;
 - international investment and support;
 - community-based approaches; and
 - effective benefit-sharing mechanisms.

4. Linkages between intensification and SFM/protection

- The most common pitfall is the loss of focus on deforestation. *If the focus shifts towards increasing the productivity of smallholder producers without sufficiently linking activities to forest protection, such activities could have adverse effects on forests by providing smallholders with the technical and financial means to not only improve production in already-degraded areas but also to expand their farms into standing forests.*
- *A system for protecting and monitoring forests is crucial for ensuring that investments and incentives linked to increased agricultural production avoid the unintended impact of increasing deforestation.* This can be facilitated by satellite imagery.
- A variety of potential incentives exists for engaging private actors in the work of a protection-production compact (PPC), such as subsidising credit for improved agricultural practices and investing in rural infrastructure to improve access to services and markets. It is crucial to the success of PPCs that such incentives are:
 - designed within an integrated territorial system;
 - closely linked to monitoring efforts; and
 - conditioned on commitments by recipients regarding reduced deforestation.
- Moreover, clear consequences must be in place for a failure to meet commitments.
- *The right types of incentive depend on the governance context.* Brazil succeeded by offering incentives coupled with strict enforcement, but King et al. conclude that the smallholder makeup in Peru requires a stronger focus on finance and incentives. A step-wise approach to PPC implementation is needed in Peru given the PPC's early stage of development, its complex nature, the high degree of informality of agricultural production, and multiple financial, institutional and human-resource limitations. In the short to medium term, the measures most likely to drive desired change at the farm level are stronger links between market demand for sustainably produced products, access to agricultural credit, and forest conservation.
- A PPC in Peru could find important synergies through the design of a monitoring system that simultaneously assesses threats to forests and informs efforts to improve agricultural productivity. For example, satellite imagery and the use of drones could detect crop and soil conditions, thereby helping inform farming decision-making, while also conducting surveillance of changes in forest cover and condition. Such a system would benefit local communities and agricultural supply-chain companies as well as regional and national government agencies, thereby sharing the costs and benefits of the monitoring system between the public and private sectors.

5. Potential for scaling and key factors

- The paper focuses explicitly on how *the greater accessibility of credit and technical support* could be used to help farmers work through cooperatives to maintain quality control. It looks especially at the REDD+ framework and other climate-funding options for the Government of Peru, such as the Green Climate Fund, the Adaptation Fund, and bilateral arrangements with donor countries and development institutions.

Szott, L. T., Ormeño, L. M., Suárez de Freitas, G., Galarreta, V., Edwards, R., Alcántara, I., Coronel, D., Saavedra, O., Leal, M., & Mendoza, E. (2017). *The production-protection compact in the Peruvian context*. Washington, DC: Forest Trends.

Below is a summary of Brazil's experiences in implementing a PPC and the applicability of these to Peru and countries with similar conditions.

4. Linkages between intensification and SFM/protection

- The following are the key elements for success:
 - *public pressure* by multiple stakeholders on governments and businesses to change land-use business practices and government policies on agricultural production and forest conservation;

- *the involvement of a small number of powerful businesses* and relatively few large farm holdings;
 - *a command-and-control governance structure* based on land-use monitoring and enforcement capacities;
 - *concrete disincentives* such as the threat of prosecution and loss of access to credit; and
 - *commercial embargos* placed by buyers and processors on commodities produced as a result of deforestation.
- Similar to other contexts, including certain Brazilian states, agriculture and land use in Peru is dominated by small, dispersed, unorganised and informal farmers with little capital and weak market linkages operating *in a context of weak forest and land-use governance and complex value chains*. This poses challenges to PPCs due to the difficulty of using market pull and stakeholder pressure as driving forces for behaviour change; the lack of governance and financing for establishing enabling conditions for sustainable land use, improved and more sustainable productive systems, and incentives for forest conservation or reforestation; and the high costs and administrative and legal barriers associated with farmer formalisation. The Peru context is further complicated by loopholes in the legal framework, a chronic lack of coordination and alignment between forest and land-use legal frameworks, and inadequate budgets for land-use monitoring and enforcement. Thus, the implementation of PPCs in Peru may require a different approach involving greater emphasis on developing accessible credit; promoting greater organisation among farmers to provide leverage and economies of scale, reduce transaction costs and risks and increase formality; increasing market linkages; and providing incentives to increase agricultural productivity and competitiveness and achieve forest conservation, rather than disincentives for deforestation.
 - *Greater accessibility to credit conditioned on reduced deforestation* can have manifold impacts, such as promoting farmer aggregation, improving production, increasing the marketability of agricultural products, and promoting conservation. Increased access to credit should be combined with farmer aggregation and the use of technical assistance and other services, technologies and inputs due to their importance in increasing productivity, incomes and farmer formalisation. Such measures should be supported by the consolidation and expansion of incipient stakeholder platforms, which presently are dedicated to the development of regional branding based on reduced deforestation and involving buyers, producers, credit suppliers and government representatives.
 - To ensure that productivity improvements do not drive further deforestation, *more needs to be done to improve land-use governance (e.g. land-use classification and zoning, the assignment of rights, and monitoring and enforcement)* and thereby provide a solid basis for private-sector investments, increase incentives for conservation, and discourage deforestation as a strategy for maintaining productivity or accumulating capital. Because measures to improve land-use governance depend largely on regional or local governments with limited capacities, they will likely only occur in the medium to long term as governments follow the lead of early stakeholders. *In the interim, measures for improving land-use governance, especially land-use monitoring and enforcement, should involve multiple actors, including those in the private sector. Financing these changes is crucial: although farmer aggregation, access to credit, and technical assistance have the potential to be self-sustaining, external funding may be needed to “prime the pump”.* In addition, substantial public investments may be needed to provide the conditions that enable and support private investments and access to capital, as well as incentives for those investments. It seems unlikely in the case of Peru that the global sustainable supply-chain agenda will help finance and transform production systems in the short to medium term because coffee and cocoa (the principal crops associated with deforestation in Peru) do not form part of that agenda.

Albani, M. (2015). TFA 2020 partners: the triple win of “Produce-Protect”. Retrieved January 3, 2019, from <https://www.tfa2020.org/en/the-triple-win-of-Produce-Protect>

- Also known as “jurisdictional forest, climate and agriculture approaches” and “place-based multistakeholder partnerships”, the Produce-Protect model comprises domestic public-policy measures for forest protection and land-use planning aligned with international support and blended finance solutions with the aim of “de-risking” investment in sustainable agricultural intensification

and increased forest productivity on the back of sourcing commitments by corporate buyers of sustainably produced commodities.

- Going forward, the Tropical Forest Alliance 2020 expects high-level government support for designing and implementing Produce-Protect partnerships. All parties will need to come together via large bilateral and multilateral programmes to support jurisdictions (national or subnational governments) in developing and implementing landscape-level plans to reduce deforestation while putting smallholders and communities at the heart of the agenda. Donor governments, companies and financial institutions have the power to do more individually and in partnership – the blog’s author expresses hope that the signals by consumer companies will give the approach a much-needed boost.
- Another positive sign of support came from the *Banking Environment Initiative* (BEI), which provided the Consumer Goods Forum with the following: “Adopting the Soft Commodities Compact sees banks commit to working with Consumer Goods Forum company supply chains to explore how they can finance the growth of markets producing palm oil, timber products, soy and beef in line with required zero net deforestation standards. The BEI has agreed that it wants to find ways to leverage banks’ intermediary roles in capital markets to support such financing solutions in tropical forest countries. Where the relevant parties in commodity sourcing areas are willing to commit to Production and Protection Compacts, we think these capabilities could support them. Such agreements will need to include at the least a clear link – where appropriate a clear legal link – between production investments and forest protection, commitment to long-term financing solutions, sharing of risks through innovative financing solutions and a location-specific focus, be that at a regional or country level”.

Earth Innovation Institute (n.d.). Retrieved January 3, 2019, from <http://produceprotectplatform.com>

- The following key elements for successful Produce-Protect linkages were identified:
 - monitoring platforms – to transparently track progress towards performance milestones;
 - milestones – the building of consensus through multistakeholder processes on shared targets for reducing regional deforestation, increasing agricultural production, improving livelihoods and complying with environmental and social safeguards;
 - incentives – to drive progress towards milestones by helping farmers overcome obstacles to implementing sustainable practices while supporting local governments to do their part (incentives can be financial, regulatory and contractual); and
 - a multistakeholder governance structure – to facilitate implementation of the system.

Haggar, J., Phillips, D., Kumar, R., & Nelson, V. (2014). *Market and incentive-based mechanisms to support integrated landscape initiatives: a summary report of their potential and limitations*. Report commissioned by EcoAgriculture Partners. Chatham, UK: Natural Resources Institute.

