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# Novel regional and landscape-based approaches to govern sustainability of bioenergy and biomaterials supply chains

IEA Bioenergy

IEA Bioenergy: Task 43: TR2020-02

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Edited by Inge Stupak and C. Tattersall Smith

Suggested citation:

Diaz-Chavez R and van Dam J. 2020. Novel regional governance approaches and landscape-based approaches to govern sustainability of bioenergy and biomaterials supply chains. International Energy Agency (IEA) Bioenergy. Task 43: TR2020-02.

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Acknowledgements

We would like to express our gratitude to Assoc. prof. Inge Stupak and Prof. Tat Smith for their support and insightful technical advice while producing this report. We are also grateful to the stakeholders who accepted to be interviewed as follows: IMARISHA (Kenya) and all their stakeholders; KENVO from the Lari Constituency (Kenya); CIFOR, ICRAF; Kenya Flower Council; IDH Mato Grosso (Brazil). We are thankful to the International Energy (IEA) Agency, Bioenergy Task 43 for funding this research and the IEA Bioenergy inter-Task project "Measuring, governing and gaining support for sustainable bioenergy supply chains" for providing a framework for this report.



**Published by IEA Bioenergy**

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**Impact pathways:** Impact pathways describe the result chains of an intervention, showing the linkages between the sequence of steps in getting to impact; the pathway describes and/or monitors how the activities of an intervention (are expected to) lead to the desired results, and why the various links in the pathway (are expected to) work. A Theory of Change adds to an Impact Pathway by describing the causal assumptions behind the links in the pathways (Mayne, 2015).

**Integrated landscape management**: A way of managing the landscape that involves collaboration among multiple stakeholders, with the purpose of achieving sustainable landscapes. The governance structure, size and scope, and number and type of involved stakeholders (e.g. private sector, civil society, government) can vary. The level of cooperation also varies, from information sharing and consultation, to more formal models with shared decision-making and joint implementation (GCP, 2015).

**Jurisdictional approach:** The jurisdictional approach is a type of landscape approach that uses government administrative boundaries, primarily sub-national, to define the scope of action and involvement of stakeholders rather than social or environmental (e.g. ecosystems, watershed) boundaries (GCP, 2015). The underlying strategy is often designed to achieve a high level of governmental involvement (Earth Innovation Institute, 2017).

**Jurisdictional sustainability:** The successful transition to sustainable development—encompassing social, environmental and economic dimensions—across an entire political geography, such as a state, province, county, district or nation (Earth Innovation Institute, 2017).

**Landscape:** A landscape is a socio-ecological system that consists of natural and/or human-modified ecosystems, and which is influenced by distinct ecological, historical, economic and socio-cultural processes and activities (GCP, 2015).

**Productive landscapes**: Landscapes being capable of providing not just agricultural or forestry products, but a wide range of products and (ecosystem) services and fulfilling the social, economic and environmental requirements and aspirations of present and future generations at the local, national and global level (Zagt, et al., 2014).

**Sustainable landscape:** A sustainable landscape will simultaneously meet a full range of local needs, while also contributing to national commitments and global targets (e.g. net reductions in land-based greenhouse gas emissions) (GCP, 2015).

**Landscape governance:** has been defined as the process of multi-sector, multi-actor and multi-level interaction and decision making at the landscape level (Oosten, et al., 2017).

**Landscape initiative:** Defined as a set of coherent activities with a final goal and one or more coherent objectives, and which has specific resources (human, financial, material) available to achieve the objectives and contribute to the attainment of the goal.

**Landscape initiative partner**: The organizations responsible for carrying out specific activities within the scope of the landscape initiative. Partner organizations fall into two broad categories: supporting partners, who are not directly involved in the implementation of the initiative but provide expertise and funding; and executive partners, who execute activities within the initiative (GCP, 2015).

**Landscape approach:** A conceptual framework whereby stakeholders in a landscape aim to reconcile competing social, economic and environmental objectives. It seeks to move away from the often-unsustainable sectoral approach to land management. A landscape approach aims to ensure the realization of local level needs and action (i.e. the interests of different stakeholders within the

landscape), while also considering goals and outcomes important to stakeholders outside the landscape, such as national governments or the international community (GCP, 2015)

**Multi-stakeholder platform:** A platform providing a space in which stakeholders can share and discuss their interests. They can include various forms of organized multi-stakeholder collaboration, including coalitions, partnerships, and management boards. A platform is meant to support the joint identification of options to balance the various interests that may exist in the landscape; long-term and short-term, local up to global, public, private and civic (Kusters and Buck, 2017)

**Precision of regulation or policy:** defines the way in which the goals of the policy are achieved (Mansoor et al., 2020). There are four levels of precision: (i) the managerial approach, (ii) the compliance approach, (iii) the measurement, monitoring or inventory approach and (iv) policies that outline explicit thresholds, targets, or minimum requirements (Keller, 2013; McDermott, 2008)

**Public participation:** describes the interactions between government and non-governmental entities, including civil society, business and local communities (GCP, 2015). Public participation can be any process that directly engages the public in decision-making and gives full consideration to public input in making that decision (EPA, 2018).

**Risk-based approach**: Risk-based approaches are developed to assess, evaluate, quantify and prioritize the sustainability risks, and determine and implement an appropriate response to those identified risks (WBCSD, 2016). Risk-based approaches can be developed to determine the risks associated with individual indicators of a sustainability standard when sourcing feedstock from a region but can also be developed on company or landscape level.

**Stakeholder:** Any individual, group, or institution who has a vested interest in the resources of the [landscape] area and/or who potentially will be affected by the [landscape] activities and have something to gain or lose if conditions change or stay the same (WWF, 2005).

**Stringency of policy or regulation:** is defined as how strictly a criterion is imposed for compliance to the policy or regulation (Keller, 2013).

**Sustainable land management (SLM):** Sustainable land management refers to the process of managing a land management unit — farms, production forests, protected areas — in a sustainable way. Sustainable land management across a range of different land management units is necessary to achieve sustainable landscapes. However, SLM commonly focuses on the site level and on particular stakeholder groups, rather than on the broader landscape level (GCP, 2015).

**Theory of Change:** The ideas and hypotheses ('theories') people and organizations have about how change happens. These theories can be conscious or unconscious and are based on personal beliefs, assumptions and a necessarily limited, personal perception of reality (HIVOS, 2015). The Theory of Change is a specific type of methodology for planning, participation, and evaluation that can be used to promote social change. The Theory of Change defines long-term goals and then maps backward to identify necessary preconditions (Brest, 2010).

**Trust (in governance):** Trust is usually understood as 'holding a positive perception about the actions of an individual or an organization. Systematic or institutional trust focuses on the interaction between government and citizens and within government (OECD, 2017). Mansoor et al. (2020) define trust as the attitude or the belief of the community that a given governance institution and its conduct are appropriate.

# List of Abbreviations and acronyms

| | |
|---|---|
| CEEPI | State Strategy Committee for PCI (Mato Grosso) |
| CoC | Chain of Custody |
| CSC | Climate-Smart Cocoa |
| DOC | Denomination of Controlled Origin |
| DOCG | Denomination of Controlled and Guaranteed Origin |
| EUTR | European Timber Regulation |
| FLEGT | Forest Law Enforcement, Governance and Trade |
| FOSS | Flowers and Ornamentals Sustainability Standard |
| FSC | Forest Stewardship Council |
| GCP | Global Canopy |
| GHG | Greenhouse gases |
| GGL | Green Gold Label |
| GIS | Geographic Information system |
| IDH | Sustainable Trade Initiative |
| IEA | International Energy Agency |
| ISCC | International Sustainability and Carbon Certification |
| ISLA | Initiative for Sustainable Landscapes |
| ISPO | Indonesian Sustainable Palm Oil |
| ISO | International Standards Organization |
| IWARP | Integrated Water Resource Action Plan Programme (Kenya) |
| KFC | Kenya Flower Council |
| LPFN | Landscapes for People, Food and Nature Initiative |
| MW | Megawatt |
| NGO | Non-Governmental Organisation |
| OECD | Organisation for Economic Co-operation and Development |
| PCI | Produce, Conserve and Include Institute |
| PEFC | Programme for the Endorsement of Forest Certification |
| RRA | Regional Risk Assessment |
| RSPO | Roundtable on Sustainable Palm Oil |
| RTRS | Round Table on Responsible Soy |
| SBP | Sustainable Biomass Program |
| SFI | Sustainable Forestry Initiative |
| SME | Small scale enterprise |
| UNDP | United Nations Development Programme |
| UNESCO | United Nations Educational, Scientific and Cultural Organization |
| WG | Working Group |
| WRMA | Water Resources Management Authority (Kenya) |
| WRUAs | Water Resources Users Association (Kenya) |

# Summary

There is an increasing demand for biomass for all types of end-uses worldwide contributing towards reaching renewable energy targets and also to fulfil the bioeconomy goals in different regions. This requires the development of sustainable value chains. Certification is a useful tool to promote and guarantee sustainability of commodities – especially in international value chains. However, certification has its limitations in reaching all stakeholders in a region, with different levels of capabilities, and tackling off-farm issues involving processes taking place at the landscape level or in wider regional or national contexts. National and regional governance includes traditional legislation, but it is well known that this is inadequate for dealing efficiently with a number of sustainability issues in several countries. Novel regional governance approaches that enhance commitments and cooperation between multiple stakeholders and sectors are therefore increasingly considered as a way to move towards more sustainable production at larger geographical scales and across sectors, regardless of their end-use.

The International Energy Agency (IEA) Bioenergy conducted a sustainability inter-Task project focused on three main topics: methods and tools for sustainability assessment, effectiveness of sustainable governance of biomass supply chains and stakeholders' perceptions of what is sustainable biomass and bioenergy. For the case studies included in the sustainability inter-Task project, it was deemed necessary to focus on more detail on the governance of sustainability frameworks and standards applied to the biomass supply chains. Within Task 43, this was of particular interest due to production systems for biomass feedstocks and their subsequent trading mainly to Europe. Nevertheless, most of the case studies have focused on the EU and the Global North while little consideration has been given to emerging economies and developing countries, which may have potential for biomass production and trading. Under this rationale, this report considers the governance of biomass supply chains in developing countries.

This report presents a novel framework to analyse landscape governance, understood here as "the process of multi-sector, multi-actor and multi-level interaction and decision making at the landscape level" (Oosten, et al., 2017). A landscape approach focuses on a geographical unit with different land uses and multi-stakeholder governance.

This report presents the assessment of different case studies, where landscape governance has been adopted to manage the resources and land uses with the participation of the different stakeholders from government organisations to the private sector and non-governmental organisations. The nine case studies were selected from different regions of the world to provide a better understanding of the new approaches and were assessed against seven criteria for benchmarking: Context; Objectives and key elements; Stakeholder involvement; Level of input legitimacy; Financial sustainability; Level of accountability and effectiveness; and Securing product sourcing. Each criterion had sub-criteria to assess the initiatives. They were incorporated in factsheets that organised the data of all case studies and the assessment was carried out using a qualitative approach, providing a description of the cases along with a narrative assessment based on gathered secondary data and interviews with stakeholders in selected case studies.

The differences on how these varied landscapes govern their resources and actively participate in their economic and social activities varied widely, depending on where they are located, who started the initiative, but mainly which resources and commodities are involved. The drivers for which these initiatives were set up also varied widely, mainly from environmental concerns and limited resources, such as water (Imarisha), or forest resources (Mau Forest) to important economic commodities, such as soya and meat (Mato Grosso) or wine (Italy).

The initiatives incorporated a variety of monitoring and risk assessment methods but only Indonesia, working with palm oil, provided data on the risk assessment at landscape level through the Roundtable on Sustainable Palm Oil (RSPO). The chain of custody proved to be difficult to assess as only those case

studies with clear commodities in international markets have a standard and/or certificate (e.g. tea, cocoa, soya, palm oil).

The most important findings of the report are as follows:

a) The greatest benefit of landscape governance initiatives is the organisation of the different stakeholders and multiple land uses to ensure a balance of power over the limited resources.
b) Having a commodity at landscape level contributes to organise the initiative, as the commodity is subjected to a type of sustainability monitoring system in the form of a standard or a certification system.
c) Landscape governance examples are still novel and therefore gathering meaningful data is still difficult as this is fragmented across the different stakeholders.
d) A jurisdictional approach at landscape governance level is related to the legal framework and the government institutions in place for specific environmental issues (e.g. water or deforestation).
e) There was little evidence of social concerns regarding the landscape governance; for example, land rights were mentioned in Imarisha (Kenya) but not in other cases, and only the same case indicated concerns regarding local communities (Masai communities using the water resources) and workers conditions in the flower and vegetables industry.

There are still many challenges and limitations for better understanding whether these landscape governance initiatives may foster a better use of the resources for bioenergy and bioeconomy. Nevertheless, from a sustainability point of view, the reported experiences indicate that the landscape governance may provide a more just and balanced governance of natural resources, especially if they are limited, and a better means for monitoring their production and use for the benefit of all stakeholders involved.

# 1. Introduction

## 1.1. Problem and aim

The International Energy Agency (IEA) Bioenergy conducted an inter-Task project on sustainability involving methods and tools for sustainability assessment, governance implications of biomass supply chains and stakeholders' perceptions. The IEA Bioenergy Task 43 has researched on sustainability of production systems particularly for biomass feedstocks and their subsequent trading mainly to Europe. This research aims to contribute to the knowledge on sustainability governance of biomass supply chains in developing countries.

There is an increasing demand for biomass, for all sorts of end-uses, worldwide. In European countries, biomass is expected to play a major role in contributing towards reaching the renewable energy targets in a more effective form than the current through the updated Renewable Energy Directive and the Bioeconomy Strategy. This may lead - next to an increase in domestic production - to an increased EU reliance on imported biomass feedstock, with the condition that sustainability can be guaranteed. This requires the development and upscaling of sustainable value chains. Some governance systems may contribute to this; for example, standards leading to certification, good practices, policies and legal frameworks and other novel approaches such as regional governance. National and regional governance includes traditional policies and laws, but it is well known that this is often inadequate or insufficient for efficiently dealing with a number of sustainability issues in several countries, such as deforestation or water use.

Novel regional governance approaches that enhance commitments and cooperation between multiple stakeholders and sectors are therefore increasingly considered as a form to move towards more sustainable production at larger geographical scales and across sectors, independent of their end-use. This report explores how landscape governance has been applied in a selection of case studies and analyses how it operates, its effectiveness and the challenges to apply it while considering the synergies to biomass production and use.

The overall aim of this report is to better understand how the characteristics of regional governance approaches influence their effectiveness and legitimacy as documentation of sustainability of bioenergy and biomaterial supply chains, in order to support the development of novel governance concepts, or elements of such, and how it is possible through their implementation to achieve trust in sustainability of bioenergy and biomaterials supply chains in different scales and geographical settings.

## 1.2. Approach

This project was implemented in the period from October 2017 until December 2019. Information is largely based on data available from literature and reports.

A large component of the project was to collect information from already existing landscape initiatives, with this information presented in Factsheets, and compared based on a benchmark framework. Data for the fact sheets was mainly obtained from different sources from publicly available literature and websites. The information on the case studies is based on data collection undertaken between October 2017 and March 2019. Two cases (both in Kenya) were complemented with field visits and one with an online interview (Brazil); the other cases are fully based on a desk review of information.

## 1.3. Structure of the report

The report starts by providing the background and current literature of landscape governance. Landscape governance is not a new topic as it actually emerged from landscape ecology in the 1980s, but with wider objectives than this discipline, particularly in relation to the human dimension. However, its current application for realizing sustainability of commodity value chains is novel. The synergies with

standards and certification schemes, particularly for commodities with an impact in national and international markets, are explored.

The third chapter of the report presents the results of the analysis of the different case studies selected using the approach mentioned above, in order to compare them through selected criteria drawn from available frameworks and certification schemes such as scale, their level of stakeholder participation, the financial support structure or their level of assurance.

Nine case studies were selected for the benchmarking covering different regions. Fact sheets were prepared for each case study to facilitate the benchmarking analysis. They are included in the Annexes of this report.

Three of these case studies are presented in more detail as interviews were conducted with the organisations involved in the governance. The findings of these case studies and their benchmarking are explained in chapter 4. A discussion and conclusions and recommendations finalize the report.

# 2. An introduction to novel regional governance and landscape-based approaches

## 2.1. Introduction

In the international arena, the landscape approach is recognized as a mechanism for achieving the "Aichi targets"[1] of the UN Convention on Biological Diversity and is also widely advocated in measures to achieve climate smart landscapes that halt deforestation and mitigate and adapt to climate change (Sayer, et al., 2016), herewith contributing to for example the Paris Agreement or to the New York Declaration on Forests (NYDF, 2019).

Novel regional governance approaches have gained an increasingly high profile over the last two years and especially within the agricultural sector (ISEAL, 2016a). They vary in their terminology, objectives, the initiators (e.g. NGO or government) and in their level of involvement of stakeholders. Their similarity is that sustainability governance is to be conducted on a regional level, and not for the individual property, company or product. Thus, while the traditional verification unit of certification schemes is the farm, plantation or mill, the verification unit for regional approaches is a specific geographical area.

In comparison with traditional regional or national governance systems (Box 1), landscape-based approaches are characterized as being a shared responsibility of civil society groups, private sector actors (including the financial sector) and local governments – also often because of lack of formal governance structures (WUR, 2019).

An example of a regional governance approach is the jurisdictional governance model. This approach aims at having an entire jurisdiction complete the transition to sustainable development, as defined in "Our Common Future". The elements needed for this transition have been suggested by the Earth Innovation Institute and other organizations. The verification unit for a jurisdictional approach is a specific geographical area subject to the same jurisdictional conditions (Earth Innovation Institute, 2017). Some certification schemes (RSPO, Bonsucro, RTRS) are involved, as initiator or stakeholder, in the development of such jurisdictional approaches.

[1] https://www.cbd.int/sp/targets/

Box 1. Definitions used for 'governance' among different international organizations

Definitions used for governance:

United Nations Educational, Scientific and Cultural Organization (UNESCO) has defined governance as "structures and processes that are designed to ensure accountability, transparency, responsiveness, rule of law, stability, equity and inclusiveness, empowerment, and broad-based participation (UNESCO, 2017). Governance also represents the norms, values and rules of the game through which public affairs are managed in a manner that is transparent, participatory, inclusive and responsive." … The World Bank (Bank, 2017) defines governance as "the rule of the rulers, typically within a given set of rules. …it is the process – by which authority is conferred on rulers, by which they make the rules, and by which those rules are enforced and modified".

Therefore, UNESCO considers that some of these international organisations (e.g. UNDP, the World Bank, the OECD Development Assistance Committee (DAC)) define governance as "the exercise of authority or power in order to manage a country's economic, political and administrative affairs". The 2009 Global Monitoring Report sees governance as 'power relationships,' 'formal and informal processes of formulating policies and allocating resources,' 'processes of decision-making' and 'mechanisms for holding governments accountable." (UNESCO, 2016).

Another example of a regional approach is the risk-based approach for the verification of sustainability standards which also focus on a geographical region, mostly the jurisdiction or the sourcing area of a mill or plant. Risk-based approaches are specifically developed to verify a certain sustainability standard for an entire region and to determine the risks associated with individual indicators of the standard when sourcing feedstock from that region. Examples of regional risk-based approaches can be found in the European Union Timber Regulation (EUTR), the Sustainable Biomass Program (SBP) scheme and in Forest Stewardship Council (FSC) controlled wood (SBP, 2017).

Other regional approaches include the so-called landscape partnerships. The Landscapes for People, Food and Nature Initiative (LPFN) is an international collaborative initiative which supports integrated landscape management among different groups of land managers and stakeholders to achieve multiple objectives and expectations within the landscape for local livelihoods, health and well-being. LPFN has conducted a series of continent-wide reviews of landscape partnerships. They documented 428 established, multi-sector landscape partnerships around the world (Scherr, 2017). Most of them are still in a pilot phase. Other initiatives, such as the Global Canopy (GCP, 2015), has provided guidelines for conducting landscape assessments of sustainability to be used by large international companies with active sustainability policies.

## 2.2. Drivers to move to regional or landscape-based approaches

The typical approach to natural resource management has been to manage different parts of the resource base (e.g. rivers and forests) independently, to meet different sectoral goals. Given that different land uses often rely on the same resource base, decisions made to improve output in a single sector, without effective coordination with other sectors, can have negative impacts on the overall availability of resources. For example, in some countries, the rapid expansion of oil palm plantations has strengthened the national economy and lifted many small producers out of poverty. However, it has also led to high deforestation rates, conversion of peat swamps leading to loss of biodiversity, increased CO2 emissions. It has also had negative impacts on human health and forced migration from affected areas (GCP, 2015).

Certification is an accepted method to encourage businesses and producers to invest in the sustainability of their production and the supply chain they are working in. There are, however, a few major drawbacks to certification (Horn et al., 2015). Mechanisms such as certification or commodity roundtables have benefits but they also have limitations.

### Segmented approach – need for coordinated action

Certification generally offers segmented approaches, often concentrating on distinct supply chains (WBCSD et al., 2016). However, increasingly, private farmers, forest owners and public agencies are finding it difficult to meet their own sustainable resource management objectives, without cooperation of others. Additionally, local decisions to manage land sustainably are not always developed in coordination with broader national strategies. Coordinated action among groups of land users offers the potential to reconcile competing objectives at different scales (GCP, 2015).

Addressing sustainability challenges through a landscape approach involves reconciling conflicting or competing land use interests within a geographical boundary and working towards an integrated land management approach, considering both the natural environment and human systems (WBCSD et al., 2016).

### Action on farm level - action on landscape level

Certification is done at business or farm level. Thus, individual producers in a landscape invest in their own share of e.g. biodiversity conservation necessary for obtaining a certificate, which could lead to fragmentation and thus inefficient conservation within the landscape as a whole (Horn et al., 2015). Certification has its limitations in tackling off-farm issues involving processes taking place at the landscape level or in wider regional or national context, such as water shortages or land rights.

### Tackling regulatory and governance issues that limit compliance with certification

The lack of a regulatory framework or jurisdiction may create problems in meeting certain sustainability requirements. Examples are the insecurity over land tenure and access rights (WBCSD et al., 2016). The Earth Innovation Institute (2017) stated that strong public policies, effective government agencies and the rule of law are necessary in the long-term to establish the enabling conditions for sustainable development to thrive over large regions (Earth Innovation Institute, 2017).

### Voluntary participation on farm level – need for scale and uptake on landscape level

Certification is based on voluntary participation; there will always be businesses (potentially those responsible for the highest environmental impacts), who are unwilling to make this investment (Horn et al., 2015). It is also limitations in its ability to reach all stakeholders in a region, also the less willing or capable. For instance, around 16% of the US forests are certified and uptake is levelling off (van Dam, 2016).

An example from a large-scale plantation in the tropics from Minderhoud (2014) found that there are limits to the influence of private-sector actors in a landscape. To stay in agreement with the commodity standard and verify the harvest's date, the company had to carefully screen smallholders against criteria that might negatively affect future certification. This meant that only a limited number of the smallholders who applied could participate. In this way, improvements to supply chain performance can result in the exclusion of underperformers instead of working towards their improvement in the future. An even higher risk for the production landscape comes from the operations of those companies that show no concern for sustainability while scaling up their impacts. This resulted among other in deforestation and illegal expansion. This situation also affects the frontrunner position of the case study company since it is confronted with unequal circumstances and fierce competition. Failure to enforce the law allows these developments to take place (Minderhoud, 2014). To make things easier, it is argued that instead of certifying individual products or sectors, there should be a system of landscape certification, or landscape labelling. Such a label could be used for any kind of product, facilitating decision making for consumers. To further lower the threshold for smallholders and other businesses, a levelled labelling system should be implemented, in which producers can improve in terms of their sustainability achievements (Horn et al., 2015).

## 2.3. Types of regional or landscape-based approaches

National and regional governance includes traditional legislation, but it is well known that this is inadequate for efficiently dealing with a number of sustainability issues in several countries. Several types of landscape approaches have therefore emerged as a response of an alternative structure to govern natural resources. At least four types of governance have emerged: jurisdictional, regional risk-based approaches, low risk and verified sourcing areas (VSA) and partnerships.

**Jurisdictional governance model**

This approach aims at having an entire jurisdiction complete the transition to a more sustainable development, with predefined criteria. The elements needed for this transition have been suggested by the Earth Innovation Institute and other organizations. The verification unit for a jurisdictional approach is a specific geographical area subject to the same jurisdictional conditions (Earth Innovation Institute, 2017). Some certification schemes (RSPO) are involved, as initiator or stakeholder, in the development of jurisdictional approaches. The alignment with sub-national or national political jurisdictions in a jurisdictional approach is expected to facilitate government leadership and legal enforcement, which could make landscape level initiatives more effective (Mekon-Ecology, 2018).

**Regional risk-based approaches**

Risk-based approaches are specifically developed to verify a certain sustainability standard for an entire region and to determine the risks associated with individual indicators of the standard when sourcing feedstock from that region. Examples of regional risk-based approaches can be found in the EU Timber Regulation (EUTR), the Sustainable Biomass Program (SBP) scheme and in Forest Stewardship Council (FSC) controlled wood (SBP, 2017). These systems work with risk-based regional approaches that require generators/participants and biomass suppliers to provide sufficient credible evidence to demonstrate that woody biomass sourced from a defined region has a low risk of non-compliance with all woody biomass land criteria or a specific certification (BEIS, 2017).

**Low risk jurisdictions and Verified Sourcing Areas (VSAs)**

The sourcing guidelines of the Consumer Goods Forum[2] make explicit reference to a jurisdictional approach for sourcing timber, pulp and paper to avoid deforestation. For palm oil for example, the guidelines propose a risk-based verification mechanism for companies that could also be used by jurisdictions. Some large companies have recently committed to the preferential sourcing of forest products under a jurisdictional risk-based approach with ambitious environmental and sustainable development targets, an approach also known as "Produce-Protect" (Linhares-Juvenal et al., 2017).

**Landscape partnerships**

The Landscapes for People, Food and Nature Initiative (LPFN)[3] is an international collaborative initiative which supports integrated landscape management among different groups of land managers and stakeholders to achieve multiple objectives and expectations within the landscape for local livelihoods, health and wellbeing4. LPFN has conducted a series of continent-wide reviews of landscape partnerships. They documented 428 established, multi-sector landscape partnerships around the world (Scherr, 2017). Most of them are still in a pilot phase. Other initiatives, such as the Global Canopy (GCF, 2019), has provided guidelines for conducting landscape assessments of sustainability to be used by large international companies with active sustainability policies.

[2] https://www.theconsumergoodsforum.com/
[3] https://peoplefoodandnature.org/
[4] http://peoplefoodandnature.org/about-integrated-landscape-management/

How these different types of governance are working is not yet fully documented. The different stakeholders and their interactions depend on how the governance system is set up, and on the objective of the landscape. However, there is little literature on how they work and what the legitimacy of these systems is. The following chapter sets up the methodology for a benchmark framework to be able to assess how these systems are working and better understand the importance of their characteristics for their effectiveness in achieving the intended goals.

# 3. The effectiveness and legitimacy of regional governance approaches: a benchmark framework

## 3.1. Introduction

This section presents the selected cases (3.2) and the benchmarking analysis framework used for the benchmarking of the cases (3.3), as well as the results from the benchmarking analysis (3.4 to 3.10). In total nine different case studies were selected, which differ in their characteristics, geographies and objectives (see 3.2 for a short introduction to the case studies). The case studies were benchmarked against a set of elements, organized into eight different categories (3.3) that together were designed to provide insight in the effectiveness and legitimacy of landscape-based approaches.

The results are presented per element category and benchmark tables allow for comparison of the key characteristics, similarities and differences between the selected case studies (3.4 to 3.10).

We finally discuss the outcomes of the benchmark to provide insight into which regional initiatives are most effective and legitimate to measure and document sustainability (and which ones are not) and into which key elements that we see as determining for the effectiveness and legitimacy of regional governance systems (3.11).

## 3.2. Introduction to case studies

The nine cases were selected in different regions in the world (Annex A, Table 1). They were selected to include different regions with different sustainability issues at different scales, with different compositions of stakeholders and types of governance (see also the four types outlined in section 3.7) for an overview. All cases were analysed using literature review and three cases were analysed further with in depth interviews. An overview of the cases is presented below.

**Case 1: Jurisdictional certification palm oil in Central Kalimantan**

In order to implement its objectives, the province Central Kalimantan in Indonesia formed a jurisdictional certification working group and further developed a jurisdictional approach with the aim to certify the sustainability of the entire palm oil supply, supported amongst others through a smallholder support program and an improved monitoring system. The jurisdictional approach covers the province but in practice is currently implemented in three districts: Korawaringin Barat, Seruyan and Gunung Mas.

**Case 2: Produce, Conserve and Include (PCI) in Mato Grosso, Brazil**

The Green growth plan in Mato Grosso, Brazil, translated into the Produce, Conserve, Include (PCI) Strategy, aims to double the economic output of the State through a landscape program, with soy and livestock as key commodities, while reducing deforestation to zero and improving the livelihoods of family farms. The PCI strategy, with monitoring indicators, builds into a participatory process that integrates the agenda of public, private and civil society institutions. The Strategy is based on a jurisdictional approach that promotes the transition to sustainable development in Mato Grosso.

Table 1. Overview of case studies included in the benchmark, and their starting date

| Name of the initiative* | Full name | Country | Start date of the initiative |
|---|---|---|---|
| 1. Kalimantan, Indonesia | Jurisdictional certification palm oil in Indonesia | Indonesia | 2015 (with signing of provincial Declaration) |
| 2. PCI Mato Grosso | Produce, Conserve, Include approach Mato Grosso | Brazil | 2015 (Announcement Green Growth Strategy) |
| 3. RRA Latvia | SBP Regional Risk Assessment (RRA) for Latvia | Latvia | Assessment was conducted in 2017 |
| 4. Cocoa, Ghana | The Partnership for Productivity Protection and Resilience in Cocoa Landscapes (3PRCL) project | Ghana | Launched in 2017 |
| 5. San Martín, Peru | REDD+ Multi-jurisdictional landscape initiatives of San Martín, Peru | Peru | Since 2007 |
| 6. DOCG Wine, Italy | Denominazione di origine controllata e garantita – Chianti Classico | Italy | Chianti Classico obtained the DOCG status in 1984 |
| 7. Lake Naivasha, Kenya | IMARISHA, Naivasha Landscape | Kenya | 2009 |
| 8. Lari-Kijabe Kenya | LARI – KIJABE LANDSCAPE | Kenya | 2014 |
| 9. Mau forest, Kenya | South West Mau Forest | Kenya | 2014 |

*as further used in this study

**Case 3: Regional Risk Assessment (RRA) Latvia**

The Regional Risk Assessment (RRA) for Latvia from the certification scheme SBP, evaluates an entire geographic region and assesses the risks associated with sourcing feedstock for biomass pellet or woodchip production from that region so that the need for individual Biomass Producers (BP) to conduct risk assessments is avoided and, therefore, consistency between Biomass Producers' risk assessments is guaranteed.

**Case 4: Cocoa, Ghana**

Declining production due to the impacts of climate change on ageing cocoa fields in Ghana has driven the trading company Touton to engage in a landscape approach in Ghana, where Touton works closely with Ghana's Cocoa Board and other government bodies to establish a landscape forest governance framework, find solutions to land tenure challenges and develop a Climate-Smart Cocoa standard.

**Case 5: San Martín, Peru**

REDD+ has opened opportunities for horizontal coordination among actors, as in San Martín in Peru, with multi-stakeholder platforms emerging to facilitate such coordination. The San Martín case demonstrates improved coordination, as well as apparently greater influence from those actors supporting sustainable alternatives. The San Martín Declaration (2017) has established a public-private coalition for "Low-emission Rural Development" to achieve Sustainable Jurisdictions in the Peruvian Amazon.

**Case 6: DOCG Wine, Italy**

The DOCG is a label of quality and origin of wines. Although the commodity is not directly related to biobased value chains, the "DOCG Wine" case study serves as an example on how jurisdictional

authorities can organize the control of quality and origin, enforcement and labelling of landscape specific products. The Chianti Classico is used as an example for this case study.

**Case 7: Imarisha Naivasha, Kenya**

The Imarisha Naivasha is a management board responsible for coordinating all key stakeholders for Integrated Planning & Natural Resources management in the basin of Lake Naivasha. Its functions are to establish an enabling environment in the basin for networking, collaboration, conflict resolution and harmonization of various interests. The board is also responsible to establish linkages with County and national governments as well as on international level. The main commodities that are produced around the shores of the lake include flowers and vegetables. Other activities involve for example eco-tourism. The board prepares Management Plans with all the stakeholders involved.

**Case 8: Lari-Kijabe Landscape, Kenvo Kenya**

KENVO is a local community trust in partnership with EcoAgriculture Partners and strong ties to the majority of stakeholders in the landscape. KENVO has been involved in landscape management in Lari-Kijabe for over 15 years, broadening the scope of its activities to include biodiversity conservation, watershed management, and agricultural and pastoral land development and marketing from its initial focus on forestry management. It is located in the Kikuyu Escarpment (near the Aberdares mountain range) Forests and other natural resources in Lari Division in Kenya.

**Case 9: Mau Forest, Kenya**

The Sustainable Trade Initiative (IDH) has helped to build the interests of stakeholders, such as tea and other companies, along with the government of Kenya to conserve the South West Mau Forest for its microclimate services and to improve livelihoods of communities. The initiative's objective is to take a holistic, sustainable landscape management including forest and water management, sustainable energy and community livelihoods. The organization created a public-private coalition, the Initiative for Sustainable Landscapes (ISLA) Kenya, to execute multiple conservation and livelihood improvement projects.

## 3.3. Benchmark framework: categories and criteria

The benchmark framework proposed in this report benchmarks different aspects (called "categories") of landscape governance initiatives that together influence its effectiveness and legitimacy (Table 2). A brief description of each one of these categories is presented below. The different categories include a number of elements. The framework aims to analyse the different aspects of the landscapes' form of governance as indicated by the elements, to better understand how they are working and how effective they are in reaching their objective. Each of the elements were analysed in the under relevant category in its section of this report.

**The context of the landscape (3.4)**

Landscapes are dynamic objects due to the nature of the spatial processes they incorporate (Oosten et al., 2017). Integrated landscape management takes place within wider social, ecological, economic and political contexts. These contexts may facilitate or hinder its development and implementation. In turn, integrated landscape management initiatives can contribute to changing the economic and political context (GCP, 2015).

**The objectives and key elements of the landscape initiative (3.5)**

One approach to addressing inter- connected social, environmental and economic challenges involves focusing on integrated solutions at landscape scales. Current integrated landscape approaches claim to address issues under all these three domains. The practical embodiment of such approaches may however deviate from this central position in the triple P (people, planet and profit) scheme, depending on the objectives of involved stakeholders and feasibility of a well-balanced landscape approach in

specific situations (Horn et al., 2015). This section looks at the main objectives (social, economic and/or environmental) and key elements of the landscape initiative.

Table 2. Categories included under the benchmark framework and the different elements considered under each category

| Category | Elements (criteria) | Section |
|---|---|---|
| Context | • The geographical scope and boundary<br>• The environmental context and key commodities in the landscape<br>• Socio-economic context including land tenure<br>• The governmental context at the start of the landscape initiative | 3.4 |
| Objectives and key elements | • Objectives of the initiative<br>• Key elements (activities) of the landscape initiative | 3.5 |
| Stakeholder involvement | • Type of stakeholders involved<br>• Partners of the landscape initiative | 3.6 |
| Level of input legitimacy | • Cooperation model<br>• Governance model of the initiative<br>• Level of transparency of the initiative | 3.7 |
| Financial sustainability | • Financial structure and distribution of incentives and benefits | 3.8 |
| Level of accountability and effectiveness | • Monitoring mechanisms in place<br>• Risk-based mechanisms in place<br>• Level of prescriptiveness and stringency of the system<br>• Control mechanisms and sanctions in place. | 3.9 |
| Securing product sourcing | • Link of CoC with the landscape initiative | 3.10 |

### Level of stakeholder involvement in the landscape initiative (3.6)

Participation is a cornerstone of good governance (UNESCAP, 2018). A landscape approach is by default a multi-stakeholder and cross-sectoral process that can help achieve diverse sustainability goals (WBCSD et al., 2016). The main goal of a successful, integrated landscape approach would be to bring together all objectives and stakeholders, and, given the landscape characteristics, design and agree on shared landscape goals (Horn et al., 2015). Within the broad range of stakeholders involved, landscape initiative partners are the organizations responsible for carrying out the main activities within the scope of the landscape initiative.

### Level of input legitimacy of the landscape initiative (3.7)

The legitimacy of the group that leads the landscape process is a fundamental requirement for its success (Sayer et al., 2016). Input legitimacy for example includes transparency in decisions, neutrality and equity in stakeholder involvement and treatment, and acceptance of common norms (Mansoor et al, 2020). Ideally, integrated landscape management comprises the participatory development of shared visions and collaborative approaches to co-management (Plieninger, 2017). To get an indication of the level of legitimacy of the landscape initiative, we looked at the following aspects of the landscape initiative: (i) Cooperation model, (ii) the dominating governance model and (iii) the level of transparency of the initiative.

### Financial structure and long-term sustainability of the landscape initiative (3.8)

A long-term financial basis is necessary to facilitate landscape initiatives (PBL, 2015). Also, landscape solutions should encompass a fair distribution of benefits and incentives for all stakeholders involved.

**The level of accountability and effectiveness of the landscape initiative (3.9)**

The level of accountability and effectiveness of the landscape initiative refers to the performance and effectiveness of the governance system in solving the problems it was designed to address. An accountable and effective landscape approach can assess progress made in reaching multiple objectives (e.g. environmental, economic, social goals) against agreed indicators, and hold actors accountable for their actions as agreed under a collaborative plan.

To get an indication of the level of effectiveness and accountability of the landscape initiative, we looked at the following aspects of the landscape initiative: monitoring and risk-based mechanisms in place, the level of prescriptiveness and stringency of the system, and control mechanisms and sanctions in place.

**Securing product sourcing from the region: supply chain control (3.10)**

Companies at the end of the supply chain may promote sustainability in their supply chains, or need to comply with certain policy requirements. To ensure at the end of the supply chain that the product sold in the market is indeed produced according to certain sustainability requirements, it is important that the product carries proof that the sustainability criteria are complied with (through verifiable sustainability data) and that the product is traceable to the location of origin.

## 3.4. Context of the landscape: scope and characteristics

Landscapes are large diverse socio-ecological systems, and each has its unique characteristics and challenges. This section discusses how the complexity and size of a landscape may facilitate or hinder the development of a landscape governance initiative and its implementation by looking at:

1. The geographical scope and boundary of the landscape;
2. The environmental context and key commodities in the landscape;
3. The socio-economic context including land tenure; and
4. The governmental context at the start of the landscape initiative.

### 3.4.1. Geographical scope and boundary

According to GCP (2015), a landscape should be defined by stakeholders at a scale that is small enough to maintain a degree of manageability, but large enough to be able to be able to solve challenges, achieve its goals and deliver multiple functions to stakeholders with different interests. Its boundaries are set by the stakeholders involved in landscape management (GCP, 2015).

Table 3 shows that the selected landscapes differ substantially in size, ranging from 7200 ha (DOCG Wine), to 44,200 ha (Lari-Kijabe landscape) or to around 90 million ha (Mato Grosso State).

The selected landscapes also differ in their type of boundaries. The Lake Naivasha landscape boundary is for example on watershed level, the Lari-Kijabe landscape on sub-catchment area level and the Mato Grosso landscape on jurisdictional State level. The specific geographic boundaries for DOCG Wines (case 6) are described in the Italian Production Regulation under Article 3.

Landscape boundaries are, however, not only determined by their geophysical boundaries but also by the social (e.g. problem perceived) and governance boundaries (PBL, 2015). According to Brasser (2012), the scale for landscape approaches is determined by an issue that is commonly acknowledged by different stakeholders in a certain area.