- Cases were sought that involved stacking or combining mechanisms within single landscapes. A landscape may provide multiple environmental and social services for which incentives could be provided to achieve the aim of integrated land management. Thus, multiple mechanisms can be combined to achieve complementary goals and to increase the funding available to provide land managers and owners in a landscape with incentives to change their practices toward greater sustainability and thereby achieve positive synergies and feedback processes. There are only a few examples of such coordinated, multiple mechanisms on the ground (intentional coordination between multiple market- and incentive-based mechanisms), mostly in the early stages of implementation; nevertheless, initial lessons are emerging that may be instructive.
- The following four case studies were chosen to help understand the relationships between the various mechanisms being implemented in given landscapes and their effectiveness to date:

- 1) The Alto Mayo Protected Forest, Peru – Conservation International and local partners have obtained REDD+ financing to support conservation agreements with land users to restrict deforestation and implement sustainable agricultural production practices (see Box 2 for more information on this case study);
- 2) Maasai Steppe, United Republic of Tanzania – the African Wildlife Foundation has facilitated land management agreements that provide communities with payments derived from wildlife tourism in exchange for protecting wildlife habitat and the development of sustainable livestock management and marketing;
- 3) Forest Society of Maine – the Forest Society of Maine manages conservation easements bought from private landowners that place restrictions on land use while facilitate the generation of income from SFM and recreational tourism;
- 4) Sustainable certification of cocoa in Sulawesi, Indonesia – a partnership between the Rainforest Alliance, cocoa traders, chocolate manufacturers and local authorities is seeking to conserve biodiversity in the landscape by encouraging sustainable agricultural production practices.

Table 6 presents an overview of these four case studies.

Table 6: Four case studies on integrated landscape initiatives

	Maine forests	African Wildlife Foundation in the United Republic of Tanzania	Conservation International in Peru	Rainforest Alliance in Sulawesi, Indonesia
Landscape profile and challenges	Predominantly private landownership; conservation challenge in a forest-based economy	Maasai Steppe (22 000 km ²); balancing wildlife conservation and restoration and agro-pastoralist livelihoods and activities	Alto Mayo Protected Forest (350 000 hectares); deforestation driven by economic activities of illegal settlers and forest conservation	Bantaeng Regency (400 km ²); expansion of cocoa production contributing to the loss of tropical biodiversity
Landscape approach and mechanisms implemented	Conservation easement as a commercial transaction for retaining the “non-developed” status of lands; federal, state and private finances to support easements	Land-use management agreements as frameworks for integrated ecotourism, wildlife and livestock business activities	REDD+ funding from carbon credit sales funding conservation agreements to promote sustainable land-use practices	Funding from the International Finance Corporation’s Biodiversity and Agricultural Commodities Program for sustainable sourcing –diversified farming systems and voluntary cocoa certification
Effectiveness and sustainability	Land trusts play a role as buyers of easements and as stewards and facilitators for effective implementation; impact is seen in forest growth; sustainability depends on effective stewardship by land trusts and the availability of public finances and regulatory support	Community-based governance and economic benefit-sharing agreements in place; further monitoring required to assess longer-term sustainability	Positive results from three-year review; more in-depth studies to follow; long-term commitments from international companies to purchase REDD+ credits	Capacity building ongoing; certification to follow in 2014-15; Important local and international partnerships developed to design complementary programmes

- Based on a small number of landscape case studies, the review identifies the strengths, challenges and opportunities for the wider application of emerging mechanisms. It analyses financial and monetary incentives designed to compensate land managers for actions that support complementary solutions to common environmental and socio-economic challenges, reduce trade-offs, and strengthen synergies among different landscape objectives. In addition to purely market-based mechanisms provided through an open market of supply and demand, it includes more general financial incentives, although it excludes government-to-government agreements with no market basis.¹³
- The strengths of the reviewed case studies were demonstrated in the way in which the mechanisms brought together groups of stakeholders under a defined set of rules to create an institutional relationship between them for managing environmental and social services for the benefit of all parties. In general, the processes were led by strong NGOs, in some cases working under rules set up by the government and, in others, generating or adapting the rules to local circumstances and needs.
- All the examined mechanisms depended on considerable public or donated funds to cover the costs of their establishment and in some cases for their continued operation; they also required considerable negotiation and facilitation between the sometimes-conflicting interests of the stakeholders. Although all the case studies had processes for monitoring and evaluation, the required investment, the complexity of the processes and the long timeframes made it difficult to demonstrate impact and success.
- The combination of mechanisms often enabled linkages between the various interests among stakeholders. This required strong local partnerships and community participation and the recognition of the cultural values of the stakeholders. The case studies had potential for greater private-sector participation. Private-sector actors were willing to contribute financially when the sourcing of particular commodities (e.g. agricultural products and carbon offsets) was of interest to them, but generally they were not yet fully engaged in the landscape processes.
- Looking to the future expansion of the mechanisms studied, ways are needed to reduce dependency on NGO facilitation and public or donated funds to cover start-up costs. It appears that other sources of public and private finance could be applied to these initiatives. In particular, there is a need to clarify and quantify the business case for integrated landscape management in different contexts. Finally, for the future legitimacy of market and incentive-based mechanisms designed to support integrated landscape initiatives, there is a need for robust monitoring, lesson-learning and evaluation processes to demonstrate that desired impacts are being attained.

Box 2: Alto Mayo Protected Forest, Peru

Conservation International and local partners are using REDD+ financing from carbon-credit sales to fund conservation agreements with land users to restrict deforestation and implement sustainable agricultural production and land-use practices in Peru's Alto Mayo Protected Forest. Deforestation is being driven by the economic activities of illegal settlers, a lack of law enforcement in the protected area, a national highway constructed through the forest, and unsustainable farming practices that were causing farmers to expand their lands to maintain production. By 2014, international companies had made long-term commitments to purchase REDD credits and thereby provide incentives for local farmers to refrain from deforestation.¹⁴

The scheme is achieving success in various indicators, including the area of forest protected (182 000 hectares), the number of people benefiting indirectly from the scheme (240 000 people), and emissions reductions (6.2 million tonnes). Activities have included multistakeholder partnerships; incentive-based conservation agreements; education workshops for young people; the provision of medical supplies; and agricultural training. A total of 848 families have pledged not to cut down trees in return for such benefits. Farmers who have signed conservation agreements are reported to be

¹³ An expanding literature debates the use of the term “market mechanisms” when in fact most mechanisms are in the form of payments of incentives from bilateral agreements rather than the open market exchange of a commoditised product; see Lapeyre and Pirard (2013).

¹⁴ Haggard et al. (2014).

benefiting from increased productivity and higher incomes. In partnership with Disney via its Climate Solutions Fund, Conservation International is supporting Fairtrade coffee farmers through, for example, sustainable farming workshops and increased access to health care.¹⁵

- Key findings:

- Multiple market- and incentive-based mechanisms can be employed simultaneously or in a sequenced fashion. An example of the former exists in Maine in the United States of America, where three of the four types of mechanism are deployed – conservation easements (direct payments for ecosystem services); lower taxes (preferential finance); and sustainable timber production and recreational use (sustainable production/sourcing). The Forest Society of Maine Land Trust makes direct payments to landowners and enables them to benefit from lower income and estate taxes when they enter into conservation easements. The easements also allow and may indirectly support sustainable timber production and recreational tourism. Ninety-five percent of the easement lands held by the Land Trust are managed forests on which landowners produce a sustainable supply of wood products.
- A second case of simultaneous, coordinated market- and incentive-based mechanisms is in the United Republic of Tanzania. Implemented in the Maasai Steppes, conservation agreements combine various mechanisms including direct payments to communities from income generated by wildlife tourism (ecotourism) and support for sustainable livestock production (sustainable production). This approach has the potential to generate the benefits sought by wider society and enable landowners and land users to develop sustainable, compatible sources of income.
- Although limited, examples exist of the sequenced use of market- and incentive-based mechanisms in which some of the funds generated from the successful implementation of one mechanism is used to establish another mechanism, potentially achieving synergies in terms of desired landscape goals. In the REDD+ project facilitated by Conservation International in the Alto Mayo Protected Forest, funds generated by the sale of carbon credits to an international company (offsetting environmental impacts) have been used to establish a second mechanism that channels these funds into conservation agreements (direct payments for ecosystem services) with local farmers. The aim of this sequencing is to conserve the forest and its wildlife while meeting the needs of farmers for more sustainable livelihoods from coffee production.
- Public and private preferred (or “soft”) finance is crucial for the initiation and stability of integrated land management initiatives. Preferred finance is an important means for initiating and sustaining incentive-based mechanisms.
- Different forms of finance are needed for landscape initiatives. In some cases, funds mainly come from public sources (primarily fiscal incentives relating to taxation); others mobilise commercial capital. The example of conservation easements shows that a combination of commercial capital and public-sector fiscal incentives may maximise the chances of success.
- There are three main avenues for seeking and obtaining preferred finance:
 - 1) soft loans from development banks;
 - 2) flexible finance from impact investment funds or green capital sources; and
 - 3) taxes/subsidies from various country-specific fiscal instruments.
- If available, all three can be used together; alternatively, they can be obtained individually as per the requirements or business plan of the integrated land management initiative. For all three sources of soft finance, success is most likely when the participation of enterprises with predominantly commercial objectives is visible. In many preferred finance initiatives, non-profit organisations also play a role as facilitators or bridging institutions.

¹⁵ <https://www.conservation.org/stories/alto-mayo-protected-forest/Pages/overview.aspx>

- There is a general lack of finance products designed specifically for integrated landscape management, and those finance mechanisms that are available are mostly designed for specific or single-sector-based interventions (e.g. focused on the agriculture or forest sector) rather than for multisectoral landscape-scale contexts.

Annex 2B: Results of the literature review on landscape governance and jurisdictional approaches

Landscape governance

Effective land and forest governance systems are a key foundational element of landscape approaches. This annex explores the literature on what constitutes “good” forest and land governance.

Deininger, K. W., Selod, H., & Burns, A. (2012). *The land governance assessment framework: identifying and monitoring good practice in the land sector*. Washington, DC: The World Bank.

Good land governance involves the following five aspects:

- 1) a legal, institutional and policy framework that recognises existing rights, enforces these at low cost, and allows users to exercise the rights in line with their aspirations and in a way that benefits society as a whole;
- 2) arrangements for land-use planning and taxation that avoid negative externalities and support effective decentralisation;
- 3) the clear identification of state land and its management in a way that cost-effectively provides public goods; the use of expropriation only as a last resort and only for direct public purposes with quick payment of fair compensation and effective mechanisms for appeal; and mechanisms for the divestiture of state lands that are transparent and maximise public revenue;
- 4) the public provision of land information in a way that is broadly accessible, comprehensive, reliable and current and is cost-effective in the long run; and
- 5) accessible mechanisms to authoritatively resolve disputes and manage conflict, with clearly defined mandates and low operational cost.

Cotula, L. (2018). *Legal activism key to securing land rights in new investment phase*. Retrieved January 3, 2019, from <https://www.iied.org/legal-activism-key-securing-land-rights-new-investment-phase>

Recent innovations are showing support for legal activism. In the face of a new phase of land investment that is increasing pressure on land and natural resources, many examples exist of legal activists supporting local people to use the law to protect their rights and land, including through support for communities in land registration processes and negotiations with companies and by accessing redress via court litigation or complaint mechanisms. Rather than acting only in response to individual investments, it is important to help communities organise and to proactively influence land-use decisions strategically and systemically. This is particularly important where private-sector investment is likely. Efforts are also needed at the national level to address weaknesses in land-rights protection and inadequate consultation of communities (e.g. non-observance of free, prior and informed consent processes). Litigation successes can create precedents on which activists can build to protect indigenous land rights.

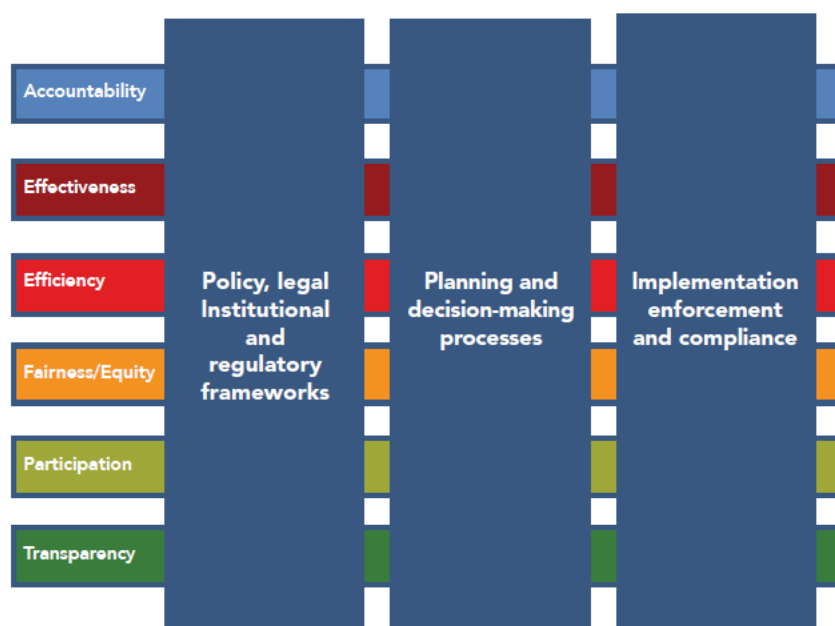
FAO & PROFOR (2011). *Framework for assessing and monitoring forest governance*. Rome: Food and Agriculture Organization of the United Nations & Program on Forests.

Forest governance can be defined as the way in which public and private actors, including formal and informal institutions, smallholder and indigenous organizations, small, medium-sized and large enterprises, civil-society organizations and other stakeholders negotiate, make and enforce binding decisions on the management, use and conservation of forest resources. The concept of forest governance has evolved to engage multiple (public and private) actors at multiple scales, from local to global. The three core pillars in this framework for assessing and monitoring forest governance are: 1) policy, legal/regulatory and institutional frameworks; 2) planning and decision-making processes; and 3) implementation, enforcement and compliance (Figure 5). Six principles cut across this framework:

- 1) Accountability – people and institutions should be accountable for their actions;
- 2) Effectiveness – governance mechanisms should achieve the ends they are intended to achieve;
- 3) Efficiency – governance should work with a minimum of resources;
- 4) Fairness/equity – the benefits and burdens of a forest resource should fall in a way generally viewed as just;
- 5) Participation – all interested people should have an opportunity to be consulted on or participate in key decisions affecting forests;
- 6) Transparency – information about forests and how they are governed should be reasonably available to all.

Figure 5: Pillars and principles of governance

Fig. 1 Pillars and principles of governance



Source: FAO and PROFOR (2011).

Policy, legal/regulatory and institutional frameworks. Good forest governance is a strong determinant of SFM. Effective forest governance processes engage forest stakeholders, address key forest-related issues and involve other sectors that affect or are affected by forest governance. *Policy coherence* across government is important: forest policies and laws should be consistent with those of other sectors, such as agriculture, which is a significant driver of forest degradation and deforestation. The failure of governance in the agriculture sector will inevitably undermine the implementation of SFM. Good forest governance may include empowering police and courts to better detect and punish illegal activities; cross-border collaboration and information-sharing; and providing forest users with adequate access to information on how to comply with legal requirements. Supportive *fiscal policies* are also needed (e.g. imposing higher taxes on unsustainable production systems).

Planning and decision-making processes. Good forest governance relies on effective processes for stakeholder participation, transparency and accountability. The extent to which all actors with forest interests can participate in forest decisions is a key indicator. Government can support *dialogue processes and multistakeholder institutions*, and there are many examples of subnational roundtables (e.g. in Guatemala), but establishing and maintaining such institutions can be challenging because they require ongoing financial resources and buy-in from stakeholders.

Implementation, enforcement and compliance. Laws can be contradictory, and elite interests and corruption are major challenges. Forest managers can provide information on forest operations as

part of certification and legality verification compliance procedures, and they can share knowledge on the challenges faced by law enforcement officers and by smallholders in building capacity and complying with regulatory mechanisms.

Tropical Forest Alliance 2020 (2017). *Annual report 2016-2017*. World Economic Forum.

Jurisdictional approaches are being developed, often linked to commitments by subnational governments to enforce sustainability standards, which then shape corporate sourcing decisions. In some cases, jurisdictional approaches are linked to green-growth plans.

Operational challenges exist, however, and it is too early to know whether jurisdictional approaches will be successful in practice. The global Tropical Forest Alliance 2020 notes the importance of “integrating forest conservation into long-term economic development plans”.

Community forest management

Arts, B., & De Koning, J. (2015). *Community forest management in the tropics: A QCA of its performance*. Paper to be presented at the First Annual FLARE Network Conference, November, 2015, Paris, France.

The active engagement of functional community-based organisations is necessary but insufficient, on its own, for effective community-based forest management. Of critical additional importance is the support provided to community forest management bodies by a wider community of practice.

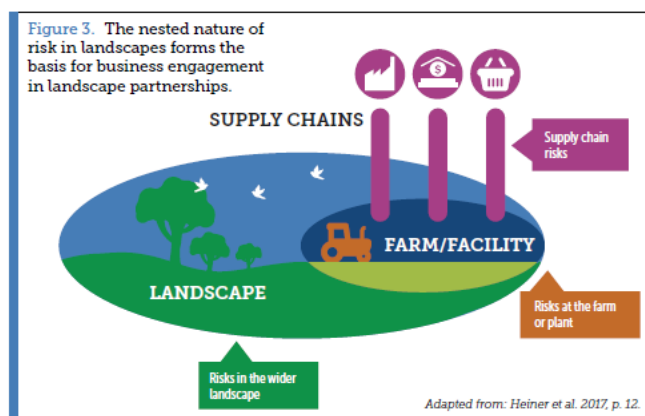
Landscape and jurisdictional approaches

Scherr, S. J., Shames, S., Gross, L., Borges, M. A., Bos, G., & Brassler, A. (2017). *Business for sustainable landscapes: an action agenda to advance landscape partnerships for sustainable development*. Washington, DC: EcoAgriculture Partners and IUCN, on behalf of the Landscapes for People, Food and Nature Initiative.