The actual effectiveness of a landscape approach can be limited by governmental restrictions or by national borders (Horn et al., 2015). Mekon-Ecology (2018) mentions that a jurisdictional approach on regional (sub-national) level might be more manageable than a jurisdictional approach at national level. On the other hand, a sub-national jurisdictional approach is less likely to succeed in isolation and needs national commitment and political support.

Table 3. Comparison of geographical units and scale of the landscape to which the regional initiative is applied

| Name of the initiative | Type of boundary landscape | Jurisdictions involved | Area size of initiative |
|---|---|---|---|
| 1. Kalimantan, Indonesia | Provincial level (with three pilot districts) | Central Kalimantan Province with three pilot districts | Around 15.4 million ha (153,559 $km^2$) |
| 2. PCI Mato Grosso | State | Mato Grosso State with priority projects in municipalities | Total land cover: 90 million ha |
| 3. RRA Latvia | National territory | RRA implemented on country level | Forest area: 3,020,575 ha (50% total land area) |
| 4. Cocoa, Ghana | District level | Bia West and Juabeso administrative Districts | 243,561 ha |
| 5. San Martín, Peru | San Martín region | The region is divided into 10 provinces, which are composed of 77 districts. | Around 5.13 million ha (51.253 $km^2$) |
| 6. DOCG Wine, Italy | Sub-zones meeting specific characteristics | Provinces of Siena and Florence | Around 7200 ha is Chianti Classico DOCG |
| 7. Lake Naivasha, Kenya | Lake Naivasha watershed | Administered by three counties: Nakuru, Narok and Nyandarua | The catchment basin is around 320,000 ha<br><br>(3,200 $km^2$) |
| 8. Lari-Kijabe Kenya | Sub-catchment area | Located in Kiambu county | Around 44,200 ha |
| 9. Mau forest, Kenya | Forests Complex (forest blocks) | Kericho County, Bomet County and Nakuru County | 60,000 ha |

An additional element considered in the landscapes is the presence of commodities which may be one of the key drivers for creating a need for sustainability governance. Nevertheless, some of these commodities may have an additional form of verification through a certification or standard system, mainly with the aim to prove compliance with sustainability criteria applicable to the end-user market (Diaz-Chavez, 2011). They may have similarities to the current systems of certification and verification used for sustainable biomass or wood production using risk-based verification approaches (see for example case 3, RRA Latvia). In these cases, as pointed out by Mansoor et al. (2020), this will entail that the landscape, region or 'sourcing area' is homogeneous to some level, with regards to the risks (criteria and indicators) addressed in the sustainability standard. For example, certain types of legislation need to be the same as well as the ecological characteristics of the region. If the relevant

risks differ in an area, existing systems often expect that the areas be divided at sub-geographical[5] or functional[6] scales.

### 3.4.2. Environmental context and key commodities in the landscape

Within a landscape, there can be various land use types (GCP, 2015). Integrated solutions at landscape scales can address inter-connected social, environmental, economic and political challenges that are relevant for various land uses and their commodities (Reed, 2016).

Table 4 shows that a majority of the selected case studies deal with environmental challenges around deforestation, water use and land use change. An increasing population growth and agricultural expansion are often the key drivers behind increasing greenhouse gas emissions (GHGs) as well as land-use changes, which again exacerbates into risks to maintaining biodiversity conservation or water availability. In many developing countries, the main concerns are more directly related to the challenges to how to better manage the natural resources at risk rather than with the related consequence of higher GHG emissions.

Table 4. Comparison of most common land uses and key commodities for the selected initiatives (***V*** = literature information indicates that this is an environmental challenge)

| Name of the initiative | Key commodities in the landscape* | Key environmental challenges | | | |
|---|---|---|---|---|---|
| | | Water | Conservation | Deforestation ** | Land use change** |
| 1. Kalimantan, Indonesia | Palm oil, timber, coal mining | | ***V*** | ***V*** | ***V*** |
| 2. PCI Mato Grosso | Soy, beef, cotton | | ***V*** | ***V*** | ***V*** |
| 3. RRA Latvia | Forest (pasture) | - | ***V*** | - | - |
| 4. Cocoa, Ghana | Cocoa (and logging) | | ***V*** | ***V*** | ***V*** |
| 5. San Martín, Peru | Multiple (banana, coffee, sugar, palm oil) | | ***V*** | ***V*** | ***V*** |
| 6. DOCG Wine, Italy | Wine regions*** | - | - | - | - |
| 7. Lake Naivasha, Kenya | Horticulture (flower and vegetables), livestock, fisheries | ***V*** | | ***V*** | |
| 8. Lari-Kijabe Kenya | Horticulture, livestock, tea | | ***V*** | ***V*** | ***V*** |
| 9. Mau forest, Kenya | Tea, timber, fuel, wood | ***V*** | | ***V*** | ***V*** |

*only most relevant commodities are mentioned

[5] Sub-geographical areas may be separated for example based on broad geographical boundaries (e.g. administrative sub-divisions such as states, counties, provinces, or biogeographical sub-divisions (e.g. bio-regions, eco-regions, water catchments, watersheds, etc.)

[6] Sub-functional areas may for example be separated by non-geographical characteristics, for example, type of forested area (plantations, managed forests, natural forests etc.), tenure or ownership (public, private, corporate, indigenous, community forests etc.), scope of management (the same hunting regime, presence/absence of particular planning requirements, type and/or quality of forest inventory, etc.), or scale, intensity and risk of the applied forest management operations (Mekon-Ecology, 2018).

** linked to climate change
*** The key driver for the DOCG Wine in Italy is to assure a certain product quality.

Deforestation in Central Kalimantan (case 1) reached for example to a loss of 3.15 million ha between 2000 and 2017. The figure below shows the deforestation rates experienced in the Juabeso-Bia Landscape in Ghana (case 4) (Figure 1). The rapid decline has been due to several factors, including the lack of a robust public policy which resulted in extensive indiscriminate logging (legal and illegal) and agricultural expansion, mainly for cocoa production.

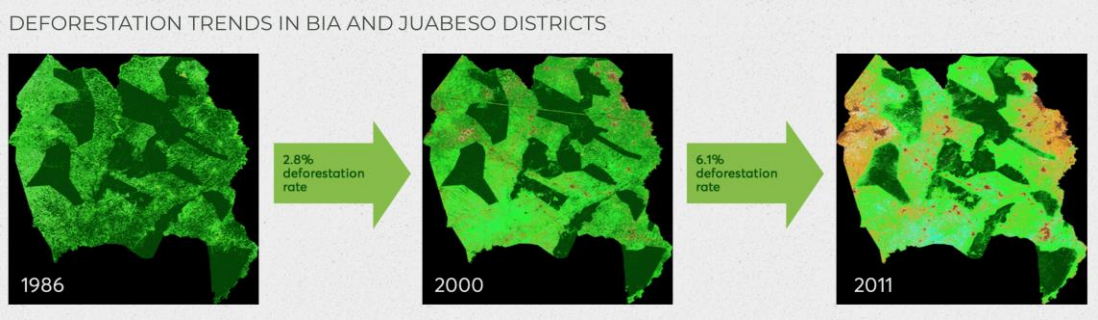

Figure 1. Deforestation trends in Bia and Juabeso districts (case study 4) in Ghana (3PRCL, 2019)

### 3.4.3. Socio-economic context and land tenure

Integrated landscape approaches claim to address issues at all three domains of sustainability: people, planet and profit. Landscape approaches therefore include the interests of local communities (PBL, 2015). A landscape approach should thus be inclusive and ensure that all its stakeholders feel that they have a stake in it and do not feel excluded from the mainstream of society (UNESCAP, 2018).

Table 5 shows that agricultural production, from multiple commodities or from one specific commodity, is an important economic driver in most of the landscapes, bringing in added economic value. In several cases (e.g. Ghana, Indonesia), these agricultural products are also exported out of the landscape. The economic importance of a land use (commodity) can thus be an important driver to search for integrated solutions when current practices bring its production under threat, as is clearly the case for Lake Naivasha in the last, due to drought.

The more complex the socio-economic issues are, the more challenging (but also most effective on the long-term) it may be to find solutions through a landscape-based approach.

#### Land tenure

Clarifying tenure rights and responsibilities is a central requirement to achieving effective and equitable integrated landscape management. Knowledge of the customary and statutory tenure arrangements within a landscape is essential to identify who are the key stakeholders, who should participate in decision-making processes, and whose approval is needed to ensure that any collective plan is implemented effectively (GCP, 2015). One element of support provided in the cocoa landscape in Ghana (case 4) is for example to address weak land ownership framework, especially for fragmented smallholder farms with a precarious legal status. Also, in Indonesia (case 1), legality and proof of land ownership is one of the most important requirements for independent smallholders to participate formally in the palm oil supply chain.

While clarifying tenure arrangements is crucial for the success of integrated landscape management, it is also a challenging undertaking in countries where rights are often unclear, weakly enforced or in conflict with one another (GCP, 2015), such as in Peru (case 5) where land classification is mentioned to be both highly controversial and politically sensitive. Table 6 "attempts" to present this information but it is not fully clear for several cases (as indicated by a * in this table).

Table 5. Socio-economic context of the landscape initiatives (information: see factsheets)

| Name of the initiative | Dominating commodities | Economic value commodities | GINI[7] | HDI[8] |
|---|---|---|---|---|
| 1. Kalimantan, Indonesia | Palm oil, timber, coal mining | Oil palm contributes approximately 25% of GDP in Central Kalimantan.<br><br>Palm oil production (2015): 3.57 million tonnes | 38.1 | 0.691 |
| 2. PCI Mato Grosso | Soy, beef, cotton | Gross Value Agricultural production: 43 billion Reais– 48% of GDP | 54.7 | 0.758 |
| 3. RRA Latvia | Forest and pasture | Forest industry accounts for around 20% of Latvian industry's added value (70-80% of the wood is exported) | 34.8 | 0.844 |
| 4. Cocoa, Ghana | Cocoa and wood | Total cocoa production in landscape: 60,000 metric tonnes<br><br>Cocoa is Ghana's most important agricultural commodity, accounting for roughly 57% of all agricultural exports | 42.8 | 0.588 |
| 5. San Martín, Peru | Multiple (banana, coffee, sugar, palm oil) | Value of agricultural production (2016): $ 85 Million USD<br><br>27.30% comes from agriculture. | 48.1 | 0.748 |
| 6. DOCG Wine, Italy | Wine | 35/38 million bottles per year, export to around 130 countries | 36.0 | 0.878 |
| 7. Lake Naivasha, Kenya | Horticultural products (flower and vegetables), livestock, fisheries | An estimated KSh 3.2 billion, just from the agricultural activities for export produced in the Lake Naivasha | 47.7 | 0.585 |
| 8. Lari-Kijabe Kenya | Horticultural products, livestock, tea | Activities involved several commodities such as dairy, tea, and livestock probably provide most of the economic value (data on the economic value of them are missing as this landscape involves two counties) | 47.7 | 0.585 |
| 9. Mau forest, Kenya | Tea, timber, fuel wood | The economic value of the Mau forest was estimated at USD 1.2 billion in 2009 from activities that vary from tourism to agriculture, fishing, livestock, energy and other | 47.7 | 0.585 |

[7] GINI Index (on country level): Measure of the deviation of the distribution of income among individuals or households within a country from a perfectly equal distribution (GINI, 2013;(UNDP, 2018).

[8] Human Development Index (on country level): a composite index measuring average achievement in three basic dimensions of human development—a long and healthy life, knowledge and a decent standard of living (HDI 2016), (UNDP, 2018).

Table 6. Presence of indigenous communities and land tenure conflicts (***V*** when indicated as such in literature or websites, for example during the start of the initiative)

| Name of the initiative | Presence of indigenous communities | Presence of land tenure conflicts (at start initiative) |
|---|---|---|
| 1. Kalimantan, Indonesia | ***V*** | ***V*** |
| 2. PCI Mato Grosso | ***V*** | |
| 3. RRA Latvia | - | - |
| 4. Cocoa, Ghana | - | ***V*** |
| 5. San Martín, Peru | ***V*** | ***V*** |
| 6. DOCG Wine, Italy | - | - |
| 7. Lake Naivasha, Kenya * | - | ***V*** |
| 8. Lari-Kijabe Kenya * | - ** | - |
| 9. Mau forest, Kenya * | ***V*** | ***V*** |

* Not fully clear from information available)
** In many developing countries, particularly in sub-Saharan Africa, the local communities follow a tribal system rather than an indigenous community approach.

### 3.4.4. Governmental context

At a country level, government provides legislation with respect to natural resource use and sustainable development policies. The degree of centralization in a country determines who are the legislators in relation to different issues, and their authority and responsibility. These vary from federal- and state-level government down to the municipal and community level (Minderhoud, 2014).

Landscapes are characterized by institutional diversity. Finding an appropriate mix of policy approaches by employing direct regulation, economic instruments, cooperation and co-management approaches is a challenge for integrated landscape management. The difficulty arises from simultaneously incentivizing multiple landscape management objectives, which require policy integration (Plieninger, 2017).

*Box 2. Factors that may hamper, or promote, the development and effectiveness of landscape approaches from the perspective from existing governance*

Literature mentions the following factors that may hamper or promote the development and effectiveness of landscape approaches from a perspective from existing governance:

- (Lack of) the government's ability to make and enforce policies and rules across its territory in a democratically accountable manner (GCP, 2015).
- (Lack of) willingness to support the required governmental and institutional changes. Individual state bureaucracies for example can enable and influence certification schemes by shaping the right institutional context; e.g. through setting up rules and procedures such as a fiscal system. Contrary to this situation, unnecessary bureaucracy can limit the effect of a certification scheme by supporting the creation of competing programmes or by setting up rules or changing norms that would restrict or complicate the process (Giessen et al., 2016).
- (Lack) of political leadership to accelerate a jurisdictional approach (Fishman, 2017).
- (Weak) institutional capacity of government agencies, businesses, farm sectors and civil society (Earth Innovation Institute, 2017).
- (Lack of) governmental alignment with the ambitions of the landscape initiative (Earth Innovation Institute, 2017).
- (Lack of) alignment and integration between government institutions and policies so to be able to simultaneously incentivize multiple landscape management objectives (Plieninger, 2017).

The role of governments is crucial in organizing the process of land-use planning, securing land tenure and defining environmental goals and designing regulations to achieve these goals. This is especially true when it comes to safeguarding common goods, such as biodiversity with no direct economic value for stakeholders (Horn et al., 2015).

Governments thus play on one hand an important role in the success of landscape approaches. Effectiveness of integrated landscape management initiatives will be affected by the existing public governance (jurisdictional approach), (GCP, 2015). On the other hand, landscape approaches are often adopted where local governments compensate failing national and federal governments and their agencies, to address the need to work across sectors and scales (Sayer, et al., 2016).

The following topics also mentioned under Box 2 are looked at in this benchmark (Table 7):

- The mentioning of weak governance and / or lack of regulatory capacity, including the mention of institutions as a challenge to be overcome, a cause of the challenges or something to be improved by the activities of the landscape initiative;
- The mentioning of a supportive local / central government that has played a role in promoting the landscape initiative; although not necessarily on its own but in partnership.

Note that these two factors can go hand in hand.

Table 7. Level of government involvement and capacity for selected case studies (***V*** when indicated as such in literature or websites, for example during the commencement of the initiative)

| Name of the initiative | Weak government and/or lack of regulatory capacity is mentioned as challenge | Presence of a supportive government |
|---|---|---|
| 1. Kalimantan, Indonesia | ***V*** | ***V*** |
| 2. PCI Mato Grosso | - | ***V*** |
| 3. RRA Latvia | - | - |
| 4. Cocoa, Ghana | ***V*** | ***V*** |
| 5. San Martín, Peru | ***V*** | ***V*** |
| 6. DOCG Wine, Italy | - | ***V*** |
| 7. Lake Naivasha, Kenya | ***V*** | ***V*** |
| 8. Lari-Kijabe Kenya | - | ***V*** |
| 9. Mau forest, Kenya | - | ***V*** |

Some of the selected cases showed that the government and its long-term ambitions have played an important supporting role for commencement of the landscape initiative, for example:

- A starting point for the involvement of the Central Kalimantan government (case 1) in the jurisdictional approach was the Roadmap to Low Deforestation Rural Development (2013), which aims at improving productivity and decreasing poverty (see Box 3);
- The Green Growth Strategy towards 2030 from Mato Grosso State (case 2), which forms the basis for the Produce, Conserve, Include (PCI) Strategy;
- The Agreed Regional Development Plan 2021 from San Martín (case 5), which outlines the aspiration to achieve integrated and balanced development;
- In Lake Naivasha (case 7), the Kenyan Government established 'Imarisha Naivasha' as landscape platform after the drought in 2009.

Box 3: Roadmap to Low Deforestation Rural Development in Central Kalimantan

In 2015, the Seruyan district in Central Kalimantan, Indonesia, announced its commitment. Its objective was to have all of its produced and processed commodities certified as sustainable in 2019, including smallholders. The goals were:

- All palm oil producers are certified sustainable in 2019, including smallholders;
- Reduction of deforestation rates and GHG emissions by 80% compared to the baseline year;
- An increased welfare of smallholder farmers and protection of indigenous rights.

Several of the selected cases mention (at the same time) also the presence of a weak government and limited regulatory capacity as a driver to start up the landscape initiative. Issues mentioned in the case studies are for example limited technical capacity, creating ownership under the government (case 1) weak regulatory mechanisms, weak land-use planning (case 4) or lack of clarity around the land use classification system, as prerequisite for clear tenure and land use rights (case 5).

## 3.5. Objectives and elements of the landscape approaches

Landscape approaches aspire to make long-term improvements to environment, production, and livelihoods and to achieve these improvements by engaging and empowering the people who are affected (Sayer, 2016).

### 3.5.1. Sustainability objectives

Table 8 presents the main sustainability objectives that were drivers in the landscape governance organization.

Table 8. Sustainability objectives of the landscape initiative (***V*** when indicated as such in literature or websites)

| Name of the initiative | Social | Environmental | Economic | Product quality |
|---|---|---|---|---|
| 1. Kalimantan, Indonesia | ***V*** | ***V*** | ***V*** | |
| 2. PCI Mato Grosso | ***V*** | ***V*** | ***V*** | |
| 3. RRA Latvia | ***V*** | ***V*** | ***V*** | |
| 4. Cocoa, Ghana | ***V*** | ***V*** | ***V*** | |
| 5. San Martín, Peru | ***V*** | ***V*** | ***V*** | |
| 6. DOCG Wine, Italy | | | ***V*** | ***V*** |
| 7. Lake Naivasha, Kenya | ***V*** | ***V*** | ***V*** | ***V*** |
| 8. Lari-Kijabe Kenya | ***V*** | ***V*** | ***V*** | |
| 9. Mau forest, Kenya | ***V*** | ***V*** | ***V*** | |

- *Environmental objectives* of multiple landscape initiatives focus on reducing deforestation (and realizing GHG emission reduction), driven by agricultural expansion and competing land uses, such is as for example an objective for case studies 1, 2, 4, 5, 9. Solving other environmental problems is also mentioned, such as water scarcity as an objective in in case 7.
- *Economic objectives* of multiple landscape initiatives focus on increasing productivity and adding value of commodities (case studies 1, 2, 4, 5), or on valorising products in a specific region (case 6).
- *Social objectives* are for example increasing welfare of smallholders and the protection of indigenous peoples' rights (case 1), the inclusion of smallholders in value chains (case 2 and 5) or better ensuring land rights (case 5).

- A limited number of case studies also mention improving *product quality* (as reason to improve the landscape's market competition) as an objective, as in case study 6.

### 3.5.2. Key elements of the landscape initiative

Capacity building, local empowerment, improving governance including the capacity of the government, and providing transparency in resource management negotiations are widely regarded as central components of landscape approaches. Landscape approaches also recognize the importance of learning, flexibility, adaptation, and the need for a holistic view of outcomes and impacts in a constantly changing context (Sayer, 2016).

Landscape-approaches and integrated measures also allow for innovative farm, grazing and forest production systems and practices (e.g. agroforestry), which generate synergies or reduce trade-offs among different land use objectives, facilitating integrated landscape management (GCP, 2015).

Often, there are multiple (pilot) projects in a landscape, which are coordinated through the landscape initiative, and together should contribute to improve the sustainability of the landscape (Table 9).

Table 9. Key components of the landscape initiative (***V*** when indicated as such in literature or websites or interviews)

| Name of the initiative | Standardization | Certification | Legislation | Risk mitigation | Education | Monitoring | Collaboration | Strengthening governance | Integrated land uses | Other |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. Kalimantan, Indonesia | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** |
| 2. PCI Mato Grosso | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** |
| 3. RRA Latvia | | ***V*** | | ***V*** | | | | | | |
| 4. Cocoa, Ghana | ***V*** | | | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** |
| 5. San Martín, Peru | ***V*** | | | ***V*** | | | ***V*** | | ***V*** | |
| 6. DOCG Wine, Italy | ***V*** | | | | | ***V*** | ***V*** | | | |
| 7. Lake Naivasha, Kenya | | ***V*** | ***V*** | | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | |
| 8. Lari-Kijabe Kenya | | | ***V*** | | ***V*** | | ***V*** | ***V*** | | |
| 9. Mau forest, Kenya | | ***V*** | ***V*** | | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | |

*Standardization* is for example an element in the landscape initiative "cocoa-Ghana" (case 4), where a Climate-Smart Cocoa (CSC) standard is developed on a landscape level. Certification is a key element in several of the selected cases. For RRA Latvia (case 3), the purpose of the risk assessment is to evaluate an entire geographic region and determine the risks associated with sourcing from that region, as a basis for companies to get certified.

Central Kalimantan (case 1) explicitly uses palm oil as the entry point for the jurisdictional approach. One of the jurisdictional sustainability objectives are for example that 100% palm oil producers are certified as sustainable by 2019, including smallholders. A jurisdictional approach is complex and covers a large time frame. In order to avoid unachievable goals, global, local and regional expectations should be managed well (Fishman, 2017).

Education includes technical assistance, which was for example provided in Ghana (case study 4) to improve production practices. Also, in Central Kalimantan (case 1), there is a program to support and

empower smallholders. This includes for example mapping smallholder palm oil farmers and supporting their land registration.

Other elements that are mentioned in the landscape initiatives include improving the financial mechanisms of the landscape, by attracting finance (case 2 and 4) or developing innovative incentive systems (case 2), also to sustain the landscape initiative in the longer term.

## 3.6. Level of stakeholder involvement in the landscape initiative

Characteristics of a landscape are perceived differently by the various stakeholders involved. These perceptions are often based on their interests or "stakes", including their underlying ideas and ideologies, as well as formal sectoral considerations and policy frames defining the relations between the actors and the landscape (Oosten et al, 2017; Plieninger, 2017). Furthermore, the involvement of different types of stakeholders is one of the key issues in the landscape definitions as stated in previous sections. Table 10 presents the different stakeholders involved each of the selected landscape initiatives.

Table 10. Stakeholder involvement in the landscape initiative (***V*** when indicated as such in literature or websites).

| Name of the initiative | Producers* | Traders and buyers | Government | NGOs | Business associations | International organizations | Research, education | Certification bodies | Indigenous people/local communities | Other |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. Kalimantan, Indonesia | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | | | ***V*** | | ***V*** |
| 2. PCI Mato Grosso | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** |
| 3. RRA Latvia** | ***V*** | | ***V*** | ***V*** | ***V*** | | ***V*** | ***V*** | | |
| 4. Cocoa, Ghana | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** |
| 5. San Martín, Peru | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | | | | ***V*** | |
| 6. DOCG Wine, Italy | ***V*** | | ***V*** | | ***V*** | | ***V*** | | | |
| 7. Lake Naivasha, Kenya | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | | ***V*** | | ***V*** | ***V*** |
| 8. Lari-Kijabe Kenya | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | | | |
| 9. Mau forest, Kenya | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | | | ***V*** | |

* Including primary and secondary producers
** Actors involved in stakeholder consultation of the RRA

*Stakeholders from outside the landscape* (e.g. trading companies) may be focused on other issues (e.g. GHG emissions or globally important biodiversity) than local stakeholders, which may focus more on local priorities such as rights to key resources. These two singular points of views may clash. Noordwijk et al. (2014) mention that a combination of social exchanges and economic incentives (e.g. investment and payments in exchange for verifiably improved environmental quality) need to be carried out to reconcile the goals of these two groups.

*For companies***,** business incentives can be decisive in determining whether or not to participate in a landscape approach. For example, declining production due to the impacts of climate change on ageing cocoa fields in Ghana has driven the trading company Touton to engage in a landscape approach in the Bia West and Juabeso districts in Ghana (case 4). In Central Kalimantan (case 1), Unilever (sourcing palm oil in the region) signed a three-year Memorandum of Understanding (MoU) with the provincial government, the district government Kotawaringin Barat and INOBU to support a jurisdictional approach for sourcing sustainable palm oil at village level.

If businesses do not see an incentive for long-term commitment to a production area, they may be less interested in participating in landscape approaches. Also, sustainable land use is not the only way for businesses to safeguard security of supply. Some companies use diversification of sourcing areas as a strategy to cope with the impact of climate change. These companies effectively secure long-term resource supply but may be less inclined to invest in the resilience of their sourcing areas (Horn et al., 2015).

*Business associations* also may play an important role as stakeholder in landscape initiatives, as is for example shown by the role of the Consortium 'Vino Chianti Classico' (case 6) to promote and valorise the DOCG wines for the region.

### 3.6.1. Partners of the landscape initiative

Landscape initiative partners are the organizations responsible for carrying out specific activities within the scope of the landscape initiative (Table 11). Partner organizations fall into two broad categories:

- Supporting partners, who are not directly involved in the implementation of the initiative but provide expertise and funding; and
- Executive partners, who execute activities within the initiative (GCP, 2015).

Table 11. Partners initiating / coordinating the landscape initiative including primary and secondary producers)

| Name of the initiative | Main partners |
|---|---|
| 1. Kalimantan, Indonesia | A collective effort led by local governments, initiated by the government of Central Kalimantan. INOBU is the facilitator |
| 2. PCI Mato Grosso | Sustainable trade initiative (IDH), government institutions, leading companies and several NGOs |
| 3. RRA Latvia | RRA is conducted by NEPCON (an auditing company), appointed by the Sustainable Biomass Program (SBP) according to their guidelines. |
| 4. Cocoa, Ghana | Lead partners: Touton (trading company), SNV NGO), the Nature Conservation Research Centre NRC), the Agro-Eco Louis Bolk Institute<br><br>Government: The Forestry Commission of Ghana, and the Ghana Cocoa board. |
| 5. San Martín, Peru | Regional government leaders were elected on a "green" platform and developed policies and plans to address the region's environmental problems while coordinating and attracting projects with each their own partners. |
| 6. DOCG Wine, Italy | Ministry, provincial and regional public authorities;<br><br>The Consortium 'Vino Chianti Classico' |
| 7. Lake Naivasha, Kenya | Imarisha Naivasha, the Water Resources Management Authority (WRMA), the 12 Water Resources Users Associations (WRUA), 4 UK retailors. |
| 8. Lari-Kijabe Kenya | KENVO or Ministry of Agriculture, representatives of civil society, the private sector, and government agencies |
| 9. Mau forest, Kenya | Stakeholders include the government (Kericho, Bomet and Nakuru), private sector, civil society, NGOs, education organisations |

## 3.7. Governance model of landscape initiative: level of input legitimacy

The legitimacy of the group that leads the landscape process is a prerequisite for success. In some cases, an institution has a clear mandate, legitimacy, and resources to lead a landscape-based process, and the ability to enforce decisions. In many other cases, civil society including NGOs and private sector

actors convene informal coalitions that seek to achieve impact by influencing decision makers (Sayer et al, 2016).

Mansoor et al. (2020) mention that input legitimacy is concerned with the voices, perspectives and procedures that inform governance systems. Input legitimacy refers to gaining consent of affected actors and other stakeholders, through their participation in decision-making within the system. Different studies focus on different aspects of input legitimacy, but it is concerned for example with transparency in decisions, neutrality and equality in stakeholder involvement and treatment, and acceptance of norms.

Legitimacy is a prerequisite for the occurrance of trust. Mansoor et al. (2020) defines trust as the attitude or the belief of the community that a given governance institution (or initiative) and its conduct are appropriate. High levels of trust of citizens towards government (and governance) generally result in greater compliance with and support for programmes and policies and in lower enforcement costs. High levels of trust of companies towards government (or governance) result in prosperity to invest and in easier compliance with regulations. High levels of trust within the government (or a governance initiative) also promote effectiveness within government institutions as trust increases the level of cooperation (OECD, 2017).

Furthermore, transparent processes for decision-making have to be in place to clarify how stakeholders' choices were made and which their implications are for people and environment. A landscape initiative should foster cooperation and trust (Plieninger, 2017).

To get an indication of the level of input legitimacy of the landscape initiative, we looked at the following aspects of the landscape initiative:

- Level of stakeholder cooperation;
- Governance model; and
- Level of transparency.

### 3.7.1. Level of stakeholder cooperation

The level of stakeholder cooperation within integrated landscape management approaches varies from information sharing and consultations to cooperation models with shared decision-making and joint implementation (GCP, 2015). Efforts to achieve more sustainable landscapes may be undertaken independently, by a single stakeholder (such as a government agency or conservation organization), or collaboratively, by multiple stakeholders. In most cases, some level of cooperation or coordination amongst stakeholders within a landscape is necessary to ensure long-term viability of the initiative (GCP, 2015).

Different levels of cooperation are defined by GCP (2015):

- Low level: ad-hoc consultations, high level monitoring; there are collaborative plans while stakeholders make during implementation individual decisions.
- Medium level: multi-stakeholder dialogue; regular meetings; there are specific commitments contributing to agreed objectives during implementation.
- High level: formal mechanisms and rules for stakeholder representation; clear accountability framework in place for showing compliance; sanctions exist for non-compliance; detailed monitoring and evaluation strategy in place.

Table 12 shows that cooperation levels vary amongst the cases. Most of the cases show a medium to high cooperation level.

An example of a *medium level cooperation model* is the Public-Private Coalition of the Declaration of San Martín (case 4), which is a coalition of the government, private sector and civil society organizations. The coalition seeks to promote sustainable rural development and create synergies between regional governments, the private business sector, producer organizations, NGOs and organizations representing indigenous peoples. Case 8 (Lari-Kijabe, Kenya) is also characterized by a medium level of cooperation. In Central Kalimantan (case 1), Seruyan's Jurisdictional certification working group is developing a governance model for fair and balanced decision making – aiming to develop standard operating procedures such as voting rights.

Table 12. Level of cooperation of the landscape initiative (***V*** when indicated as such in literature or websites)

| Name of the initiative | Low | Medium | High |
|---|---|---|---|
| 1. Kalimantan, Indonesia | | ***V*** | |
| 2. PCI Mato Grosso | | | ***V*** |
| 3. RRA Latvia | ***V*** | | |
| 4. Cocoa, Ghana | | ***V*** | |
| 5. San Martín, Peru | | ***V*** | |
| 6. DOCG Wine, Italy | | | ***V*** |
| 7. Lake Naivasha, Kenya | | | ***V*** |
| 8. Lari-Kijabe Kenya | | ***V*** | |
| 9. Mau forest, Kenya | | | ***V*** |

High level cooperation models with more formal mechanisms are for example established in Ghana through a Landscape Management Board (case 4) or in Lake Naivasha (case 5) through the so-called 'Imarisha Naivasha' Board, in Mato Grosso through the formalized PCI Institute (case 2) or in Mount Kenya with the ISLA project (case 9). The formal role of the Consortium "Vino Chianti Classico" (case 6) is specifically mentioned in the governmental Production Regulation.

Case 3 (RRA Latvia) is considered a low-level cooperation model that is based on ad-hoc consultations and does not have a formal mechanism of cooperation.

The more informal the level of cooperation, the lower the level of individual responsibility and accountability is placed on each stakeholder, unless other mechanisms are in place to hold the stakeholder accountable (as certification). On the other hand, sometimes there is also more willingness amongst stakeholders when cooperation is more informal due to no perceived risk or threat (GCP, 2015). Next to that, more formal collaboration may in some regards be considered illegal due to for example market competition rules.

Setting up a multi-stakeholder process is, however, important before legitimate goals can be set and landscape management plans developed. Otherwise, there is a risk that the process becomes one of consultation rather than collective decision-making (GCP, 2015). At the same time, it is important to note that all landscapes are in transition and that it takes time for all initiatives to move towards a high level of cooperation with more formalized governance structures, while acknowledging in some cases possible restrictions (e.g. market competition) to do so.

### 3.7.2. Governance model of the initiative

The governance triangle (Figure 2) categorizes types of governance based on the degree of involvement and influence of three main types of actors on the development of governance institutions: states,

NGOs, and business firms. This approach incorporates both the long-established forms of environmental governance relying on one type of actor, typically the state, and newer systems that rely on two or three types of actors, also known as hybrid systems (Mansoor et al., 2020).

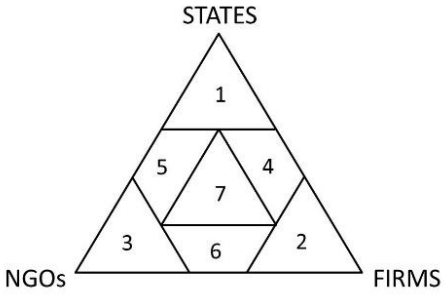


Figure 2. 'The Governance Triangle'*. Redrawn in Mansoor et al. (2016). after Purnhagen (2015), and Abbott and Snidal (2009).

*The seven categories in the triangle include: 1) Traditional top-down legal standards, typically laws, 2) Self-regulation, 3) Third-party private regulation, 4) Standards of firms influenced by states (co-regulation), 5) Standards of NGOs influenced by states (co-regulation), 6) Joint efforts between firms and NGOs, 7) Joint efforts between firms, NGOs, and States (transnational regulation)

The following governance models are distinguished (see also Table 13):

- Co-regulation: private regulators are called upon to take part in different stages of the regulatory process along with the government regulators, with examples being EU-RED and the UK Timber Standard for Heat & Electricity (Cafaggi, 2006).
- Delegated co-regulation: a public entity recognizes a need for regulatory action and is aware that private regulators might be better positioned to regulate. An example is the Danish government that concluded an agreement with the Danish energy industry on the sustainability of wood pellets and wood chips, which the industry must implement (Cafaggi, 2006).
- Ex post recognized regulation: private regulation that is autonomously and independently carried out by private actors aiming to regulate their own activities. These initiatives are subsequently being recognized by public authorities. An example is wood certified by private forest certifications systems, which are commonly recognized as sustainable wood in public procurement policies (Cafaggi, 2006).

Most of the selected case studies seem to fall under the *co-regulation* model; some have a stronger focus on public-private agreements (delegated co-regulation), while others have a stronger focus on using private certification /standards for public regulation. However, it should be noted that these two forms of co-regulation are intertwined.

An example of a co-regulation governance model is case 6 (DOCG Italy) where producers' local consortia constitute the main force in setting and enforcing product quality standards. In the case of Ghana (case 4), cocoa has a unique supply chain model centred on strong government control, with the Ghana Cocoa Board overseeing nearly all aspects of the supply chain, using strict quality standards and conducts quality checks. The initiative is preparing for a landscape assessment against the soon to be established Ghana Climate-Smart Cocoa Standard, which is supported by the government.

Examples of delegated co-regulation governance models are cases 7, 8 and 9 where clear public-partnership exist for the regulation including secretariats.

Case study 3 (RRA Latvia) is a governance model of *pure private regulation* as the risk assessment is used as input for voluntary certification of market parties.

Table 13. Governance model of the landscape initiative (***V*** when indicated as such in literature or websites)

| Name of the initiative | Public regulation | Co-regulation* | Delegated co-regulation** | Ex post recognized private regulation | Pure private regulation |
|---|---|---|---|---|---|
| 1. Kalimantan, Indonesia | | ***V*** | | | |
| 2. PCI Mato Grosso | | | ***V*** | | |
| 3. RRA Latvia | | | | | ***V*** |
| 4. Cocoa, Ghana | | ***V*** | | | |
| 5. San Martín, Peru | | | ***V*** | | |
| 6. DOCG Wine, Italy | | ***V*** | | | |
| 7. Lake Naivasha, Kenya | | | ***V*** | | |
| 8. Lari-Kijabe Kenya | | | ***V*** | | |
| 9. Mau forest, Kenya | | | ***V*** | | |

*Focus is on using private certification/standards for public regulation
**Focus is on public-private agreement

Mekon-Ecology (2018) mentions in its report that the institutionalization of a jurisdictional approach as part of government will likely take more time and will be more costly and less flexible than the landscape approach. Also, voluntary-based approaches may have, because of their flexibility, the advantage for exploring in a pilot phase how things can work.

The process towards institutionalization of a jurisdictional approach will be slower, more typical for governments than for the private sector and civil society. A jurisdictional or landscape approach should not overly rely on support and political leadership by the government. A landscape approach and process – possibly at the end embedded in laws and regulations – should be built so that the process can continue regardless of the political party and leadership (Mekon-Ecology, 2018).

A governance model should be representative, inclusive and participatory for the stakeholders in the landscape. In that sense, an independent secretariat with a transparent governance structure and decision-making process would be best to ensure trust and minimize conflicts of interest (Mekon-Ecology, 2018).

### 3.7.3. Level of transparency of the initiative

Participation needs to be informed and organized (UNESCAP, 2018). Transparent processes for decision-making have to be in place to clarify how stakeholders' choices are made and which the implications are of these choices (Plieninger, 2017).

To support good governance, information (e.g. about used processes, data) should be freely available and directly accessible and communicated to those who will be affected by decisions and their enforcement, with enough information provided (UNESCAP, 2018; Mansoor et al., 2020) as stakeholders need to understand both the input and output legitimacy (see 3.7 and 3.9) and justification for a course of action. Transparency of outcomes and processes is strongly linked to the availability of a monitoring system and outcome indicators.

As not all stakeholders can participate directly in a landscape approach, it is essential to be at least transparent on the decisions taken. Transparency, in combination with an opportunity to participate in a landscape or jurisdictional approach, will create a sense of inclusivity and ownership (Mekon-Ecology, 2018).

In this benchmark, the following levels of transparency are distinguished (Table 14):

- High: Monitoring results, compliance results and sanctions are publicly shared within defined time periods;
- Medium: Monitoring and compliance results are partly shared and/or on an aggregated basis to the public;
- Low: Results are not shared or only to a limited extent.

Table 14. Level of transparency regarding outputs within the landscape initiative (***V*** when indicated as such in literature or websites)

| Name of the initiative | Low | Medium | High |
|---|---|---|---|
| 1. Kalimantan, Indonesia | | ***V*** | |
| 2. PCI Mato Grosso | | ***V*** | |
| 3. RRA Latvia | | ***V*** | |
| 4. Cocoa, Ghana | | ***V*** | |
| 5. San Martín, Peru | | ***V*** | |
| 6. DOCG Wine, Italy | | ***V*** | |
| 7. Lake Naivasha, Kenya | | ***V*** | |
| 8. Lari-Kijabe Kenya | ***V*** | | |
| 9. Mau forest, Kenya | | ***V*** | |

All assessed cases were valued at medium level of transparency, except the one of Lari-Kijabe, as indicated in the progress reports of the organisations which are publicly available (Table 14). It must be said that there are large differences in how this information is shared, and in which format. In Central Kalimantan (case 1), the monitoring systems (under development) aim to develop a system with restricted access: confidential information remains restricted to government officials; there is public access for data related to performance including deforestation, fires, social conflict and concession status.

It must be noted that, although most cases were valued at a medium level of transparency, hardly no information exists in the landscapes about traded volumes linked to the chain of custody, except where commodities may be aligned to a standard/certification such as in cases 4 (cocoa), 6 (wine), 7 (fruits and vegetables) and 9 (tea).