Landscape approaches are particularly significant at the forest-agriculture interface, where they offer scope for better managing changing land-use mosaics and for accessing climate and carbon finance to promote sustainable forest industries compatible with biodiversity and forest conservation.

Public, private and civic groups are creating partnerships for sustainable landscapes. There is a strong business rationale for such partnerships, but major hurdles include high transaction costs and the time taken for benefits to emerge. The longer-term business rationale for engagement is the minimisation of risks in landscapes (Figure 6).

Figure 6: The nested nature of risk in landscapes forms the basis for business engagement in landscape partnerships

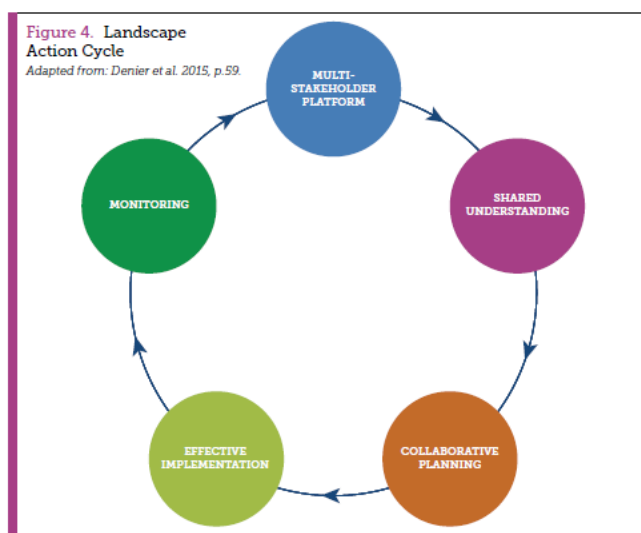


Source: Scherr et al. (2017), p.23.

There is often a lack of sufficient facilitation skills, and finance is uncoordinated and fragmented. Among other things, financial instruments are needed that have components in multiple sectors and which involve institutional and spatial coordination among actors. Blended finance is needed to implement landscape action plans.

In the landscape action cycle, the initial phase is the multistakeholder platform, which creates shared understanding, followed by collaborative planning (e.g. a plan with a timescale of 20+ years), effective implementation and monitoring (Figure 7).

Figure 7: Landscape action cycle



Source: Scherr et al. (2017), p.23.

Landscape management methods and tools are improving. Data and tools for landscape analysis and modelling are also increasingly available at different levels of spatial and temporal resolution, but **analysis has been limited of interactions between agricultural production and environmental management variables (apart from agriculture-induced deforestation)**. Pre-existing spatial data can be obtained from organisations (e.g. universities, NGOs and government agencies), free software (e.g. Google Earth) can be downloaded, remotely sensed data can be acquired, and data can be generated through ground-based monitoring using global positioning systems. Such spatial information and tools can be used to create maps and analyses using geographic information systems and scenario-modelling tools.

Landscape monitoring tools and systems are important for providing proof of concept, clarifying potential benefits for companies, and enabling companies to judge whether benefits outweigh the costs (e.g. in staff and cash). New monitoring systems are being developed to help certify sustainability at a landscape or jurisdictional level. Some standards systems, such as those of the RSPO and Roundtable for Responsible Soy, now include integrated landscape management supportive features, such as land-use planning, the management of HCV areas, and participatory free, prior and informed consent processes with communities. The EcoAgriculture Partners' Landscape Measures Resource Center describes key indicators for, and means of measuring, sustainable production, biodiversity, livelihoods and institutions, and integrated indicators linking them within landscapes.

Wolosin, M. (2016). *WWF discussion paper: jurisdictional approaches to zero deforestation commodities*. WWF.

The engagement of diverse stakeholders to resolve competing land uses is a key characteristic of landscape approaches emerging from conservation, natural resource management and REDD+ programmes. Jurisdictional approaches that have also developed recently essentially comprise a subset of landscape approaches at a specific scale (i.e. matching the administrative boundaries of a

subnational government); they have been important in the creation of REDD+ initiatives. Voluntary corporate action, initially via sustainability standards but now also in a wider range of supply-chain initiatives, is growing in response to recognition of the challenges they face in securing a sustainable supply of products and the need to work with diverse stakeholders on land-use planning. The most advanced examples have built on existing jurisdictional REDD+ processes, or they have expanded commodity certification approaches to the jurisdictional scale.

The theory of change for jurisdictional approaches is that companies commit to sourcing only from jurisdictions in which meso-level governments monitor and enforce agreed sustainability standards for production; over time, this will mean preferential sourcing from engaged or high-performing jurisdictions. Jurisdictional approaches are being used mainly in localities in which sustainable commodity production is already well established.

Jurisdictional approaches use market forces to catalyse land-use planning and to reduce risks to businesses. Agricultural commodity companies and actors seeking to enable them to achieve public zero-deforestation commitments recognise the limits of sustainability standards without such a scaling element that engages governments as leading stakeholders.

Forest and REDD+ actors are interested in the potential to scale up supply-chain approaches to jurisdictional levels to provide extra incentives for forest policymakers.

The growing recognition of the limits (as well as the potential) of sustainability standards has led companies to seek engagement in wider multistakeholder processes and increased interest in jurisdictional approaches.

It is early in the implementation of jurisdictional approaches and there are likely to be both opportunities and challenges. Top-down blueprint approaches are highly inadvisable. The review identified 25 places where jurisdictional approaches are being applied with zero-deforestation commitments attached, with Mato Grosso, Brazil, at the forefront. Following the global market signal sent by Marks & Spencer and Unilever in their announcement at the 2015 Paris climate conference, a range of platforms has been established.¹⁶ Other involved global organisations include the Earth Innovation Institute, IDH and The Nature Conservancy.

A key benefit emerging from multistakeholder processes in landscapes has been the convergence of goals, milestones and monitoring approaches between private-sector, government and community actors, supported by a re-energised subnational government sector, leading to new investment opportunities. One of the biggest strategic challenges, however, is who drives the definition of success. Consumer and trader corporate commitments have dominated initial definitions, and producers have been marginalised. National and local governments may also be marginalised, leading to negative responses.

Gulbrandsen, L. H. (2012). Dynamic governance interactions: evolutionary effects of state responses to non-state certification programs. *Regulation & Governance*, 8, 74–92. doi: 10.1111/rego.12005

Governmental engagement can promote the sustainable transformation of commodity sectors but risks watering down international standards. How states respond will increasingly affect the strength and outcomes of voluntary regulation.

Lambin, E. F., Gibbs, H. K., Heilmayer, R., Carlson, K. M., Fleck, L. C., Garrett, R. D., le Polain de Waroux, Y., McDermott, C. L., McLaughlin, D., Newton, P., Nolte, C., Pacheco, P., Rausch, L. L., Streck, C., Thorlakson, T., & Walker, N. F. (2018). The role of supply-chain initiatives in reducing deforestation. *Nature Climate Change*, 8, 109–116.

Recent corporate commitments on zero deforestation have major limitations. Company pledges vary in the extent to which they include time-bound interventions with clear definitions and criteria for achieving verifiable outcomes. The zero-deforestation policies of companies may be insufficient for

¹⁶ E.g. the Forests, Farms, and Finance Initiative led by the Earth Innovation Institute, including its Territorial Performance System; the World Bank Biocarbon Fund's Initiative for Sustainable Forest Landscapes; and Jurisdictional RSPO, which is less developed but highly relevant.

achieving broader impacts on their own due to leakage, a lack of transparency and traceability, selective adoption and the marginalisation of smallholders. Public-private policy mixes are needed to increase the effectiveness of supply-chain initiatives that aim to reduce deforestation. There are four types of supply-chain intervention:

- 1) *Collective aspirations and company pledges* can be evaluated based on ambition and attainability; the inclusion of specific company actions (e.g. pledges to purchase certified products); and whether they trigger and legitimise an implementation process. Many companies have announced company-specific supply-chain pledges, but the translation of these pledges into time-bound actions such as codes of conduct is lagging;
- 2) *Company codes of practice*: there is an overall lack of evidence that such approaches have led to lists of approved suppliers and that this has changed supplier practices;
- 3) *Sectoral standards used to assign incentives*: evidence is mixed on the potential for certification to reduce social and environmental impacts. Various examples are given, drawing on diverse authors;¹⁷
- 4) *Sectoral standards used to assign sanctions*: immediate sector-wide sanctions, often combined with improvements in public-sector governance, have been shown to change suppliers' land-use decisions and practices. Examples include a reduction in the rate of soy expansion in the Brazilian Amazon as a result of the soy moratorium in 2004 and increased public enforcement (positive); a zero-deforestation commitment by the meatpacking industry, also in the Brazilian Amazon (limited or no success);¹⁸ and a public campaign by environmental NGOs in Chile, which led timber retailers to demand an end to deforestation and three large forestry companies to agree, significantly reducing deforestation (highly successful).¹⁹

In the case of oil palm in Southeast Asia, the prohibition (in a standard) of exploitative labour conditions, deforestation and insecure land rights can shift deforestation to neighbouring locations. This implies a need for the better incorporation of tenure reforms into standards-based governance to avoid the exclusion of smallholders and the criminalisation of their operations.

Thorlakson, T., Zegher, J. F. D., & Lambin, E. F. 2018. Companies' contribution to sustainability through global supply chains. *Proceedings of the National Academy of Sciences*, 115, 2072–2077. doi: 10.1073/pnas.1716695115

Companies are exploring a wide range of supply-chain sustainability tools and initiatives, including direct sourcing, ingredient exclusions, supplier training, and preferential sourcing from jurisdictions. A

¹⁷ Tree cover in certified coffee farms in Colombia's eastern Andes increased significantly more than tree cover on non-certified farms. Forest Stewardship Council certification had no or minimal effect on deforestation in Mexico, Cameroon and Peru but reduced deforestation in Chile and Indonesia. In Indonesian oil-palm plantations, RSPO certification led to reduced deforestation, although the certified plantations were also those with the least remaining forest area. Fire activity in Sumatra and Kalimantan was significantly lower in RSPO-certified concessions than in non-RSPO-certified concessions, but only for years and locations with a low likelihood of fire.

¹⁸ Major meatpacking companies in the Brazilian Amazon signed zero-deforestation cattle agreements, under which they monitor the land use of their direct suppliers (which fatten more than half the cattle slaughtered in the Brazilian Amazon). Major slaughterhouses, which control one-third of the slaughter in the state of Pará, stopped buying from direct suppliers responsible for post-2009 deforestation. They also incentivized ranchers to enrol their properties in a rural environmental land registry, which stores georeferenced property boundaries for monitoring purposes. By 2014, however, the agreements had had no impact (on average) on forest cover in the regions surrounding signatory slaughterhouses in Mato Grosso and Pará due to leakage to nearby properties. In 2017, scandals in Brazil's meatpacking industry highlighted the low reliability of the data used to track the origins of beef from indirect suppliers.

¹⁹ In Chile's timber sector, public campaigns by environmental NGOs led retailers to demand an end to deforestation. In response, the three largest forestry companies agreed to stop clearing native forests for plantation expansion. After adoption of this zero-native-deforestation standard, properties controlled by the three companies experienced a significant reduction in deforestation compared with other forestry properties in Chile.

key question, however, is whether a business case exists and is demonstrated for different types of companies.

Ros-Tonen, M. A. F., Leynseele, Y.-P. B. V., Laven, A., & Sunderland, T. (2015). Landscapes of social inclusion: inclusive value-chain collaboration through the lenses of food sovereignty and landscape governance. *The European Journal of Development Research*, 27, 523–540. doi:10.1057/ejdr.2015.50.

Many landscape-focused value-chain initiatives fail to address the trade-offs between multiple stakeholder interests present in landscapes, especially neglecting food security.

Annex 2C: Monitoring and evaluating the sustainability performance of companies and landscapes

Two recent industry initiatives are potentially important developments. At the level of individual corporations, the Accountability Framework is an initiative for guiding companies to monitor and verify their sustainability commitments, including on zero-deforestation. The second, the Landscape Standard, seeks to enable an assessment of sustainability at a landscape level across commodities and sectors. The Sector Performance Assessment is an interim assessment of progress on sustainability in cocoa, rubber and soy, etc. The two new frameworks for evaluating the sustainability performance of companies and landscapes represent a potential advance in the provision of consistent assessments, but uptake may be an issue and targets, goals and indicators have not yet been published for the Landscape Standard. It is important for the Landscape Standard to constitute an independent evaluation of progress, including not only continuous improvement measures but also threshold measures.

- **The Accountability Framework**

The Accountability Framework is a collaborative initiative to help companies fulfil commitments on responsible agricultural and forestry supply chains. It provides companies with operational guidance on monitoring and verifying their supply-chain commitments, reporting on results and not just activities. The Accountability Framework requires companies to conduct traceability and supply-chain mapping, assess social and environmental risks in their supply chains, develop supplier engagement plans, and design and implement credible and effective monitoring and verification regimes. The framework suggests establishing a supplier management system, audit and verification systems and a grievance mechanism and proposes the use of community-based monitoring.²⁰

- **The Landscape Standard**

The Landscape Standard is a “global framework to drive environmental, social and economic sustainability in productive landscapes”. Supported by a consortium comprising Verra, the Rainforest Alliance and the Climate, Community and Biodiversity Alliance in partnership with the International Union for Conservation of Nature, the Nature Conservation Research Centre, Proforest and Solidaridad, with input from diverse stakeholders, the Landscape Standard is envisaged as a tool for moving beyond individual production sites, activities and sectors to measure the state and trajectory of sustainability at the landscape level across economic, social and environmental dimensions.

Global goals and indicators support targets and criteria tailored to the specific landscape context. Relative progress and absolute threshold indicators will enable reporting on both continuous improvement and compliance with sustainability commitments. Data-based performance results are expected to generate incentives and finance to advance landscape sustainability actions. The Landscape Standard has the following core components:

- *Goals* – commitments to address economic, social and environmental sustainability challenges. The goals are defined globally, potentially linked to the SDGs.
- *Targets* – measurable and time-bound outcomes that contribute to achievement of a goal. Targets may involve thresholds (e.g. “greenhouse gas emissions intensity is x within 5 years”) or continuous improvement (e.g. “reduce greenhouse gas emissions by x% per year”).
- *Indicators* – metrics used to measure progress towards a target. Indicators are set globally, with optionality based on specific landscape characteristics and determined based on feasibility and availability of data.

The process of developing the Landscape Standard follows the ISEAL Code of Good Practice for Setting Social and Environmental Standards Version 6.0, which defines effective standard-setting processes, thereby increasing the credibility of the resulting standard. Pilot-testing was planned for 2018 in several landscapes around the world, including in Ghana and Peru.²¹

²⁰ Source: <https://accountability-framework.org/about-us>

²¹ Source: <http://verra.org/project/landscape-standard> and <http://verra.org/project/landscape-standard>

Annex 2D: Overview of IDH projects and experiences in Produce-Protect-include initiatives

1. Introduction

IDH has 12 Produce-Protect-include (PPI) initiatives. The three pillars of the approach are defined as follows:

- **Production** – increasing the productivity of farmers in sustainable ways so they produce more on the same land. Combined with the diversification of farmers’ sources of income, this improves their livelihoods and reduces the incentive to convert native forests to arable land; it is the first step in the establishment of “verified sourcing areas” in which agricultural production is de-linked from deforestation, thereby supporting companies’ commitments to sourcing deforestation-free products;
- **Protection** – putting in place measures to conserve forests and other natural resources. These measures might include supporting local governments to enforce forest protection laws; implementing deforestation monitoring systems; capacity-building projects for communities; and providing farmers with conditional loans or tax reductions in exchange for forest protection;
- **Inclusion** – improving the livelihoods of farmers and forest-dependent communities and thereby reducing their need to encroach on forests. This may include, for example, diversifying income sources and creating local ownership through participatory land-use planning. (Inclusion, therefore, is not only about community involvement in protection.)

Background information on IDH’s 12 PPIs obtained from the IDH website was screened and analysed using our analytical framework. Interviews were conducted for two of the projects.

The insights gained from the analysis are presented below. They could form the basis for follow-up interviews and a proposed workshop with experts, including those from IDH.

2. Main insights from overview of IDH documentation on PPIs

- The information on PPI projects differs greatly in availability and quality; to date, few results are available and there is little evidence of concrete results. The most information (including from an interview) is available for the Bumitama project, which IDH considers its most advanced PPI.
- Forest-village schemes (in Indonesia and Ethiopia) aim to interconnect forest and production at the village level through agroforestry involving the harvesting of NTFPs, thereby generating additional incomes. It is unclear whether this additional income is sufficient to match the opportunity costs of unsustainable alternatives. Market studies to analyse this aspect are unavailable.
- Creating market demand for sustainable agro-commodities (both forest products and global agricultural commodities) is part of most IDH landscape programmes, with the aim of establishing a verified sourcing area (i.e. a landscape for which assurance can be given that it has sustainable production conditions). None of the landscapes has been established as a verified sourcing area, and IDH is working with other certification schemes to provide credibility for some of its PPIs (e.g. GLOBALG.A.P. certification in the Ethiopia programme and RSPO in West Kalimantan).
- Several PPIs include development of a green-growth plan at the jurisdictional (i.e. subnational state or provincial) level. These plans are unavailable on the IDH website, but they could be useful sources for indicating the Produce-Protect interconnection mechanisms.
- Improving land titling could be a supportive measure for addressing the absence of clear land ownership. Improving land titling is important for community-based protection and reduces the risk of “greenwashing”.

- All interconnections between production and protection are based on (or are formulated as) incentives to comply with no-deforestation and protection measures. There is no concrete reference to disincentives or activities aimed at monitoring or verifying whether forest laws are being respected or to the measures that can be taken in case of non-compliance (e.g. fines or land confiscation).