## 3.8. Financial structure and long-term existence of the landscape initiative

Achieving the multiple goals defined in integrated landscape management and starting the process require finance. GCP ( 2015) distinguishes two types of investments:

- Direct investments that generate tangible financial, environmental or social returns (e.g. investments in sustainable practices on-farm);
- Investments that support the process, governance or underlying policies crucial to the development of integrated landscape management.

Table 15 provides insight in the financing mechanisms developed under the different landscape initiatives.

The jurisdictional approach can lower the costs to companies and farmers for achieving sustainable development regionally. Through a jurisdictional approach, powerful incentives (e.g. preferential sourcing) and cost-sharing mechanisms for fostering collective action and positive peer-to-peer (farm-

to-farm, business-to-business) interactions are possible and the cost of farm-by-farm audits can be lowered (Earth Innovation Institute, 2017).

Table 15. Experiences in financing the landscape and financing mechanisms developed

| Name of the initiative | Description |
|---|---|
| 1. Kalimantan, Indonesia | There is external funding available. As pilot province for REDD+, the province is supported with a US$1 billion agreement between Norway and Indonesia.<br><br>The objective is to develop an innovative incentives system to stimulate the achievement of the sustainability targets at jurisdictional level.<br><br>The benefits of smallholder registration enable smallholders to have collateral access to finance (e.g. bank loans). The Seruyan Jurisdictional certification working group needs additional funding for HCV and HCS assessments so guaranteeing financial sustainability in the long-term is a challenge. |
| 2. PCI Mato Grosso | It is recognized that the PCI goals can only be achieved with funding and partnerships between the public and private sector. One example of deployment is the valuation of social and environmental attributes of agricultural commodities by creating buying preference in the market. |
| 3. RRA Latvia | The RRA is created as a one-off activity. It is not clear when the partner collaboration leading to the RRA will revise and update the RRA, but it is likely taking place continuously, to the extent that laws are changed. |
| 4. Cocoa, Ghana | The long-term commercial viability of the work is integral to the success of the initiative. Financial institutions are engaged and continuing to attract external finance is key. Reducing GHG emissions could generate income from carbon funds. Within the landscapes, higher productivities will create an economic benefit. |
| 5. San Martín, Peru | One of the projects in the Landscape is the Forests, Farms and Finance Initiative, developing incentives for low-emission rural development under a production and protection approach. |
| 6. DOCG Wine, Italy | The cost requirements for DOCG wines seem to be higher (e.g. due to extra laboratory testing) with the assumption that the prices paid for DOCG wines can also be higher than DOC wines or "normal" wines. |
| 7. Lake Naivasha, Kenya | There is investment mainly from the private sector and from external sources such as the private sector in the UK. |
| 8. Lari-Kijabe Kenya | There are some financial sources from the government and the private sector, although in this case the initiative started on a voluntary basis. |
| 9. Mau forest, Kenya | There is investment from the private sector and from donors in the Netherlands (IDH) (50%). |

In reality, there is often a mismatch between the volume of capital that any single investor is willing to put at risk and the scale of funding required for a landscape (GCP, 2015). Guaranteeing long-term financing is, however, needed to support jurisdictional approaches. It is thus necessary to link specific needs and deliverables with certain financial mechanisms (Fishman A., 2017).

## 3.9. Level of accountability and effectiveness of the landscape initiative

Output legitimacy refers to the performance and effectiveness of the governance system in solving the problems it was designed to address, granted by the public, impacted actors and other stakeholders based on their perception of the system's performance. Effectiveness is at the core of output legitimacy (Mansoor M., 2020). It has been trisected by (Scherer et al., 2011), who defines it as the sum of three parts: (i) the total number of actors bound by the rules, (ii) the efficacy of the rules to the problems at

hand, and (iii) the implementation and enforcement of the rules. For this benchmark, output legitimacy is assessed through looking at various aspects on monitoring and sanctions in case of non-compliance, as described in the sections below.

### 3.9.1. Monitoring mechanisms in place

Integrated landscape management requires practical and transparent monitoring systems, to assess progress made in reaching multiple objectives (e.g. environmental, economic, social goals) against agreed indicators and to make them known to the public. Additionally, monitoring is becoming more and more important to hold actors accountable for their actions as agreed under a collaborative plan (GCP, 2015) and to hold businesses publicly accountable for claiming results and impacts (Horn et al., 2015).

Table 16 shows the monitoring systems in place as part of the landscape initiative. Note that these monitoring systems may build on already existing systems from governments or companies, which are not mentioned in Table 16, to track progress.

Table 16. Monitoring mechanisms in place as part of the landscape initiative to assess progress made in reaching multiple objectives

| Name of the initiative | Y / N | Description |
|---|---|---|
| 1. Kalimantan, Indonesia | ***Y*** | There is an online performance platform 'SIPKEBUM' hosted by national, provincial and district governments (see also Box 4). The monitoring system contains data on commercial plantations and smallholders |
| 2. PCI Mato Grosso | ***Y*** | The PCI Monitoring Working Group, established in 2017, sets up a program to evaluate and monito annual progress towards the PCI goals. In total, 21 PCI indicators are developed. |
| 3. RRA Latvia | - | The RRA itself is not monitored over time |
| 4. Cocoa, Ghana | ***Y*** | One of the main targets is to develop a common deforestation monitoring system for the landscape that traces farms both in and outside forest reserves. The project will provide regular reports to partners on deforestation status and other outcomes in the landscape |
| 5. San Martín, Peru | ***Y*** | The region has been building, with the support of Earth Innovation Institute, a monitoring website within the production - protection platform, which presents goals and advances in the components of production, protection and inclusion. |
| 6. DOCG Wine, Italy | ***Y*** | DOCG labelled wines are analysed and tasted by authorized personnel before being bottled. |
| 7. Lake Naivasha, Kenya | ***Y*** | The government mandate (see legal Gazette) given to the Imarisha Naivasha Board includes monitoring compliance with the laws and regulations governing the environment and developing and enforcing codes of conduct. The Board reports to an Inter-Ministerial Technical Committee. |
| 8. Lari-Kijabe Kenya | ***N*** | Kenya Forest Service monitors illegality; still problems of corruption have been reported; Kenvo and community also report cases of illegality. |
| 9. Mau forest, Kenya | ***Y*** | The initiative has a monitoring programme for illegalities using flights and GIS for mapping. Since the last quarter of 2015, law enforcement officers from KWS, KFS and other government departments participate in quarterly aerial surveillance flights co-funded by Finlays and IDH, and guided by Rhino Ark, during which they fly over the South West Mau Forest to spot illegal activities (e.g. charcoal kilns, logging, cultivation, livestock and associated structures). |

Sayer et al. (2016) conclude that landscape approaches are often assessed against outputs or outcomes of individual attributes or projects but monitoring and evaluation seldom provide data on the overall performance of the landscape in achieving long- term improvements in livelihoods and the environment).

A central challenge with bringing standards, certification and labels to a landscape-scale is the complexity of monitoring. This is an area in which a variety of certification organizations are now making progress. For example, the Rainforest Alliance's Natural Ecosystem Assessment tool conducts combined monitoring at the landscape, farm and plot levels (GCP, 2015).

Measuring sustainability performance at the jurisdiction level, based on a few Key Performance Indicators (KPI) and a tracking system, may be a first step, simpler and less costly way to ensure e.g. a reduction in deforestation from agricultural products (INOBU, 2018).

Recent advances in monitoring systems using remote-sensing technology have made this type of verification and monitoring feasible and it has lower transaction costs than individual management certification (Linhares-Juvenal et al., 2017). There is also a trend towards greater reliance on government data collection (e.g. crop production, labour law infractions) and citizen monitoring for tracking performance for jurisdictional landscapes, see also box 4. Verification could rely more heavily on formal grievance reporting and investigation systems (Earth Innovation Institute, 2017).

Box 4. SIPKEBUN: "Information and Performance Monitoring System for Sustainable Plantations"

Development of an information and performance monitoring system in Kalimantan, Indonesia:
In Kalimantan, the local government has authorized INOBU to collect smallholder data, which are fed into the cadastre. Data are fed into the SIBKEBUN database, an information and performance monitoring system for Sustainable Plantations, which enables local government to streamline the processing for e.g. issuing land certificates to smallholders. SIPKEBUN, A GIS-based online system contains data on commercial plantations and smallholders: it can monitor deforestation, forest fires and plantation performance at the district level. SIPKEBUN will not only monitor plantations but is also considered an opportunity for collaboration between the Central and Regional governments. It will systematically address the problems that regional governments have long battled with in isolation, such as forest and peat fires, conflict over land uses in forest areas and empowering smallholder farmers.

### 3.9.2. Risk based mechanisms in landscape approaches

Typically, two types of risk-based mechanisms can be identified in landscape-based approaches (Table 17):

- Preferential sourcing from low-risk jurisdictions;
- Regional or national risk assessments to determine risk of sourcing from unacceptable sources.

#### Preferential sourcing from low-risk jurisdictions

In some places, governments and companies have started working together to promote zero-deforestation through the creation of jurisdictions where the risk of (especially) deforestation is kept low, and where forest-risk commodities can be preferentially sourced (FAO, 2018). Preferential sourcing from low-risk jurisdictions is conceptually similar to European government actions to regulate tropical timber imports under the EU Forest Law Enforcement, Governance and Trade (FLEGT) Action Plan and the EU Timber Regulation (FAO, 2018).

The degree of (especially zero- deforestation) assurance provided by preferential sourcing from low-risk jurisdictions is lower than that from individual company-level certification, but some NGOs now offer schemes, alike to certificates, to verify performance. Recent advances in monitoring systems using remote-sensing technology have made this type of certification feasible and it is associated with lower transaction costs than individual management certifications (FAO, 2018).

**Regional or national risk assessments to determine risk of sourcing from unacceptable sources**

Some certification standards use national or regional risk assessments with the purpose of evaluating an entire geographic region and determining the risks associated with sourcing feedstock from that region. The need for individual producers to conduct risk assessments is herewith avoided.

Under FSC, risk assessments are for example used to determine the risk of an organization obtaining material from unacceptable wood sources when sourcing controlled wood. In areas of 'low risk', organizations may source controlled wood, as is currently the case. In areas of 'specified risk', organizations must implement a set of 'control measures' designed to mitigate the specific risks present and verify that they are effective (FSC, 2018). Risk-based approaches to verification often use the terms 'low risk' and 'specified risk', see also Box 5. A similar approach is followed under the Regional Risk Assessment for Latvia (see case study 3).

Box 5: The Risk assessment procedure under the Green Gold Label (GGL)

The risk of non-compliance for each criterion from the GGL standard is expressed as 'specified risk' or 'low risk', based on the analysed information and application of the requirements set out in a protocol. For each criterion, the rationale for risk designation shall be provided in relation to the information used:

- A 'low risk' is identified when there are clear indications that the chance of non-compliance with the relevant sustainability criteria in combination with the consequences is small and the risk assessment has yielded no information that leads to a 'specified risk' designation.
- A 'specified risk' is identified when there is not enough information for the risk assessment to establish whether the risk is low or when the mitigating measures are not sufficiently effective in reducing the chance that identified risks materialize or in reducing the consequences of such risks. In case of doubts a precautionary approach shall be applied.

Table 17. Risk-based verification mechanism in place as part of the landscape initiative (***V***: verification in place as element of the landscape).

| Name of the initiative | Y / N | Determining risk of sourcing from unacceptable sources | Preferential sourcing from low-risk jurisdictions | Other |
|---|---|---|---|---|
| 1. Kalimantan, Indonesia | ***Y*** | ***V*** | ***V*** | |
| 2. PCI Mato Grosso | ***Y*** | | ***V*** | |
| 3. RRA Latvia | ***Y*** | ***V*** | | |
| 4. Cocoa, Ghana | - | | | |
| 5. San Martín, Peru | - | | | |
| 6. DOCG Wine, Italy | ***Y*** | | | Random checks to control whether requirements are complied with and that there is no fraud |
| 7. Lake Naivasha, Kenya | ***Y*** | ***V*** | | |
| 8. Lari-Kijabe Kenya | ***N*** | | | |
| 9. Mau forest, Kenya | ***N*** | | | |

In Central Kalimantan (case 1), one of the elements of the strategy is to obtain commitment from buyers to recognize the province's progress through preferential sourcing. The monitoring system on district level also enables to link data to performance results.

### 3.9.3. Level of prescriptiveness and stringency of the approach

This part of the benchmark is focused on the level of precision and stringency that defines the way in which the goals of the policy and regulations are achieved. The intuitive understanding is that the output legitimacy is the greatest for policies that are mandatory and precise and lowest for policies that are voluntary and less precise. Mansoor et al. (2020) suggests, however, that trust and legitimacy is determined on a contextual basis. For example, the application of inflexible policies to issues that are complex and site dependent may lead to situations with undesired impact or incentives.

**Level of prescriptiveness**

The success of achieving sustainable development on a landscape level can only be determined on the basis of effective monitoring of indicators representing the people, planet and profit objectives (Horn et al., 2015), to hold actors accountable for their actions as agreed under a collaborative plan (GCP, 2015).

The precision of regulation or policy defines the way in which the goals of the policy are achieved (Mansoor et al., 2020). Four levels of precision are identified for this benchmark (Table 18):

- *Management or process-based approach*: This approach procedurally requires that an issue must be addressed, but not how, thus leaving room for individual interpretation and adaption to variation in local conditions (Keller, 2013). Process-based indicators aim to monitor progress in processes (e.g. focused on decision-making, progress in management, capacity building).
- *The compliance-based approach* requires adherence to best management guidelines for action (Keller, 2013). Compliance based indicators focus on adherence to procedures and rules (often detailed in legislation), which define what organizations or companies should do and how.
- *The measurement-based, monitoring or inventory approach* requires the measurements or registration of specific sustainability indicators (Keller, 2013). Measurement-based indicators aim to measure the realized output in quantitative values, e.g. the % of water quantity improved compared to the baseline.
- Policies and regulations that outline *explicit thresholds, targets, or minimum requirements* (Keller, 2013; McDermott, 2008), such as specific maximum size of a forest clear-cut. A Key Performance Indicator (KPI) is a measurable value that demonstrates how effectively a company, organization or program is making progress in achieving its key objectives.

A challenge for monitoring integrated landscape management is the complex, dynamic and often unknown interrelations between social systems and ecosystems. As a way forward, adaptive approaches have been developed, which are designed to better deal with system dynamics, uncertainty and lack of predictability (Plieninger, 2017).

General frameworks for measuring the social, economic, and ecological outcomes of landscape-scale management practices exist but do not fully address the issue of trade-offs between conflicting objectives nor the inevitability of modification of objectives over time (Sayer, et al., 2016). An example of an indicator framework to measure progress on landscape level is seen in the PCI Monitoring Working Group (2018) for the 'produce' part in Mato Grosso, Brazil (Figure 3).

Table 18. Level of prescriptiveness landscape initiative (***V***: verification in place as element of the landscape).

| Name of the initiative | Pro-cess based | Comp-liance-based | Mea-sure-ment-based | Per-form-ance-based | Short description |
|---|---|---|---|---|---|
| 1. Kalimantan, Indonesia | | ***V*** | ***V*** | ***V*** | The monitoring system contains data on commercial plantations and smallholders: it can monitor deforestation, forest fires and plantation performance at the district level. |
| 2. PCI Mato Grosso | | | ***V*** | ***V*** | Mato Grosso has developed PCI Indicators to monitor progress per year compared to the baseline year, while moving to year 2030. |
| 3. RRA Latvia | ***V*** | | ***V*** | | Compliance with indicators is to be justified through verification requirements: these are both measurement as process based. |
| 4. Cocoa, Ghana | | | ***V*** | | The project will develop a Climate-Smart Cocoa standard. The company Touton intends to report to its partners on sustainability outcomes at the landscape scale using the standard in the coming years. |
| 5. San Martín, Peru | | ***V*** | | | Tracking of progress to goals and advances in the components of production, protection and inclusion, for example tracking of deforestation rates on the landscape level. |
| 6. DOCG Wine, Italy | | | | ***V*** | The requirements that need to be complied with a clearly described in the Production Regulation. |
| 7. Lake Naivasha, Kenya | ***V*** | ***V*** | | | The project includes private sector who need to attend the minimum compliance with standards to export. Other decisions are made on a process-based form. |
| 8. Lari-Kijabe Kenya | ***V*** | | | | Process based with the coordinators. |
| 9. Mau forest, Kenya | ***V*** | | | | It is process based with the coordination and stakeholders. |

| AXES | GOAL | INDICATOR | DATA SOURCES | Baseline 2015 | Year 1 2016 | Year 2 2017 | Year 3 2018 |
|---|---|---|---|---|---|---|---|
| PRODUCE | Recover 2.5 Mha of low productivity pasture areas by 2030 | - | - | - | - | - | - |
| | Increase livestock productivity to 95 kg/ha/year by 2030 | kg/ha/year | IBGE / Mapbiomas | 62.3 kg/ ha | 64.1 kg/ ha | 67.2 kg/ ha | 72.6 kg/ ha |
| | Increase cultivated area (grains) over degraded pastures to 12.5 million hectares by 2030 | Grain area (cotton and soybean) | IMEA/Ampa | 9.15 million ha | 9.40 million ha | 9.49 million ha | 9.63 million ha |
| | | Grain area (cotton and soybean) in the year of analysis that overlaps pasture area of the previous year | - | - | - | - | - |
| | Increasing grain yield to 92 Mton by 2030 | Tons/year | IMEA | 54.8 million ton | 46.9 million ton | 62.0 million ton | 60.9 million ton |
| | Expand the area under sustainable forest management to 6 Mha by 2030 | Area under authorized Forest Management regime | SEMA | 2.6 million ha | 2.9 million ha | 3 million ha | 3.2 million ha |

Figure 3. A selection of indicators under 'produce' for the Mato Grosso landscape, describing the progress (2015/2016/2017/2018) of the PCI Strategy in Mato Grosso from (PCI Monitoring Working Group, 2019)

**Level of stringency of the system**

The stringency of a policy or regulation is defined as how strictly a criterion is imposed for compliance to the policy or regulation (Keller, 2013). Least stringent policies or regulations are those that are purely voluntary. These policies recommend or encourage a course of action but are not mandatory and thus are very flexible in their application. The most stringent systems are those that are mandatory. Mandatory policies or regulations require strict adherence and are thus inflexible in their application (Mansoor et al., 2020).

There can be multiple levels of stringency in one landscape: for example, some requirements are mandatory (e.g. no deforestation), while others are voluntary based. The mandatory requirements may be based on both performance-based indicators, and process-based indicators, as may voluntary requirements.

Most of the selected initiatives seem to be semi-voluntary (also through the (indirect) involvement of government and their partnership with the private sector), meaning that they are not fully voluntary based, although there are often no mandatory requirements to comply with the landscape objectives themselves – apart from the existing regulatory context (Table 19).

Table 19. Level of stringency landscape initiative (***V***: verified as element of the landscape)

| Name of the initiative | Mandatory | Semi-voluntary ("in between") | Voluntary |
|---|---|---|---|
| 1. Kalimantan, Indonesia | | ***V*** *(?)* | |
| 2. PCI Mato Grosso | | ***V*** *(?)* | |
| 3. RRA Latvia | | | ***V*** |
| 4. Cocoa, Ghana | | ***V*** *(?)* | |
| 5. San Martín, Peru | | | ***V*** |
| 6. DOCG Wine, Italy | | | ***V*** |
| 7. Lake Naivasha, Kenya | | ***V*** *(?)* | |
| 8. Lari-Kijabe Kenya | | ***V*** *(?)* | |
| 9. Mau forest, Kenya | | ***V*** *(?)* | |

(?): the landscape is not fully voluntary or mandatory but in-between those two.

### 3.9.4. Control mechanisms and sanctions in place

Various mechanisms may exist in a landscape (Table 20) to control progress and/or compliance. In case 3 (RRA, Latvia), the biomass producer is responsible for conducting the risk assessment and the verification program of the sourcing area, as input for SBP certification. The justification of risk ratings, and any related evidence, is evaluated by the certification body during certification and surveillance audits.

Table 20. Control mechanisms in place in the landscape initiative; all landscapes will have regulatory on-site government controls – here only indicated when part of the monitoring and control of the landcsape initiative) (***V***: verified as element of the landscape).

| Name of the initiative | Self-imposed control | Self-declarations-submission to authority | Self-declarations-submission to 3rd party | 3rd party on-site controls | Government on-site control | Other or none |
|---|---|---|---|---|---|---|
| 1. Kalimantan, Indonesia | | | ***V***** | ***V***** | | |
| 2. PCI Mato Grosso | | ***V***** | | ***V***** | | |
| 3. RRA Latvia | | | | ***V*** | | |
| 4. Cocoa, Ghana | | ***V*** | | | | |
| 5. San Martín, Peru | | ***V***** | | | | |
| 6. DOCG Wine, Italy | | | | ***V*** | ***V*** | |
| 7. Lake Naivasha, Kenya | | | | | | ***V*** |
| 8. Lari-Kijabe Kenya | | | | | | ***V*** |
| 9. Mau forest, Kenya | | | | | | ***V*** |

*A mixture: there are on-site (regular) government controls. Next to that, certified farms (so not all!) have auditing controls.
**Progress is monitored (e.g. deforestation rates) over time with submission / involvement of authorities
***Only for certified producers
****On landscape level, the project reports to the REDD+ and national framework

Policy settings or commitments may need to be enforced in order to be considered legitimate where enforcement is understood as verifying and evaluating compliance (Mansoor M., 2018). For the DOCG Wines in Italy (case 6), protected indications are treated as intellectual property rights on EU level and enforcement measures may vary. Besides, the label from "Chianti Classico" is only granted when the product passes a suitability test. If not, the product is excluded from this specific niche market. Also, for case 3 (RRA Latvia), feedstock is physically excluded from SBP-certified biomass (and thus excluded from that market) when the risk is not considered 'low'.

The governmental monitoring system in the Seruyan district (case 1) aims to link performance results to the provisioning of incentives by, for example, maintaining the certification status, licensing, allocating permits and distribution of agricultural support (see Table 21).

It is important to note that for all the cases, if illegality is discovered, there will be a sanction from the government on jurisdictional level. This is already part of the existing governance system and not a measure created by the landscape initiative.

Table 21. Sanctions in place in the landscape initiative; all landscapes will have regulatory on-site sanctions on e.g. farm level – here only indicated when part of the control of the landscape initiative (***V***: verified as element of the landscape).

| Name of the initiative | Non-exist-ent | Jurisdic-tional sanctions | Exclusion from subsidies or finance | Per-mit loss | Loss or no renewal of certificate certificate withdrawal | Other | None (repri-mand ?) |
|---|---|---|---|---|---|---|---|
| 1. Kalimantan, Indonesia | | ***V***** | ***V*** | ***V*** | ***V*** | | |
| 2. PCI Mato Grosso | | ***V***** | | ***V*** | ***V**** | | |
| 3. RRA Latvia | | | | ***V*** | | | |
| 4. Cocoa, Ghana* | | ***V***** | | | ***V**** | | ***V*** |
| 5. San Martín, Peru | | ***V***** | | | | | ***V*** |
| 6. DOCG Wine, Italy | | ***V***** | | ***V*** | | | |
| 7. Lake Naivasha, Kenya | | ***V***** | | ***V*** | | | |
| 8. Lari-Kijabe Kenya | | ***V***** | | ***V*** | | | |
| 9. Mau forest, Kenya | | ***V***** | | ***V*** | | | |

*A mixture: Certificate withdrawal only for farms that are certified
**Regular government controls can always result in fines or other jurisdictional sanctions. No additional sanctions on landscape level when actors to not meet the targets

## 3.10. Securing product sourcing from the region: supply chain control

Companies at the end of the supply chain may promote sustainability in their supply chains, or need to comply with certain policy requirements, often through certification (FAO, 2018). This commitment has implications across the supply chain for traders, processors and upstream producers (FAO, 2016). Supply chain actors depend on each other; relationships are based on clear expectations and agreed terms. Within the supply chain there are also issues of responsibility and assurance, but there are mechanisms by which these issues can be dealt with (Minderhoud, 2014).

In the landscape context, stakeholders are likely to compete over resources (e.g. land and water) (Minderhoud, 2014), and they are active in multiple land-uses and sectors (Figure 4). Companies that depend on secure supplies of commodities need to look both within their supply chains and to the external enabling environment (landscape) to guarantee sustainable growth and to implement their commitments. The landscape in which companies operate influences the success or failure of their efforts to remove deforestation from their supply chains (McCoy et al., 2017). The chain of custody is one form of validating the source of the product as indicated below.

### 3.10.1. Link of Chain of Custody commodity with the landscape initiative

The objective of a Chain of Custody (CoC) system is to validate claims made about the product covered by a sustainability standard. This is achieved by defining a set of requirements and measures that provide the necessary controls on the movement of products, and associated sustainability data, from approved or certified businesses through each stage of the supply chain. The CoC System therefore forms the basis for any claims that can be made about the approved or certified product (ISEAL, 2016).

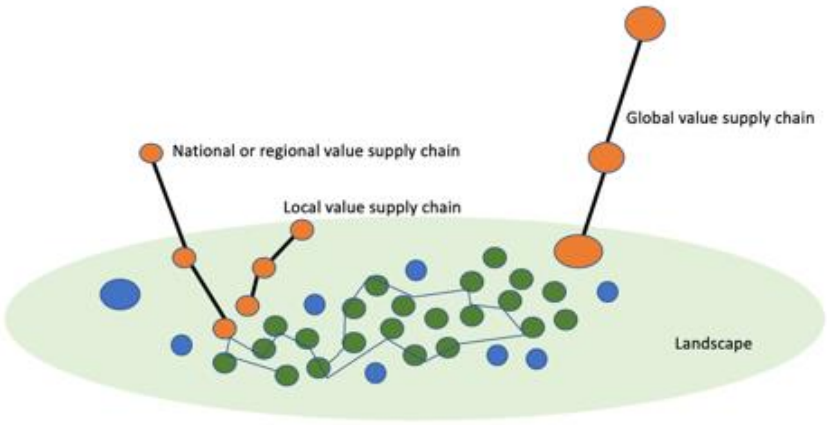


Figure 4. Representation of the landscape concept in the supply chain actors (own design)

To ensure at the end of the supply chain that a product from a certain place is produced according to certain sustainability requirements, it is important that the product carries proof that the sustainability standard is complied with (sustainability data) and that the product is traceable to the location of origin (ISEAL, 2016).

- *Sustainability data*: The data carrying the proof of meeting certain sustainability criteria, i.e. evidence that the material has originated from a source that has been 'monitored' or 'certified' against a sustainability standard.
- *Traceability*: The ability to verify the history, location, or application of an item by means of documented recorded identification.

The volume control and transfer of sustainability documentation or claims may be a complex issue as supply chains for bioenergy tend to be complex, especially the large international supply chains that are prevalent. As the industry exists today, the sourcing regions may constantly change, and feedstocks may come from multiple types of sources and locations. Additionally, the systems must apply to the wide array of supply chains (Mansoor et al., 2020).

A certification label is a label or symbol indicating that compliance with standards has been verified. Use of the label is usually controlled by the standard-setting body. Landscape labelling (see also Box 6) for a governance approach holds the promise of rewarding landscape managers for providing and maintaining a bundle of ecosystem goods and services at the landscape level (Plieninger, 2017).

Box 6. A landscape label

Landscape labels can be powerful identifiers that promote multifunctional land use and foster social, cultural and environmental landscape values. Landscape labelling highlights the uniqueness of a landscape and the need for its conservation by financing particular management practices (Plieninger, 2017).

No standards or certification schemes were at the time of the project analysis assessing sustainability outcomes at the landscape scale (SBP and FSC somehow are addressing it), although developments are moving fast, and some organizations are developing new frameworks to move in that direction. In most certification schemes, independent agencies verify the compliance of individual producers with a standard, and the certification is specific to an individual landholding. Some schemes do however include criteria that can indirectly support sustainable landscapes, e.g. community engagement or education on biodiversity conservation within certification schemes (GCP, 2015).

In Central Kalimantan (case 1) the landscape approach links and supports certification. The CoC is linked to certification systems as RSPO, ISCC or ISPO. The benefits of smallholder registration as one of the elements of the strategy support the traceability of supply, facilitating inclusion of smallholders in the supply chain (Table 22).

Table 22. Link of CoC with the landscape initiative (***V***: verified as element of the landscape)

| Name of the initiative | CoC is organized through a certification system | CoC is organized through a landscape label | Other |
|---|---|---|---|
| 1. Kalimantan, Indonesia | ***V**** | | |
| 2. PCI Mato Grosso | | ***V*** (in future?) | |
| 3. RRA Latvia | ***V**** | | |
| 4. Cocoa, Ghana | ***V**** | ***V*** (in future?) | |
| 5. San Martín, Peru | | ***V*** (in future?) | |
| 6. DOCG Wine, Italy | | ***V*** | |
| 7. Lake Naivasha, Kenya | ***V**** | | |
| 8. Lari-Kijabe Kenya | | ***V*** (in future?) | |
| 9. Mau forest, Kenya | | ***V*** (in future?) | |

*Certification system is used for the commodity in the landscape exported to the international markets

For Cocoa- Ghana (case 4), producers have been trained on good agricultural practices and climate-smart cocoa principles and are certified under UTZ/Rainforest Alliance standards. The project is preparing for a landscape assessment against the soon to be established Ghana Climate-Smart Cocoa Standard. It is envisioned that cocoa traders could eventually sell and market climate-smart cocoa under this label. In Peru (case 5), there is a pilot project coordinated by the landscape called "Marca San Martín" that aims to label sustainable products from the region in the future.

For the DOCG Wines in Italy (case 6), the trademark is granted solely by the Chianti Classico Wine Consortium when the requirements in the production regulation (e.g. on geography, product characteristics) are met. For the cases in Naivasha and Mau Forest (7 and 9), these are related to the commodities although not necessarily through the landscape governance but directly with the companies that have a standard (e.g. tea).

## 3.11. Discussion and key findings

This section discusses the outcomes of the benchmark and provides first insights in how novel regional governance initiatives work, how effective and legitimate they are for measuring and documenting sustainability and which were the key categories and elements that seemed to determine their effectiveness and legitimacy. The key findings are emphasized and discussed by category.

### The context of the landscape

The addressed landscapes of the initiatives differ substantially in size and in their type of boundaries (sub-catchment, jurisdictional boundary, watershed level). The scale seems to be determined by the issue that is jointly acknowledged as a challenge by stakeholders. Their management takes place within the wider economic and political contexts outside the landscape, e.g. being supportive or not. Agricultural production of more or one specific commodity is an important economic driver in most landscapes, bringing in added economic value.

The majority of the selected case studies deal with environmental challenges around deforestation and land use change. Clarifying tenure rights and responsibilities is mentioned as a challenge in most of the selected cases. This is a central requirement for achieving effective and equitable integrated landscape management. The more complex the socio-economic issues in the landscape are, the more challenging (but also most effective on the long-term), it may be to find solutions through a landscape-based approach.

Several of the selected cases mention weak governance and limited regulatory capacity as a driver to start up the landscape initiative. At the same time, some of the selected cases show that the government and its long-term ambitions have played an important supporting role in starting the landscape initiative.

### The objectives and key elements of the landscape initiative

Most of the landscape approaches aspire to make long-term improvements to environment, production, and livelihoods. Environmental objectives are often focused on reducing deforestation. Economic objectives focus on increasing productivity and adding value to commodities. Social objectives focus on increasing welfare of smallholders and their inclusion in value chains, while protecting indigenous rights and better ensuring land rights.

Capacity building, local empowerment and improving governance are widely regarded as central components of landscape approaches. Landscape approaches also recognize the importance of learning, flexibility, adaptation, and the need for a holistic view of outcomes and impacts in a constantly changing context. Certification or standardization is a key element in several of the selected cases. Central Kalimantan (case 1) explicitly uses palm oil as the entry point for the jurisdictional approach. One of the jurisdictional sustainability objectives were for example that 100% palm oil producers are certified as sustainable in 2019, including smallholders.

A jurisdictional approach is complex and covers a large time frame. In order to avoid unachievable goals, global, local and regional expectations should be managed well.

### Level of stakeholder involvement in the landscape initiative

A landscape approach is by default a multi-stakeholder and cross-sectoral process that can help achieve diverse sustainability goals. The case studies confirm a broad stakeholder participation involvement, acknowledging all have their different views. There are also differences in power relationships, which make it challenging to arrive at common visions and solutions.

For companies, business incentives can be decisive in determining whether or not to participate in a landscape approach. In Ghana, the cocoa trading company Touton is engaged in a landscape approach. In Central Kalimantan, Unilever signed a three-year MoU with the government and INOBU to support a jurisdictional approach for sourcing sustainable palm oil at village level.

### Level of input legitimacy of the landscape initiative

To get an indication of the level of input legitimacy of the landscape initiative, we looked at the following aspects: (i) cooperation model, (ii) governance model and (iii) the level of transparency. The research showed that it was sometimes not possible to describe and/or categorize these different aspects, as the information available on these topics was limited or sometimes not clearly described.

The more informal the cooperation, the lower the level of individual responsibility and accountability is placed on each stakeholder, and opposite for formal collaboraitons. High level of cooperation models with formal mechanisms are for example established in Ghana through a Landscape Management Board or in Lake Naivasha through the so-called 'Imarisha Naivasha' Board. Independent secretariats with a transparent governance structure and decision-making process seem to be best to ensure trust and minimize conflicts of interest.

An example of a co-regulation governance model is for example case 6 (DOCG Italy), where producers' local consortia constitute the main force in setting and enforcing quality standards, supporting herewith the government. In general, it can be said that a jurisdictional or landscape approach should not overly rely on support and political leadership by the government.

As not all stakeholders can participate directly in the governance of a landscape, it is essential that the initiative is transparent on the decisions taken and processes applied. Most selected cases have a medium level of transparency. In the San Martín Region, the goals and advances in the components of production, protection and inclusion are presented online and aggregated data are publicly available.

### Financial structure and long-term existence of the landscape initiative (3.7)

A viable long-term financial basis is necessary to facilitate landscape initiatives. Amongst others the case in Ghana learned that the long-term commercial viability of the work is integral to the success of an initiative. Financial institutions are engaged and continuing to attract external finance is key.

Through a jurisdictional approach, powerful incentives and cost-sharing mechanisms are possible. Higher productivities for smallholders result for example in higher levels of production on the same land area. Also, the benefits of smallholder registration enable smallholders to have collateral access to finance (e.g. bank loans).

### The level of accountability and effectiveness of the landscape initiative

An accountable and effective landscape approach can assess progress made in reaching multiple objectives (e.g. environmental, economic, social goals) against agreed indicators, and hold actors accountable for their actions as agreed under a collaborative plan. To get an indication of the level of effectiveness and accountability of the landscape initiative, we looked at the following aspects: monitoring and risk-based mechanisms in place, the level of prescriptiveness and stringency of the system and control and sanction mechanisms in place.

Some of the selected cases are developing a monitoring system to monitor progress on landscape level. In Central Kalimantan, there is for example an online performance platform 'SIPKEBUM' hosted by national, provincial and district governments. The monitoring system contains data on commercial plantations and smallholders.

The success of achieving sustainable development on a landscape level can only be determined on the basis of effective monitoring of indicators. In Ghana, a Climate-Smart Cocoa standard is being developed, which the company Touton intends to use to report to its partners on sustainability outcomes at the landscape scale. In San Martín in Peru, monitoring of progress takes place through indicators related to the goals and advances in the components of production, protection and inclusion, for example tracking of deforestation rates on the landscape level.

General frameworks for measuring and monitoring the social, economic, and ecological outcomes of landscape-scale management practices thus exist. They are aggregated on landscape level but do not fully address the issue of trade-offs between conflicting objectives. Besides, most landscape initiatives seem to be semi-voluntary, with sanctions and control mechanisms mostly coming from involvement of government authorities based on (already existing) legislative requirements. The governmental monitoring system in the Seruyan district (case 1) aims to link performance results to the provision of incentives maintaining the certification status, licensing, allocating permits and distribution of agricultural support.

### Securing product sourcing from the region: supply chain control

To ensure at the end of the supply chain that a product on a certain place is produced according to certain sustainability requirements, it is important that the product carries proof that the sustainability is complied with (sustainability data) and that the product is traceable to the location of origin.

Traditional standards and supply chains includes CoC for this purpose, but none of these are currently assessing sustainability outcomes at the landscape scale, although some organizations are developing new frameworks to move in that direction. In Central Kalimantan (case 1), the approach links to and supports certification. The CoC is linked to certification systems such as RSPO, ISCC or ISPO. The smallholder registration, as one element of the strategy, supports the traceability of supply, thereby facilitating inclusion of smallholders in the supply chain.

In the future, landscape labelling to a governance approach can possibly hold the promise of rewarding landscape managers for providing and maintaining a bundle of ecosystem goods and services at the landscape level.

# 4. Effectiveness of implementation of regional governance landscape initiatives in three selected cases

## 4.1. Introduction

Nine case studies were used for benchmarking with the criteria selected from literature review and from information available in existing sustainability frameworks and certification systems. In order to better assess and understand the information gathered in the fact sheets, and to better understand how their implementation works in practice, two field visits were conducted to interview the stakeholders participating in the governance system for the landscape.

Three case studies were researched in depth involving interviews with the main organizations. For these case studies more detailed background information is presented in this chapter including information on the scope of the system; stakeholders involved and processes in place; financial mechanisms involved in the system; monitoring system in place and key findings.

## 4.2. Case study 1: Lake Naivasha

### 4.2.1. Introduction

The Lake Naivasha basin area is located in the Rift Valley in Kenya with a total area of 3,400 $km^2$. Lake Naivasha is one of seven lakes in the region administered in eight districts (Lake Naivasha, 2014).

The Lake Basin provides important socio-economic and conservation benefits for thousands of people. Nevertheless, the basin is under threat by many pressures which include the reduction of the level, deforestation and encroachment among others. The lake provides many ecosystem services including supporting (water regulation and conservation of biodiversity) and provisioning (food, freshwater) with several activities taking place in the lake basin from agriculture, water for cattle of pastoralist communities to large horticulture activities which accounts for two-thirds of water withdrawals (Lake Naivasha, 2014). The most drastic events have been the droughts and particularly after the one in 2009 in the Naivasha Basin, the Government decided to establish Imarisha Naivasha.

Imarisha Naivasha is a Public-Private sector - People initiative of the Government of Kenya and was established to oversee and coordinate restoration of the Lake Naivasha Basin. The organization was founded in 2011 as a response of the problems in the lake, mainly the water used by different groups affecting water quality and quantity. The objective of the organisation is "to effectively monitor and coordinate restoration activities within the Lake Naivasha Basin by ensuring enforcement of and compliance to regulations, and strengthening of institutions" (pers. comm., 2019).

Water quality negative impacts around the Lake Naivasha are driven by damaging land use practices on the slopes of the catchment, deforestation, as well as the poorly functioning sewage treatment facilities within the town of Naivasha. The main drivers affecting water quantity are large water extractors around

the lake (farms for vegetables and flowers, - Figure 5b - and the geothermal power plant) and a major pipeline on one of Naivasha's rivers supplying water to an adjacent town (WWF, 2015). According to EcoAgriculture Partners (2014), the decline in the lake water level can be attributed mainly to the commercial farms around the lake, and both the commercial farms and the smallholder farms in the upper catchment area are responsible for the lake pollution levels due to nutrient loading.


Figure 5. a) Lake Naivasaha, b) flower company. Photos: Rocio Diaz-Chavez, ©Diaz-Chavez

### 4.2.2. The role of stakeholders and stakeholder processes

The Imarisha Naivasha Water Stewardship Programme aims to improve the water availability for communities and businesses in the Lake Naivasha Basin and to improve the water quality by implementing soil and water conservation activities and community water projects. The partners agreed upon supporting a project in every WRUA, to create awareness about water risks in the whole basin and to avoid conflicts amongst the WRUAs by not favouring only some of them (GIZ, no date).

The stakeholders involved in the Programme are 50% from the government (national and county) and 50% private sector (Mbogo, pers. comm.). The list of stakeholders is as follows:

1) Floriculture industry, including the Lake Naivasha Growers Group (LNGG) is a formal association of horticultural farmers and it has played a key role in organizing commercial growers.
2) Smallholder, small-scale (SME) and commercial outgrower farming: Mostly producing vegetables.
3) Fishery: the lake fishery is significant for local livelihoods and commercial production.
4) Livestock: it is a key industry in the region.
5) Tourism and wildlife conservation: Lake Naivasha accounts for a small proportion of the total tourism industry in Kenya but has a high tourism profile due its proximity to Nairobi and Nakuru.
6) Geothermal power generation: there are currently 4 geothermal power stations with a capacity of 430 MW from over 200 wells, and one well head with a capacity of 2.5 MW located adjacent to the Eburru forest to the west of the lake (WWF, 2015). Geothermal activity is unlikely to have a direct bearing on water balance or quality issues in the Naivasha basin but there are concerns over toxicity potentials in wastewater from geothermal wells.

7) Urban development and settlement: The two largest urban centres are Naivasha and Gilgil, which contributed in 2012 roughly the same amount to the blue water footprint (27% of the total) as the cut flower industry (28%) and vegetable/macadamia nut growers (28%) (EcoAgriculture Partners, 2014).
8) The Riparian Association is also an active stakeholder in the Lake and a member of Imarisha.

Imarisha Naivasha has been able to offer significant incentives for participation by most stakeholders in the watershed, including coordination and leadership of the multi-stakeholder forum; collaborative networks, and communication and feedback as well as logistical support – providing venue and secretariat services. The legal mandate of Imarisha gives it an edge and entices the stakeholders to collaborate and participate in the multi-stakeholder forum. The visibility of Imarisha enhances that of the other stakeholders and encourages and them to work with Imarisha (LPFN, 2015 ).

### 4.2.3. Financial mechanisms developed in regional governance systems

The water footprint of cut-flower production around the lake is significant, with the water footprint of one rose flower estimated to be 7 – 13 litres (EcoAgriculture Partners, 2014). Local authorities report the lake's water level every week (Figure 6). The bulk of finance currently is for interventions in the water sector mainly favoured by the external donors, which varies from year to year and occasionally favours special sectors (e.g. flowers).

The financial mechanisms reported for Imarisha Naivasha are from the different stakeholders and the government, as well as some donors. Particularly Sainbury's has invested and is one of the main importers of the vegetables produced in the region (pers. comm.). There are other financial mechanisms proposals reported such as the one from Kenya Water Resources Management Authority (WRMA), WWF and the Water Resources Users Associations (WRUAs) which are investigating the capacity requirements and mechanisms necessary to take on more responsibility, including collecting water user fees, and be compensated for that role. This could provide more operational funding and also help with monitoring activities.


Figure 6. Lake level as reported in May 2019. Photo: Rocio Diaz-Chavez, ©Diaz-Chavez.

### 4.2.4. Monitoring mechanisms developed in regional governance systems

The report (EcoAgriculture Partners, 2014) mentions that there are benefits in efficiency and shared information systems that could serve multiple sectors simultaneously in monitoring and enforcement.

Many of the European, and particularly UK buyers, specify that production standards should meet GLOBALGAP, Fairtrade, or Tesco Nurture certification requirements. However, the assessment of shared risks and opportunities in the Naivasha catchment has identified that this on-farm focus does not provide the appropriate tools to enforce or encourage land-use behaviour at a catchment level, and is particularly unequipped to influence upstream small holder farming impact on the hydrology of the basin (EcoAgriculture Partners, 2014).

Through IWRAP, the Kenya Flower Council (KFC) facilitated the development of a Water Stewardship (WS) Standard in 2013 in line with Alliance for Water Stewardship. The standard focuses on water governance, water balance, water quality, legal and regulatory requirements, water usage, water steward plan and water related opportunities, risks and mitigation efforts. The standard was used as the basis for clauses included in the Kenya National Flowers and Ornamentals Standard (KS1758)_launched in 2015. The WS standard has been piloted in 16 farms and will be reviewed for incorporation into the current KFC Silver standard, which itself is being upgraded to the Flowers and Ornamentals Sustainability Standard (FOSS). Preliminary observations suggest that most farms are already well versed on water stewardship (WWF, 2015).

## 4.3. Case study 2: Lari-Kijabe landscape

### 4.3.1. Introduction

According to the Landscapes for People, Food and Nature (2018), the Lari landscape is one of the pioneer landscapes in Kenya where the landscape management approach has been practiced. This approach has strengthened the partnership and collaboration between KENVO and various stakeholders, including various government agents within the landscape. The landscape approach has helped to share information from the technical officers from the government agents to the farmers.

Lari Landscape in Kiambu county is part of the larger Kikuyu Escarpment landscape that lies on the eastern slopes of the Aberdare Mountains of Central Kenya (Figure 7). Environmental and natural resources in the landscape include forests, land, wildlife and water and contribute significantly to the quality of life of communities nearby (Figure 8). The landscape is known for its horticultural potential and is one of the main suppliers of agricultural products to Nairobi. The forest covers about 37,000 ha, the highest percentage of which is natural indigenous forest and a small section of the forest consists of exotic tree plantations for timber production (LPFN, 2018). Kenvo started with young volunteers concerned about the forest protection (Mwangi, pers. comm. 2019).


Figure 7. Area of location of Kenvo. Photo: Rocio Diaz-Chavez, ©Diaz-Chavez

Figure 8. Activities conducted in the Lari forest left, livestock grazing and right, wood extraction (with permit from KFS), 2019. Photos: Jinke van Dam, ©van Dam

### 4.3.2. The role of stakeholders and stakeholder processes

The Lari Agricultural Stakeholders Forum was established in 2010 with stakeholders involved in the agricultural sector including the private sector together with the local communities. The Forum mainly organized field days for farmers within the landscape thus enabling farmers to access important information.

Kenvo was set up in 2012 properly with financial management after receiving an Award (Figure 9) (Mwangi, pers. comm.).


Figure 9. Kenvo resource centre in 2019. Photo: Rocio Diaz-Chavez, ©Diaz-Chavez

### 4.3.3. Financial mechanisms developed in regional governance systems

The income generation in the landscape involves different activities including cattle farming (dairy), firewood collection, bottled water, mining $CO_2$, bee keeping, tree nursery, and ecotourism.

An important aspect that is under development is the payment for ecosystem services where the participation of the private sector is expected to be of financial relevance for the landscape. This will include organisations out of the region of the landscape considering the upstream area of influence (e.g.

Thika). These include agricultural companies, dairy companies, vegetable oil industry (Mwangi, pers. comm. 2019).

### 4.3.4. Monitoring mechanisms developed in regional governance systems

In 2012, the Kijabe Environment Volunteers (KENVO) and EcoAgriculture Partners initiated a two-year project to understand new market opportunities for farmers in the Lari landscape encompassing Kijabe, Kenya. A landscape label was envisioned to serve local farmers in two ways (Hart, 2014):

- First, the label would serve as a market-based mechanism for rewarding farmers, highlighting the diverse and sustainably cultivated products from the Lari landscape, and offering production differentiation and potential value-addition in regional markets.
- Second, the label would serve as a social organization tool to offer local farmers a way to better produce and market their products collectively under a label that captured their personal satisfaction and feelings of pride for the production landscape.

While serving as a valuable tool for galvanizing support from farmers and other local stakeholders to develop collective marketing strategies, the landscape label in the case of Kijabe will require additional support for further adoption and scaling. In hindsight, the application of a landscape label as a marketing tool for product differentiation may be better suited for regions where farmers are better mobilized (Hart, 2014). During the interviews Mwangi (2019, pers. comm.) indicated these are not yet in place and they continue to look at the monitoring possibilities through the ecosystem services scheme mentioned above.

### 4.3.5. Experiences so far when developing the regional governance system

Based on a workshop and policy dialogue (Mwangi, 2014), the following issues were identified as major gaps in government action/challenges in the landscape which were updated during the interview with the same author (2019, pers. comm.):

- *Fragmented policies* on environment and conservation.
- *Inadequate officers* to enforce the policies especially in the forestry sector. This issue mainly concerned the forestry sector, where there is huge deficit in personnel relative to the size of forest. They are expected to enforce the law, but too little personnel result in continued destruction of the forest. Nevertheless, during the interview with KFS officer (2019, pers. com.) he indicated they are working with the community who can provide information on where illegal activities are taking place.
- *Different and conflicting policies* at the county and national levels.
- *Lack of information* on available natural resources within the landscape and the county. No inventory was available for natural resources, neither within the sub-county nor at the county level.
- *Low level of knowledge* among community members regarding various environmental policies; Kenvo has meetings with different stakeholders and particularly on forestry they have raised awareness on illegal activities such as extraction or cutting of trees for charcoal production.
- *High cost of adopting new technology* among the farmers. Farmers acknowledged that the government is promoting various technologies that are aimed at increasing productivity as well as contribute to environmental conservation, however most of the technologies are expensive for the farmers to adopt hence the need for the government to subsidize the cost or provide alternative financing to enable the farmers adopt the technologies such as drip irrigation and greenhouse farming as well as biogas.
- *Lack of benefit sharing mechanisms* especially on those accruing from natural resources like the forest. This is a major issue facing those involved in environmental conservation where there are no tangible benefits from their efforts; instead all revenue generated from the conserved resources goes to the government, thus demotivating the farmers to engage in conservation initiatives.
- *Lack of land use management framework:* Lack of land use policy has resulted in fragmentation and subdivision of land to uneconomic level as well as conversion of agricultural land into residential units.

## 4.4. Case study 3: Mato Grosso

### 4.4.1. Introduction

The state of Mato Grosso is located in the Central-West region of Brazil. It is the third largest state in the country by area, with an area of 903,000 $km^2$. The state territory is composed of three biomes: Pantanal, the Cerrado and Amazon. It contains a considerable number of protected areas. The state of Mato Grosso is also one of the main producers of agricultural products in Brazil, including soybeans, corn, beef and cotton. Historically, it recorded high levels of deforestation until 2004. Since then Mato Grosso has achieved drastic reductions in deforestation in its territory (GCF).

In order to face drivers of deforestation and forest degradation, Mato Grosso has since 2010 structured various jurisdictional strategic planning instruments to reduce deforestation and achieve sustainable development. The Strategy to Produce, Preserve and Include (PCI), launched in 2015, aims to bring a vision for the low-carbon agricultural development of Mato Grosso by 2030 and is based on a set of 21 goals (GCFb, 2019) and includes 2020 and 2030 targets (Earth Innovation Institute, 2017). The Produce, Conserve, Include (PCI) aims to decrease deforestation while increasing agricultural production. It aims to expand and increase the efficiency of agricultural production and forestry, conserve remaining native vegetation, restore deforested areas, and enhance production and land regulation for family farmers (Meyer et al., 2017).

The Sustainable Trade Initiative (IDH) in Mato Grosso works with public and private (soy and beef) stakeholders, in cooperation with the state government to address deforestation and forest degradation. The overall strategy is to make soy farming more responsible, so it has less environmental impact, and to intensify cattle ranching to free up land for agricultural production without having to convert forest into arable land (IDH, 2018).

### 4.4.2. The role of stakeholders and stakeholder processes

The State Government has a strategy in collaboration with NGO, private, public and government representatives. The number of PCI partners has increased since then, and now includes a broader array of participants (Meyer et al., 2017). Companies have been an integral part of the PCI strategy since its inception (PCI, 2019).

In 2019, the PCI entered a new phase with the creation of the PCI Institute. The PCI Institute is an independent non-profit institution that aims to ensure the PCI strategy's effectiveness, explore long-term policy creation and financing and provide transparent and inclusive governance. The Mato Grosso government appointed the PCI Institute as its official vehicle to enable multi-stakeholder coordination, advises on public policies and measures, lead fundraising efforts and manage and monitor PCI programs (PCI, 2019).

The PCI Strategy comprises of multiple priority projects who, together, should contribute to realizing the PCI targets. Examples are the Round Table on Responsible Soy (RTRS) in Mato Grosso or the Sustainable Production of Calves Program. In each priority project, companies and other stakeholders are involved. A Corporate Action Group (CoAG) is established in 2018 as opportunity for companies to stay connected to the PCI (PCI, 2019).

On the market side, there is, also through support from IDH, for example collaboration with the European feed manufacturers federation (FEFAC) and the EU vegetable oil and protein meal industry association (FEDIOL). In Mato Grosso, there is cooperation with APROSOJA and ABIOVE, who have together set up a MoU; both parties committed to align and work together on mainstreaming sustainable soy production in Mato Grosso.

Regarding beef production, IDH is working in four regions in Mato Grosso. The cattle intensification program is co-funded with Carrefour Brazil. At the same time, they are partnering with the state cattle rancher's association Acrimat.

### 4.4.3. Financial mechanisms developed in regional governance systems

The PCI goals can only be achieved with funding and partnerships between the public and private sector. There, PCI builds PPI compacts to finance for example responsible cattle intensification and soy production and works with private sector partners to align market demand for responsible production in Mato Grosso to accelerate the process, based on the Verified Sourcing Area (VSA), (IDH, 2018). The PCI Institute is the official vehicle to lead fundraising efforts and manage and monitor PCI programs (PCI, 2019).

Some examples of financing received for individual project are (PCI, 2019):

- The Pecsa project on cattle received €11.5 million in funding from the Althelia Climate Fund to bring the results of this pilot to commercial scale.
- The PCI Regional Compact in Juruena created an enabling environment for the launch of a co-funding project in the beef supply chain with EUR 2.5 million of a joint investment from IDH and Carrefour Foundation.

### 4.4.4. Monitoring mechanisms developed in regional governance systems

The State Strategy Committee for PCI (CEEPI) was established to govern the initiative's design, implementation and monitoring. CEEPI has set up an ad hoc working group, terms of reference, subgroups, and an overall work plan to approve new membership requests for both the committee and the PCI Executive Secretariat (Meyer, et al., 2017).

The institutional framework for the PCI Plan has been revised (Earth Innovation Institute, 2017). The PCI Institute is established in 2019 as an independent non-profit institution that aims to ensure the PCI strategy's effectiveness, explore long-term policy creation and financing and provide transparent and inclusive governance (PCI, 2019). Information can be found on: http://pci.mt.gov.br

The PCI Monitoring Working Group (WG) was formed in the beginning of 2017 with the objective of evaluating the advances towards the established PCI goals, subsidy the actions improvement and effectiveness, and ensures the transparency and accountability of the Strategy to partners, investors and society in general. The first product of the WG contained the definition of indicators for the in total 21 targets, a baseline (for the year 2015) and the data source chosen for each one of the goals (PCI Monitoring Working Group, 2018). See also: http://www.pcimonitor.org

The Working group continues improving some data gaps and aims to continuously improve the methodology and data sources aiming for greater accuracy in the monitoring (PCI Monitoring Working Group, 2018).

### 4.4.5. Experiences so far when developing the regional governance system

To ensure that PCI goals will be met, the PCI Indicators are monitored on annual basis, compared to the baseline year. Geospatial and remote-sensing data ae used to calculate the area, productivity and production allocated to agriculture, cattle ranching and planted forests; this provided a baseline for monitoring PCI goals (Meyer et al., 2017). In December 2016, the Brazilian government announced that national-level deforestation had increased by 29%, but data from Mato Grosso showed a reduction of 19% in the state from the previous year (Figure 10). Although this decrease in deforestation cannot be attributable to the PCI alone, the program may have played a role (Meyer et al., 2017).

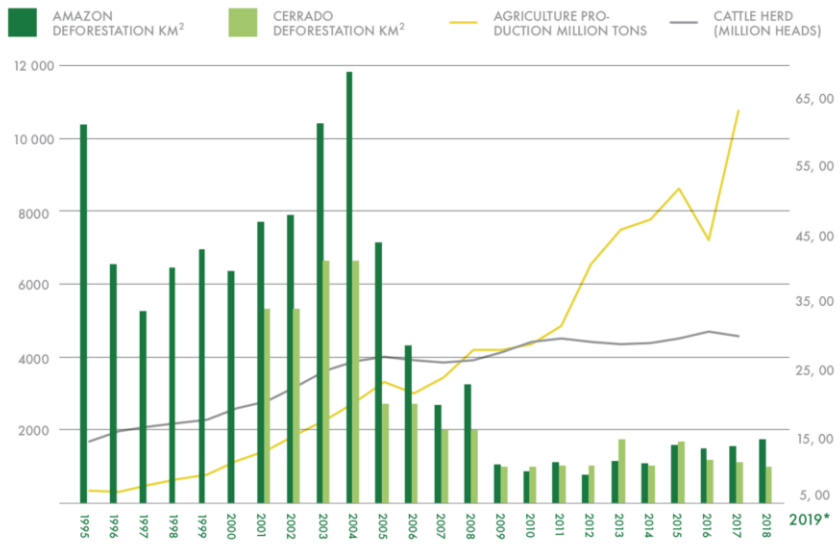


Figure 10. Reduced deforestation and increased productivity over time in Mato Grosso, from PCI (2019)

# 5. Key findings

The focus of this report on the legitimacy and effectiveness of innovative landscape governance initiatives was addressed with a benchmarking analysis of nine case studies through the introduction of a framework with categories and elements selected for landscape governance initiatives. Although the original concept focussed on bioenergy, it was extended to other bioeconomy activities.

Table 23 provides a summarized overview of some of the key issues that were examined, and forms the basis for generalising about the implications of our findings, especially in terms of what makes a landscape initiative capable of creating trust in sustainability among all the different stakeholders and effectively solve the identified sustainability challenges in the landscape.

Apart from a few exceptions, most landscape initiatives were initiated in the mid-2000s (Table 23). Some of these initiatives are well governed, but four of them have challenges with weak governance, including one of the older initiatives that still have challenges with weak governance. All initiatives develop in a supportive governmental context. All of them have commodity producers and governments involved in the initiative, but not all have involved local communities. This might have implications for their ability to balance power in the landscape. The level of collaboration varied widely, with the lowest least for RRA Latvia, where stakeholders only get together to decide on a regional risk assessment, that they can all apply afterwards in their individual companies. Most other landscape initiatives reflect that collaboration is a key purpose of the initiative. We assessed that there is generally a medium level of transparency within each initiative. Information is available, but there is room for improvements, if initiatives wish to reach people outside the initiative with information. Monitoring of progress at landscape level with (risk-based) verification and documentation systems are very limited for most initiatives. For some countries or jurisdictions, governments may also play a role for this element, but this was not investigated.

Table 23. Overview of key issues looked at in the benchmark to compare the cases on novel regional governance approaches: ***V***: verified as element of the landscape; co: collaborative model between public and private actors, Indicated levels of cooperation, transparency, monitoring or risk based verification as part of the landscape; *Low; **Medium; ***High.

| | 1) Kalimantan | 2) PCI Mato Grosso | 3) RRA Latvia | 4) cocoa, Ghana | 5) San Martín, Peru | 6) DOCG Wine, Italy | 7) Lake Naivasha, Kenya | 8) Lari-Kijabe, Kenya | 9) Mau Forest, Kenya |
|---|---|---|---|---|---|---|---|---|---|
| Start date | 2015 | 2015 | 2017 | 2017 | 2007 | 1984 | 2009 | 2014 | 2014 |
| Weak governance of the initiative mentioned as challenge | ***V*** | | | ***V*** | ***V*** | | ***V*** | | |
| Supportive governmental context | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** |
| Stakeholder involvement (examples) | | | | | | | | | |
| - Producers | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** |
| - Traders and buyers | ***V*** | ***V*** | - | ***V*** | ***V*** | - | ***V*** | - | ***V*** |
| - Government | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** | ***V*** |
| - Local communities | ***V*** | ***V*** | - | ***V*** | ***V*** | - | ***V*** | - | ***V*** |
| Indicated level of cooperation | ** | *** | * | ** | ** | *** | *** | ** | *** |
| Governance model | co | co | private | co | co | co | co | co | co |
| Level of transparency | ** | ** | ** | ** | ** | ** | ** | ** | ** |
| Monitoring on landscape level | * | * | - | * | * | * | * | * | * |
| Risk-based verification as part of the landscape | * | * | * | | | * | * | * | * |

Key findings are further summarized and explained below:

- *Availability of information:* Implications of availability or lack of information to assess the effectiveness and legitimacy of novel regional governance approaches are that focus should probably be on process-based sustainability indicators for the short term, leaving performance indicators for the longer term (5.1).
- *Drivers:* The key drivers of landscape governance systems include solving environmental, economic or social challenges, common interest in reaching international markets or organisation of economic activities to become more cost-efficient and competitive (5.2).
- *Differences in scale and characteristics: The* differences in scale and characteristics of the landscape governance systems makes it difficult to compare them and make general statements about what is needed for these initiatives to become effective and legitimate (5.3).
- *Stakeholder differences:* Implications of very different stakeholder types in the landscape are that it may take a long time to create trust and a common vision. In this process it is important that all stakeholders are being held accountable as this creates and that certain outcomes are realized, as supports trust, support and optimism (5.4).

- *Lack of landscape level monitoring, labelling and chain of custody:* The common picture or benefit of the landscape initiative is that it creates a "low-risk" region which creates trust amongst buyers and facilitates individual or multiple product certifications for export or local use (5.5).
- *Trade-off between creating of trust and being effective:* With the large diversity in landscape initiatives and the time needed to come to measurable outcomes, only future specifically designed research can test a hypothesized trade-off between the ability of the landscape governance systems to create trust or effectively solve environmental challenges, respectively (5.6).

## 5.1. Implications of information availability

This research demonstrated that information about the context, drivers and objectives of the landscape initiatives is mostly available from the literature, as are data about stakeholder involvement. More specific information about the governance structure of the initiative, the monitoring framework and how progress and impact is assured has more limited availability. For instance, availability of information about elements of risk-based verification is almost unavailable in all the case studies, presumably because of no explicit framework has been developed for the purpose. This could be due to lack of relevance, conscious identification of the need, other priorities of scarce resources, or because the initiates are often in a start-up process. When asked about monitoring mechanisms, the interviewed persons also did convey information about risk-based approaches.

Information about the chain of custody or means of tracing information about sustainability properties is also not easily available except if a well-established commodity is in place in the landscape (e.g. wine, meat, tea, coffee). Lack of information perhaps again reflects a lack of demand for a CoC.

Insight into the initiative's processes and the level of transparency is generally not described in detail in literature or indicated through online information, but it was possible to get such information through the face to face field or online interviews, particularly where several available stakeholders could be interviewed (e.g. Naivasha lake in Kenya).

There was limited availability of data around progress and impact of landscape initiatives. This observation is confirmed by Sayer et al (2016), who mention that the lack of evidence of effectiveness of landscape approaches is a cause for concern and appears to result from (i) the inherent difficulties of measuring impacts in complex – and possibly changing - contexts and (ii) a lack of adequate investment in establishing and monitoring metrics over the long term.

At the same time, it should be acknowledged that most of the landscape initiatives were only recently started, and likely focusing first on establishing multi-stakeholder platforms, consensus around goals and setting up the procedures for implementation. Establishing a landscape initiative takes time and being able to establish an appropriate monitoring system that is able to detect measurable impact will take even more time. This may plead for focusing on both process-based indicators (at least for the short term), combined by measurable outputs to define impact for the longer term.

## 5.2. Drivers of landscape governance systems

The first issue to consider is the goal or the driver to set up the landscape governance system. In all the cases reviewed the main driver was an environmental issue although their entry points differed. Identified entry points are deforestation, water use and availability, loss of biodiversity, climate change mitigation (through a REDD programme) or land degradation. For instance in Indonesia the driver was to avoid deforestation due to the activities of the palm oil sector; in Brazil, the driver was to avoid deforestation and land use change for the cattle and soy production activities; in Mau Forest in Kenya, avoidance of deforestation due to all the users' activities was the driver; and in Naivasha, Kenya, the management of water was the issue. The case of Italy was in that sense an exception as it focused on product quality, in this case of wine produced in the region.

A second important driver or goal was the organization of economic activities among the stakeholders. This is especially true in landscapes where commodities are exported and where there is an interest in an international market.

A third driver was, in support of the first and second driver, the coordination of the activities of the different "land users" in the landscape. This was a driver in most of the cases, except Italy. This also includes the bundling and upscaling of activities, which may make them more cost-efficient, as is the case of the RRA in Latvia or in other cases with close links to certification.

Finally, a fourth driver was the opportunities or challenges to improve the livelihoods of local communities, but it seems that, under current conditions, this can not to be solved by companies or governments alone. This includes for example challenges to land tenure or landowner capacity in knowledge or finance. In some cases, this lead to limited productivity levels under smallholders, thus creating an incentive for improvement.

## 5.3. Implications of varying scale and characteristics

In the nine case studies, the landscape governance initiative applied different geographic scales, not just in terms of the size of the comprised area and criteria for area delimitation but also in terms of the jurisdictions falling within the landscape. For instance, in the case of Brazil, the landscape initiative falls within one State with different projects and types of landscapes. In the case of the Lari escarpment in Kenya, on the other hand, the landscape initiative involved four counties for one landscape.

Thus, it is not possible to generally say how a landscape initiative should be delineated or clearly establish what should be the boundaries, because challenges, cultures and contexts are very different. This results in a very diverse set of landscape initiatives, that all have their own characteristics. This makes it difficult to compare them and make general statements on what is needed for these initiatives to be effective and legitimate.

## 5.4. Implications of stakeholder differences in the landscape

All landscape initiatives involve different types of stakeholders. In most cases stakeholders are economic supply chain actors (producers, traders, and buyers), civil society organizations, as well as governmental organizations and financial institutions. These partnerships bring strong added value to overcome the driving challenges mentioned in section 5.2.

However, bringing these stakeholders together and finding a common vision is also challenging as stakeholders operate on different scales (local to international), have different interests and concerns, and hold different positions (power balance, influence of donors, etc.). Creating a common vision therefore requires trust and time. At the same time, it is important that certain outcomes are realized and that stakeholders are held accountable for their individual actions.

## 5.5. Implications of the lack of a landscape level chain of custody

The landscape involves not only different stakeholders, but also different land uses, per definition. Some of the case studies indicated the existence of monitoring systems on landscape level for a selection of indicators, showing for example progress in halting deforestation over time on a landscape level.

The landscape initiatives do not provide much information about the link between the landscape initiative and their different supply chains (outgoing products). Some of the landscape initiatives explore the development of a system, which would allow to link different types of products from the landscape to its supply chains. However, the common picture seems to be that landscape initiatives create a "low-risk" region which creates trust amongst buyers and facilitates individual or multiple product certifications for export or local use.

## 5.6. Establishing if there is a trade-off between input and output legitimacy

There might be a trade-off between systems that are trusted (high input-legitimacy) and those that are effective (high output-legitimacy) (Mansoor et al., 2020). However, due to the large diversity in landscape initiatives and the time needed to come to measurable outcomes, it remains too early to establish if such a possible relation exists. Future research and following up on the progress made within the selected landscape initiatives may be needed for this purpose and should specifically focus on testing if such patterns exist or not, and what the reasons could be for either.

# 6. Conclusions and recommendations

This report addressed several aspects of landscape governance. The benchmark analysis of the nine case studies showed there are large differences in how actors of these varied landscapes attempts to govern their resources and actively participate in common aspects of the economic and social activities taking place in the landscape.

Their approaches to governance vary greatly depending on where the initiatives are located, the nature of their concerns, on who started the initiative, but mainly on which natural resources and commodities are involved. The goals for which these initiatives were set up to achieve also varied. Key entry points to start a landscape initiative were most often environmental concerns and often with limited natural resources to meet demands. Such environmental issues included water availability (Imarisha), or forest resource degradation (Mau Forest). In other cases, a (complementing) key entry point was access to international markets or cost-efficiency of commodity production, such as soya and meat (Mato Grosso), or in one case assuring product quality of wine (Italy).

The initiatives presented a variety of approaches to verification, including monitoring and risk assessment. The case of Central Kalimantan (Indonesia), working with palm oil, provided data for the risk assessment at landscape level through the Roundtable on Sustainable Palm Oil (RSPO), linking verification on landscape level to the RSPO Chain of Custody. The benchmark criteria on the chain of custody proved too difficult to assess on landscape level as only those case study landscapes with clear interest in commodities for international markets have standards associated that includes possibility of obtaining a CoC certificate (e.g. tea, cocoa, soya, palm oil). Landscape level labels are under development but have not yet been established.

We find that the landscape or regional approaches to sustainability monitoring and verification, to the extent exist, but mainly address land use change.

The most important findings of this research work can be separated in two groups, reflecting the research outcomes and reflecting on the applied approach to the research.

## 6.1. Findings on landscape governance initiatives

- One of the greatest benefits of landscape governance initiatives is the organisation of the different stakeholders to coordinate the multiple land uses and ensure a balance of power over the limited resources. The initiative enhances cooperation and creates opportunities for a more sustainable management of natural resources in the landscape. It may thus help to manage competition between different land uses and better organise the commodity production and use.
- Having a distinct common commodity in the landscape contributes as a driver to for stakeholders to organise themselves, to the extent that:
    - The commodity is subject to a type of sustainability monitoring system required by a standard or a certification system.

    - The commodity has to meet a certain minimum sustainability or product quality standards, demanded by international export markets.
    - Buyers and investors around that commodity are interested, from a risk management perspective, to invest in a landscape governance initiative. Their interest and influence may, on the other hand, also challenge the power balance between stakeholders inside a landscape.
- The landscape governance initiative seems to facilitate stakeholder integration and seeing and pursuing common interests.
- Landscape governance examples are still novel and therefore gathering meaningful data and information is still difficult as these are still dispersed across the different stakeholders. Setting up a landscape governance initiative, including an associated monitoring system, takes time. At the same time, it is important to monitor progress for learning on how these initiatives work and how they need to improve for increased legitimacy and effectiveness in achieving their goals. This element should not be underestimated, and we suggest it should be given more priority from the start.
- A landscape governance initiative is linked to and dependant on the legal framework and the government /jurisdictional institutions in place within its boundaries for the specific environmental issues in focus (e.g. meeting demand for water or halting deforestation).
- There was relatively little evidence of social concerns amongst our selected cases, as entry points, within the landscape governance system, or in terms of the progress made in the landscape. Land rights were mentioned in Imarisha (Kenya) but not in any other cases, and only the same case indicated concerns regarding local communities (Masai communities using the water resources) and workers conditions in the flower and vegetables industry.
- It was difficult to conclude on how the landscape can best be defined, because of differences in scale and characteristics. It is difficult to decide from a central place where to set up the geographical boundaries, e.g. if it should be a political boundary or a natural boundary (e.g. watershed basin or river). In the end, it is the decision of the stakeholders.
- Even if the research approach had some significant limitations, see below, some patterns emerge on how effective the landscape governance system is compared to other approaches, such as certification:
    - In terms of time and finance, individual landowner or company certification seems to be more effective in the short term for documenting sustainability of a producer or company according to the standards of the certification system. However, in the long term, this solution may be less effective in solving the sustainability challenges due to limitations in upscaling and overcoming barriers that cannot be solved by one landowner or company alone.
    - In comparison with individual certification, a landscape initiative allows to reconcile different stakeholder interests in a landscape which is especially of relevance to overcome complex challenges that can only be addressed at a landscape level, e. g. water scarcity or deforestation. It also allows bridging interests instead of unilateral and narrower thinking and come to integrated solutions that balance the interests of different sectors; this is a prerequisite for the biobased economy.
    - A key characteristic of a landscape initiative is that the sustainability vision and standard is defined by the stakeholders in the landscape itself. This may be conflicting with the often stricter definitions of sustainability by standards defined by international commodity market buyers.

## 6.2. Reflections on the applied research approach

- The applied benchmarking framework was extensive in scope and required quite detailed information for some of the included aspects. It proved to be challenging to gather all the desired data, particularly for certain aspects, such as the chain of custody and the system of governing it. The experiences from this research may help to develop benchmarking frameworks that are better tailored to studying regional governance initiatives in the future.

- The benchmarking framework also made use of terminology, which was not familiar to the interviewed stakeholders. This can be partly explained by the fact that the selected landscape initiatives are very diverse, and therefore their used terminology is also diverse. However, the applied terminology may also have been too theoretical in some case.
- Due to limited data availability and the large diversity between the selected initiatives, it was difficult to compare them. It is therefore not possible to fully state how effective the landscape governance system is compared to other approaches, such as certification, although some general pictures emerge, see above.
- Ultimately, there is no blueprint for an ideal landscape approach. Every landscape is different with different drivers, stakeholders, commodities, physical conditions and governmental, economic, and cultural context. However, the landscape initiatives share some design principles such as building a multi-stakeholder coalition and working with the principle of the division of "power" for a more just approach to control of natural resources. However, finding common ground for a shared structure and common design principles, including principles for identifying the most useful indicators and the desired outcomes would be useful for better comparison and benchmarking that allows learning from joint experiences, and understanding how your own landscape governance initiatives can become more legitimate and effective.

# 7. Recommendations

Based on the findings of this study, the following recommendations are provided for future research and activities within the landscape governance initiatives focusing on sustainable bioenergy and bioeconomy development:

## 7.1. Recommendations for future research

- The nine case studies in this report could be followed to periodically monitor the development of the system as such, for continued learning on how well the initiatives manage achieve what they set out to achieve. However, this requires careful consideration of the research approach.
- In order to follow development over time, some elements of the benchmark framework must remain the same from one point in time to the next. However, the framework should also be revised for the elements that did not provide useful information. We suggest reducing the scope of the applied benchmark framework, while also considering how it should be expanded to reflect the findings of this study and rapidly evolving new developments around landscape initiatives.
- The findings of research studies are relevant to the science of sustainability governance, but of limited use to actors seeking information about how to develop the biobased economy. We suggest new studies are needed with a different focus, e.g. studies that examine which are the best incentive structures to engage stakeholders for the desired development.

## 7.2. Recommendations for actors seeking to develop bioenergy and the bioeconomy

- Existing landscape initiatives might help to create opportunities that may also help to identify better solutions for developing the biobased economy, e.g. better use of residues and waste for bioenergy and novel bioproducts and biochemicals. We recommend engaging with existing landscape initiatives in regions of interest to the bioeconomy to explore the opportunities they can offer the biobased economy that also seeks to take account of the challenges around climate change, halting deforestation, preventing water scarcity etc.
- It may be difficult to initiate a landscape governance initiative as biobased company or sector, with the biobased sector understood as producers of novel biobased solutions and bioenergy rather than traditional agriculture for food and forestry for timber. The biobased sectors are rarely adequately important economically to be the driving force for the development of a landscape. Where no

initiatives yet exist, it is thus recommended that the biobased sectors seek to engage with the so-called primary sectors, including agriculture, horticulture and forestry.

- It is advisable to promote the involvement of the financial sector in these landscape approaches to ensure continued long-term financial support.
- Due to the time it takes to develop a complex governance system we suggest that standard developers in landscape governance initiatives focus on process-based sustainability indicators in the short term, moving towards an increased amount of performance-based indicators and measurable outputs for the longer term.

There are still many challenges and limitations to better understand whether these landscape governance initiatives may foster a more sustainable and fairer use of the natural resources for bioenergy and bioeconomy, and not least, the primary sectors. Nevertheless, from a sustainability point of view, the landscape governance may provide the actors in the landscape with more just governance over their natural resources, especially if they are limited, and a better means to monitor their commodity production and use for the benefit of all stakeholders involved, not least, for the people living and working in these landscapes.

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# Annex A - Factsheets with information from case studies

Factsheets with the key information were produced for the nine case studies. Data for the fact sheets were mainly obtained from different sources from publicly available literature and websites. The information on the case studies is based on data collection undertaken between October 2017 and March 2019. Two cases (both in Kenya) were complemented with field visits and one with an online interview (Brazil); the other cases are fully based on a desk review of information.

The aim of the Factsheets is to present the key characteristics of the different novel regional governance approaches. It does not pretend to be fully complete, nor does it pretend to capture all the details and insights. It does, however, provide a good overview of their key elements, so to better understand their characteristics.

The template of the Factsheet, and the interpretation and definitions of the different categories used in the factsheets, is first presented in this annex and can be used as reference for further interpretation. The Factsheets of the 9 different cases are also presented in this annex (see Table 24 below):

Table 24. Overview of Factsheets and cases included in this Annex

| Name of the initiative | Country |
|---|---|
| 1. TEMPLATE factsheet | - |
| 2. RSPO Kalimantan | Indonesia |
| 3. Mato Grosso | Brazil |
| 4. RRA | Latvia |
| 5. Cocoa | Ghana |
| 6. REDD+ | San Martín |
| 7. Italy | Italy |
| 8. Lake Naivasha | Kenya |
| 9. KENVO | Kenya |
| 10. Mau forest | Kenya |

## 1. Template factsheet

| I. Summary and relevance of the initiative | |
|---|---|
| *A summary of the initiative and indicate the relevance of the initiative for measuring and documenting the sustainability of biobased value chains* | |
| **II. General information** | |
| Name of initiative | |
| Starting date of the initiative | |
| End date of the initiative | |
| Initiator(s) | |
| Partners involved | *Defining Partners: initiators of initiative; forming part of collaboration or partnership ((E.g. State authorities, firms, NGO, cf. the governance triangle)* |
| **Geographical scope** | |
| Country/jurisdiction of region | *Defining Jurisdiction:*<br>*A government administrative boundary (e.g. a country, district, etc.), (GCP, 2015)* |
| Region within the jurisdiction | Describing region:<br>*A region or landscape can follow the jurisdictional boundaries but can also follow the social (e.g. indigenous community) or environmental (e.g. ecosystems, watershed) boundaries, (GCP, 2015).* |
| Size of area to which it applies | |
| **Context** | |
| Land use(s) | *For example: (agriculture for food crops, non-food crops, managed forest, wood plantations, conservation areas, (degraded) abandoned areas etc.)* |
| Key commodities in the landscape | *(list the key commodities that are produced in – and possibly exported out – the landscape)* |
| Natural and environmental context *(natural landscape)* | *(type of biome (e.g. Cerrado, savannah, pristine forest, etc), climates, hydrology, soil types, altitudes, slopes)* |
| Most common land use changes | *(For example: historic land use dynamics: forest to agriculture, agriculture to urban areas, abandoned land to forestry etc.)* |
| Socio-economic context of the region (e.g. municipality(ies), counties, etc) | *(Examples: GDP, BNP, Gini index etc.; economic strongest sectors; level of export outside region)* |
| Land tenure | *(For example: tenure arrangements, ratio private/public land, are land rights clear and enforced? existence of land conflicts?)* |
| Governance context[9] | *(For example: relevant policies, regulations, programmes)* |

[9] Governance context: referring to the government's ability to make and enforce policies and rules across its territory in a democratically accountable manner.

| | |
|---|---|
| | *(For example: existing* enforcement mechanisms, institutions) |

**III. Objectives and elements of the landscape initiative**

**Reason to start initiative**

*(Initial entry point and reason to start initiative[10])*

**Objectives of the initiative (core focus)**

*(key objectives of initiative; does it address a specific sector or landscape type, or specific sustainability issues, such as legality, water quality etc.)*

**Activities (description)**

*(Short description):*

**Sustainability goals: scope of the initiative** (indicate and explain shortly)

| | | |
|---|---|---|
| | Environmental | |
| X ? | Social | |
| | Economic | |

**Link to sustainability framework** (indicate which one (s), more than one link is possible)

| | | | |
|---|---|---|---|
| X ? | Standardization | | Monitoring |
| | Certification | | Collaboration (broader engagement, organization) |
| | Legislation | | Strengthening governance |
| | (Supply) risk mitigation | | Promoting integrated / multi-functional land use |
| | Education (technical assistance) | | Other (indicate): |

**IV. Stakeholder involvement in the landscape initiative**

**Type of stakeholders involved**[11] (if indicated, please provide details of stakeholders and their roles. Possible roles are: standard setting; input in public consultation; voting right; education and extension; monitoring compliance)

| | | |
|---|---|---|
| | Primary producers | |
| | Secondary producers | |
| X ? | Traders and buyers | |
| | Government | |
| | NGOs | |
| | Business associations | |
| | International organizations | |
| | Research and education | |
| | Certification bodies | |
| | Indigenous people | |
| | Other | |

[10] Indicate the reason to start the initiative: E.g. to tackle issues on regional level such as conservation, avoiding deforestation, productive systems, to create scale, etc.