Tabular overview

Mechanisms interconnecting production with protection

Description	Found in project	EM review team comments/questions
Incentives linking production and protection		
<i>Additional incomes from NTFPs</i> – from existing community forests, replanted forests or licensed forests. Could be undisturbed forests, secondary forests or agroforests. Condition of no deforestation	<ul style="list-style-type: none"> • Mau Forest Complex, Kenya (livestock sector) • West Kalimantan, Indonesia, community-based forest-management scheme (palm oil) • Bumitama, West Kalimantan, Indonesia – village schemes from licensed forests in landscape plan (palm oil) • Rift Valley, Ethiopia – community enclosure scheme, income from grass (no commodity) 	<ul style="list-style-type: none"> • Question whether incomes from NTFPs are sufficient – some IDH documentation suggests this is not the case • In some projects there is a focus on a diversity of products – including the production of different products simultaneously to raise incomes sufficiently. This may be complex because of the inclusion of many value chains
<i>Access to certification schemes for sustainably produced commodities</i> like soy, palm oil and cocoa offering a market price premium. Condition of no further expansion/deforestation	<ul style="list-style-type: none"> • Mato Grosso (sustainable soy) • Rift Valley (GLOBALG.A.P. certification accomplished for 30 farmers) • Aceh, Indonesia (palm oil) • Taï forest area, Côte d'Ivoire (cocoa) 	<ul style="list-style-type: none"> • Is the market-based price premium a sufficient incentive for protecting the forest? This depends on commodity markets and existing rural livelihood opportunities
<i>Access to direct finance</i> , with condition of “no deforestation” (REDD+, compensation, green investment)	<ul style="list-style-type: none"> • Bumitama landscape • Côte d'Ivoire (REDD+) • Mato Grosso (green investors) • Taï forest area (cocoa – REDD+) 	<ul style="list-style-type: none"> • REDD+ revenues have so far not materialised or are insufficient to match opportunity costs (Ickowitz et al. 2017)
<i>Access to benefits of outgrower programme</i> with condition of no deforestation (loans, trainings, etc.)	<ul style="list-style-type: none"> • South Sumatra, Indonesia (sustainable smallholder palm-oil supply sheds) • South East landscape, Liberia (smallholder access to companies Sime Darby, Golden Veroleum) 	<ul style="list-style-type: none"> • Not yet implemented • A new institutional innovation linking outgrower schemes to no deforestation • What evidence is there for the effectiveness of outgrower schemes? • Are incentives provided to smallholder outgrowers sufficient to not deforest?
Sources of additional funds		
<ul style="list-style-type: none"> • Compensation funds • Risk reduction fund • Green investors • REDD+ carbon credits • Credit unions • Donors 	<ul style="list-style-type: none"> • Mau Forest Complex • West Kalimantan (community based forest-management schemes) • Bumitama 	<ul style="list-style-type: none"> • What conditions or criteria are applied to investees to receive funds, and how are these enforced or verified?

Protection mechanisms underpinning protection as production is intensified

<i>Description</i>	<i>Found in project</i>	<i>EM review team comments/questions</i>
<i>Access to jurisdictions that have been “certified”, including intentions of no deforestation as part of green-growth plans</i>	<ul style="list-style-type: none"> • South Sumatra – RSPO Jurisdictional Certification plan • Jambi, Indonesia – planned 	<ul style="list-style-type: none"> • Is the meso-level jurisdictional certification market-based price premium a sufficient incentive to protect?
<i>Compliance with existing forest legislation – could also be part of the process of “certification of jurisdictions” whereby compliance with legislation is enforced</i>	<ul style="list-style-type: none"> • Mato Grosso 	<ul style="list-style-type: none"> • Are formal forest authorities supported to strengthen enforcement?
<i>Community-based participatory forest management or co-management</i>	<ul style="list-style-type: none"> • Mau Forest Complex (livestock sector) • Liberia • Bumitama 	<ul style="list-style-type: none"> • Will it work if not linked to a state forest agency that can also fine those who do not comply? • Depends on the level of trust between communities and company • What kind of “honest broker” support is available (e.g. NGOs)? • Do companies follow the VGGT? • Are there opportunities to link up local committees to create higher-level bodies that can support members in negotiations with companies? • What role is there for community forest management structures? • What can be done to ensure that governance structures in village schemes work over the long term and elite capture is avoided?

The Bumitama palm-oil company case study

In the Bumitama Biodiversity and Community Project, convened by IDH and implemented with Aidenvironment, Bumitama works with multiple tiers of government and other stakeholders to formally conserve a wildlife corridor connecting the Sungai Putri peat swamp and the Gunung Tarak protected forest. The company also works with local communities to establish land-use plans for eight villages in and near the corridor. The project follows IDH’s PPI landscape approach, which is based on participatory land-use planning whereby land for production, livelihoods and forest protection is identified clearly and the related uses agreed on by landscape stakeholders and recognised by local and national governments. The project aims to establish eight smaller-scale Produce-Protect agreements (to support/invest in production activities in return for forest protection), under which village-level land-use plans will link sustainable economic development to the conservation of a wildlife corridor.

Activities to date

- Participatory land-use maps established for the eight villages.
- Tree nursery created for rehabilitating part of the corridor.

- Land-use plans designating different zones for different purposes designed (including six conservation areas to be replanted with local flora and areas designated for community use, both to cultivate NTFPs and to undertake controlled logging).
- Development of a community farm to train farmers in growing fruit and vegetables and techniques they can apply on their own farms.
- Jungle tracks maintained for use by a patrol team to monitor the area for fires and illegal logging and hunting and conduct routine vegetation and wildlife inventory surveys, and for training, research and ecotourism.
- Stakeholders mobilised and plans aligned with those of local and national governments.

Questions and answers

Question: Was there a market study beforehand to ensure that revenues from NTFP schemes provide sufficient incentive to stop deforestation?

Answer: These were not done before the programme with Bumitama started. We based first interventions mainly upon advice by the NTFP Foundation and earlier research by Jenne de Beer. We also used experiences from Bumitama (mainly in Central Kalimantan).

Question: Has there been a study to ensure that the part of the corridor for controlled logging is sufficient to meet timber needs?

Answer: The corridor is in the first place intended to serve wildlife migration between Sungai Putri (in the south) and Gunung Palung/Gunung Tarak (in the north). The areas needed for the migration were set apart and the remainder is made available for sustainable logging. It is the intention of the programme to add tree plantations (agroforestry systems) to cover any timber deficit.

Question: Was there a study beforehand on the exact causes of deforestation? (Slash and burn is mentioned in the text, but nothing else. Is land still being cleared for palm-oil production by smallholders, for example?)

Answer: In general, slash-and-burn agriculture can only be sustainable when very large areas of land are available. Land pressure has made the system environmentally detrimental. This pressure is only partly due to “natural” population growth. The establishment (first) of logging concessions and (secondly) oil-palm concessions has reduced the area available to communities whilst attracting newcomers to the area.

In this particular case, for a long time there was no clarity on the ownership of the land (still a major issue, by the way) and this made the area a free-for-all. At this moment there is land clearing by smallholders. There is a major problem with a mining company with an overlapping concession, but that is an unrelated issue.

Question: Intensification of smallholder agriculture is part of the programme. Are there any conditions attached to the support Bumitama is providing here?

Answer: The activities may not lead to deforestation and must be open for women. Youngsters are a specific target group.

Question: Is opaque land titling an issue in this area? Is this being addressed in the programme?

Answer: It is assumed that the existing corridor is located on concession land (there is no full clarity on this topic) and this means that Bumitama acts as de-facto owner. Outside the concession, most land is not titled. Under a separate programme (funded by the Climate and Land Use Alliance) we intend to work on formal land titling.

Question: Who forms the patrolling team mentioned in the case study that is meant to monitor the corridor? Do they get compensated for this activity, and what happens if they find out someone is breaking the agreement (punishment)?

Answer: The patrolling is done by staff hired by Bumitama with full support from the communities. So far there have been no problems. Would be interesting to see what would happen in such a situation. The company is hardly in a position to punish villagers. Evidently, this has to become a village responsibility whereby the village would also decide how to deal with breaking of the rules.

Question: Who at the community level was involved in designing the land-use maps? Are communities (and implementing partners) convinced that the land-use maps will be followed by all members? Why?

Answer: Meetings were organised by project staff, and different groups (men, women, youngsters) were asked to provide inputs. As long as the authority of the company is respected – which it is – it is expected that communities will abide by the rules. The situation is different outside the concession on community land. The corridor until Gunung Tarak needs to be restored and this will be the real test.

As a professional: quite a lot of goodwill on all sides, but not much real know-how anywhere. Indonesia has been a very centralised country until a good 15 years ago and people have limited know-how when it comes to bottom-up processes. Bumitama has been wise enough though to hire some competent ex-NGO staff for the programme.