[11] Including partners of initiative, as well as other stakeholders directly or indirectly involved through e.g. collaboration, information sharing or managing the landscape.

| | | |
|---|---|---|
| *Short description:* | | |
| **Level of cooperation of the initiative** (if indicated, please elaborate) | | |
| | Low | *Defined as (see CGP, 2015):*<br>*Low cooperation model: ad-hoc consultations, high level monitoring, collaborative plans while making individual decisions.* |
| *X ?* | Medium | *Defined as (see CGP, 2015):*<br>*Medium cooperation model: multi-stakeholder dialogue; regular meetings; specific commitments contributing to agreed objectives.* |
| | High | *Defined as (see CGP, 2015):*<br>*High level of cooperation: formal mechanisms and rules for stakeholder representation; clear accountability framework in place for compliance; sanctions exist for non-compliance; detailed monitoring and evaluation strategy in place* |
| **Governance model of the initiative** (indicate and explain) | | |
| | Public regulation | |
| *X ?* | Co-regulation[12] | |
| | Delegated co-regulation[13] | |
| | Ex post recognized private regulation[14] | |
| | Pure private regulation | |
| **Financial structures in the landscape** | | |
| Financial Mechanism<br>(How is the initiative paid for) | *(For example: Incentive and cost-sharing mechanisms in place. E.g. price premiums via markets, subsidies, taxes, tax exemption, feed-in tariffs etc.)* | |

| **V. Level of stringency and precision of the system** | | | |
|---|---|---|---|
| Shortly describe the level of stringency (-ies) of the system and the level of prescriptiveness[15] | | | |
| | **Level of stringency** | | |
| **Level of Prescriptiveness** | Mandatory | Semi-voluntary | Voluntary |
| Performance-based[16]/substantive | | | |
| Compliance-based[17] | *X?* | | |
| Measurement-based[18] | | | |

[12] Co-regulation: private regulators are called upon to take part in different stages of the regulatory process (Mansoor et al, 2016)

[13] Delegated co-regulation: a public entity recognizes a need for regulatory action and is aware that private regulators might be better positioned to regulate (Mansoor et al, 2016).

[14] Ex post recognized regulation: private regulation that is autonomously and independently carried out by private actors aiming to regulate their own activities. These initiatives are subsequently being recognized by public authorities. E.g.: wood certified by private forest certifications systems, which is commonly recognized as sustainable wood in public procurement policies (Mansoor et al, 2016).

[15] There can be multiple levels of stringency in one landscape: For example, some requirements are mandatory (e.g. no deforestation), while others are voluntary based. The mandatory requirements may be based on performance-based indicators, while the voluntary requirements may be monitored based on process-based indicators.

[16] A (Key) Performance Indicator (KPI) is a measurable value that demonstrates how effectively a company, organization or program is making progress in achieving its key objectives.

[17] Compliance based indicators focus on strict adherence to procedures and rules (often detailed in legislation), which define what organizations or companies should do and how.

| | | | | |
|---|---|---|---|---|
| Management or process-based[19] | | | | |
| **VI. Mechanisms to monitor progress and compliance within the initiative** | | | | |
| Monitoring mechanism in place | *Short description of the monitoring mechanism in the area* | | | |
| Risk management mechanisms in place[20] | *Yes/No + short description* | | | |
| **Control mechanisms in place (indicate and describe):** | | | | |
| | Self-imposed control | | | |
| *X ?* | Self-declarations with submission to authority | | | |
| | Self-declarations with submission to 3rd party | | | |
| | 3rd party on-site controls | | | |
| | Governmental on-site control | | | |
| | Other | | | |
| **Sanctions in case of non-compliance (indicate and describe):** | | | | |
| | Non-existent | | | |
| *X ?* | Jurisdictional sanctions (prison, fines) | | | |
| | Exclusion from subsidies / financial incentives | | | |
| | Exclusion from market access / permit loss | | | |
| | Reprimand | | | |
| | Certificate withdrawal | | | |
| | Other | | | |
| **Level of transparency in monitoring within the initiative (indicate and describe** | | | | |
| | High | *Defined as: High: Monitoring results, compliance results and sanctions are publicly shared within defined time periods.* | | |
| *X ?* | Medium | *Defined as: Medium: Monitoring and compliance results are partly shared and/or on an aggregated basis to the public.* | | |
| | Low | *Defined as: Low: Results are not or limited shared.* | | |
| Risk-based verification mechanisms[21] | | | | |
| Risk-based mechanisms in place: | | | | |
| *(Indicate whether risk-based mechanisms are in place to indicate and/or monitor specific risks in the area and to adapt monitoring accordingly).* | | | | |
| | Geographical focus[22] | | | |
| | Focus on specific issue[23] | | | |
| **VII. Securing product sourcing from the region: Supply chain control for the commodity** | | | | |

[18] Measurement-based indicator aim to measure the realized output in quantitative values, e.g. the % of water quantity improved compared to the baseline.

[19] In contrary to measurement-based indicators, process-based indicators aim to monitor progress in processes (e.g. decision-making, management, capacity building) that are needed to make sure that the desired outcomes are realized.

[20] Including for example more intensive monitoring in specific áreas to tackle illegal activities.

[21] Focusing on (formalised) risk-based verification approaches.

[22] For example: companies have identified low-risk areas which allows companies to brand products as "zero deforestation" based on origin. Also, EUTR uses a risk-based approach.

[23] Approaches may focus their monitoring (and objectives) on specific issues. For example, water shortage.

| | | |
|---|---|---|
| **Link of Chain of Custody (CoC) with Landscape initiative** | | |
| X ? | CoC is organized through a certification system | |
| | CoC is organized through a landscape label | |
| | Other… | |
| Starting point CoC: | | |
| CoC system in place *(Indicate below)* | | |
| | Book & claim | |
| X ? | Mass balance | |
| | Segregation | |
| | Identity preserved | |
| Label | | |
| Alignment with markets | | |
| **Level of transparency on the sustainability of the product / commodity** | | |
| | Public aggregated data at international, jurisdictional or regional level available | |
| | Public geographically explicit data at international, jurisdictional or regional level available | |
| X ? | Company aggregated data for its supply base available | |
| | Company geographically explicit data for its supply base available | |
| | Audit documentation files available | |
| | Grievance and complaint mechanism in place in the region | |
| **VIII. References** | | |
| *(Literature references and websites used)* | | |

## 2. Jurisdictional certification palm oil in Central Kalimantan

| I. Summary and relevance of the initiative | |
|---|---|
| In order to implement its objectives, the province Central Kalimantan in Indonesia formed a jurisdictional certification working group and further developed a jurisdictional approach with the aim to certify the entire palm oil supply, supported amongst others through a smallholder support program and an improved monitoring system. The jurisdictional approach covers the whole province but in practice is currently implemented in three districts: Korawaringin Barat, Seruyan and Gunung Mas. | |
| **II. General information** | |
| Name of initiative | Jurisdictional certification palm oil in Central Kalimantan (1). |
| Starting date of the initiative | June 2015 (with signing of provincial Declaration) (2) |
| End date of the initiative | Ongoing |
| Initiator(s) | RSPO<br>Government of Central Kalimantan (2) |
| Partners involved | The jurisdictional approach is a collective effort lead by local governments (4), initiated by government of Central Kalimantan [11]. INOBU is the Facilitator and signed the MOU to support and empower smallholders in Indonesia [11]/ |
| **Geographical scope** | |
| Country/jurisdiction of region | The jurisdictional approach covers the whole province and the provincial administration is the lead authority. In practice, the Roadmap is currently implemented in three districts: Korawaringin Barat, Seruyan and Gunung Mas [11]. |
| Region within the jurisdiction | The whole jurisdiction |
| Size of area to which it applies | Total Area in Central Kalimantan: 153,559 $km^2$ (6) - 15,4 million hectares |
| **Context** | |
| Land use(s) | The initiative focuses on Central Kalimantan, with Seruyan and Kotawaringin Barat district as pilot areas, later followed by Gunung Mas district.<br><u>Central Kalimantan:</u><br>• Total land area: 153,559 $km^2$ (6] – 15,4 million hectares [11]<br>• Forest area in Central Kalimantan: 52.2%: 80,200$km^2$ (6)<br>  ○ Natural forest area in 2010 (GFW): 10,1 million hectares [11]<br>  ○ Tree cover loss 2000-2017: -3,15 million ha [11]<br>• Already issued oil palm estates licences 1.25 million hectares: 7.8% of land (3).<br>• 86 Oil-palm estates operate in Central Kalimantan (210.8 thousand hectares with RSPO certificate) (3).<br>• Protected area in Central Kalimantan: 13,749 $km^2$<br><u>Seruyan and Kotawaringin Barat districts:</u><br>• Seruyan district (3): Area of oil-palm estates (6 in total): 361,4 thousand hectares; 96.6 thousand hectares with an RSPO certificate<br>• Kotawaringin Barat: palm oil producing district with established plantations and supporting infrastructure, including ports, roads and mills [10]. |
| Key commodities in the landscape | • Palm oil; target of Central Kalimantan is to more than triple oil palm planted area to 3.5 million hectares by 2020. Oil palm currently contributes approximately 25% of GDP in Central Kalimantan (5)<br>• Palm oil production Central Kalimantan in 2015 [11]: 3,57 million tonnes, mostly for export<br>• Timber<br>• (Coal mining) |
| Natural and environmental context<br>*(natural landscape)* | The Centre of Central Kalimantan is covered with tropical forests, which produces amongst others rattan and timber [11].<br>The southern lowlands are dominated by peatlands that intersect with rivers [11]. Central Kalimantan contains 8% of the world's tropical peatlands and a rich array of biodiversity (5). The province has about 3 million hectares of peat soils. |

| | |
|---|---|
| | Of the original area of peat, 80% is subject to the danger of seasonal fire or oxidation (6). There are more than 3 million hectares of degraded lands as well (5). |
| Most common land use changes | Drivers of deforestation Central Kalimantan [1]: large-scale agriculture, commercial wood and subsistence agriculture [1] – especially logging, palm oil [11]<br>Tree cover loss 2000-2017: -3,15 million ha [11]<br>Management of the remaining forests in Central Kalimantan is subject to continuing discussion and planning. 12.6 million hectares remains within the national forest estate with a further 2.8 million in other land use categories. The rate in the province stands at 63.1 thousand hectares annually, with nearly all deforestation occurring in forest areas (99.8% vs. 0.2% in non-forest areas (6). Deforestation leads to substantial annual emissions.<br>Average annual emissions from deforestation in Central Kalimantan: 35 MTCO2 (1). |
| Socio-economic context of the region (e.g. municipality(ies), counties, etc) | • Population in Central Kalimantan 2014: 2,439,858 (1);<br>• Overall 67% of the population live in rural areas (6);<br>• Around 85% of the area planted under palm oil in Central Kalimantan is managed by commercial farms; the remaining is managed by smallholders [11]/<br>• Small-scale independent oil palm farmers in Kotawaringin Barat are predominantly transmigrants (87%) from Java along with Madurese and Sundanese. The rest include Melayu (8%) and indigenous Dayak or Banjar [10].<br>• Small-scale independent oil palm farmers in Seruyan District are mainly indigenous Dayak and Banjar farmers (81%), [10]<br>• Poverty remains a major issue particularly in rural areas. Education and health services in the hinterland are poor (6);<br>• In Central Kalimantan, oil palm smallholders account for a small proportion of oil palm plantations in the province. In 2013, the Provincial Plantation Office reported that oil palm smallholders made up only around 11% of the total oil palm plantation area in Central Kalimantan [10].<br>• The productivity of independent smallholders is generally much lower compared to large-scale companies [10].<br>• Total number of independent oil-palm farmers in Seruyan District: 5,000 people, with a surface area of approximately 15,000 hectares (3). |
| Land tenure | There are incidences of social conflicts and recognition of indigenous rights (4).<br>• In Indonesia, independent smallholders generally have insecure land tenures. Farmers without land titles will have difficulties in obtaining bank loans and face major challenges in achieving sustainability certification [10].<br>• Seruyan District: According to a survey from INOBU on independent smallholder farmers, only 11% held land titles. The majority of farmers either held land ownership letters (so-called SKT) or customary land statement letters (SKTA). SKTs can be used as the basis for obtaining land certificates, SKTA cannot as the National Land Agency only recognizes land reference letters that have been signed by a village head [10].<br>• Kotawaringin Barat District: According to the same study [10], due to the high proportion of transmigrant farmers, the majority of farmers (60%) held land certificates (Surat Hak Milik), which is the strongest form of land title in Indonesia. |
| Governance context | Regulations, policies and initiatives on national level:<br>• 2011: To reduce the number of land disputes and conflicts, Indonesia launched the One Map Initiative, aiming to harmonize maps used by different levels of government agencies so that spatial planning can be improved [11].<br>• 2010/2013: Independent smallholders are eligible for government support, however, only through their participation in farmer organizations. According to regulations from the Ministry of Trade (07/2/2009) and Ministry of Agriculture (82/Ot140/8/2013), farmers should be members of farmer groups (kelompok tani) or cooperatives in order to receive government support [10].<br>• 2011: The government of Indonesia launched the Indonesian Sustainable Palm Oil (ISPO) standard to enhance sustainability in the palm oil sector and |

to improve market competitiveness [11].

- 2016: The President established a nationwide moratorium on the issuing of new concessions for oil palm plantations, aiming to halt expansion of oil palm plantations into Indonesia's forest and peat lands [11].
- 2018: A moratorium was signed to halt the issuance of new oil palm plantation permits and a review of existing permits [11].

Regulations, policies and initiatives on province level:

- 2010: Central Kalimantan was chosen to serve as a pilot Province for REDD+ development following the LOI between Norway and Indonesia. The province is also the site for the Australia-Indonesia Forest Carbon Partnership REDD+ Demonstration Project and it hosts several other private investment REDD+ Projects (6).
- 2011: Provincial Regulation 5/2011 on Sustainable Plantations shapes the registration of land [10].
- Central Kalimantan was the first in Indonesia that established provincial legislation on sustainable management of the palm oil industry [11]
- 2013: the province of Central Kalimantan established the "Central Kalimantan Roadmap to Low deforestation and Rural development. The objectives of the Roadmap are to [11]:
    - Transition to a zero-deforestation palm oil industry;
    - Reduce deforestation 80% below the historic average;
    - Increase smallholder palm oil production from 11% to 20% total by 2020.

Regulations, policies and initiatives on district level:

In addition, the Seruyan district announced in 2015 its commitment to have all its commodities produced and processed certified as sustainable, starting with palm oil [11].

Decentralization

In decentralised Indonesia, district governments are responsible for providing public services and for coordinating socio-economic development at the subnational level. The new decentralisation law, issued in 2014, redistributed some of the authority of district governments to provincial governments, especially as related to forest management. District governments still have the authority to develop the agricultural development plan, issue licences for plantation companies, and to ensure that producers, including companies and small-scale farmers, cultivate the land sustainably

Challenges

The implementation of Central Kalimantan's commitments is faced with some challenged including [4], [11]:

- Limited technical capacity of subnational governments in Indonesia and frequent rotation of staff;
- Distrust of local governments by many stakeholders and;
- Reluctance to report social conflicts and other harmful practices to local governments due to fear of retribution or inaction.

## III. Objectives and elements of the landscape initiative

The initiative was launched with the declaration of "The Central Kalimantan Roadmap to Low-Deforestation Rural Development that Increases Production and Reduces Poverty" (1). In order to implement the Roadmap, the governor of Central Kalimantan formed a jurisdictional certification working group in 2015 with the aim to certify the entire palm oil supply chain in Central Kalimantan by 2019 [11].

### Objectives of the initiative (core focus)

- Through the jurisdictional approach, certification of palm oil production will be implemented at the provincial level using a model of rural development that is aimed at (2):
    - reducing deforestation and greenhouse gas emissions and at
    - Improving the welfare of society and;
    - Recognizing the rights of the indigenous communities.

Jurisdictional sustainability criteria in Central Kalimantan are defined as [1]:

- 100% palm producers are certified as sustainable in 2019 – including smallholders.
- Achieving deforestation and emission reduction targets (80% in 2020 of 2001-2006 baseline rate).

- Increasing welfare of smallholder farmers & protection of indigenous rights.
- Sustainable sourcing & investment.
- The jurisdictional approach aims to address sustainability, legality and traceability issues i.e. deforestation, social issues, smallholders, and forest fires.

RSPO jurisdictional certification will be awarded to a jurisdiction that complies with some or all sustainability criteria in the existing standards (4).

**Activities (description)**

Some elements of the strategy to achieve the objectives of the Roadmap of Central Kalimantan are [11]:

- Obtain commitment from buyers to recognize the province's progress through preferential sourcing;
- Obtain financial and technical support for smallholders and indigenous communities to expand their participation in the supply chains;
- Overcome bureaucratic obstacles to sustainable palm oil;
- Secure financing to build institutional capacity of provincial and district governments.

In the near term, the program aims to improve palm oil sector governance by [11]:

- Trying to secure new licenses are issued only on degraded land;
- Promoting a jurisdictional approach to certification;
- Conserving primary forest and peatlands in areas zoned for conservation;
- Promoting the growth and sustainability of smallholder plantations;
- Establishing a government-backed monitoring team.

On the long term, the program intends to safeguard segregated supply chain traceability, increase financial and technical support and work towards jurisdiction wide RSPO certification [11].

To realize the objectives, the local government within a jurisdiction has committed to [3]:

- Carry out low-emission rural development, reduce deforestation, respects the rights of the indigenous community and support farmer participation in the sustainable commodity supply chain (3);
- Establish and leading a multi-stakeholder work group with representatives from companies, farmers, the indigenous communities and NGOs, who together will identify and agree on the risks, solutions and sustainable targets at jurisdictional level, such as e.g. reducing deforestation (3);
- Develop or adopt a transparent monitoring system that helps the parties to control and evaluate the targets that have been defined in the work group (3);
- The availability of an innovative incentives system to stimulate the achievement of the sustainability targets will be defined at jurisdictional level (3);

Farmer support program and mapping

INOBU has signed a MOU to support and empower smallholders in Indonesia [11] and is working with district government to pilot jurisdictional-level certification of palm oil production. This includes mapping smallholder palm oil farmers, supporting their land registration, establishing collaboration between government and agribusiness and developing a plantation monitoring system. INOBU have strategically focused on smallholder issues [12].

Mapping: In collaboration with the Central Kalimantan government, Seruyan District government and several palm oil companies, the organization INOBU maps independent farmers at village level in the districts Seuryan and Kotawaringin Barat district [11].

Kotawaringin Barat district

In this district, the Pangkalan village has been selected as pilot for jurisdictional certification in 2016. INOBU is leading this pilot, but collaborates with Unilever, RSPO and ISPO on certifying the 600 farmers. This pilot is on village level so not yet a jurisdictional approach [11].

Seruyan district

In 2015, this district announced its commitment to have all of its produced and processed commodities certified as sustainable in 2019, including smallholders. The goals are [11]:

- All palm oil producers are certified sustainable in 2019, including smallholders
- Deforestation and emission reduction of 80% in 2020
- An increased welfare of smallholder farmers and protection of indigenous rights.

The Jurisdictional certification working group in Seruyan is mapping all of its independent smallholders, is assessing HCV and HCS at district level, and is interpreting and implementing FPIC principles at district level. The HCV and HCS maps will be used to identify go and no-go areas for palm oil cultivation [11].

The role from the Seuryan district in this smallholder program is amongst others (4):

- Developing and managing district development/economic growth plans.

- Developing, monitoring and enforcing spatial plans.
- Issuing legal documents and other licenses related to oil palm cultivation.

In addition, a plantation monitoring system has been established called SIPKEBUN (*see also monitoring*).

Gnung Mas district

This district has joined the jurisdictional program in 2016. A jurisdictional certification working group has been established and smallholders have been mapped. The Working group assists farmers to get permits outside forest areas [11].

Other support projects as part of the provincial sustainable palm oil ambition

- Climate Policy Initiative and the University of Palangka Raya are working with communities, business and government on a "Production and protection program" – aiming to increase agricultural productivity, protect HCV areas and expand the use of degraded land for agriculture [11];
- INOBU and the European Forest Institute started the TERPERCAYA study on 'tracking sustainable palm oil and defining jurisdictional sustainability at scale'

| **Sustainability goals: scope of the initiative** (indicate and explain shortly) | | |
|---|---|---|
| X | Environmental | Focus on reducing deforestation and realizing emission reduction targets. |
| X | Social | Focus on increasing welfare and protection indigenous rights |
| X | Economic | Increase productivity of smallholders, secure financing and commitment |

| **Link to sustainability framework** (indicate which one(s), more than one link is possible) | | | |
|---|---|---|---|
| | Standardization | X | Monitoring |
| X | Certification | X | Collaboration |
| X | Legislation | X | Strengthening governance |
| X | (Supply) risk mitigation | X | Promoting integrated / multi-functional land use |
| X | Education | X | Other (indicate): secure financing, commitment |

**IV. Stakeholder involvement in the landscape initiative**

stakeholders and their roles.
Possible roles are: standard setting; input in public consultation; voting right; education and extension; monitoring compliance)

| | | |
|---|---|---|
| X | Primary producers | Farmers (realizing certification; participate in working groups), smallholders |
| X | Secondary producers | Large-scale commodity producers |
| X | Traders and buyers | Unilever: Signed a three-year MOU with the provincial government, the district government Kotawaringin Barat and INOBU to support a jurisdictional approach for sourcing sustainable palm oil at village level [11]. Also for example also: Golden Agri Resources, Wilmar International, Cargill [11] |
| X | Government | Local and provincial government (key roles: monitoring compliance and empowerment of farmers is led by government)<br>National government: Creating necessary regulations and policies including incentives and disincentives for all actors in the jurisdiction; The ministry of Agriculture signed the MoU to support and empower smallholders in Indonesia [11]; The Ministry of Agriculture owns SIPKEBUN [11]; ISPO<br>Provincial: Central Kalimantan signed the MoU to support and empower smallholders; District: Seruyan signed the MoU to support and empower smallholders in Indonesia, Kotawaringin Barat and Gunung Mas district as well [11] |
| X | NGOs | Participate in working groups<br>INOBU (Facilitator, signed the MOU to support and empower smallholders in Indonesia) [11]; Earth Innovation Institute: (financial?) support<br>RSPO: Advisor [11] |

| | | |
|---|---|---|
| | | Government's climate and forest task force: signed the MOU to support and empower smallholders in Indonesia [11] |
| X | Business associations | Indonesia Palm Oil Pledge (IPOP) |
| X | International organizations | NORAD: (financial) support |
| X | Research and education | University of Palangka Raya: part of production and protection program [11] |
| X | Certification bodies | Certification Bodies in cooperation with RSPO (key role certification) |
| X | Indigenous people | Stakeholders of the jurisdictional certification working group [11] |
| X | Other | Commodity buyers: implement jurisdictional sourcing<br>Financial institutions: "green" financial packages for actors in jurisdiction<br>Packard Foundation [11]: (financial?) support |
| Stakeholders of the jurisdictional certification working group (established in 2015) are local governments, oil palm growers, NGOs, indigenous people and smallholders and the organization INOBU [11]. Working with the local government seems to be effective but to some the jurisdictional approach is not multi-stakeholder enough as it focuses primarily on involving government actors and fails to build a broader societal engagement. There is also a focus on the palm oil industry and the approach is therefore not cross-commodity [11]. | | |
| | | |
| | Low | |
| X | Medium | There are multi-stakeholder working groups and specific commitments. A governance model and mechanisms are under development. |
| | High | |
| **Governance model of the initiative** (indicate and explain) | | |
| | Public regulation | |
| **X** | Co-regulation | Seruyan's Jurisdictional certification working group is developing a governance model for fair and balanced decision marking – aiming to develop standard operating procedures such as voting rights. It is still unclear how the working group will manage funds from supporting partners [11] |
| | Delegated co-regulation | |
| | Ex post recognized private regulation | |
| | Pure private regulation | |
| **Financial structures in the landscape** | | |
| Financial Mechanism<br>(How is the initiative paid for) | | • As pilot province for REDD+, the province is supported with a US$1 billion agreement between Norway and Indonesia [11].<br>• The total oil-palm estate investment in the Central Kalimantan province (per June 2015) amounts to USD 2.5 billion; In Seruyan District (per June 2015), this is USD 445 million, 18% of the total investment in the province (3).<br>• Objective of the project is to develop an innovative incentives system as incentive to achieve the sustainability targets at jurisdictional level (3).<br>• The Seruyan Jurisdictional certification working group needs additional funding for HCV and HCS assessments. A perceived challenge is that international government funding has to go through the national government (first) [11]<br>• The benefits of smallholder registration enable smallholders' collateral access to finance (e.g. bank loans), [12] |
| **V. Level of stringency and precision of the system** | | |
| Shortly describe the level of stringency (-ies) of the system and the level of prescriptiveness | | On jurisdictional level, there is an emphasis on measuring performance on annual basis (i) Annual deforestation and incidence of forest fires according to jurisdictions and concessions and (ii) annual statistics on other indicators such as social conflict, |

| | | | | |
|---|---|---|---|---|
| | | recognition of indigenous rights and smallholder participation in palm oil supply chains (4). | | |
| | | **Level of stringency** | | |
| **Level of Prescriptiveness** | | Mandatory | Semi-voluntary | Voluntary |
| Performance-based/substantive | | | X? | |
| Compliance-based | | | X? | |
| Measurement-based | | | X? | |
| Management or process-based | | | | |
| **VI. Mechanisms to monitor progress and compliance within the initiative** | | | | |
| Monitoring mechanism in place | | There is an online performance platform 'SIPKEBUM' hosted by national, provincial and district governments (1).<br>SIPKEBUN—which stands for Sistem Informasi dan Pemantauan Kinerja Perkebunan Berkelanjutan or "Information and Performance Monitoring System for Sustainable Plantations,"—is the product of close collaboration between INOBU and local governments in Central Kalimantan. As a first step, SIPKEBUN will store and display independent oil palm smallholder data for the three Central Kalimantan districts, including the location and area of plantations, level of production and socio-economic conditions. The monitoring system contains data on commercial plantations and smallholders: it can monitor deforestation, forest fires and plantation performance at the district level [11].<br>SIPKEBUN, A GIS-based online system, will not only monitor plantations but is also considered an opportunity for collaboration between the Central and Regional governments. It will systematically address the problems that regional governments have long battled with in isolation, such as forest and peat fires, conflict over land uses in forest areas and empowering smallholder farmers (4), (8).<br>The local government has authorized INOBU to collect smallholder data, which are fed into the cadastre. Data are fed into the SIBKEBUN database, which enables local government to streamline the processing for issuing cultivation registration letters and then to initiate process for issuing land certificates to smallholders [12]. | | |
| Risk management mechanisms in place[24] | | No | | |
| | | | | |
| | Self-imposed control | | | |
| | Self-declarations with submission to authority | | | |
| | Self-declarations with submission to 3rd party | | | |
| X | 3rd party on-site controls | For those certified | | |
| X | Governmental on-site control | From government | | |
| | Other | | | |
| | | | | |
| | Non-existent | | | |
| X | Jurisdictional sanctions (prison, fines) | The mapping of smallholders and placement of farms in the cadastre facilitates legality of land tenure on one hand, but also enables the government to enforce and govern this improved legal system. | | |

[24] Including for example more intensive monitoring in specific areas to tackle illegal activities.

| | | |
|---|---|---|
| X | Exclusion from subsidies / financial incentives | According to (4), the governmental monitoring system in the Seruyan district aims to link performance results to the provision of incentives and maintaining the certification status. |
| X | Exclusion from market access / permit loss | The monitoring system SIPKEBUM is led by sub-national governments (provinces and district). The data is linked to official government processes and can influence licensing, allocating permits and distribution of agricultural support [11]. |
| | Reprimand | The approach aims to avoid naming and shaming – instead, there is an emphasis on government led, collaborative approach (4). |
| X | Certificate withdrawal | According to (4), the governmental monitoring system in the Seruyan district aims to link performance results to the provision of incentives and maintaining the certification status. |
| | Other | |
| | | |
| | High | |
| X | Medium | The monitoring systems aims to develop a system with graduated access: confidential information remains restricted to government officials; There is public access for data related to performance including deforestation, fires, social conflict and concession status (4). |
| | Low | |
| | | |
| Risk-based mechanisms in place: | | |
| | | |
| X | Geographical focus | Palm oil plantations (in relation to forest areas and specifically HCV areas): SIPKEBUN is a GIS-based online system with data on commercial plantations and smallholders [11] |
| X | Focus on specific issue | The monitoring system systematically address the problems that regional governments have long battled with in isolation, such as forest and peat fires, conflict over land uses in forest areas and empowering smallholder farmers (4), (8). |
| **VII. Securing product sourcing from the region: Supply chain control for the commodity** | | |
| **Link of Chain of Custody (CoC) with Landscape initiative** | | |
| X | CoC is organized through a certification system | The approach links and supports with certification. The CoC is linked to certification systems as RSPO, ISCC or ISPO (3).; The benefits of smallholder registration support the traceability of supply [12], facilitating inclusion of smallholders in the supply chain. |
| | CoC is organized through a landscape label | |
| | Other… | |
| Starting point CoC: | | To become RSPO certified, oil mills and independent smallholders must meet the RSPO Principles and Criteria. Crushers have to comply with the requirements in the RSPO Supply Chain Certification Standard (7). |
| CoC system in place *(Indicate below)* | | |
| **X** | Book & claim | RSPO has a book and claim supply chain model (7) |

[25] Transparency levels: High: Monitoring results, compliance results and sanctions are publicly shared within defined time periods; Medium: Monitoring and compliance results are partly shared and/or on an aggregated basis to the public; Low: Results are not or limited shared.

[26] Focusing on (formalised) risk-based verification approaches.

| | | |
|---|---|---|
| **X** | Mass balance | RSPO has a mass balance supply chain model (7) |
| **X** | Segregation | RSPO has a Segregation supply chain model (7) |
| | Identity preserved | |
| Label | | This jurisdictional approach will not specifically replace the conventional sustainable certification approach (yet) which is applied at factory or plantation level, such as for example is already being done through ISPO, RSPO or ISCC (3). Certification targets single plantations or mills that belong to companies or smallholders. |
| Alignment with markets | | The approach links market and non-market incentive mechanisms for transforming an entire jurisdiction (4). |
| **Level of transparency on the sustainability of the product / commodity** | | |
| | Public aggregated data at international, jurisdictional or regional level available | |
| | Public geographically explicit data at international, jurisdictional or regional level available | |
| | Company aggregated data for its supply base available | |
| X | Company geographically explicit data for its supply base available | Through certification: Audit reports are available on the website including geographical information (7) |
| X | Audit documentation files available | Through certification: Audit reports are available on the website including geographical information (7) |
| X | Grievance and complaint mechanism in place in the region | Through certification: Aside from the Grievance Process, individual RSPO Members are also expected to have their own functioning grievance/complaints mechanisms at the individual site level to resolve disputes (7). |

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## 3. Produce, Conserve and Include (PCI) in Mato Grosso, Brazil

| **I. Summary and relevance of the initiative** | |
|---|---|
| The Green growth plan – translated into the Produce, Conserve and Include (PCI) strategy, aims to double the economic output of Mato Grosso through a landscape program, with soy and livestock as key commodities, while reducing deforestation to zero and improving the livelihoods of family farms. This is realized through a Produce, Conserve and Include strategy, with monitoring indicators, built in a participatory process that integrates the agenda of public, private and civil society institutions, based in a jurisdictional approach, promoting the transition to a sustainable development in Mato Grosso [7], [8]. | |
| **II. General information** | |
| Name of initiative | Green growth plan – called Produce, Conserve and Include (PCI) – that aims to double the state's economic output while reducing deforestation to zero and improving the livelihoods of family farms and the Initiative for Mato Grosso, Brazil (1) |
| Starting date of the initiative | The Green Growth Strategy was first announced at the COP21 in Paris in 2015 [1] |
| End date of the initiative | Ongoing |
| Initiator(s) | IDH The Sustainable Trade Initiative (IDH)<br>Through the state government-led "Produce, Conserve and Include" (PCI) strategy, IDH partners with leading producers, municipalities, NGOs and others to maintain and conserve 60% of native forest while doubling economic output by 2030 [9]. |
| Partners involved | Government institutions as well as leading companies from the soy and beef industries alongside a number of civil society organizations active in the area (2) |
| **Geographical scope** | |
| Country/jurisdiction of region | Mato Grosso State, Brazil |
| Region within the jurisdiction | The landscape operates in Mato Grosso State, Brazil<br>The landscape itself comprises of multiple priority projects who, together, contribute to realizing the landscape's objectives, for example:<br>*** Vale de Araguaia** in Agua Boa: support the beef company Grupo Roncador in leading the protection of 143.000 ha of forest and the responsible production on 000 ha of farmland. The stakeholders will restore pastures and riparian areas, intensify cattle production, develop eco-tourism and carbon-neutral land-use, and achieve ecological connectivity through legal reserve offsets.<br>*** Sao Marcelo**/Carrefour, in Juruena: support beef company Sao Marcelo in leading the protection of 172.000 ha of forest and upgrading the production of small-scale calf suppliers on 100.000 ha of farmland to build a zero-deforestation beef sourcing region for Carrefour.<br>*** Alta Floresta**: support PECSA in intensification and restoration of 400.000 ha of farmland and 470.000 ha forest. Intensification will accommodate expanding soy production in previously unproductive grazing lands.<br>*** Paragominas,** in *Para State*: with 430.000 ha farmland and protect 1.4 million ha of forest. The compact is in place thanks to a decade of convening work by Imazon. The plan is to make a de-risking deal with Sicredi for small-scale cattle and soy farmers. |
| Size of area to which it applies | Total land cover 90 million ha |
| **Context** | |
| Land use(s) | Total land cover 90 million ha<br>Total forest cover 56 million ha<br>Protected forests 19 million ha<br>Forests on private land 37 million ha |

| | |
|---|---|
| | Pastureland 24 million ha. Two thirds are unproductive and degraded.<br>Crop land 8 million ha<br>Other productive land 2 million ha<br>Area by Biome: 53% Amazon (tropical rainforest), 40% Cerrado (tropical wetland) and 7% Pantanal (wetland), [7]<br>Main deforestation drivers: Large-scale cattle ranching, Small-scale agriculture, Small-scale cattle ranching (deforestation for pastures) (1) |
| Key commodities in the landscape | The four main agricultural products of Mato Grosso state are [1]:<br>Soybean: 41%,<br>Sugarcane: 30%,<br>Maize: 24%,<br>Cotton: 3%<br>Also beef and cattle production is a large agricultural activity |
| Natural and environmental context *(natural landscape)* | 90 million hectares across three biomes, Amazon, Cerrado and Pantanal. Each biome is characterized by its own biodiversity. |
| Most common land use changes | Mato Grosso is one of the nine States that make part of the Legal Amazon. Mato Grosso is also the largest producer of soy, beef and cotton in Latin America.<br>Mato Grosso state has faced massive deforestation as a result of agricultural expansion in the last decades [9]. Soy and beef are the biggest drivers of deforestation in Brazil. More than half of the extensive cattle ranches in Mato Grosso are highly unproductive, while new forests are being cleared to expand production. Intensifying cattle production to free up land for responsible soy, cotton and other farming is key to stopping deforestation in Mato Grosso.<br>In December 2016, the Brazilian government announced that national-level deforestation had increased by 29%, but data from Mato Grosso showed a reduction of 19% in the state from the previous year [12] |
| Socio-economic context of the region (e.g. municipality(ies), counties, etc) | • Area: 900 thousand km2 (3rd bigger state of Brazil)<br>• Population: 3.2 million<br>• IDH (The Sustainable Trade Initiative): 0.725<br>• GDP 2013: $89 million Reais<br>• Gross Value Agricultural production: 43 billion – 48% of GDP (3) |
| Land tenure | • Mato Grosso has 15% of its area protected in 68 Indigenous Lands and 4% protected in 73 Conservation Units [4].<br>• It also has 386 smallholder settlements covering 5% of its territory. The remaining area, which corresponds to 77% of the state's territory, is mostly occupied by medium and large private properties. Approximately 30% of this area is already registered in the SIMLAM system, Mato Grosso's environmental registry for rural properties [4[<br>• Land regularization is one of the sub-objectives under the "Include" component of the strategy [7] |
| Governance context | The main national legislation is the Forest Code, adopted in 2012. The Code includes two main components for forest protection: (i) that a percentage of the area on a property is left as forest or as native vegetation, as a Legal Forest Reserve (Reserva Legal), and (ii) that native vegetation in sensitive areas, such as along the margins of rivers and streams, is conserved as Permanent Preservation Areas (Áreas de Preservação Permanente – APP). Farmers who have deforested after July 2008 have to comply with the law and restore all degraded areas.<br>Mato Grosso has since 2010 structured various jurisdictional strategic planning instruments to reduce deforestation and sustainable development. These instruments are already in various stages of implementation:<br>• The Strategy to Produce, Preserve and Include (PCI), launched in 2015, aims to bring a vision for the low-carbon agricultural development of Mato Grosso by 2030 [14]. |

| | |
|---|---|
| | • The Action Plan for Prevention and Control of Deforestation and Burning in Mato Grosso (PPCDQ) is operational since 2006. It has had two phases of implementation (2006 to 2010 and 2011 to 2016) and was renamed in its third phase to the Plan of Action for Prevention and Control of Deforestation and Forest Fires of the State of Mato Grosso (PPCDIF / MT) [14].<br>• The main REDD + policy came with Law 9,878, in 2013, which established the State System of REDD + (SISREDD +) with the objective of promoting the progressive, consistent and sustained reduction of deforestation and other activities that emit GHGs, aiming to reach the goals of the PPCDQ, the State Policy of Climate Change, and the National Policy of Climate Change and other pertinent legislation. The law allowed for specific governance to be established with the establishment of the REDD + Governing Board and made it possible to obtain payment for results [14]. |
| | • In the context of PPCDIF and in addition to the federal instruments for monitoring deforestation in the Amazonian forest areas (PRODES and DETER-INPE), the State of Mato Grosso through the State Environmental Secretariat (SEMA) has a monitoring system and quantification of deforestation in the entire territory of Mato Grosso including forest and non-forest areas [14].<br>• The Mato Grosso government appointed the PCI Institute as its official vehicle to enable multi-stakeholder coordination, advise on public policies and measures, lead fundraising efforts and manage and monitor PCI programs [13] |

## III. Objectives and elements of the landscape initiative

### Reason to start initiative

- Through the landscape program in Brazil, the initiative supports the government of Mato Grosso's green growth strategy, PCI with objectives towards 2030.

### Objectives of the initiative (core focus)

The Green Growth strategy was announced at the COP21 in Paris in 2015 and aims to increase agricultural production and efficiency; conserve remaining natural vegetation; and improve the socioeconomic inclusivity of smallholder farmers and traditional communities by 2030.

The key components for each one of the goals Produce, Conserve and Include (PCI), are:

- **Produce**: Replace 6 million ha of low-income pastures with high productive crops:3 million ha of grains, 2,5 million ha of livestock (intensification), 0,5 million ha of planted forest and another 6 million ha of sustainably managed natural forest
- **Conserve**: Rehabilitate 2,9 million ha of APP; Eliminate illegal deforestation by 2020; Reduce deforestation in Amazon forest by 90 percent and in Cerrado by 95 percent and conserve 1 million ha of those areas likely to be deforested
- **Include**: Increase smallholder participation in domestic food market from 20 percent to 70 percent; Promote land regularization in 70 percent of smallholder farms; Provide technical assistance to all smallholder farmers; Increase access to credit (1).

### Activities (description)

The Strategy of Mato Grosso is based on Produce, Conserve and Include [7]. These PCI goals are further described in more detailed goals for each of the components [7]:

**Produce**

Beef cattle:

- Recover 2,5 million ha of pasture areas of low productivity by 2030
- Raise the productivity from 50 to 95 kg/ha/year by 2030

Agriculture (soy, corn, cotton):

- Expand the areas of grain, in areas of degraded pasture, from 9,5 to 12,5 million ha by 2030
- Raise the production of grains from 50 to 92 Mton by 2030

Native forest:

- Expand the area under SFM from 2,8 to 6 million ha by 2030

Planted forest:

- Expand planted forest area in already opened areas from 317 thousand to 800 mil ha by 2030
- FORESTRaise the timber production from 4,9 million m3 to 11,75 m3 by 2030

**Conserve**

Deforestation:

- Maintain 60% of native vegetal coverage
- Reduce in 90% the deforestation in the forest, having as reference a baseline of 2001-2010….
- 2030: Reduce in 90% the deforestation in Cerrado having as reference a baseline….
- Eradicate illegal deforestation by 2020
- Conserve 1 million ha of those areas that are likely to be deforested

Environmental regularization:

- Register 90% of the rural properties (CAR) by 2016
- Validate 100% of declared CAR by 2019
- Recompose 1 million ha of degraded APP by 2030
- Regulate 5,8 million ha (100%) of Legal Reserve, being 1,9 million ha by 2030

**Include**

Production and inclusion in the market:

- Expand technical assistance and Rural extension of family farming from 20% to 100% of families by 2030
- Raise the participation of smallholders' farms in the intern market from 20% to 70% by 2030
- Raise the access to credit from R$ 411 million to R$ 1,3 billion per year by 2030

Land regularization

- Perform the land regularization of 70% of lots of family farming by 2030.

In addition to supporting the PCI strategy at State level, priority projects are implemented at municipal level to link beef and soy production to forest protection [9]. Examples of the PPI Compacts are:

- Vale de Araguaia in Agua Boa: support the beef company Grupo Roncador in leading the protection of 143.000 ha of forest and the responsible production on 000 ha of farmland. The stakeholders will restore pastures and riparian areas, intensify cattle production, develop eco-tourism and carbon-neutral land-use, and achieve ecological connectivity through legal reserve offsets.
- Sao Marcelo/Carrefour, in Juruena: support beef company Sao Marcelo in leading the protection of 172.000 ha of forest and upgrading the production of small-scale calf suppliers on 100.000 ha of farmland to build a zero-deforestation beef sourcing region for Carrefour.
- Alta Floresta: support PECSA in intensification and restoration of 400.000 ha of farmland and 470.000 ha forest. Intensification will accommodate expanding soy production in previously unproductive grazing lands.
- Paragominas, in Para State: with 430.000 ha farmland and protect 1.4 million ha of forest.

| **Sustainability goals: scope of the initiative** (indicate and explain shortly) | | |
|---|---|---|
| X | Environmental | "Conserve" |
| x | Social | "Include". (Role of IDH: To provide a governance system in the region supporting policy development at state level) |
| X | Economic | "Produce" (Role of IDH Finance: attracting international investment to profitable conservation activities, Market: supply chain convening and verified sourcing areas). |

| **Link to sustainability framework** (indicate which one (s), more than one link is possible) | | | |
|---|---|---|---|
| X | Standardization | X | Monitoring |
| X | Certification | X | Collaboration |
| X | Legislation (land regularization) | X | Strengthening governance |
| X | (Supply) risk mitigation | X | Promoting integrated / multi-functional land use |
| X | Education (technical assistance) | X | Other (indicate): Attracting finance and markets [9] |

| IV. Stakeholder involvement in the landscape initiative | | |
|---|---|---|
| | | stakeholders and their roles.<br>Possible roles are: standard setting; input in public consultation; voting right; education and extension; monitoring compliance) |
| X | Primary producers | Farmers (achieving certification) (mainly soy and cattle)<br>For example, in project in Vale de Araguaia in Agua Boa: support to the beef company Grupo Roncador [1] |
| X | Secondary producers | Companies producing oil or animal feed |
| X | Traders and buyers | For example: Sao Marcelo/Carrefour project, in Juruena: support beef company Sao Marcelo to build a zero-deforestation beef sourcing region for Carrefour [1]. |
| X | Government | State Government of Mato Grosso and municipalities |
| X | NGOs | IDH (Sustainable Trade Initiative) and others |
| X | Business associations | IDH works at the market end in Europe to drive the uptake of deforestation-free soy produced in Mato Grosso through collaboration with [1]:<br>FEFAC; the EU vegetable oil and protein meal industry association,<br>FEDIOL; as well as CGF.<br>In early 2017, IDH and partners brought together the aforementioned market players and the powerful industry associations in Mato Grosso, Aprosoja and ABIOVE [1]. |
| X | International organizations | For example: NORAD: Support to PCI monitoring working group |
| X | Research and education | For example: Instituto Centro de Vida (part of PCI monitoring working group)<br>IPAM (part of PCI monitoring working group) |
| (X) | Certification bodies | There is an Mou with different organisations which use certification schemes for sustainable soy production in the priority project responsible soy in Mato Grosso. Certification bodies will be indirectly involved (RTRS) (5) |
| X | Indigenous people | For example: Tribes in the communities |
| | Other | Finance: E.g. Athelia Climate Fund is one of the partners in the PESCA priority project on cattle [12] |
| PCI Monitoring Working Group:<br>IPAM, ICV, EII, Aliança da Terra, TNC, Ação Verde, ONFi, GAE, SEAF, SEMA, SEDEC, AMAGGI, FAMATO, IMEA, CEASA, PMS | | |
| | | |
| | Low | |
| | Medium | |
| **X** | High | The multi-stakeholder coalition brings together several government institutions<br>as well as leading companies from the soy and beef industries alongside a number of civil society organizations active in the area [2]. There are multi-stakeholder working groups (such as the PCI monitoring group) and |

[27] Including partners of initiative, as well as other stakeholders directly or indirectly involved through e.g. collaboration, information sharing or managing the landscape.

[28] See GCP (2015): Low cooperation model: ad-hoc consultations, high level monitoring, collaborative plans while making individual decisions. Medium cooperation model: multi-stakeholder dialogue; regular meetings; specific commitments contributing to agreed objectives. High level of cooperation: formal mechanisms and rules for stakeholder representation; clear accountability framework in place for compliance; sanctions exist for non-compliance; detailed monitoring and evaluation strategy in place.

| | | |
|---|---|---|
| | | specific commitments.<br>This is all coordinated through an independent body: the PCI Institute (established in 2019) [12] |
| **Governance model of the initiative** (indicate and explain) | | |
| | Public regulation | |
| | Co-regulation | |
| **V** | Delegated co-regulation | It involves the private sector and also the public sector, the Government of the State of Mato Grosso, particularly with the Forest Code. |
| | Ex post recognized private regulation | |
| | Pure private regulation | |
| **Financial structures in the landscape** | | |
| Financial Mechanism<br>(How is the initiative paid for) | | With the appropriate strategy and investments, the PCI strategy can produce 6 Gt / CO2 of emission reductions and removals by 2030 [7]<br>The PCI goals can only be achieved with funding and partnerships between the public and private sector. There, PCI builds PPI compacts to finance for example responsible cattle intensification and soy production and works with private sector partners to align market demand for responsible production in Mato Grosso to accelerate the process, based on the Verified Sourcing Area (VSA). The PCI Institute is the official vehicle to lead fundraising efforts and manage and monitor PCI programs [13].<br>Some examples of financing received for individual project are [13]:<br>• The Pecsa project on cattle received €11.5 million in funding from the Althelia Climate Fund to bring the results of this pilot to commercial scale.<br>• The PCI Regional Compact in Juruena created an enabling environment for the launch of a co-funding project in the beef supply chain with EUR 2.5 million of a joint investment from IDH and Carrefour Foundation.<br>Other Examples of deployments means [7]:<br>* Valuation of social and environmental attributes of agricultural commodities: buying preference or awards<br>* Strengthening of environmental control: Amazon Fund / public budget<br>The State Mato Grosso also received substantial finance from the Early REDD movers program [10]. The REDD+ program of payment by results was approved at the end of 2017 called "REDD + for Pioneers" (REDD + for Early Movers - REM), funded by the German government (KfW) and the UK government (BEIS), totalling 178 million reals. REM / MT aims to reward and recognize the REDD pioneer climate change mitigation effort [14]. |
| **V. Level of stringency and precision of the system** | | |
| Shortly describe the level of stringency (-ies) of the system and the level of prescriptiveness | | For monitoring the PCI strategy, there are in total 21 PCI Indicators developed. Some examples [8]:<br>GOAL: Expand the area under sustainable forest management<br>Indicator: Area Authorized Forest Management regime<br>Baseline (2015): 2,6 million ha, 2016: 2,9 million ha million, 2017: 3 million ha<br>GOAL: Achieve technical assistance and rural extension coverage (ATER) to 100% of family farms by 2030<br>Indicator: Coverage of technical assistance and rural extension<br>Baseline (2015): 31,8%, 2016: 30,2%, 2017: 27,9%<br>Related to this is the development of Verified Sourcing Areas (VSAs) based on a VSA performance standard: |

| | | | |
|---|---|---|---|
| | In the producing region, a sustainability improvement deal is made between private, public and civil society stakeholders at jurisdictional level, e.g. a municipality, district or province (the Compact). The Compact details priority sustainability topics, targets and responsibilities, seeking to make best use of the strengths of each of the partners involved. The Compact has a mandatory core: the global VSA performance standard, which in current draft covers five key themes of global concern: forest and peat protection, good governance, labour, land tenure and transparency.<br>In the VSA model, any buyer, trader or interested third party will be able to easily assess the producing region's status and progress on key sustainability targets. This way, committed end-buyers can get a better understanding of the products in their supply chain and improve sustainability with direct support for the producing region.<br>Through VSAs, entire production areas can be connected to global markets. In these areas, local actors drive sustainable development and receive direct support and incentives by global markets for doing so. IDH is currently piloting VSAs . A VSA can only be implemented because of the presence of long-term targets, which are implemented and monitored and provide -especially on the long term – that sourcing is or becomes low risk. Indicators of PCI targets are public, and transparency is provided at State level [10] | | |
| | **Level of stringency** | | |
| **Level of Prescriptiveness** | Mandatory | Semi-voluntary | Voluntary |
| Performance-based /substantive | | X | |
| Compliance-based | | | |
| Measurement-based | | X | |
| Management or process-based | | | |
| **VI. Mechanisms to monitor progress and compliance within the initiative** | | | |
| Monitoring mechanism in place | *Short description of the monitoring mechanism in the area*<br>Monitoring takes place on jurisdictional level, on an annual basis, comparing progress with a baseline year and estimating progress towards the targets in 2030.<br>The PCI Monitoring Working Group (WG) was formed in the beginning of 2017 with the objective to evaluate the advances towards the established goals, subsidy the actions improvement and effectiveness, and ensure the transparency and accountability of the Strategy to partners, investors and society in general.<br>The first product of the WG contained the definition of indicators, a baseline and the data source chosen for each one of the goals (P,C,I), which will be monitored and updated annually. It also brought a Technical Note appended describing the methodology of analysis. There are in total 21 PCI indicators [8].<br>This monitoring system will be linked to the Verified Sourcing Area (VSA) system (6) | | |
| Risk management mechanisms in place | The monitoring system will allow for detecting certain risk areas (when progress lacks behind). On the other hand, it is specifically meant to show progress and to proof (also to the market) that risk is further minimized – as means to attract the market to the area for buying responsible products. | | |
| **Control mechanisms in place (indicate and describe):** | | | |
| | Self-imposed control | | |
| X | Self-declarations with submission to authority | The PCI Monitoring Working Group (WG) was formed in the beginning of 2017 with the objective of evaluate the advances towards the established goals, subsidy the actions improvement and effectiveness, and ensure the transparency and accountability of the Strategy to partners, investors and society in general. | |

| | | |
|---|---|---|
| | | Monitoring results are provided to the PCI Institute. |
| | Self-declarations with submission to 3rd party | |
| X | 3rd party on-site controls | For certification |
| X | Governmental on-site control | Policy compliance and monitoring |
| | Other | |
| **Sanctions in case of non-compliance (indicate and describe):** | | |
| | Non-existent | |
| X | Jurisdictional sanctions (prison, fines) | Improved enforcement in the region |
| | Exclusion from subsidies / financial incentives | |
| | Exclusion from market access / permit loss | |
| | Reprimand | |
| X | Certificate withdrawal | For those producers certified |
| X | Other | Through the VSA model, incentives are generated that through increasing low risk market and finance is attracted to the region [10] Currently piloting the VSA |
| **Level of transparency in monitoring within the initiative (indicate and describe):** | | |
| | High | |
| X | Medium | The 21 PCI indicators are publicly accessible and show progress on State level on an annual basis, aggregated on landscape level |
| | Low | |
| | | |
| Risk-based mechanisms in place: | | |
| The Landscape Governance system is aiming to work on a base of Produce, Conserve, Include (PCI) system. Particularly the case of São Marcelo **(6)** is looking to work with a Verified Sourcing Area (VSA). Under a VSA, a buyer will know exactly whether the product it is procuring is produced based on a set of sustainability criteria. If a region, such as the Juruena Valley, can guarantee **low risk sourcing**, or can demonstrate progress in the way it addresses certain risks (such as deforestation) this will attract buyers who are increasingly demanding sustainable products (IDH, 2018, page 5) | | |
| X | Geographical focus[30] | *Mato Grosso, Brazil, for example: landscape level Juruena Valley* |
| X | Focus on specific issue[31] | *RTRS collaborates with IDH for soy certification in Mato Groso*<br>The PCI indicators focus on the Producer, Conserve and Include (such as e.g. increases of productivity or deforestation)<br>The global VSA performance standard, which in current draft covers five key themes of global concern: forest and peat protection, good governance, labour, land tenure and transparency. |

[29] Focusing on (formalised) risk-based verification approaches.

[30] For example: companies have identified low-risk areas which allows companies to brand products as "zero deforestation" based on origin. Also, EUTR uses a risk-based approach.

[31] Approaches may focus their monitoring (and objectives) on specific issues. For example, water shortage.

| VII. Securing product sourcing from the region: Supply chain control for the commodity | | |
|---|---|---|
| **Link of Chain of Custody (CoC) with Landscape initiative** | | |
| X | CoC is organized through a certification system | RTRS for responsible soy (as one of the priority projects) |
| | CoC is organized through a landscape label | Possibly in the future: VSA to be defined and further developed (still in pilot phase) |
| | Other… | |
| Starting point CoC: | | . |
| CoC system in place *(Indicate below)* | | |
| | Book & claim | |
| | Mass balance | |
| | Segregation | |
| | Identity preserved | |
| Label | | RTRS |
| Alignment with markets | | |
| **Level of transparency on the sustainability of the product / commodity** | | |
| X | Public aggregated data at international, jurisdictional or regional level available | Only what is reported in the websites and the media |
| X | Public geographically explicit data at international, jurisdictional or regional level available | MoU with several companies such as Carrefour, Aprosoja, ABIOVE, FEDIOL.<br>Mato Grosso state has been increasing its use of the RTRS standard, with over 500,000 hectares certified and over 300,000 hectares of conservation in the state in 2019 [13] |
| | Company aggregated data for its supply base available | |
| | Company geographically explicit data for its supply base available | |
| X | Audit documentation files available | From the RTRS audit reports |
| | Grievance and complaint mechanism in place in the region | |

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## 4. SBP Regional Risk Assessment (RRA) for Latvia

| I. Summary and relevance of the initiative | |
|---|---|
| The Regional Risk Assessment (RRA) for Latvia, from the certification scheme SBP, evaluates an entire geographic region and determines the risks associated with sourcing feedstock for biomass pellet or woodchip production from that region so that the need for individual Biomass Producers to conduct risk assessments is avoided and, therefore, consistency between Biomass Producers' risk assessments is guaranteed. | |
| **II. General information** | |
| Name of initiative | SBP RRA Latvia |
| Starting date of the initiative | Project conducted in 2017 |
| End date of the initiative | The end-rapport with results from the RRA is from September 2017 |
| Initiator(s) | Sustainable Biomass Partnership (SBP) |
| Partners involved | SBP and NEPCon, was appointed as the working body responsible for conducting the RRA (as a project) for Latvia. |
| **Geographical scope** | |
| Country/jurisdiction of region | Country Latvia |
| Region within the jurisdiction | The scope of this risk assessment (RA) is restricted to Latvia´s national territory. |
| Size of area to which it applies | Latvia has a territorial area of 64,600 km2. Forests in Latvia occupy 3,020,575 ha or 50% of the total land area. |
| **Context** | |
| Land use(s) | • Forests in Latvia occupy 50% of the total land area.<br>• Agriculture: Meadows and pastures cover 1/3 of the agricultural land area in Latvia. The area of overgrown agricultural land constitutes 260,000 hectares. In the view of specialists, half of the overgrown area can be regarded as a forest land, i.e. the tree cover has reached the forest criteria and shall be managed according to forestry legislation. |
| Key commodities in the landscape | The risk assessment focuses only on forest land |
| Natural and environmental context<br>*(natural landscape)* | Moderate climatic zone of mixed forests. |
| Most common land use changes | Not mentioned in [1]. According to Latvia's Annual Land Report, the proportion of different land-use types has not changed radically since 1995. In recent years, the proportion of agricultural land fell slightly, while the proportion of forests and yard areas increased [2]. |
| Socio-economic context of the region (e.g. municipality(ies), counties, etc) | The forest industry accounts for around 20% of Latvian industry's added-value and employs approximately 5% of the total labour force. Around 70-80% of the products are exported. |
| Land tenure | • The state-owned forests in Latvia occupy 1,495,136 ha (49.5% of the total forest area); State forests are FSC/PEFC-certified.<br>• Private forests cover an area of 1,525,439 ha (50.5% of the total forest areas). The average forest area owned by an individual private forest owner is small; approximately 92% of private forests owners hold no more than 20 hectares (ha) of land. Six private forest managers are managing forests in accordance with the FSC standard requirements.<br>  ○ There are 144,000 private forest owners who manage 32% of the forest area.<br>  ○ 14% forests are owned and managed by private legal entities, 46% in total.<br>  ○ The rest is owned and managed by the state (49%) or municipalities and state institutions (Ministry of Environment, Ministry of Defence, etc.). |

| | |
|---|---|
| | • There is no evidence available to indicate that land rights are granted in violation of the national legislation. There is no official information on cases of corruption involved in the process of issuing land tenure and management rights (Finding 1.2.1 in [1]) |
| Governance context | Applicable laws are amongst others the Law on Forests (24.02.2000) and the State Forest Service Law from 1999. By Law, a valid Forest Management Plan is required for each forest property. No forest management activities can be carried out without a valid Forest Management Plan [3]. |
| | The Ministry of Agriculture is the responsible government body in the forest sector. The State Forest Service is the subordinated authority under the Ministry of Agriculture and their competencies are monitoring of forest management, use and hunting regulatory legislation compliance, monitoring and enforcing forest fire-fighting and participating in national forest policy development and implementation [1].<br>The control of the compliance with the Forest Act is generally under the responsibility of State Forest Service. On a local level, compliance is checked by regional offices of the State Forest Service [3]. |

**III. Objectives and elements of the landscape initiative**

**Reason to start initiative**

SBP-endorsed Regional Risk Assessments are considered a key part of SBP's focus on identifying and mitigating risks associated with sustainably sourcing feedstock for biomass pellet and woodchip production.

**Objectives of the initiative (core focus)**

The purpose of an RRA is to evaluate an entire geographic region and determine the risks associated with sourcing feedstock for biomass pellet or woodchip production from that region. With the RRA:

- The need for individual Biomass Producers to conduct risk assessments is avoided and, therefore, consistency between Biomass Producers' risk assessments guaranteed;
- The SBP RRA procedure also ensures active engagement with a diverse range of stakeholders in the region.

**Activities (description)**

The risk assessment is an evaluation of risks of compliance for SBP indicator requirements at national/regional level. This project covers an update of the risk assessment (RA) carried out in Latvia for FSC in 2014 and an assessment of all relevant criteria and indicators of the SBP Feedstock Compliance Standard. there is significant overlap between FSC Controlled Wood risk assessment criteria and SBP criteria

The risk assessment procedure follows three steps: a) gathering information b) risk assessment and c) establishing provisions for management of risk mitigation measures. The RA is based on information sources, including applicable legislation, reports from state authorities and other stakeholders, various database information and statistical data sources. During the preparation of the RA, a detailed baseline study for each of the SBP principles and criteria was developed.In accordance with SBP procedures, the risk assessment went through a stakeholder consultation process; after review of the comments the risk assessment was finalized.

**Sustainability goals: scope of the initiative** (indicate and explain shortly)

| | | |
|---|---|---|
| X | Environmental | The risk designation is conducted separately for each SBP indicator to evaluate the sustainability of the supply base. |
| X | Social | The risk designation is conducted separately for each SBP indicator to evaluate the sustainability of the supply base. |
| | Economic | Economic indicators are not covered under SBP (at least not explicitly) |

**Link to sustainability framework** (indicate which one (s), more than one link is possible)

| | | | |
|---|---|---|---|
| | Standardization | | Monitoring |
| X | Certification | | Collaboration |
| | Legislation | | Strengthening governance |
| X | (Supply) risk mitigation | | Promoting integrated / multi-functional land use |
| | Education | | Other (indicate): |

| IV. Stakeholder involvement in the landscape initiative | | |
|---|---|---|
| **Type of stakeholders involved** (if indicated, please provide details of stakeholders and their roles. Possible roles are: standard setting; input in public consultation; voting right; education and extension; monitoring compliance) | | |
| X | Primary producers | biomass sector |
| X | Secondary producers | biomass sector, the timber processing industry |
| | Traders and buyers | |
| X | Government | State authorities |
| X | NGOs | Non-governmental organisations working in environmental and social sectors |
| X | Business associations | Industry associations, Associations of forest owners |
| | International organizations | |
| X | Research and education | Scientific institutions/academia |
| X | Certification bodies | Certification bodies working in the forestry sector |
| | Indigenous people | Non-existent in Latvia |
| | Other | |
| During the stakeholder consultation, written comments on the risk assessment report were received from stakeholders and discussed in the stakeholder consultation workshop. Stakeholders provided comments to the discussion and description of the background situation in the risk assessment report. | | |
| **Level of cooperation of the initiative** (if indicated, please elaborate) | | |
| **X** | Low | Ad-hoc consultation |
| | Medium | |
| | High | |
| **Governance model of the initiative** (indicate and explain) | | |
| | Public regulation | |
| | Co-regulation | |
| | Delegated co-regulation | |
| | Ex post recognized private regulation | |
| **X** | Pure private regulation | The risk assessment is used as input for voluntary certification of market parties |
| **Financial structures in the landscape** | | |
| Financial Mechanism<br>(How is the initiative paid for) | | Not applicable here |
| **V. Level of stringency and precision of the system** | | |
| Shortly describe the level of stringency (-ies) of the system and the level of prescriptiveness | | This is based on a certification system so voluntarily. Based on the SBP standard: compliance with indicator to be justified through verification requirements; these are both measurement as process based. |

| | **Level of stringency** | | |
|---|---|---|---|
| **Level of Prescriptiveness** | Mandatory | Semi-voluntary | Voluntary |
| Performance-based/ substantive | | | |
| Compliance-based | | | |
| Measurement-based | | | X |
| Management or process-based | | | X |

| VI. Mechanisms to monitor progress and compliance within the initiative | | |
|---|---|---|
| Monitoring mechanism in place | | - |
| Risk management mechanisms in place[32] | | Mitigation measures shall be provided by the certified operator for any indicator which is classified as specified risk [1] |
| **Control mechanisms in place (indicate and describe):** | | |
| | Self-imposed control | |
| | Self-declarations with submission to authority | |
| | Self-declarations with submission to 3rd party | |
| X | 3rd party on-site controls | The first component of the SBE is a Risk Assessment (RA). The RA determines the risks associated with feedstock taken in by the BP and which the BP shall have to mitigate or avoid. The second component of the SBE is the Supplier Verification Programme (SVP). The SBE, comprising the RA and the SVP, is the responsibility of the BP, who may undertake it in- house, or contract it out to a suitably competent organisation. The justification of ratings, and any related evidence, shall be evaluated by the certification body during certification and surveillance audits [4] |
| | Governmental on-site control | |
| | Other | |
| **Sanctions in case of non-compliance (indicate and describe):** | | |
| | Non-existent | |
| | Jurisdictional sanctions (prison, fines) | |
| | Exclusion from subsidies / financial incentives | |
| X? | Exclusion from market access / permit loss | Where mitigation measures have not been effective in managing risk, and an indicator cannot be rated as low risk, further measures shall be implemented in order for the feedstock to be compliant with SBP Standard 1. Feedstock Compliance Standard. If risk cannot be brought to 'Low' then the source shall be avoided, and feedstock physically excluded from SBP-certified biomass [4]. |
| | Reprimand | |
| | Certificate withdrawal | |
| | Other | |
| **Level of transparency in monitoring within the initiative (indicate and describe):** | | |
| | High | |
| | Medium | The supply base report shall be both uploaded onto the Biomass producer website and submitted to the SBP no later than ninety (90) days after the on-site closing meeting at the end of an audit by a CB. SBP shall publish SBE public summary reports and annual updates on the SBP website [4] |
| | Low | |

[32] Including for example more intensive monitoring in specific areas to tackle illegal activities.

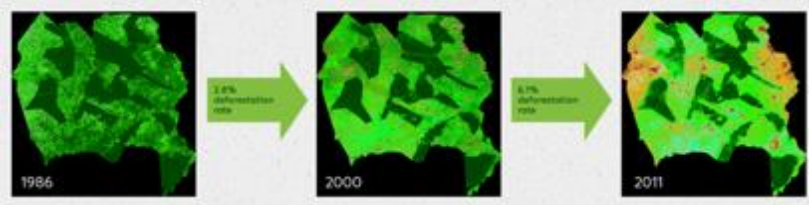
| Risk-based verification mechanisms | | |
|---|---|---|
| Risk-based mechanisms in place: | | |
| For each indicator, the rationale for risk designation is provided in relation to the threshold, means of verification, and evidence/information used. Risk designations consider the scale, intensity and management arrangements. The risk for each indicator is rated based on the following:<br>• An indicator is rated as "low risk" if there is a negligible risk of non-compliance with the indicator, that is, when evidence indicates that the low risk threshold(s) are met, and there is no other information that would lead to a "specified risk" designation;<br>  • All indicators that cannot be classified as "low risk" are rated as specified risk. "Specified risk" is designated when available means of verification do not show evidence that the low risk category is met or that one of more specific risk area was identified. Mitigation measures are provided for any indicator which is classified as specified risk.<br>(Low risk: An indicator shall be rated as low risk if there is a negligible risk of non-compliance with the indicator) | | |
| | Geographical focus | The country is considered homogenous with regards to SBP risks, just like other forestry and forestry-related risks so no further sub-division is considered to be needed. Where differences with regards to forest ownership are identified, these are explicitly mentioned under the findings for each indicator. |
| | Focus on specific issue | The risk designation is conducted separately for each indicator. Should there be substantial doubt as to the risks associated with different categories of feedstock (e.g. types of controlled wood, certified or certified material, primary secondary or tertiary feedstock), these are evaluated further based on the context and SBP guidance provided. |
| **VII. Securing product sourcing from the region: Supply chain control for the commodity** | | |
| **Link of Chain of Custody (CoC) with Landscape initiative** | | |
| X | CoC is organized through a certification system | |
| | CoC is organized through a landscape label | |
| | Other… | |
| Starting point CoC: | | SBP-approved Chain of Custody (CoC) Systems: These are FSC and PEFC and SFI Chain of Custody systems (percentage based; identity preserved) |
| CoC system in place *(Indicate below)* | | |
| | Book & claim | |
| **X** | Mass balance | Percentage based claim (see standard document SBP 4) |
| | Segregation | |
| | Identity preserved | |
| Label | | SBP Label |
| Alignment with markets | | This approach is still based on voluntary certification |
| **Level of transparency on the sustainability of the product / commodity** | | |
| X | Public aggregated data at international, jurisdictional or regional level available | The RRA findings for each indicator are publicly available on the website from SBP (aggregated to national level) |
| | Public geographically explicit data at international, jurisdictional or regional level available | |
| | Company aggregated data for its supply base available | |
| | Company geographically explicit data for its supply base available | |
| | Audit documentation files available | |

| | | |
|---|---|---|
| | Grievance and complaint mechanism in place in the region | |

| **VIII. References** | |
|---|---|
| [1] https://sbp-cert.org/docs/SBP-endorsed-Regional-Risk-Assessment-for-Latvia.pdf<br>[2] https://www.eea.europa.eu/soer/countries/lv/land-use-state-and-impacts-latvia<br>[3] Timber Legality risk assessment Latvia, version 1.3, June 2018, developed by NEPCon with support from the LIFE programme of the European Union, UK aid from the UK government and FSC<br>[4] SBP Framework Standard 2: Verification of SBP-compliant Feedstock, version 1.0 – March 2015, SBP | |
| **Other literature sources used** | |
| **Last update** | |

## 5. Productivity Protection and Resilience in Cocoa Landscapes, Ghana

| **I. Summary and relevance of the initiative** | |
|---|---|
| Declining production due to the impacts of climate change on ageing cocoa fields in Ghana has driven trading company Touton to engage in a landscape approach in the Bia West and Juabeso districts in Western Ghana. The approach sees Touton working closely with Ghana's Cocoa Board and other government bodies to establish a landscape forest governance framework, find solutions to land tenure challenges and develop a Climate-Smart Cocoa (CSC) standard [2]. | |
| **II. General information** | |
| Name of initiative | The Partnership for Productivity Protection and Resilience in Cocoa Landscapes (3PRCL) project [1] (In Ghana) |
| Starting date of the initiative | Launched in 2017 |
| End date of the initiative | Estimated outcomes run until 2020 [1] |
| Initiator(s) | Touton is leading the consortium |
| Partners involved | At the core of the consortium are the lead partners: Touton, SNV, Agro-Eco, NCRC, Forestry Commission of Ghana, and the Ghana Cocoa board. Other partners include District Assemblies, Stool Lands Secretariat, National House of Chiefs and other private sector groups (cocoa, mining, logging, oil palm) operating in the landscape [1] |
| **Geographical scope** | |
| Country/jurisdiction of region | The project is being implemented in Bia West and Juabeso administrative Districts in the Western region of Ghana. The Juabeso-Bia Landscape has been designated as one of the Hotspot Intervention Areas for the Ghana Cocoa Forest REDD+ Programme (GCFRP) [1] |
| Region within the jurisdiction | Bia West and Juabeso administrative Districts [1] |
| Size of area to which it applies | Land area of the landscape: 243,561 ha [1] |
| **Context** | |
| Land use(s) | The landscape is dominated by cocoa farming in the "off-reserve" areas and contains two major forest reserves (Bia North and Krokosua Hills, a globally significant biodiversity hotspot) and Bia National Park [1].<br>Forest Area: 140,000 ha (Bia National Park and Krokosua forest reserve) [1]<br>  |
| Key commodities in the landscape | Total Cocoa Production: 60,000 MT (Juabeso: 12,000 MT, Bia West: 48,000 MT) [1]<br>Cocoa is Ghana's most important agricultural commodity, accounting for roughly 57 percent of all agricultural exports and supporting the livelihoods of some 2.5 million rural farmers and their dependents [1]. |
| Natural and environmental context *(natural landscape)* | Cocoa production in Ghana is focused in the High Forested Zones that stretch across the country's south coast, where rainfall is high and climatic conditions ideal for cocoa production [2]. |

| | |
|---|---|
| Most common land use changes | The satellite imagery depicts the deforestation rate experienced in the Project area (Juabeso-Bia Landscape), [1]. Between 1990 and 2005, Ghana lost 26% of its forest cover, primarily driven by agricultural expansion [2].<br>It is estimated that since 2010 deforestation rates have increased from approximately 2.1% per year to 3.2% per year.<br>The rapid decline has been due to several factors, including insufficiently robust public policy which resulted in extensive indiscriminate logging (legal and illegal) and agricultural expansion, mainly cocoa production [1].<br>However, forests provide a conducive climate for high cocoa productivity, and the loss of forest cover in cocoa growing areas threaten the long-term sustainability of the crop. This is aside the effect of climate change that the forests generally mitigate [1].<br>  |
| Socio-economic context of the region (e.g. municipality(ies), counties, etc) | Population: 147,374 (7.6% of Western Region population) [1]<br>Economically Active: 77% (majority engaged in agriculture) [1]<br>According to the Bank of Ghana, the cocoa sector accounts for more than 9% of Gross Domestic Product (GDP) [2] |
| Land tenure | The landscape approach sees Touton working closely with Ghana's Cocoa Board and other government bodies to establish a landscape forest governance framework and to find solutions to land tenure challenges [2]<br>One element of the support provided aims to address the weak land ownership framework in Ghana which means that fragmented smallholder farms exist under a precarious legal status under the complex national legal land tenure system and those held under customary understanding [2] |
| Governance context<br>*(the government's ability to make and enforce policies and rules across its territory in a democratically accountable manner)* | Based on information from 2013, The legal framework in Ghana has been identified as having gaps, including weak regulatory mechanisms and legislation on rights. Clarification over existing land and definitions of carbon rights should be prioritised [5].<br>In March 2017, twelve of the world's leading cocoa and chocolate companies committed to ending deforestation in the global cocoa supply chain via the Cocoa and Forests Initiative statement of intent. In November 2017, this commitment was translated into a Framework for Action signed by the Ghana government and cocoa companies. Implementing the Framework will require government, business and CSOs to collaborate at national, regional and district levels [2].<br>The landscape programs in the Bia West and Juabeso districts were also identified in close collaboration with the national government as a pilot for Ghana's Cocoa-Forest REDD+ Program (GCFRP) that has been approved by the World Bank's Forest Carbon Partnership Facility [2].<br>Touton concluded that preventing forest encroachment would only be successful if farmers were incentivized by a regulatory force, not only commercial opportunities. They see that engagement with the government in order to establish a mechanism around forest protection is the only way of ensuring the prevention of encroachment. Within the project, a draft framework for the governance of the forest area and the roles of different actors has been established and capacity building of different stakeholders on its implementation will follow [2] |

## III. Objectives and elements of the landscape initiative

### Reason to start initiative

Expansion from cacao cultivation, combined with a decrease in per-hectare production (because of poor management practices and ageing cocoa trees), cocoa's vulnerability to climate change, changes in seasonal weather patterns, increased pest and disease occurrence, and increased likelihood of forest fire: All presented the cocoa farmers of Juabeso-Biawith an uncertain future. In order to build resilience and adaptive capacity into the cocoa supply network, a need for increased community involvement in governing forest resources and stronger land use governance was identified [3].

For Touton: Declining production due to the impacts of climate change on ageing cocoa fields in Ghana has driven trading company Touton to engage in a landscape approach in the Bia West and Juabeso districts in Western Ghana [2]. Buyers of cocoa are increasingly aware of how forests shape local climatic conditions and are recognizing deforestation as a material business risk [2].

### Objectives of the initiative (core focus)

The overall goal is to improve cocoa productivity and farmers' resilience within a sustainable landscape.

Project objectives are defined as [1]:

- Increase farm-level cocoa productivity to 1000 kg/ha (from the current average of 450 kg/ha)
- Strengthen farmers' capacity and skills to run their farms like businesses
- Increase farmer resiliency with a focus on income diversification
- Provide farmers with the skills and tools to foster climate change adaptation, mitigation of greenhouse gas emissions, and increase carbon sequestration in cocoa-forest landscapes
- Improve economic development through landscape governance and land use planning

Key outcomes are defined as [1]:

- Improved livelihoods through yield increase and additional income sources
- Reduced GHG emissions driven by unsustainable agricultural practices
- Enhanced carbon stocks through integration of desirable shade trees in cocoa farming systems
- Demonstrated importance of community land-use planning in Cocoa Smart Agriculture
- Promoted biodiversity and ecological integrity through awareness creation for environmental stewardship in target communities
- Development of a financially sustainable incentive mechanism for cocoa-forest landscape governance
- Development of a functioning natural resources governance system

### Activities (description)

The services or activities to deliver against the project objectives include [1]:

**1. Increased farm-level cocoa productivity to 1000 kg/ha**

1. Training, professionalization and coaching
   - Farmer groups and associations are strengthened to provide services to farmers
   - Service providers, lead farmers, internal inspectors, pruning gangs, weeding gangs and spray service providers are trained by RSC agronomists to also deliver training and services to farmers
   - Individual farmers are coached through the development and implementation of farm development plans
   - Farmer Associations are supported to produce certified beans against the Touton/Cocobod Climate Smart Cocoa Model
2. Cocoa Rehabilitation
   - The project will develop a partnership with Cocoa Research Institute of Ghana (CRIG) to provide bud woods for grafting, train agronomists and directly rehabilitate farms by grafting
   - The RSCs will coordinate demand for seedlings, bud wood and coaching from farmers that wish to rehabilitate their farm
   - Rehabilitation schedules will be designed and implemented for farmers
3. Intensification and Productivity
   - Demo plots are established in every community for training and adoption purposes. The demos showcase different cost-effective ways of applying agrochemicals, fertilizer, compost and good agricultural practices
   - Production of agro-eco specific fertilizer recommendation
   - Production of cocoa appropriate compost using poultry manure

**2. Improved service delivery efficiency for long-term farm level cocoa productivity increase**

1. Access to inputs and integrated services
   - Farmer shops are established at the RSCs where farmers can access region-specific, competitively-priced inputs.
   - Service Providers and Cocotechs sell the agrochemicals at the community level at the same price as in the RSC input shop

- Agronomists are given 'shops on wheels' to sell agrochemicals to farmers
- Other income-generating services such as pruning, weeding and spraying are delivered to farmers

2. Bancarisation
   - A bank is established inside or directly next to the RSCs
   - Farmers are provided with Farmer Business School training and thereafter given the opportunity to open bank accounts
   - Farmers are encouraged to develop savings culture
   - Input and personal loans can be provided to farmers to invest in their farms as well as to address personal challenges

**3. Improved farmer resiliency with a focus on income diversification**

1. Additional livelihoods
   - Vegetable and food crop demo plots are established at the RSC level for training purposes
   - Block farms and permaculture systems that integrate cassava, plantain and vegetable production are established at low valley bottoms in every community
   - Training in good practices, marketing, nutrition and gender are provided
   - Women are empowered and encouraged to take part in additional livelihood activities
   - RSCs support farmer groups to coordinate and market their produce

**4. IMPROVED CLIMATE CHANGE ADAPTATION, MITIGATION OF GREENHOUSE GAS EMISSIONS AND INCREASED CARBON SEQUESTRATION, AND BIODIVERSITY PROTECTION IN COCOA-FOREST LANDSCAPE.**

1. Development of a Climate Smart Cocoa Standard
   - Development of the framework for implementation and validation of Ghana's Standard for Climate Smart Cocoa
   - Development of a practice guide and manual for climate smart cocoa
   - Development of ecological zone-specific adaptation techniques
   - Development of Climate Smart Cocoa Management Plans and training for individual farmers and eco-zone
2. Development of a robust Web Interface for traceability to track/monitor cocoa and Forest
3. Development of a Sustainable Financing Model to catalyse investment into cocoa forest landscapes
4. Integration of the programme into the Emission Reduction Programme (ERP) of Ghana led by the Forestry Commission and Ghana Cocoa Board.

**5. IMPROVE ECONOMIC DEVELOPMENT THROUGH LANDSCAPE GOVERNANCE AND LAND USE PLANNING**

1. Development of a Landscape governance system
- Set up a consortium to develop a governance system from national to landscape and community levels to enforce cocoa-forest protection
- Set up a landscape governance compact where members commit to adhering to climate smart practices. RSCs coordinate a network of stakeholder activities that are linked to the supply chain and integrate them into the landscape governance system.