3. Detailed data and information of all PPIs

Production mechanism	Interconnection between production and protection	Protection mechanism	Community inclusion mechanism	Context factors/other remarks
Mau Forest Complex, western Kenya (sources: IDH website and 2017 progress report)				
<p>Project support for increased productivity of timber, livestock, beekeeping and charcoal (“industries and communities can increase their income based on sustainable models for timber, intensified livestock production and alternative income-generating activities like beekeeping”)</p> <p>No evidence of improved productivity or revenues</p>	<p>Income activities promoting forest conservation. Mechanisms not further specified, apart from: “Beekeeping, planting of indigenous trees under the Adopt-a-Forest scheme, livestock intensification and other income generation activities carried out by the community that promote conservation of the forest directly or indirectly”; “Investigating the possibilities and investment potential for sustainable charcoal production”</p> <p>No link with standards/certification schemes found</p> <p>Supportive activities: “Organising awareness events, targeting households and communities in the landscape to raise awareness and create a positive story around the South West Mau”</p>	<p>Implementing protection and enforcement mechanisms such as:</p> <ul style="list-style-type: none"> • development of an electric fence and tea buffer zone • addressing illegal activities through aerial and ground surveillance • installation of more outposts • supporting law enforcement officers with training and equipment required for effective operations • community intelligence” <p>It is unclear if these plans have been realised yet and what the results are.</p>	<p>Empowering the community forest associations and the community to develop and implement participatory forest management plans that help them benefit from the forest based on user rights as outlined in the Forest Conservation and Management Act”</p>	<p>“Studies show that it is threatened by encroachment, livestock grazing, wood extraction for charcoal and firewood, fire, poaching, and more”</p>

Mato Grosso, Brazil: soy, timber and beef (sources: IDH website, www.idhsustainabletrade.com/landscapes/business-case-studies)				
<p>Intensification of livestock production, meat production, and crop-livestock integration (extra land used for agriculture and forestry)</p> <p>Production diversification</p> <p>No evidence of improved productivity or revenues</p>	<p>Market demand for sustainable soy: producers need a clear incentive from final buyers in a market for responsible soy. The expected result of regional agreements is that they become verified supply areas</p> <p>REDD+: it is a struggle to implement REDD+ policies so that producers receive compensation for avoiding deforestation. There has to be continuity to implement this model on a large scale</p> <p>Risk reduction fund: this will be used to secure resources for compensating the investment risk for the private sector, making it co-responsible for forest protection “in return” for investment in intensifying production on converted land</p> <p>From BUSINESS CASE: Building a verified sourcing landscape also has the potential to attract potential investors from funds such as the &Green Fund and the Amazon Fund (green investors). The &Green Fund only invests in regions that meet “jurisdictional eligibility criteria”, where local authorities are committed to reducing deforestation and take steps to do so with private sector, communities and civil society</p>	<p>Supporting policy development at the state level</p> <p>Implementation: “One of the pillars to reduce deforestation rates is to accelerate the legal compliance of soy producers” (“As demonstrated by the Soy Fast Track I and II programs, compliance with the Forest Code leads to a reduction in deforestation caused by soy production”) Not specified further</p> <p>Mato Grosso-specific: “support the government of Mato Grosso’s green growth strategy, PCI (produce, conserve, include)”</p> <p>On the PPI process: “In a PPI compact, public and private stakeholders agree on a land-use plan through which to achieve the sustainability targets set by PCI”. Four compacts have been created thus far with several producer groups. Example from one of the four compacts established: “The stakeholders will restore pastures and riparian areas, intensify cattle production, develop ecotourism and carbon-neutral land use, and achieve ecological connectivity through legal reserve offsets”</p>	<p>No evidence of community or producer responsibility or management in protection</p>	<p>“Soy, cattle and timber are all causing deforestation”</p> <p>Assumptions:</p> <p>The area to produce is already there and therefore there is no need to deforest further</p> <p>Market demand for zero-deforestation products is considered the biggest incentive for zero deforestation</p>
West Kalimantan, Indonesia: production area for palm oil, coconuts, timber and pulp & paper (sources: IDH website, Indonesia factsheet and podcast found at www.idhsustainabletrade.com/landscapes/business-case-studies)				

<p>For palm-oil smallholders: “activities to intensify land use by (in)dependent smallholders” Not specified</p> <p>From Bumitama case study: “Increasing smallholder productivity more generally is a key part of the project. The company intends that the improved livelihoods that will result will drive a decrease in deforestation”</p> <p>Livelihood options that delink economic development from deforestation: (non-timber) forest products. To do so, IDH works through village forest schemes (podcast) (example: coconut charcoal project. New methods of burning charcoal efficiently – communities can improve production and product fits with demand from market. Communities can earn more money and use this for their villages and protection of forest) The latter is yet to be tested</p> <p>Fisheries schemes. Ponds are created in mangrove forests without harming the trees. Sustaining the trees is essential for production No market studies were done for these products</p>	<p>Market end: launch of a partnership for sustainable commodities and landscapes in May 2017, led by the Governor of West Kalimantan and supported by oil-palm and forestry companies and the Norwegian and Dutch embassies</p> <p>Smallholder level: conditional financial incentives for sustainable palm-oil production and forest protection</p> <p>Village-level schemes, including fisheries: connecting income to protection (podcast). Communities propose a long-term management plan and business case for a certain area in order to get a produce-and-protect licence. They used to cut mangrove trees for their charcoal but now they can use the coconut and earn money in sustainable ways</p> <p>Credit unions have been established that provide loans for improving local businesses aimed at production and protection (village schemes)</p> <p>The conservation corridor has zones for different land uses. The inner zone is designated for local fauna and wildlife migration. The outer zones will be replanted with fruit trees and other NTFPs for communities to use – without causing deforestation. The outermost zone will be planted with timber trees, forming a visual</p>	<p>“Working with government at national, provincial and local levels to develop and implement green-growth strategies, allowing for forests to be set aside for conservation while enabling a legal framework and law enforcement”</p> <p>“We are currently at the last stage of finalising the provincial green growth plan”</p> <p>“Development of a governance structure to enable Essential Ecosystem Zones (Kawasan Ekosistem Esensial, or KEE) to be established, which allow for HCV areas outside national parks and nature reserves to be protected and managed jointly by public and private stakeholders”</p> <p>Community protection through Produce-Protect licence within village forest schemes. There is the intention to also work on formal land titling for the villages in coming years</p> <p>“The patrolling is done by staff hired by Bumitama with full support from the communities. So far there have been no problems. The company is hardly in a position to punish villagers. This has to become a village responsibility whereby the village would also decide how to deal with those breaking of the rules. As long as the authority of the company is respected – which it is – it is expected that communities will abide by the rules. The situation is different outside the concession on community land”</p>	<p>“Community-based forest management schemes, known as “village forests”, which can serve as an option for forest protection combined with sustainable production of (non-timber) forest products in PPI compacts”</p> <p>Village-forest scheme – social forestry programme from local government (reaching 6000 households) It is assumed that IDH supports this programme</p> <p>“Since the project was established in late 2016, supported by Aidenvironment and in consultation with the district government, participatory land-use maps for the eight villages have been established”</p>	<p>Causes: “conversion, degradation, and slashing and burning of carbon-rich, biologically diverse forests and peatlands for agriculture are the biggest sustainability challenges in the region, contributing to climate change” It is unclear how the different activities happening in this landscape are connected (e.g. palm-oil companies, smallholders, village forest schemes and green-growth plans)</p> <p>Challenges mentioned in the podcast: how to ensure that the governance structure in village schemes works over the long term; and how to ensure that this business model works at scale so that incentives for protection remain in place</p>
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	<p>boundary and providing timber by controlled logging for the community so they do not cut timber. It is the programme's intention to add tree plantations (agroforestry systems) to cover any timber deficit. This approach ensures that communities are given the opportunity to influence decisions and that Bumitama maintain a social licence to operate in the area, and reduces the risk of conflict</p>			
<p>South Sumatra, Indonesia: palm oil, timber, pulp and rubber (sources: IDH website, Indonesia factsheet and Musi Banyuasin jurisdictional certification plan at www.idhsustainabletrade.com/uploaded/2016/11/Musi-Banyuasin-Jurisdictional-Certification-Plan-1.pdf)</p>				
<p>No efforts towards improved productivity or income generating activities found</p>	<p>From Musi Banyuasin jurisdictional certification plan: mapping and farmer land titling Not further specified, not clear whether there are any conditionalities</p> <p>Working on market demand: “to drive the uptake of more sustainable palm oil in Europe, IDH and MVO (the Dutch Oils and Fats Industry) established the European Sustainable Palm Oil, or ESPO, project in 2015, with the objective to achieve 100% sustainable palm oil in Europe by 2020”</p> <p>“ESPO works in close collaboration with various national palm oil initiatives on sustainable palm oil, (...) and connects to the green sourcing areas”</p>	<p>“The Musi Banyuasin district is working towards RSPO certification under the jurisdictional certification process, with the target of being certified by 2020”</p> <p>In one subdistrict: “working on a number of components required for jurisdictional certification, including identifying HCV compensation liabilities, developing a governance mechanism, and exploring opportunities for progress monitoring” This plan has several activities aimed at establishing protection mechanisms but not to increase productivity or the livelihoods of local communities</p> <p>“Sustainable smallholder supply sheds around key remaining HCV and HCS forest areas, including investment in increased protection of those areas” Unclear what this entails – not specified further</p> <p>“Peatland conservation and rehabilitation by companies and communities, including research into alternative species that can grow on wet and acid soils, smallholder agroforestry</p>	<p>From Musi Banyuasin jurisdictional certification plan: Community land-use planning and civil-society-organisation representation in decision-making bodies</p>	<p>“All face significant pressure from encroachment, fire, illegal logging and illegal conversion”</p> <p>“200 000 hectares of HCV or HCS forest and peatland on and off concessions will be rehabilitated and/or restored as a result of the programme”</p>