2. Development of landscape management plans
3. Support for the development of land use plans for cocoa production and biodiversity protection
4. Support to national platforms and dialogues on land tenure issues
5. Development of a financially sustainable incentive mechanism for cocoa-forest landscape governance

| **Sustainability goals: scope of the initiative** (indicate and explain shortly) | | |
|---|---|---|
| X | Environmental | Expected environmental benefits: Forest protection and conservation will lead to increased carbon stock to meet Ghana's REDD+ performance target and payments to the communities [1]. |
| X | Social | Expected social benefits: A trust fund (contributions from private sector, public sector, civil society, donors and other sources) to support cocoa communities' living conditions and diversified income sources [1] |
| X | Economic | Expected economic benefits: Increased productivity of cocoa and other livelihood sources resulting in increased incomes for farmers. A sustainable supply of deforestation-free cocoa to meet demand [1]. |

| **Link to sustainability framework** (indicate which one (s), more than one link is possible) | | | |
|---|---|---|---|
| X | Standardization | X (traceability / tracking) | Monitoring |
| | Certification | X | Collaboration (broader engagement, |

| | | | |
|---|---|---|---|
| | | | organization) |
| | Legislation | X | Strengthening governance |
| X | (Supply) risk mitigation | X (additional livelihoods, diversification) | Promoting integrated / multi-functional land use |
| X | Education (technical assistance) | X (financing, investments) | Other (indicate): |

**IV. Stakeholder involvement in the landscape initiative**

**Type of stakeholders involved** (if indicated, please provide details of stakeholders and their roles. Possible roles are: standard setting; input in public consultation; voting right; education and extension; monitoring compliance)

| | | |
|---|---|---|
| X | Primary producers | Farmers [2] |
| | Secondary producers | |
| X | Traders and buyers | Touton is a leading agro-industrial actor [1] and a global commodity trader. Touton is one of the top five cocoa bean buyers in Ghana. The company trades about 100,000 MT of ordinary cocoa each year through the Ghana Cocoa Board (COCOBOD), [2].<br>PBC Limited (cocoa bean company): implementing partner<br>RMG Ghana LTD, Adame: Input and seed providers: Implementing partners [1] |
| X | Government | The Forestry Commission of Ghana is responsible for the regulation of utilization of forest and wildlife resources, the conservation and management of those resources and the coordination of policies related to them [1]. Also village chiefs, local authorities [2] |
| X | NGOs | National Conservation Research Centre (NTC, a leading indigenous conservation NGO) is supporting the design of the landscape management governance structure at the district and regional levels, as well as leading the development and testing of Ghana's landscape governance standard [1]<br>SNV is developing business models for the rehabilitation of old cocoa farms within the landscape [1].<br>Solidaridad: Implementing partner [1] |
| X | Business associations | COCOBOD (Ghana Cocoa Board) and Forestry Commission will set the national framework and develop an enabling cocoa policy and strategy around environmental sustainability for this project [1]. |
| X | International organizations | Partnership for Forests, World Cocoa Foundation, IDH, Cocoa and Forests Initiative, TFA2020: Implementing partners [1] |
| X | Research and education | Agro Eco Louis Bolk Institute – an independent advisory organization - is providing training and extension services to the cocoa farmers in the landscape [1].<br>Palladium, Mc Kinsey: Implementing partners [1] |
| | Certification bodies | |
| X | Indigenous people | Local communities (spokesmen are the chiefs) [2] |
| X | Other | Rabobank, Advance (financial institution): Implementing partners [1] |

In 2017, Touton convened all stakeholders they perceived as having an influence on the landscape in Bia West and Juabeso. This included farmers, but also logging companies, village chiefs, and government. The company led the establishment of the 3PCRL and brought together COCOBOD, the Forestry Commission, local authorities, key NGOs, and approached logging companies, competitors as well as many of the big buying companies sourcing from the region, including Cargill, Mondelez and Barry Callebaut [2]

**Level of cooperation of the initiative** (if indicated, please elaborate)

| | | |
|---|---|---|
| | Low | |
| X | Medium | The project seeks to establish a landscape governance structure and systems at regional, district and community levels with |

| | | |
|---|---|---|
| | | oversight of land use management, forest protection, and improved productivity and livelihoods [2].<br>COCOBOD and Forestry Commission will operate at the National level (enabling environment, policy direction etc.) and set the platform for land-scape actors and all stakeholders to sign and agree to the landscape governance compact [1]. |
| | High | |
| **Governance model of the initiative** (indicate and explain) | | |
| | Public regulation | |
| **X** | Co-regulation | Ghana has a unique supply chain model centred on strong government control, with COCOBOD overseeing nearly all aspects of the supply chain. Nowadays, an estimated 48 Licensed Buying Companies (LBC) operate in Ghana. As long as LBCs meet the government's high-quality standards, these private companies can purchase cocoa from farmers on behalf of COCOBOD for a fee and then export. COCOBOD prides itself on strict quality standards and conducts quality checks at three levels (at District Depot, on arrival at the port, and prior to shipment) before cocoa is exported [2].<br>The project is currently preparing for a landscape assessment against the soon to be established Ghana Climate-Smart Cocoa Standard [2]. It is envisioned that cocoa traders could eventually sell and market Climate-Smart Cocoa, with support from the government [2]. |
| | Delegated co-regulation | |
| | Ex post recognized private regulation | |
| | Pure private regulation | |
| **Financial structures in the landscape** | | |
| Financial Mechanism<br>(How is the initiative paid for) | | • The project is notably supported by the Partnerships for Forests [1]<br>• Touton has signed an MOU with the government to lead implementation of all interventions (from the REDD+ program) in the Bia-Juabeso HIA. The project aims to reduce carbon emissions by 2.3 million tons annually by 2020, which could generate USD 11.5 million in revenue from carbon funds [2]<br>• The long-term commercial viability of the work is integral to the success of the 3PRCL. Touton has already engaged financial institutions to conduct analyses of the long-term financial viability of the Rural Service Centres and feels confident that they can be sustained financially over time [2].<br>• The Forestry Commission has been tasked with establishing a financially sustainable traceable supply chain and deforestation monitoring system for the program; continuing to attract external finance is a key element of achieving this. At the national level the success of the governments' REDD+ ambitions is also dependent on the ability to secure private sector finance [2]. |
| **V. Level of stringency and precision of the system** | | |
| Shortly describe the level of stringency (-ies) of the system and the level of prescriptiveness | | The project will develop a Climate-Smart Cocoa (CSC) standard. The company Touton intends to report to its partners on sustainability outcomes at the landscape scale using the standard in the coming years, while simultaneously contributing to the government's efforts to meet its REDD+ commitments. The intention is that the Standard will be used on landscape level [2]. |

| | **Level of stringency** | | |
|---|---|---|---|
| **Level of Prescriptiveness** | Mandatory | Semi-voluntary | Voluntary |
| Performance-based/substantive | | | |
| Compliance-based | | V | |
| Measurement-based | | | |

| | | | | |
|---|---|---|---|---|
| Management or process-based[33] | | | | |
| **VI. Mechanisms to monitor progress and compliance within the initiative** | | | | |
| Monitoring mechanism in place | | One of the main targets of the 3PCRL approach is to develop a common deforestation monitoring system for the landscape that traces farms both in and outside forest reserves. The project will provide regular reports to partners on deforestation status and other outcomes in the landscape under the REDD+ HIA management plan [2]. | | |
| Risk management mechanisms in place | | No | | |
| **Control mechanisms in place (indicate and describe):** | | | | |
| | Self-imposed control | | | |
| X | Self-declarations with submission to authority | A mixture: there are government controls. Next to that, certified farms have auditing controls. On landscape level, the project reports to the REDD+ and national framework | | |
| | Self-declarations with submission to 3rd party | | | |
| X | 3rd party on-site controls | A mixture: there are government controls. Next to that, certified farms have auditing controls. On landscape level, the project reports to the REDD+ and national framework | | |
| X | Governmental on-site control | A mixture: there are government controls. Next to that, certified farms have auditing controls. On landscape level, the project reports to the REDD+ and national framework | | |
| | Other | | | |
| **Sanctions in case of non-compliance (indicate and describe):** | | | | |
| | Non-existent | | | |
| X | Jurisdictional sanctions (prison, fines) | A mixture: Government controls can result in fines or other jurisdictional sanctions.<br>**No** sanctions on landscape level when actors do not meet the targets | | |
| | Exclusion from subsidies / financial incentives | | | |
| | Exclusion from market access / permit loss | | | |
| | Reprimand | | | |
| X | Certificate withdrawal | A mixture: Certificate withdrawal **only** for those farms who are certified<br>**No** sanctions on landscape level when actors to not meet the targets | | |
| | Other | | | |
| | | | | |
| | High | | | |
| X | Medium | The project will provide regular reports to partners on deforestation status and other outcomes in the landscape under the REDD+ HIA management plan [2]. | | |
| | Low | | | |

[33] In contrary to measurement based indicators, process-based indicators aim to monitor progress in processes (e.g. decision-making, management, capacity building) that are needed to make sure that the desired outcomes are realized.

| | | |
|---|---|---|
| Risk-based mechanisms in place: | | |
| No | | |
| | Geographical focus | |
| | Focus on specific issue | |
| **VII. Securing product sourcing from the region: Supply chain control for the commodity** | | |
| **Link of Chain of Custody (CoC) with Landscape initiative** | | |
| X | CoC is organized through a certification system | 11,300 farms have been mapped and 7,165 producers have been trained on good agricultural practices and Climate-Smart Cocoa principles. These farmers have been certified under UTZ/Rainforest Alliance standards [2].<br>For Touton: in accordance with a code of conduct and the Cocoa Capacity Enhancement (CCE) framework. As a verification process entrusted to an accredited third party, certification attests that cocoa is produced in compliance with the standards enacted by the certification body [4] |
| X | CoC is organized through a landscape label | In the future: The project is currently preparing for a landscape assessment against the soon to be established Ghana Climate-Smart Cocoa Standard [2]. It is envisioned that cocoa traders could eventually sell and market Climate-Smart Cocoa. This could serve as a basis to bring in supply chain financing to support landscape governance and deforestation monitoring work [2]. |
| | Other… | |
| Starting point CoC: | | The cocoa farmer |
| CoC system in place *(Indicate below)* | | |
| | Book & claim | |
| | Mass balance | |
| **X** | Segregation | For Touton: Touton's cocoa beans are now traceable all along the supply chain, from the origin to the consumer allowing segregation of conventional and certified beans [4] |
| | Identity preserved | |
| Label | | |
| Alignment with markets | | |
| **Level of transparency on the sustainability of the product / commodity** | | |
| | Public aggregated data at international, jurisdictional or regional level available | |
| | Public geographically explicit data at international, jurisdictional or regional level available | |
| X | Company aggregated data for its supply base available | Sustainable Sourcing reports on annual basis are available for the company Touton [4] |
| | Company geographically explicit data for its supply base available | |
| X | Audit documentation files available | As company, Touton is certified with related audit documentation [4] |
| | Grievance and complaint mechanism in place in the | |

[34] Focusing on (formalised) risk-based verification approaches.

| | region | |
|---|---|---|

**VIII. References**


[1] The Partnership for Productivity Protection and Resilience in Cocoa Landscapes (3PRCL) project, see: https://3prcocoalandscapes.com

[2] IDH LANDSCAPE CASE STUDY SERIES, The Business Case for Engaging in Landscape Approaches - TOUTON: The business case for a landscape approach to sustainable cocoa production in Ghana, see: https://www.idhsustainabletrade.com/uploaded/2018/06/IDH_Business-case-study_Touton_Ghana_cocoa-1.pdf

[3] See: http://olamgroup.com/blog/supporting-cocoa-smallholders-transcend-boundaries-climate-change-2/

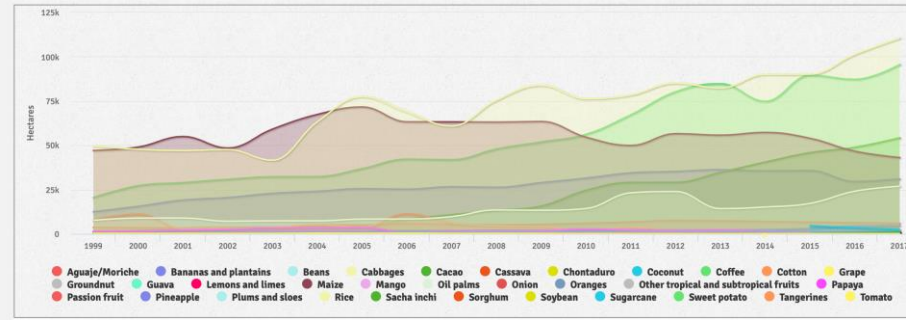
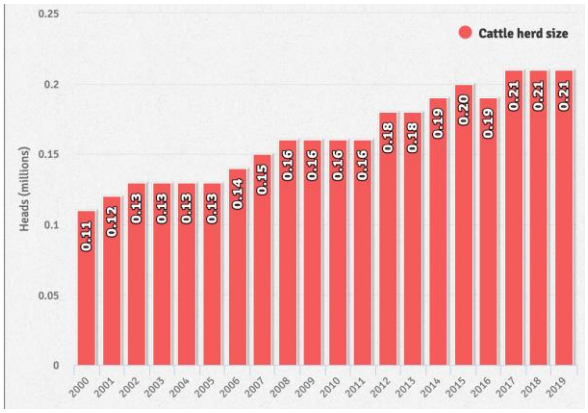
[4] Co-creating more sustainable supply-chains SUSTAINABLE SOURCING REPORT

2015/2016, Touton, see: https://touton.fr/images/docs/ToutonSSR_EN.pdf

[5] https://theredddesk.org/countries/ghana/initiatives (based on 2013)

## 6. REDD+ Multi-jurisdictional landscape initiatives of San Martín, Peru

| I. Summary and relevance of the initiative | |
|---|---|
| REDD+ has opened opportunities for horizontal coordination, with multi-stakeholder platforms emerging to facilitate coordination among actors that might otherwise operate in isolation. San Martín has become a model region with respect to land-use planning given its policy orientation on integrated land-use planning. The San Martín case demonstrates improved efforts at coordination, as well as apparently greater influence from those actors supporting sustainable alternatives, influencing on the overall trajectory of land-use change [1].<br>The REDD+ funding in combination with integrated land-use planning and ambitions has attracted various projects and funding; some of them are highlighted in this factsheet:<br>• Production-Protection Approach in the Value Chains of the Peruvian Amazon [2];<br>• Public-Private Coalition of the Declaration of San Martín [2]<br>• Marca San Martín [2]<br>In 2017, a group of 44 institutions including government institutions, civil society organizations, and private companies joined to launch the San Martín Declaration, which establishes a public - private coalition for "Low Rural Development in Emissions to Achieve Sustainable Jurisdictions in the Peruvian Amazon ". The declaration aims to establish a medium- and long-term Amazon Agenda focused on: (i) guaranteeing rights to land and forests to native communities and agricultural and forestry smallholders producers; Ii) optimize the sustainable use of the forest landscapes of the Amazon; Iii) build the set of enabling conditions and generate the necessary changes for low emission rural development | |
| **II. General information** | |
| Name of initiative | REDD+ Multi-jurisdictional landscape initiatives |
| Starting date of the initiative | 2007: In 2007, the regional government administration was elected under the slogan "The Green Region [1] |
| End date of the initiative | Ongoing |
| Initiator(s) | Regional government: Regional government leaders were elected on a "green" platform and developed policies and plans to address the region's environmental problems [1]. This resulted in new projects and funding |
| Partners involved | • Project on Production-Protection Approach in the Value Chains of the Peruvian Amazon: Norway Institute for Bioeconomy Research, Instituto de Cultivos Tropicales, Mecanismos de Desarrollo Alternos [2]<br>• Project: Public-Private Coalition of the Declaration of San Martín: GORE San Martín, GORE Ucayali, GORE Amazonas, GORE Madre de Dios, GORE Huanuco<br>• Project: Marca San Martín: NORAD, Mecanismos de Desarrollo Alternos, Earth Innovation Institute [2]. |
| **Geographical scope** | |
| Country/jurisdiction of region | San Martín (Peru) |
| Region within the jurisdiction | The San Martín region is divided into 10 provinces, which are composed of 77 districts. |
| Size of area to which it applies | San Martín is in the east of Peru. It has an area of 51253 km² [2] |
| **Context** | |
| Land use(s) | About 62.3% are covered with forest [2].<br>Total tropical forest area (ha) in 2014: 3,423,672 ha [1]<br>Share of total tropical forest: 5% [1] |
| Key commodities in the landscape | The agricultural frontier expanded intensively in San Martín from 1995 to 2005 before slowing down [1].<br>Main agricultural products (2016): Rice (710,289 tons), Bananas and plantains (385,532 tons), Oil palms (381,665 tons) and Sugarcane (228,673 tons) [3]<br>Main exports from the region: coffee (75.9%), organic cacao and others (22.4%) [2]<br>GDP Breakdown: 27.30% comes from agriculture [2].<br>Value of agricultural production (2016) $ 85 million USD [3]; The Agriculture |

| | |
|---|---|
| | sector represented the 4% of the total value of the state's economy in that year [3]<br><br>Coffee production has increased by 75% between 1995 and 2010 [1]. Oil palm cultivation in the Amazon region is still limited, but has increased. In San Martín, oil palm is cultivated by private companies located in the province of Tocache, with around 12,000 ha of oil palm, and in the province of Lamas [1].<br><br>Figure below: trends in crop production (in hectares) in San Martín [4]<br><br>  <br><br><br>Figure below: Trends in cattle herd size (in million heads) in San Martín over time [4]<br><br>  <br><br><br>Cattle heads in the State increased from 162.423 in 2011 to 193.965 in 2016 [3] |
| Natural and environmental context<br><br>*(natural landscape)* | Current forest area: 34,200 km2 [2].<br><br>4.92% (33,784 km2) of the forest in Peru is in San Martín in 2017 [3]<br><br>4.04% of the forest carbon stocks in Peru are in San Martín in 2015 [3]<br><br>Major vegetation types are: Mountain Forests (26,969 km²), Other Land Uses (17,030 km²), Hill Forests (2,685 km²), Terrace Forests (1,489 km²), Waterways (478 km²), Non-Forested Areas (320 km²) and Flooded Forests (320 km²) [2]<br><br>Forest Management: No forest management category / Other holding categories (22,212 km²), national Protected Natural Areas (9,494 km²), concessions for conservation (5,812 km²), forestry concessions (4,947 km²), regional areas for conservation and recovery purposes (4,776 km²), native titled communities (2,165 km²), areas of Regional Conservation (1,475 km²) and private Conservation Areas (466 km²) [2] |
| Most common land use changes | Total deforestation 2001-2014 (ha): 359,957, share of total lost: 21.8% [1]<br><br>Drivers of Deforestation [2]: smallholder Cattle, large-scale Agriculture and smallholder Agriculture.<br><br>From 1995 to 2010, the annual rate of deforestation in San Martín was 250,000 ha [1]. Annual deforestation rates decreased from 1.10% in 2009 (29.283 has) to 0.65% in 2015 (20.589 has) [3]<br><br>San Martín experienced a wave of migration and agricultural expansion in the 1980s and 1990s that made it the most deforested region by 2005. Through governmental changes, the region reduced its deforestation rate by approximately 27% between 2010 and 2013 [1]. |

| | |
|---|---|
| | Reinforced by various waves of migration, the primary direct driver of deforestation in San Martín is by far land-use change for agricultural expansion, especially for coffee, cacao, rice and corn production. Note that deforestation from oil palm in San Martín is very low compared to the rest of the agricultural sector: an estimated 0.5% of the regional territory has been cleared for oil palm production compared to 56% for other agricultural crops, such as coffee, cacao, rice and corn [1]. |
| Socio-economic context of the region (e.g. municipality(ies), counties, etc) | Population: 829,520 (64,5% is urban) [2]<br>% of national population: 2.7% [2]<br>Human Development Index: 0.441 [2]<br>Based on data from 2015: Human Development Index = 44.08; Life expectancy index = 73.82; Education index = 60.58; GDP income per capita = 2,670 USD [3]<br>Indigenous people: 21,396 people; 1,633 km2 is the total area is occupied by Indigenous territories. 18 territories cover 3.19% of the state [3]<br>San Martín experienced a wave of migration and agricultural expansion in the 1980s and 1990s that made it the most deforested region by 2005 [1].<br>Smallholders, local people and private companies were presented as direct drivers of deforestation. Informants also mentioned the role of the (national) government in incentivizing deforestation and degradation [1]. |
| Land tenure | Land classification is both highly controversial and politically sensitive, but it is required by law before titles (or use permits) can be issued. The lack of clarity around the classification system (for which the Ministry of Agriculture is responsible) makes it appear subjective and open to manipulation [1]. |
| Governance context | **Strategies and policies**<br>San Martín "Green Region": In 2007, the regional government administration was elected under the slogan "The Green Region," representing a vision of recuperating deforested and degraded lands [1]. San Martín's regional vision stresses the importance of the integral nature of land-use decision making. Though it has an extensive conservation system, it aims to balance both conservation and development objectives. One of San Martín's goals is to expand the conservation area from the current 35% to 50% of the total land area. The integrated land-use planning model has drawn support from NGOs and international cooperation to the region. Several regional NGOs have formed an important coalition with the ARA to develop and strengthen regional state and non-state projects, including REDD+ projects [1].<br>Regional Conservation System: One of the most important policies. The conservation system has three conservation corridors (North, Central and South corridors and integrates the territories under different conservation modalities in the territory [2].<br>Plan of Regional Development San Martín– 2021 - The Agreed Regional Development Plan is a management tool for the development of San Martín. The plan outlines the aspiration of San Martín to achieve INTEGRATED AND BALANCED DEVELOPMENT, with reduction of inequalities [2]. In the future, the challenge is to formulate and implement a low-emission development strategy. The strategy must use a landscape approach to environmental/forest management that account for both human and ecosystem needs [2]<br>Regional Environmental Action Plan 2013-2021 – governance and planning tool across seven environmental sectors, including biodiversity, forests, and climate change.<br>**Laws and regulations**<br>According to the Forestry Law of 2000, legal timber extraction should take place in forest concessions and on private lands and in indigenous communities holding permits, technically known as 'enabling titles. According to a 2005 study, 90% of timber originating in the Peruvian Amazon was illegally extracted or traded [1].<br>**Zoning and spatial planning**<br>San Martín approved its regional economic and ecological zoning (ZEE) plan in in 20016, through Regional Ordinance Nº 012-2006-GRSM-CR [2]. |

| | |
|---|---|
| | The Regional Environmental Authorities (ARAs) *were established in 2010*. ARA centralizes the majority of the regional powers encompassing the environment, the forest sector and land-use planning in forested areas, whereas agriculture and land-use planning powers related to the agriculture sector are the responsibility of different regional agencies [1]. Jurisdictional complexity persists at the subnational level in Peru, with actors from multiple levels and sectors of government playing distinct roles across multifunctional landscapes [1].<br>The Amazon Interregional Council (CIAM) was established as secretariat to coordinate environmental policies among the Amazonian region of Peru [1].<br>The national REDD+ Group has played an important role in consolidating civil society feedback on proposals for programs [1].<br>Regional REDD+ roundtables have provided an important forum for the development of REDD+ projects, discussion of regional REDD+ activities and contributions on the development of national REDD+ policies [1]. |

**III**

**Reason to start initiative**

Regional government leaders were elected on a "green" platform and developed policies and plans to address the region's environmental problems, at least in part because of the extent of deforestation and degradation in the region by the late 2000s. Discussions around conservation began prior to the emergence of REDD+ [1].

The Agreed Regional Development Plan 2021 outlines the aspiration of San Martín to achieve INTEGRATED AND BALANCED DEVELOPMENT, with reduction of inequalities [2].

**Objectives of the initiative (core focus)**

In 2017, a group of 44 institutions including government institutions, civil society organizations, and private companies joined to launch the San Martín Declaration, The declaration aims to establish a medium- and long-term Amazon Agenda focused on: (i) guaranteeing rights to land and forests to native communities and agricultural and forestry smallholders producers; Ii) optimize the sustainable use of the forest landscapes of the Amazon; Iii) build the set of enabling conditions and generate the necessary changes for low emission rural development [3]

- REDD+ projects in San Martín focus on smallholder agriculture, which is for this region also the main driver of deforestation [1].
- **Project:** Production-Protection Approach in the Value Chains of the Peruvian Amazon: aim is to increase the productivity and the conservation of the forests in small producers of value chains of cocoa and coffee [2].
- **Project:** Public-Private Coalition of the Declaration of San Martín: The coalition has established an agenda to promote development amazon focused on: i) ensuring land rights and forest native communities and agricultural and forestry producers; ii) optimizing the sustainable use of forest landscapes in the Amazon; iii) building the set of enabling conditions and generate the necessary changes for rural development low emission [2]
- **Project:** Marca San Martín: This initiative aims capitalize on sustainable supply chain initiatives and advances San Martín efforts to promote sustainability through a Production-Protection Approach [2].

**Activities (description)**

- **Project:** Production-Protection Approach in the Value Chains of the Peruvian Amazon: Activities that are likely to be implemented include a.o. development of multi-stakeholder platforms to improve supply chain sustainability, improving production capacity at the farm level, and development of business models and enabling policies [2]
- **Project:** Public-Private Coalition of the Declaration of San Martín: Goals of the coalition include reducing deforestation associated with agriculture, creating roadmaps for public - private coordination by Amazon region, designing an architecture of financing, increasing the productivity of agricultural crops and increasing the value of forests and promote forest plantations [2].
- **Project:** Marca San Martín: La Marca San Martín promotes competitive differentiation for products and services of San Martín that meet the attributes defined by a Public - Private Committee to manage the brand. he Marca Currently has a committee comprised of both public and private sector representatives which is driving the initiatives and define the criteria and rules of use for using the trademark and logo [2].

**Sustainability goals: scope of the initiative** (indicate and explain shortly)

| | | |
|---|---|---|
| X | Environmental | Reduce deforestation, low emission strategies |
| X | Social | Coordination, ensuring land rights |

| | | |
|---|---|---|
| X | Economic | Improve production capacity, creating value in value chains |

**Link to sustainability framework** (indicate which one (s), more than one link is possible)

| | | | |
|---|---|---|---|
| X | Standardization | | Monitoring |
| | Certification | X | Collaboration |
| | Legislation | | Strengthening governance |
| X | (Supply) risk mitigation | X | Promoting integrated / multi-functional land use |
| | Education | | Other (indicate): |

**IV. Stakeholder involvement in the landscape initiative**

stakeholders and their roles.
Possible roles are: standard setting; input in public consultation; voting right; education and extension; monitoring compliance)

| | | |
|---|---|---|
| X | Primary producers | Public-Private Coalition of the Declaration of San Martín: producer organizations |
| | Secondary producers | |
| X | Traders and buyers | Public-Private Coalition of the Declaration of San Martín: private business sector |
| X | Government | Public-Private Coalition of the Declaration of San Martín: Regional governments<br>Marca San Martín: public members |
| X | NGOs | Public-Private Coalition of the Declaration of San Martín: NGOs |
| X | Business associations | Public-Private Coalition of the Declaration of San Martín: Pro Ucayali network<br>Marca San Martín: private members |
| | International organizations | |
| | Research and education | |
| | Certification bodies | |
| X | Indigenous people | Public-Private Coalition of the Declaration of San Martín: organizations representing indigenous groups |
| | Other | |

**Regional REDD+ roundtables**

They have provided an important forum for the development of REDD+ projects, discussion of regional REDD+ activities and contributions on the development of national REDD+ policies [1].

**Project: Public-Private Coalition of the Declaration of San Martín**

This Coalition of 52 member organizations from government, private sector and civil society seeks to promote sustainable rural development and create synergies between regional governments, the private business sector, producer organizations, NGOs and organizations representing indigenous peoples. A group of companies from the Pro Ucayali network, comprising the largest companies in the region, have joined the coalition [2].

**Marca San Martín**

There is a Public - Private Committee to manage the brand; among private members are the Chamber of Commerce of Tocache, Palm Oil industry Loreto and San Martín SA and Rice Producers Association of San Martín [2]

| | | |
|---|---|---|
| | Low | |
| X | Medium | The coalition has established an agenda to promote development amazon [2]<br>In 2017, a group of 44 institutions including government institutions, civil society organizations, and private companies joined to launch the San Martín Declaration, which establishes a public - private coalition for "Low Rural Development in Emissions to Achieve Sustainable Jurisdictions in the Peruvian Amazon" |
| | High | |

| **Governance model of the initiative** (indicate and explain) | | |
|---|---|---|
| | Public regulation | |
| | Co-regulation | |
| X | Delegated co-regulation | Based on public-private cooperation and agreements |
| | Ex post recognized private regulation | |
| | Pure private regulation | |

| **Financial structures in the landscape** | |
|---|---|
| Financial Mechanism<br>(How is the initiative paid for) | Phase 3 of the Forests, Farms and Finance Initiative: In Peru, the 3FI initiative is developing incentives for low-emission rural development under a production and protection approach. The activities of 3FI in the Peruvian Amazon are led by the regional governments. The initiative is based on empowering progress of each region to make necessary incentives proposals by building tailored instruments for a jurisdiction [2] |

| **V. Level of stringency and precision of the system** | | | |
|---|---|---|---|
| Shortly describe the level of stringency (-ies) of the system and the level of prescriptiveness | There is for example tracking of deforestation rates on the Landscape level (measurement-based) and this information is GIS based, and (probably) linked to the REDD+ monitoring framework. | | |
| | **Level of stringency** | | |
| **Level of Prescriptiveness** | Mandatory | Semi-voluntary | Voluntary |
| Performance-based/substantive | | | |
| Compliance-based | | | |
| Measurement-based | | X | |
| Management or process-based | | | |

| **VI. Mechanisms to monitor progress and compliance within the initiative** | |
|---|---|
| Monitoring mechanism in place | Regarding monitoring, in terms of deforestation, there is no own or separate system of the region, but the official monitoring is prepared by MINAM through Geobosque. The Region has been building, with the support of Earth Innovation Institute, its site within the production - protection platform, which presents goals and advances in the components of production, protection and inclusion. See also: http://produceprotectplatform.com/mperu?id1=22,Peru%20%22 [4]<br>  |
| Risk management mechanisms in place | There is no really a risk management mechanism in place. The management takes form on the Multi-stakeholder forum (MSF) activities |

| | | |
|---|---|---|
| | Self-imposed control | |
| X | Self-declarations with submission to authority | Progress is monitored (e.g. deforestation rates) over time with submission / involvement of authorities |
| | Self-declarations with submission to 3rd party | |

| | | |
|---|---|---|
| | 3rd party on-site controls | |
| | Governmental on-site control | |
| | Other | |
| | | |
| X | Non-existent | |
| | Jurisdictional sanctions (prison, fines) | |
| | Exclusion from subsidies / financial incentives | |
| | Exclusion from market access / permit loss | |
| | Reprimand | |
| | Certificate withdrawal | |
| | Other | |
| | | |
| X | High | |
| | Medium | |
| | Low | |
| | | |
| Risk-based mechanisms in place: | | |
| Not applicable | | |
| | Geographical focus | |
| | Focus on specific issue | |
| **VII. Securing product sourcing from the region: Supply chain control for the commodity** | | |
| **Link of Chain of Custody (CoC) with Landscape initiative** | | |
| | CoC is organized through a certification system | Not applicable |
| | CoC is organized through a landscape label | There is a project "Marca San Martín" that aims to label sustainable products from the region. |
| | Other… | |
| Starting point CoC: | | . |
| CoC system in place *(Indicate below)* | | |
| | Book & claim | Not applicable |
| | Mass balance | |
| | Segregation | |
| | Identity preserved | |
| Label | | |
| Alignment with markets | | |
| **Level of transparency on the sustainability of the product / commodity** | | |
| | Public aggregated data at international, jurisdictional or regional level available | Not applicable |
| | Public geographically explicit data at international, jurisdictional or regional level available | |
| | Company aggregated data for its supply base available | |
| | Company geographically explicit data for its supply base available | |
| | Audit documentation files available | |

| | | |
|---|---|---|
| | Grievance and complaint mechanism in place in the region | |

**VIII. References**


[1] CIFOR, 2016, Analysing multilevel governance in Peru, Lessons for REDD+ from the study of land-use change and benefit sharing in Madre de Dios, Ucayali and San Martín, working paper 203

[2] http://www.gcftaskforce-database.org/StateOverview/peru.san_martin

[3] San Martín Unveils Public -Private Coalition To Tackle Deforestation, August 2017, see: https://gcftf.org/news/2017/8/14/expoamazonica

[4] Earth Innovation Institute, GCFimpact.org (San Martín (Peru), Social, economic, environmental and productive information of GCF member states

## 7. Denominazione di origine controllata e garantita – Chianti Classico

| I. Summary and relevance of the initiative | |
|---|---|
| Although the commodity is not directly related to biobased value chains, it serves as an example on how jurisdictional authorities can organize the control of quality and origin, enforcement and labelling of landscape specific products.<br>The DOCG label is a label of quality and origin of wines. The Chianti Classico is used as an example for this case study. | |
| **II. General information** | |
| Name of initiative | Denominazione di origine controllata e garantita (DOC): controlled designation of origin and quality |
| Starting date of the initiative | Introduced in 1963 and overhauled in 1992 to comply with European Union law on protected geographical designations of origin [1].<br>1984: Chianti Classico obtains DOCG status |
| End date of the initiative | Ongoing |
| Initiator(s) | The DOCG Regulations are Ministerial Regulations. |
| Partners involved | The DOCG Regulation needs to be approved by the Italian Ministry of Agriculture.<br>The Consortium 'Vino Chianti Classico' was already established in 1924 for the protection of Chianti wine. Today the Consortium, which represents nearly 96% of the DOCG production is safeguarding the denomination (also to non-members), valorising the brand and providing a variety of services to its members [7]. |
| **Geographical scope** | |
| Country/jurisdiction of region | As of June 2017, there were 74 DOCG regions in Italy [5]<br>The "Chianti Classico" production zone is the one delimited by the Italian Inter-Ministerial decree issued on July 31, 1932 and described as such in the Regulation [7] |
| Region within the jurisdiction | Within the Chianti DOCG there are eight defined sub-zones that are permitted to affix their name to the wine label within the larger area<br>The Chianti Classico territory is located within the provinces of Siena and Florence. The total zone amounts to 71,800 hectares (177,500 acres) [7] |
| Size of area to which it applies | About 7,200 hectares (17,290 acres) of vineyards entered on the DOCG Register for the production of Chianti Classico make this appellation one of the most important in Italy [7]. |
| **Context** | |
| Land use(s) | See below: wineries, olives |
| Key commodities in the landscape | Rows of vines alternating with olive orchards are a characteristic feature of the Chianti landscape. Not many other crops are suitable for the landscape [7] |
| Natural and environmental context *(natural landscape)* | Mediterranean climate, hilly |
| Most common land use changes | Not specifically mentioned |
| Socio-economic context of the region (e.g. municipality(ies), counties, etc) | Italy's wine production reached 50.9 million hectolitres in 2016, making Italy the world's largest wine producer in volume, representing around 20% of the total global production. When it comes to wine exports, Italy was in 2016 the world's second largest wine exporter [4]<br>Chianti Classico DOCG: exported to around 130 different countries, 35/38 million bottles output per year in the last 10 years [7] |
| Land tenure | The vineries are established on Wine Estates in the region. Further no specifics. |
| Governance context | DOC, DOCG and IGT designated wines are all appellations of origin and typical geographical indication for Italian wines protected by consortia |

| | |
|---|---|
| | regulated by Ministerial Decree 256/97. In 1984, Chianti Classico obtained DOCG status from the Ministry |
| | The Italian wine and vine legislation is issued under the authority of the Ministry of Agriculture. Implementation of the laws and decrees issued by the Ministry is under the responsibility of each individual Autonomous Province and Region. A National Permanent Conference regrouping the Ministry and the representatives of the Autonomous Province and Regions meets regularly. Inspection and controls are carried out by the Frauds General Inspection Department of the Ministry of Agriculture [8]. |

**III. Objectives and elements of the landscape initiative**

There are three levels of labels: DO (designation of origin, seldom used), DOC (controlled designation of origin), and DOCG (controlled and guaranteed designation of origin) [1].

The need for a DOCG identification arose when the DOC designation was, in the view of many Italian food industries, given too liberally to different products. A new, more restrictive identification was then created as similar as possible to the previous one so that buyers could still recognize it, but qualitatively different [1].

The DOCG label can be used to distinguish quality wine from a specific region on the market

**Objectives of the initiative (core focus)**

- Denominazione di origine controllata (DOC) is a quality assurance label for Italian wines [1].
- The origin of the product is only one of the criteria for use of the protected terms: the product must also meet various quality criteria [2].
- DOCG (Controlled and Guaranteed Designation of Origin) is a label granted to wines that have been recognized DOCG Wines for at least 5 years, of "particular quality value" and known at a national and international level. These wines undergo stricter controls, must be sold in bottles with a capacity of less than 5 liters, and bear a State label guaranteeing their origin and quality, as well as giving the possibility to number the bottles [3].

**Activities (description)**

Chianti Classico Regulations [7]:

Article 3: Description of the geographical borders

Article 4: Production requirements: The vineyard layout, types of vine training and pruning methods must be such as to not modify the special characteristics of the grapes and the wine.