		activities on peat, bio-energy development, and improved water management at landscape level”		
Aceh Indonesia: palm oil, rubber, forestry products, rice				
Increased yield and market access Smallholder inclusion in value chains Activities not specified further	“We create financial benefits for sustainable production (such as increased yields and market access); forest protection (for example by making investments in production conditional on protection results); and smallholder inclusion in value chains” Not specified Working on market demand: “To drive the uptake of more sustainable palm oil (...) to achieve 100% sustainable palm oil in Europe by 2020”	“Developing green-growth strategy at provincial level” Not elaborated further	“Developing a participatory, sustainable land-use plan at district level, with positive impact on community livelihoods, business performance, and forest protection” Not specified further (e.g. how communities were involved in developing the plan)	“Agricultural expansion is going hand-in-hand with deforestation and degradation of the Leuser ecosystem and other forests”
Jambi, Indonesia: rubber, palm oil and rice				
Jambi government representatives to ease their land certification and cultivation license processes Update July 2018: service installed – more than 30 000 independent oil-palm smallholders in Jambi province are now enjoying a more hassle-free process for obtaining their oil-palm cultivation licenses	No link found between provision of licences and reduced forestation	“Supporting the development of a green-growth plan and supporting the provincial government to translate the plan into policies and procedures to drive sustainable practices. We will support the development of PPI compacts in and around key forest and peatland areas in the province. In these areas, we will develop, strengthen and further test field-level innovations on production, protection and inclusion From factsheet – no updates available apart from cultivation licences Improved traceability: “IDH will continue monitoring the number of smallholders applying for licenses through Jala SETARA, an online database designed to show that traceability is possible at scale and used to verify the origin of their palm oil” (message in July 2018)	Not indicated	“The most important agricultural commodities are rubber, oil palm and rice. Jambi has experienced high levels of forest degradation as a result of commercial logging activities since the 1970s. As a result of agricultural expansion and open-pit mining, Jambi lost almost 600 000 hectares of forest between 1990 and 2016”

Tai forest area, Côte d'Ivoire: cocoa (sources: IDH website and joint framework for action, Cocoa and Forest Initiative, www.idhsustainabletrade.com/initiative/cocoa-and-forests)				
<p>Project/local level: “activities to diversify smallholder farmers’ income, improve their access to credit and provide financial incentives for them to stop deforestation”</p> <p>National level (from joint action framework): “Promote investment in long-term productivity of cocoa in environmentally suitable areas in order to grow more cocoa on less land”</p> <p>“Agroforestry-related projects to protect and restore the forest cover and thus biodiversity conservation and carbon sequestration” Incentives not specified further</p>	<p>REDD+ payments: “payments for reduced emissions of deforestation and degradation (REDD+) as an incentive for farmers/communities to protect the remaining forests” Unclear if any payments have been realised yet</p> <p>From action framework: “Signatory companies commit to no sourcing of cocoa from national parks and reserves through their traceable direct sourcing programmes, including farmer organisations and cooperatives, by 1 January 2018”</p>	<p>Local/project level: “establishing open and constructive dialogue among the different public (and private) stakeholders involved in alignment and successful enforcement of land-use planning policies”</p> <p>Commitments from joint framework for action (national-level):</p> <ul style="list-style-type: none"> • commitment to protection and restoration strategies at government level • classification of forests and updated maps on forest and land use • public enforcement of forest code • establishment of protection fund 	No details available	<p>Causes: “agricultural expansion and population growth have caused massive deforestation and land degradation in the forests around Tai National Park” The Tai project is implemented at a local level but in harmony with the Cocoa Forest Initiative (IDH-World Cocoa Forum and the Prince’s International Sustainability Unit) at the national level (funded by P4F)</p>
Central highlands, Viet Nam				
<p>Agroforestry to improve income: “integrate drought-tolerant and economically useful tree species within existing coffee farms to provide shade for the coffee crop, improve micro-climate conditions and provide additional income for farmers”</p>	<p>Details should be provided in the land-use plan as part of the green-growth plan (“land use plan, detailing how the various strategies spatially reinforce one another”) Not available online</p>	<p>Green-growth plan should have been developed in 2017</p> <p>Activities thus far are mostly about sustainable and agrochemical management</p>		<p>“The rapid growth in agricultural output in the past decades is the consequence of favourable economic policies and has led to improvements in income and livelihoods but also to deforestation, water pollution and land degradation”</p>
Central Rift Valley, Ethiopia				
<p>Working with farmers towards certification and piloting reforestation schemes to provide for alternative income options</p>	<p>GLOBALG.A.P. certification of 48 smallholder fruit and vegetable farmers established in October 2017 (10% price premium)</p> <p>Community enclosure scheme, providing income from sale of</p>	<p>On 17 January 2018, the coalition of public-private sector partners convened by IDH, launched the Ziway-Shalla Sustainability Partnership at the sixth bi-annual partners’ meeting. The partnership aims to promote sustainable land and water management in the Central Rift Valley of Ethiopia by promoting dialogue</p>		<p>Main problems of the area are water issues: “competition between water users, compounded with deforestation, is threatening the complex and vulnerable ecosystem of the Central Rift Valley”</p>

	<p>grass. One year on from the establishment of 71 hectares of exclosure at IDH's Worja reforestation site, the community has begun reaping the benefits (newsletter, 2018)</p>	<p>and action among the partners and by jointly funding projects that improve water quality and quantity in Lake Ziway, restoring degraded lands and creating alternative livelihood options Not specified further</p>		
<p>South East Landscape, Liberia: palm oil (source: www.idhsustainabletrade.com/uploaded/2017/08/Report-IDH-Framework-for-Benefit-Sharing-Liberia-Gill-Feb17.pdf)</p>				
<p>Palm-oil outgrower programme: “the programme supports local communities in developing their own oil-palm farms and selling their produce to Golden Veroleum. This requires capacity building as well as financing. Golden Veroleum will provide capacity building for the community to become oil-palm farmers. The community needs to take a loan and invest in their farms. IDH is building the financing structure, where international impact investors can provide funding for communities to take these loans. Norway's International Climate and Forest Initiative is currently providing first loss guarantee for these loans”</p> <p>“The community receives trainings on alternative income options, such as growing vegetables”</p>	<p>Forest protection income: “an important condition for receiving the trainings and loans is that the community must protect five hectares of oil-palm farm. They will then receive additional, conditional income for forest protection. This funding will come from the international investment”</p> <p>Recommendation from a study commissioned in 2017 by IDH and the Forest Development Authority on solutions provided by existing community benefit-sharing mechanisms in Liberia to accelerate the production-protection agreement planning process: Need to establish a performance-based, subnational mechanism to ensure that the benefits derived from conservation translate into community development in the form of increased smallholder production”</p> <p>The extent to which recommendations have been implemented is unclear</p>	<p>Landscape-level green-growth plans</p> <ul style="list-style-type: none"> • Developing land-use planning and development opportunities • Identification of forests for protection • Strengthening the Forest Development Authority's capacity <p>(Inter)national-level activities</p> <ul style="list-style-type: none"> • Convening programme steering committee • Raising investment • Supporting policies and government capacity • Forest monitoring <p>Community schemes - monitoring</p>	<p>Activities mentioned: “community governance capacity building, supporting free, prior and informed consent-based decision-making process”</p> <p>“Develop forest protection plan with the community, including the community's role in monitoring the forest”</p>	<p>Set-up with Golden Veroleum and local community: by 2020, the programme will have developed over 8 000 hectares of sustainable outgrower palm-oil farms and protected 70 000 hectares of forest</p>
<p>Western Landscape Liberia: oil-palm and rubber concession areas held by Sime Darby</p>				

See “South East Landscape, Liberia” above – same approach				
Nimba, Liberia: Arcelor Mittal mining concession → still in inception phase				
Agriculture and livelihoods projects, where possible as part of a conservation area, and with input from the analysis of the consultant, will continue to train farmers in techniques such as improved lowland farming, vegetable production and livestock rearing in order to increase production and reduce shifting agriculture		To increase regulatory and enforcement capacity, the programme will support additional Forest Development Authority staff to be seconded to the landscape to ensure the Authority’s engagement in all programme activities	This year will see the initiation of investigation and development of a process to establish a strategy for participatory land-use planning in northern Nimba, as well as testing this at the community level to see how it works on the ground	