Article 5: Bottling and bottle refinement

Article 6: Characteristics of wine when put on the market

Article 7: Labelling requirements

**Sustainability goals: scope of the initiative** (indicate and explain shortly)

| | | |
|---|---|---|
| | Environmental | |
| | Social | |
| X | Economic | Also, quality requirements |

**Link to sustainability framework** (indicate which one (s), more than one link is possible)

| | | | |
|---|---|---|---|
| X | Standardization | X | Monitoring |
| | Certification | X | Collaboration |
| | Legislation | | Strengthening governance |
| | (Supply) risk mitigation | | Promoting integrated / multi-functional land use |
| | Education | | Other (indicate): |

**IV. Stakeholder involvement in the landscape initiative**

stakeholders and their roles.
Possible roles are: standard setting; input in public consultation; voting right; education and extension; monitoring compliance)

| | | |
|---|---|---|
| X | Primary producers | Wine producers (vineyards) |
| X | Secondary producers | Bottlers, packagers |

| | | |
|---|---|---|
| | Traders and buyers | |
| X | Government | |
| | NGOs | |
| X | Business associations | The Consortium 'Vino Chianti Classico' was already established in 1924 for the protection of Chianti wine. |
| | International organizations | |
| X | Research and education | Laboratories |
| | Certification bodies | |
| | Indigenous people | |
| | Other | |
| *Short description:* | | |
| | | |
| | Low | |
| | Medium | |
| X | High | The Consortium is mentioned in the Regulation and has a specific role in e.g. providing the logos. |
| **Governance model of the initiative** (indicate and explain) | | |
| | Public regulation | |
| X | Co-regulation | Interprofessional bodies play an essential role in promoting and valorising the DOC and DOCG category. Producers' local consortia constitute the main force in setting and enforcing quality standards [8]. |
| | Delegated co-regulation | |
| | Ex post recognized private regulation | |
| | Pure private regulation | |
| **Financial structures in the landscape** | | |
| Financial Mechanism<br>(How is the initiative paid for) | | The DOCG label is set by government Law.<br>The cost requirements for DOCG wines seem to be higher (e.g. due to extra laboratory testing) with the assumption that the prices paid for DOCG wines can also be higher than DOCG Wines or "normal" wines. |
| **V. Level of stringency and precision of the system** | | |
| Shortly describe the level of stringency (-ies) of the system and the level of prescriptiveness | | The requirements that need to be complied with a clearly described in the Production Regulation [7] and need to be complied with to receive the label. Estates can apply for a DOCG status but are not obliged to do so. |

| | **Level of stringency** | | |
|---|---|---|---|
| **Level of Prescriptiveness** | Mandatory | Semi-voluntary | Voluntary |
| Performance-based/substantive | | | X |
| Compliance-based | | | |
| Measurement-based | | | |
| Management or process-based | | | |

| | |
|---|---|
| **VI. Mechanisms to monitor progress and compliance within the initiative** | |
| Monitoring mechanism in place | DOCG labelled wines are analysed and tasted by government–licensed personnel before being bottled. To prevent later manipulation, DOCG wine bottles then are sealed with a numbered governmental seal across the cap or cork [1]. |

| | | |
|---|---|---|
| Risk management mechanisms in place | | Inspection and controls are carried out by the Frauds General Inspection Department of the Ministry of Agriculture [8]. |
| | | |
| | Self-imposed control | |
| | Self-declarations with submission to authority | |
| | Self-declarations with submission to 3rd party | |
| X | 3rd party on-site controls | The Consortium safeguards the denomination. Use of the "Black Rooster" trademark is granted solely by the Chianti Classico Wine Consortium [7]<br>Granted to a Chianti Classico after it passes a suitability test conducted by authorized laboratories and after it is approved by a special tasting committee. |
| X | Governmental on-site control | Inspection and controls are carried out by the Frauds General Inspection Department of the Ministry of Agriculture [8]. |
| | Other | |
| | | |
| | Non-existent | |
| X | Jurisdictional sanctions (prison, fines) | Inspection and controls are carried out by the Frauds General Inspection Department of the Ministry of Agriculture [8]. Protected indications are treated as intellectual property rights under the EU. Within the EU, enforcement measures vary: infringement may e.g. be treated as counterfeit, misleading advertising or even as question of public health [2]. |
| | Exclusion from subsidies / financial incentives | |
| X | Exclusion from market access / permit loss | Granted to a Chianti Classico after it passes a suitability test conducted by authorized laboratories and after it is approved by a special tasting committee. |
| | Reprimand | |
| | Certificate withdrawal | |
| | Other | |
| | | |
| | High | |
| X | Medium | The processes and steps are clear but for example inspection or monitoring results are not publicly available |
| | Low | |
| | | |
| Risk-based mechanisms in place: | | |
| More random checks to control (from the government perspective) whether requirements are complied with and that there is no fraud | | |
| | Geographical focus | *n.a.* |
| | Focus on specific issue | n.a. |
| **VII. Securing product sourcing from the region: Supply chain control for the commodity** | | |
| **Link of Chain of Custody (CoC) with Landscape initiative** | | |
| | CoC is organized through a certification system | |

| | | |
|---|---|---|
| X | CoC is organized through a landscape label | Article 7 Chianti Classico Regulations: The "Chianti Classico" controlled and guaranteed denomination of origin (DOCG) is exclusively and compulsorily distinguished by the "Black Rooster" in the logo and words attached to these production regulations and inseparably part of the Chianti Classico denomination. Use of the "Black Rooster" trademark is granted solely by the Chianti Classico Wine Consortium, which must also distribute it to non-members at the same fees and use rights in effect for member wineries [7]. |
| | Other… | |
| Starting point CoC: | | . |
| CoC system in place *(Indicate below)* | | |
| | Book & claim | |
| | Mass balance | |
| | Segregation | |
| **X** | Identity preserved | The entire production chain, from grape growing to wine bottling, is supervised by a tracking system the data of which are entered into a public database [6]. |
| Label | | In countries where Protected Geographical Status laws are enforced, only products which meet the various geographical and quality criteria may use the protected indication [2]. |
| Alignment with markets | | |

| **Level of transparency on the sustainability of the product / commodity** | | |
|---|---|---|
| | Public aggregated data at international, jurisdictional or regional level available | |
| | Public geographically explicit data at international, jurisdictional or regional level available | |
| | Company aggregated data for its supply base available | |
| X | Company geographically explicit data for its supply base available | Article 7 Chianti Classico Regulations: In designating Chianti Classico wine, use may be made of "vineyard" mention ..[…]…on condition that it be followed by the corresponding place name, that the vineyard is distinctly specified in the Vineyard Register, that the wine is made and conserved in receptacles separate from other wines and that said mention, followed by the place name, is given in grape and wine production declarations, in registers and in accompanying documents. Use may be made of mentions referring to names or winery names or individual or collective brands. The bottles containing "Chianti Classico" wine for marketing must always carry the year of grape production [7] |
| | Audit documentation files available | |
| | Grievance and complaint mechanism in place in the region | |

## VIII. References

**Websites**


[1] Wikipedia, Denominazione di origine controllata

[2] Wikipedia, Geographical indications and traditional specialities in the European Union

[3] http://www.nhnusa.org/aifwa---quality-labels-of-italy.html

[4] https://www.bizvibe.com/blog/italian-wine-production-exports-2017/

[5] https://italianwinecentral.com/wp-content/uploads/DOCG-DOC-list-from-Italian-Wine-Central-June-2017-1.pdf

[6] Consorzio Vino Chianti Classico, http://www.chianticlassico.com/en/consortium/history/

[7] Chianti Classico DOCG Regulations, https://www.carusvini.it/en/chianti-classico-docg-regulations/

[8] Italian vine and wine sector regulation, see also: http://www.eastagri.org/meetings/docs/meeting31/G_Italy%20Vine%20and%20Wine%20Regul.pdf

[9] https://www.chianti.com/wine/chianti-classico.html

## 8. Lake Naivasha, IMARISHA

| I. Summary and relevance of the initiative | |
|---|---|
| Lake Naivasha, Kenya is a government-led initiative that represents a stakeholder platform, and very strong private-sector leadership. The initiative includes a range of agricultural uses (horticulture, livestock, smallholders, fisheries); and a range of sectors finding solutions (agriculture, geothermal, municipal, forest), (EcoAgriculture Partners, 2014). | |
| **II. General information** | |
| Name of initiative | IMARISHA, Naivasha Landscape |
| Starting date of the initiative | 2009, Board was established in 2011 with 11 members (3 from the Government, and the rest from private and civil society) |
| End date of the initiative | Ongoing |
| Initiator(s) | After the drought in 2009, the Kenyan Prime Minister provided key political leadership, resulting in the creation of the Imarisha Lake Naivasha Management Board. |
| Partners involved | The Imarisha Naivasha landscape governance initiative is a multi-stakeholder landscape governance system which includes among others the following partners: 1) Floriculture industry, including the Lake Naivasha Growers Group (LNGG);2) Smallholder, small-scale (SME) and commercial outgrower farming; 3) fishery and livestock business and individuals; 4) the tourism sector; 5)the geothermal power plant; 6) urban centres of Naivasha and Gilgi; 7) Cut flower industry (Kenya Flower Council; 8) the Riparian Association; 9) Local Government; 10) Water Authority |
| **Geographical scope** | |
| Country/jurisdiction of region | Kenya |
| Region within the jurisdiction | The Lake Naivasha Basin covers area administered by three counties: Nakuru, Narok and Nyandarua [5]. |
| Size of area to which it applies | The Naivasha Landscape consists mainly of the Lake Naivasha watershed or catchment basin. That is approximately 3,200 Km² with diverse landform characteristics and development programmes [1] |
| **Context** | |
| Land use(s) | Critical landforms include Lake Naivasha at the floor of the rift valley and the natural forests to the upper attitudes. The Lake Naivasha and its environment is important for its high biological diversity, recreational value, as a freshwater resource and generally as a source of livelihood [1]<br>The lower catchment area around the Lake contains a range of land uses including pastoralism, wildlife conservation, commercial horticulture, smallholder farming, horticultural irrigation, tourism, fishing, urban development, settlement and geothermal power generation [2]. Communities in the region derive significant tangible value from forest goods and services [2] |
| Key commodities in the landscape | The initiative includes a range of agricultural uses [2]:<br>• Horticulture - Intensive irrigation-based agriculture for cut flowers. Floriculture industry is centered around Lake Naivasha in the lower catchment;<br>• livestock and dairy farming; While nomadic pastoral grazing patterns persist, pastoralists in the Lake Naivasha region are decreasing their ranges and shifting to more sedentary lifestyles. There are also thousands of heads of quality beef and milk-producing livestock by commercial operators on ranches.<br>• Smallholders: The upper catchment is mainly dominated by small-scale mixed farming. The middle catchment is mainly dominated by small scale and dairy farming. Smallholder agriculture also occurs in the lower catchment.<br>• Fisheries: The lake fishery is significant for local livelihoods and commercial production<br>Next to that, the area is known for its geothermal power production, fishery |

| | |
|---|---|
| | and tourism industry [1]. |
| Natural and environmental context<br>*(natural landscape)* | *T*he Lake Naivasha water catchment area, in the Rift Valley of Kenya, is a RAMSAR site, an Important Bird Area and on UNESCO's World Heritage tentative list. It stretches over 3,400 km2 draining the Aberdare and Eburru forests. The area contains more than 350 species of birds, including some globally threatened, rare and migratory species, which depend on the region. Hell's Gate and Mt. Longonot National Parks are in the watershed, containing diverse wildlife. Lake Naivasha is an internationally-recognized tourist attraction [2].<br>Lake Naivasha's ecosystem services are (or were) threatened by human induced factors, including amongst others [2], [3]:<br>– Reduced lake levels - Declining water inflows<br>– Increased water abstraction<br>– Deterioration of lake and river water quality / Increased pollution<br>– Poor land management including deforestation<br>– Increased soil erosion<br>– Catchment degradation<br>– Unregulated water abstraction – Conflicting interests<br>– Weak policy enforcement<br>The extraction of forest products and services is largely unregulated and unplanned. Poor farm practices in the upper catchment, especially cultivation on steep slopes and on the riparian riverbanks, illegal logging and charcoal burning have resulted in widespread depletion of forests. Catchment forest cover has decreased significantly [2]. |
| Most common land use changes | A ten-fold increase in human population in the last thirty years has led to severe environmental degradation, landscape alteration and unsustainable natural resources utilization. Urban development, commercial and small-scale farmers have resulted in unsustainable water abstraction [1]. |
| Socio-economic context of the region (e.g. municipality(ies), counties, etc) | The catchments' natural abundance has attracted considerable settlement and development over the last 25 years. Between 1963 and 2011 the population in the region increased from 43,000 to almost 750,000 people, with the majority in Naivasha Town and the informal settlements, as well as increased density in the upper catchment areas [2].<br>The presence of the lake has made the area a focal point of great national economic value [1]. Lake Naivasha basin supports over 60% of Kenya's flower industry and accounts for over 1% of the country's GDP (based on [4].<br>Horticulture<br>The floriculture industry employs 50,000 people working on 55 farms (based on 2014 data) with thousands more moving to the region each year in search of work in this sector. When considering direct and indirect employment 500,000 people are employed in the floriculture sector [2].<br>More than 120 million tons of cut flowers are exported each year. This accounts for 3.3% of Kenyan GDP and 9% of all exports. Roses dominate the export market, often headed to the Dutch wholesale market, and account for roughly 70 % of the export volume (Horticultural Crops Development Authority, 2013). Kenya is now the fifth largest flower exporter in the world, with 30% of all Kenyan flowers exported to the UK [2].<br>Vegetable farming<br>Smallholders and SME's in the lower catchment are largely attempting to sell into the Nairobi market. Commercial vegetable farming in the Naivasha basin accounts for 20% of Kenya's vegetable exports [2]. |
| Land tenure | Smallholder agriculture exists in the lower catchment, often on small parcels with disputed tenure and 'shambas' [2].<br>Livestock and agriculture conflicts are common, with encroachment on forests, agricultural production and riparian lands [2]. |
| Governance context | Kenya's Vision 2030 identified the importance of forests to the national economy, setting a goal of increasing forest cover to 10%. Great potential exists in the Naivasha catchment to deliver on that goal [2].<br>Kenya's Water Act was enacted in 2002, and the Water Resource Management Authority (WRMA) was established in 2005 to administer the Act. Water permits have been issued without an understanding of the |

| | |
|---|---|
| | carrying capacity of the rivers and lake, and without an understanding of whether the lake can sustainably support increased water demands [2].<br><br>After the drought in 2009, the Kenyan Prime Minister provided key political leadership, resulting in the creation of the Imarisha Lake Naivasha Management Board (gazetted on 20th May 2011: Gazette Notice 5368), [2].<br><br>During interviews, staff noted that integrated policies are still lacking, and a much greater need exists to identify through legislation and ministry operating mandates how greater integration can be mandated and operationalized. Narrow sectoral codes, regulations and programmes will not achieve the desired results alone, and linkages are necessary [2]. |
| | • The Imarisha Naivasha Board is anchored to the government through the Ministry of Environment, Water and Natural Resources [2].<br>• The Water Resource Management Authority (WRMA) is established in 2005 to administer the Water Act and issues water permits [2]. The Water Resources Management Authority is the government agency mandated to manage surface and groundwater resources in Kenya [3].<br>• There are 12 Lake Naivasha Basin WRUAS (Water Resource User Associations) in the area [2].<br>• The Lake Naivasha Basin covers area administered by three counties: Nakuru, Narok and Nyandarua [5]. |

**III. Objectives and elements of the landscape initiative**

The evolution of this integrated landscape initiative started about 25 years ago, with identification of risks from slash- and burn agriculture in the Aberdares uplands, followed by rapid growth of the cut-flower industry in the lower catchment around Lake Naivasha. Stakeholders identified a need to collaborate to affect water quality and forest conservation.

However, the drought of 2008-2009 was a defining moment that illustrated to the range of stakeholders in the watershed their environmental service exposure and risk [2]. In 2009, Lake Naivasha almost dried up. In a basin that supports over 60% of Kenya's flower industry, policy makers and businesses were quick to act.

After the 2009 drought in the basin, where horticulture accounts for two-thirds of water withdrawals, the Kenyan Government established Imarisha Naivasha, an initiative that brings together the public sector, private sector and civil society partnerships to address environmental challenges facing the basin [4].

**Objectives of the initiative (core focus)**

Key objective of the landscape was to address the risk of water security in the basin [4]. Imarisha Naivasha was born as response to the need for a greater coherence of the integrated management needs between sectors [2].

**Activities (description)**

The first Management Plan for Lake Naivasha was developed and gazetted in 2004. However, stakeholders could not agree on key issues to implement the plan. A critical shortcoming of this plan was the entire exclusion of the upper catchment stakeholders. Following the drought in 2009, Imarisha Naivasha was established.

The government mandate (see legal Gazette) given to the Imarisha Naivasha Board was [2]:

a) collaboration with all stakeholders and development of a programme to coordinate the activities of various stakeholders and interests,
b) monitor compliance with the laws and regulations governing the environment,
c) develop and enforce codes of conduct,
d) develop, adapt and execute a Trust to receive financial resources from within or outside Kenya to finance implementation.

The Board reports to an Inter-Ministerial Technical Committee.

A new Lake Naivasha and Catchment Management Plan (2010-2020) was developed with a ten-year vision to include all stakeholders in the upper and lower catchments, begin the process to harmonize all sustainable natural resources and economic development initiatives, and address the diverse opinions and interests, uncoordinated efforts and often conflicting agendas in the promotion of sustainable development between the upper and lower catchment areas [2].

The Imarisha Naivasha Board prioritized "no regret" activities to engage, even while developing its five-year plan [2]. The Imarisha Sustainable Development Action Plan (SDAP), identified four priority outcomes to achieve within five years (from 2012-2017):

- Lake Naivasha and its Riparian Zone (as legally defined) are protected and managed according to

"wise use" principles and showing significant, measurable improvements in ecosystem restoration and resilience.
- Land use and management in the wider Basin and catchment of Lake Naivasha contribute to sustainable development and climate change resilience
- Water resource institutions, mechanisms and facilities across the Basin function to regulate water use sustainably and to improve community access to clean water and sewerage
- Imarisha Naivasha recognized and functioning effectively as the coordinating institution for Lake Naivasha Basin restoration, wise use and sustainable development.

To deliver on key SDAP outcomes, Imarisha Naivasha partnered with WWF to create a four-year (2013-2016) action plan—the Integrated Water Resource Action Plan (IWRAP), [2].

The IWRAP programme was officially launched in 2013. This partnership brings together the government, private sector, civil society as well as the people living in this basin with a common goal of ensuring long-term sustainable development with a focus on improving land use practices and management of water resources [6].

To address the risk of water security, Imarisha Naivasha has adopted a number of strategies through an integrated approach including [1]:

- Water harvesting technologies for large water users;
- Adoption of hydroponic farming which saves 30-40% of water consumed;
- Water allocation plan for the landscape that dictates water consumption or the consumption of water saving technologies based on lake levels;
- Payment for ecosystem services where lower water users (such as the flower industry) contribute money in kind to upstream communities as an incentive to manage the upstream ecosystem to ensure regular flows of river water.

| **Sustainability goals: scope of the initiative** (indicate and explain shortly) | | |
|---|---|---|
| X | Environmental | Lake Naivasha and its Riparian Zone (as legally defined) are protected and managed according to "wise use" principles and showing significant, measurable improvements in ecosystem restoration and resilience [2]. |
| | Social | Includes the Lake Naivasha Riparian Association looking for the interests of the inhabitants at the shore of the lake. |
| X | Economic | Restoration of ecosystem services + mechanisms for socio-economic benefits: Articulate value |

| **Link to sustainability framework** (indicate which one (s), more than one link is possible) | | | |
|---|---|---|---|
| | Standardization | For the flowers and horticulture industry | Monitoring |
| X | Certification | | Collaboration |
| | Legislation | | Strengthening governance |
| | (Supply) risk mitigation | Based on water multiusers | Promoting integrated / multi-functional land use |
| | Education | | Other (indicate): |

**IV. Stakeholder involvement in the landscape initiative**

| stakeholders and their roles. Possible roles are: standard setting; input in public consultation; voting right; education and extension; monitoring compliance) | | |
|---|---|---|
| X | Primary producers | Commercial Flower Growers, Water Resource Users, Forest Resource Users and Pastoralists are represented within the Imarisha Naivasha Board [1].<br>One of the large businesses engaged in this public private partnership is Finlays (from the flower sector), [4].<br>The Board is composed of representatives from various stakeholder groups, including. pastoralists, local businesses; the tourism industry, the Government [5]. |
| | Secondary producers | |
| X | Traders and buyers | The "no regret" projects were financed by funds from amongst others the PC ISU-convened UK retailer roundtable group, which included ASDA, Tesco, Marks and Spencer and Sainsbury's [2]. |
| X | Government | • Representatives of key Government ministries are taking part in the Imarisha Naivasha board [1]. |

| | | |
|---|---|---|
| | | • The "no regret" projects were financed by funds from amongst others the Government of Kenya [2].<br>• The Imarisha Naivasha Board is anchored to the government through the Ministry of Environment, Water and Natural Resources [2].<br>• The Board is composed of representatives from various stakeholder groups, including national and local government officials and community-based natural resource management institutions (i.e WRUAs, CFAs, Beach Management Units), [5].<br>• The IWRAP programme (launched in 2013 and coordinated by WWF) involves the Water Resources Management Authority (WRMA) and Imarisha Naivasha [6] and is funded by the Embassy of the Kingdom of the Netherlands. Dutch partners also include two Water Authorities: Waterschap Noorderzijlvest (NZV) and Hoogheemraadschap De Stichtse Rijnlanden (Hdsr), [6]. |
| X | NGOs | CSO's that operate within the region are represented in the Imarisha Naivasha Board [1].<br>The IWRAP programme (launched in 2013) was led and coordinated by WWF Kenya [6]. |
| X | Business associations | The IWRAP programme (launched in 2013 and coordinated by WWF) involves the Kenya Flower Council (KFC) as one of the partners [6].<br>The Board is composed of representatives from various stakeholder groups, including the Lake Naivasha Riparian Association, Lake Naivasha Growers' Group (LNGG).[5]. |
| | International organizations | Some private international organisations have been funding and supporting the activities including retailers such as Marks and Spencer, Tesco and Wairose. |
| X | Research and education | The IWRAP programme (launched in 2013 and coordinated by WWF) has the University of Twente's Faculty of Geoinformation Science and Earth Observation (ITC) as one of the three Dutch partners involved to provide technical support [6]. |
| | Certification bodies | Not clear but GlobalGap is followed because of the vegetables production and export to the EU. |
| X | Indigenous people | The public-private partnership has engaged with are local communities [4]. |
| X | Other | Water Resource Users, Forest Resource Users and Beach Management Units are represented within the Imarisha Naivasha Board [1]. |
| in the Lake Naivasha Basin, the Office of the Prime Minister (formerly), in partnership with several horticulture and floriculture companies, created the Imarisha Naivasha Management Board in 2011<br>to manage the coordination of watershed restoration activities. The Imarisha Naivasha Board is housed in Ministry of Environment and Natural Resources and funded largely through public-private partnerships [7].<br>The Imarisha Naivasha Board is composed of representatives of key Government ministries, Commercial Flower Growers, Water Resource Users, Forest Resource Users, Beach Management Units, Pastoralists, and Civil Society organizations that operate within the basin [1]. | | |
| | | |
| | Low | |
| | Medium | |
| **X** | High | Imarisha Naivasha Board is responsible for coordination of all projects and programmes in the basin. The board has developed coordination mechanisms that include: a) a multi-sectoral Project Monitoring Committee, b) a Research and Monitoring Committee, c) researcher and stakeholder consultative conferences, d) inter-ministerial steering committee, e) a district technical committee, and f) each project has its own project management and coordination committee [2].<br>The integration and coordination are done through joint project development and implementation processes, workshops, meetings, communication, quarterly/ half-yearly/annual progress reports submitted to the government and all stakeholders [2]. |
| **Governance model of the initiative** (indicate and explain) | | |

| | | |
|---|---|---|
| | Public regulation | |
| | Co-regulation | |
| **X** | Delegated co-regulation | The Landscape is characterized by a government-led 'integrated land management, that represents a stakeholder platform, and very strong private-sector leadership [2].<br><br>Imarisha Naivasha is a government-appointed public-private partnership (PPP) tasked with the coordination and development of a plan to restore the degraded watershed and establish a sustainable development programme with the participation of all stakeholders. The Imarisha Naivasha Board is composed of representatives of key Government ministries, Commercial Flower Growers, Water Resource Users, Forest Resource Users, Beach Management Units, Pastoralists, and Civil Society organizations that operate within the basin [1].<br><br>Imarisha Naivasha has a legal mandate to act [1]. |
| | Ex post recognized private regulation | |
| | Pure private regulation | |
| **Financial structures in the landscape** | | |
| Financial Mechanism<br><br>(How is the initiative paid for) | | The government mandate (see legal Gazette) given to the Imarisha Naivasha Board includes the development and execution of a Trust to receive financial resources from within or outside Kenya to finance implementation [2].<br><br>Imarisha Naivasha plays a formal role in facilitating and aggregating landscape investments. It has an annual operating budget of about USD 400,000, which is financed through PPPs with international floriculture and horticulture companies, the Government of Kenya, and development partners. Those funds are pooled together in Imarisha Naivasha's trust fund, which is used to finance development projects that align with its Sustainable Development Action Plan and to cover recurrent operational expenses [5].<br><br>In addition, a significant amount of funding for activities in the Basin does not flow directly through the Imarisha Naivasha trust fund, but the activities are coordinated by Imarisha Naivasha to ensure that they align with the goals of the Sustainable Development Action Plan. For example, the Lake Naivasha Growers Group members contribute financing for a payment for ecosystem services program, which compensates smallholder farmers in the upper catchment to address issues with soil erosion. In this sense, Imarisha Naivasha functions as a landscape investment facilitator by attracting and aggregating funding from diverse sources, as well as overseeing and coordinating of investments from outside investors [5].<br><br>Other existing financing mechanisms (or under development), next to PES, are water fees, low interest loans or a Forest management fund, see also in text [2].<br><br>The Imarisha Naivasha Board prioritized "no regret" activities to engage. The "no regret" projects were financed by funds from the Government of Kenya and from the PC ISU-convened UK retailer roundtable group, which included ASDA, Tesco, Marks and Spencer and Sainsbury's. Activities funded included [2]:<br><br>a) Preparation of the Imarisha Sustainable Development Action Plan (SDAP) and finalisation of the new Lake Naivasha and Catchment Management Plan (LNIMP);<br>b) Funding of "no regret" activities including creation of small-scale biogas production or riparian mapping, and<br>c) c) logistical support to the Imarisha Secretariat.<br><br>The IWRAP programme (launched in 2013) was funded by the Embassy of the Kingdom of the Netherlands in Nairobi [6]. |
| **V. Level of stringency and precision of the system** | | |
| Shortly describe the level of stringency (- | | |

| | | | |
|---|---|---|---|
| ies) of the system and the level of prescriptiveness | | | |
| | **Level of stringency** | | |
| **Level of Prescriptiveness** | Mandatory | Semi-voluntary | Voluntary |
| Performance-based/ substantive | | X | |
| Compliance-based | | | |
| Measurement-based | | | |
| Management or process-based | | | |

| **VI. Mechanisms to monitor progress and compliance within the initiative** | |
|---|---|
| Monitoring mechanism in place | The government mandate (see legal Gazette) given to the Imarisha Naivasha Board includes (a) monitoring compliance with the laws and regulations governing the environment, and (b) developing and enforcing codes of conduct. The Board reports to an Inter-Ministerial Technical Committee [2]. |
| Risk management mechanisms in place | Not really, but somehow it involves activities that will reduce the risk of overusing water and that are of interest for all stakeholders (interview with IMARISHA). |

| | | |
|---|---|---|
| | Self-imposed control | |
| | Self-declarations with submission to authority | |
| | Self-declarations with submission to 3rd party | |
| | 3rd party on-site controls | |
| | Governmental on-site control | Controlled by Government on local Water authority |
| | Other | Controlled by IMARISHA representatives of stakeholders |

| | | |
|---|---|---|
| | Non-existent | |
| | Jurisdictional sanctions (prison, fines) | |
| | Exclusion from subsidies / financial incentives | |
| | Exclusion from market access / permit loss | |
| | Reprimand | |
| | Certificate withdrawal | |
| | Other | Fine for over-extracting water and local agreements |

| | | |
|---|---|---|
| | High | |
| | Medium | Done in collaboration with multi-stakeholders |
| | Low | |

| Risk-based mechanisms in place: |
|---|
| Not properly risk based mechanisms but monitoring for concerns of water use in the lake including local communities of pastoralists |

| | | |
|---|---|---|
| | Geographical focus | |
| | Focus on specific issue | *Water* |

**VII. Securing product sourcing from the region: Supply chain control for the commodity**

**Link of Chain of Custody (CoC) with Landscape initiative**

| | | |
|---|---|---|
| | CoC is organized through a certification system | Yes, for those with a commodity such as the horticulture and flowers sector |
| | CoC is organized through a landscape label | |
| | Other… | |
| Starting point CoC: | | . |

CoC system in place *(Indicate below)*

| | | |
|---|---|---|
| | Book & claim | |
| | Mass balance | |
| | Segregation | |
| | Identity preserved | |
| Label | | |
| Alignment with markets | | With international markets, particularly the UK |

**Level of transparency on the sustainability of the product / commodity**

| | | |
|---|---|---|
| | Public aggregated data at international, jurisdictional or regional level available | |
| | Public geographically explicit data at international, jurisdictional or regional level available | |
| | Company aggregated data for its supply base available | |
| | Company geographically explicit data for its supply base available | |
| Y | Audit documentation files available | Although for specific commodities |
| | Grievance and complaint mechanism in place in the region | |

**VIII. References**


[1] LPFN (2018), the Naivasha Landscape, from: Landscapes for People, Food and Nature, see: http://peoplefoodandnature.org/landscape/naivasha-landscape/

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[8] http://www.intracen.org/uploadedFiles/intracenorg/Content/Exporters/Sectors/Fair_trade_and_environmental_exports/Climate_change/Imarisha.pdf

[9] https://www.facebook.com/Imarisha-Naivasha-1279666228729565/
[10] Interviews with IMARISHA

## 9. LARI – Kinjabe Landscape

| I. Summary and relevance of the initiative | |
|---|---|
| The Lari Landscape in Kiambu Count is part of the larger Kikuyu Escarpment landscape that lies on the eastern slopes of the Aberdare Mountains of Central Kenya. Environmental and natural resources in the landscape include forests, land, wildlife and water and contribute significantly to the quality of life of communities nearby. The Lari Agricultural Stakeholders Forum was established in 2010 with stakeholders involved in the agricultural sector including the private sector and local communities. The Forum mainly organized field days for farmers within the landscape thus enabling farmers to access important information.<br>Kenvo was set up in 2012 properly with financial management after receiving an Award (Mwangi, pers com).<br>The landscape is known for its horticultural potential and is one of the main suppliers of agricultural products to Nairobi. The forest covers about 37,000 ha, the highest percentage of which is natural indigenous forest and a small section of the forest consists of exotic tree plantations for timber production (LPFN, 2018). Kenvo started with young volunteers concerned about the forest protection.<br>The income generation in the landscape involves different activities including cattle farming (dairy), firewood collection, bottled water, mining CO2, bee keeping, tree nursery, ecotourism.<br>An important aspect that is under development is the payment for ecosystem services where the participation of the private sector is expected to be of financial relevance for the landscape. | |
| **II. General information** | |
| Name of initiative | Lari Landscape |
| Starting date of the initiative | 1994 |
| End date of the initiative | continue |
| Initiator(s) | KENVO |
| Partners involved | Nature Kenya; Kenya Forest Service; Local farmers and schools, UNEP, GROOTS Kenya, Water Government, Acoshea, Carbacid |
| **Geographical scope** | |
| Country/jurisdiction of region | Kenya |
| Region within the jurisdiction | Lari Landscape is located between 0°50’ and 1°40’ S and 36°35’ and 36°43’ E in Kiambu County (LPFN, 2018a) |
| Size of area to which it applies | The area is around 44,200 ha (LPFN, 2015 ) or 442 km2 [1] |
| **Context** | |
| Land use(s) | The Lari Landscape is part of the larger Kikuyu Escarpment landscape that lies on the eastern slopes of the Aberdare Mountains of Central Kenya (LPFN, 2018a).<br>The landscape is divided into two agro- ecological zones, the lower and the upper highland zones, with altitude varying from 1760m above sea level in the lower zone to 2610m. Rainfall varies depending on the altitude. The land is purely an agriculture zone and the agricultural practices are rain dependent [1].<br>Forest covers about 37,000 ha (LPFN, 2018a). The highest percentage of this forest is natural indigenous forest and a small section of exotic tree plantation for timber production. The forest is designated as an Important Biodiversity Area and listed by Birdlife International in the highest category “critical’’ for conservation action.<br>The forest is an important community asset which has been a main source of forest products including water, fuel wood, herbal medicine, fodder for livestock or building materials. The forest is also an important catchment area that supplies water to Nairobi [1]. |
| Key commodities in the landscape | Production systems: horticulture, livestock, tea<br>The landscape has nearly 90% of the population engaged in cultivation. The majority of these people depend on small scale farming, growing various |

| | |
|---|---|
| | types of cash and subsistence crops and keep livestock in their small holdings [1].<br>While the tea is the main cash crop in the Landscape, there has been some major shift to livestock and high value horticultural enterprises in the recent years due to a ready urban market like Kiambu, Nakuru, Nairobi as well as Mombasa [1].<br>The landscape is known for its horticultural potential and is one of the main suppliers of agricultural products to Nairobi [3]. A small section of the forest consists of exotic tree plantations for timber production [3].<br>Dairy production, mostly zero grazing, is practiced due to the small land holding per household. The local food processing industries and proximity to a ready market in Nairobi has increased the demand for livestock products [1].<br>Fishing is also emerging as a fast-growing commercial enterprise, but productivity is still low. Beekeeping is also being practiced by a few farmers [1]. |
| Natural and environmental context | The forest in the landscape consists mainly of natural indigenous forest. The forest hosts a variety of important global species and is particularly rich in bird life [3].<br>The forest is an important community asset and a main source of forest products including water, fuel wood, herbal medicine, fodder for livestock or building materials [3].<br>The forest is an important catchment area that supplies water to Nairobi [3]. |
| Most common land use changes | The high population pressure has resulted in high fragmentation of land, thus decreasing the average landholdings to about 0.8 ha which necessitates intensive cultivation [1]. |
| Socio-economic context of the region | Population: 123,895 [2]. |
| Land tenure | Mixed: private, communal and national |
| Governance context | Kenya's Vision 2030 identified the importance of forests to the national economy, setting a goal of increasing forest cover to 10% [4]. |
| | Government institutions working in the landscape [1]:<br>– Water Resource Management Authority: This is a Corporate body in the national Ministry of Environment, Water and Natural Resources: Gazettement and conservation of water catchments; Incorporating various stakeholders through formation of Water Resource Users Association (WRUAs) in each catchment as outlined in the Water Act 2002.<br>– Department of Fisheries: This is a department within the Ministry of Agriculture.<br>– Sub-County Water Department: One of the institutions within the Ministry of Environment, Water and natural resources.<br>– State Department of Agriculture<br>– State Department of Livestock Production and Development<br>– Kenya Forest Service: Focus on both forest conservation and rural extension for farm forestry.<br>– Forest Community Associations (8) |

**III. Objectives and elements of the landscape initiative**

**Reason to start initiative**

Due to increasing population pressure and poor farming methods, soil fertility is decreasing. Additionally, illegal and non-selective timber logging, charcoal burning, overharvesting of herbal products, and uncontrolled grazing threaten the sustainability of forest assets including the biodiversity therein [5].

**Objectives of the initiative (core focus)**

- Originally as a young people organisation concerned about the state of the environment and wanted to include local community and share knowledge after finishing the university studies
- To document knowledge from the elders about the state of the forest
- To monitor environmental degradation through Nature Kenya Society
- Conservation of habitats

**Activities (description)**

Knowledge transfer

The landscape management approach has strengthened the partnership and collaboration between KENVO and various stakeholders, including various government agents within the landscape. Stakeholder collaboration has helped in information sharing as well as knowledge transfer mainly from the technical officers from the government agents to the farmers. This has further enhanced service provision to the farmers due to linkages created among farmers and government officer during meetings, workshops and field days [2].

Enhanced access to information

Through the Ministry of Agriculture, the Lari Agricultural Stakeholders Forum was established in 2010. This forum brings various stakeholders involved in the agricultural sector including the private sector together. The Forum mainly organised Field days for farmers within the landscape thus enabling farmers to access important information [2].

In 2007, EcoAgriculture Partners partnered with the Kijabe Environment Volunteers (KENVO) to help transform the current program, which was focused principally on forest conservation, into a more integrated, multi-functional landscape. KENVO began this process by initiating a strategic landscape assessment and stakeholder dialogue, with the goals of identifying priority actions that could increase synergies and reduce trade-offs between biodiversity and natural resource conservation, agricultural production and local livelihoods. To help structure the conversation, they utilized the Landscape Performance Scorecard [5]/

In KENVO's Lari landscape in Kenya, M&E information that was generated through the application of the Landscape Measures Scorecard a second time, four years after it was initially employed, revealed that the status of the landscape had deteriorated across most dimensions of performance. The process of interpreting the results of the analysis with stakeholders lead to understanding that: 1) expectations for performance had risen in the ensuing years and, 2) additional stakeholders had become involved in the landscape initiative, who evaluated performance somewhat differently, and more critically

As a response, KENVO expanded engagement of private sector actors, and invested in a stakeholder-engaged landscape labelling initiative that included developing agro-ecotourism. They also focused on empowering producer groups as well as women, youth and other civil society groups to engage in policymaking processes through forums and policy dialogues [5].

Responsible consumer behaviour: Funded by UNEP since 2013-2014. Financing of reforestation activities with the KFS and local farmers involving the youth. KFS provides technical support for the nurseries. It involves agroforestry activities.

Women's programme: Women activities in the forest management women can contribute with leadership. The programme helped positioned women in lead roles.

Biogas programme: To change the use of charcoal for cooking stoves Kenvo s promoting the use of biogas.

**Sustainability goals: scope of the initiative** (indicate and explain shortly)

| | | |
|---|---|---|
| X | Environmental | Reforestation and capacity building for agroforestry and |
| X | Social | Capacity building for farmers to reduce the pressure on the forest, land tenure and food security |
| X | Economic | Expansion of agricultural activities such as bee keeping (honey), horticulture sector, providing extension services |

**Link to sustainability framework** (indicate which one (s), more than one link is possible)

| | | | |
|---|---|---|---|
| | Standardization | | Monitoring |
| | Certification | | Collaboration |
| | Legislation | X | Strengthening governance X |
| | (Supply) risk mitigation | | Promoting integrated / multi-functional land use |
| | Education | X | Other (indicate): |

**IV. Stakeholder involvement in the landscape initiative**

**Type of stakeholders involved** (if indicated, please provide details of stakeholders and their roles. Possible roles are standard setting; input in public consultation; voting right; education and extension; monitoring compliance)

| | | |
|---|---|---|
| X | Primary producers | KENVO has been working with various stakeholders who include farmers groups, self-help groups, groups of youth (with groups from Canada and Tanzania), schoolteachers. |
| | Secondary producers | Agribusiness (e.g. agriculture, bee keeping); Dairy (Brookside) |
| | Traders and buyers | Dairy companies (promoting zero grazing) but still as proposal; Plantation establishment by private or by farmers (mainly pine, eucalyptus and cyprus), for farmers graveria. |
| X | Government | KENVO also works in collaboration and partnership with various government agencies, key among them Kenya Forest Service, Ministry of Agriculture, Ministry of environment and Ministry of education [1].<br>Organizations involved in the landscape: Ministry of Environment and Natural Resources (MENR) and Ministry of Agriculture, Livestock, and Fisheries (MALF), Government of Kiambu County [5]. |
| X | NGOs | Organizations involved in the landscape: Kijabe Environment Volunteers, Nature Kenya, BirdLife International, Kenya Forest Working Group [5].<br>Kijabe Environment Volunteers (KENVO) has been involved in landscape management in collaboration with the Ecoagriculture Partners since 2007 with the aim of achieving both biodiversity conservation and livelihood improvement [1].<br>KENVO plays a role as a convener and coordinator of stakeholders [5]. |
| X | Business associations | KENVO has been working with various stakeholders who …[…conservation focused groups such as Community Forest Associations and water Resource Users Associations [1]. |
| X | International organizations | KENVO has been working with various stakeholders who include . international such as UNEP, Canada World Youth, Act (formerly Pact Kenya) and several donor agencies such as Community Development Trust Fund or CIDA [1]. |
| X | Research and education | Capacity building for youth, relationship with Nature Kenya with indicators to identify the environmental state of the forest |
| | Certification bodies | Proposal of a certificate for zero grazing as payment for ecosystem services |
| | Indigenous people | |
| | Other | |

*Short description:*

*I*n the case of the Lari Landscape initiative, the public sector is an active participant and attends planning meetings, provides extension for sustainable practices, liaises with other partners, and helps to develop supportive policies, but the Kijabe Environment Volunteers, a local, non-governmental environmental organization, actually convenes the multi-stakeholder partnership [6].

The Lari Landscape in Kenya has progressed over time from an informal, community-based program to a multi-stakeholder landscape initiative with a more formal governance structure. In recent years, KENVO's activities have focused on empowering civil society groups to engage in policymaking processes through forums and policy dialogues, as well as further strengthening and formalizing a multi-stakeholder platform [5].

| **Level of cooperation of the initiative** (if indicated, please elaborate) | | |
|---|---|---|
| | Low | |
| X | Medium | In the Lari Landscape, there is no formal mechanism for coordinating or aggregating financing from diverse sources. Instead, KENVO plays a role in connecting investors to community-based institutions and helping to the coordinate activities on the ground once they have been funded. Because not all of the financing flows through KENVO, it does not usually play the role in aggregating landscape investments [5] |
| | High | |

| **Governance model of the initiative** (indicate and explain) | | |
|---|---|---|
| | Public regulation | |
| | Co-regulation | |

| | | |
|---|---|---|
| **X** | Delegated co-regulation | County government coordinates activities. Kenya Forest service provides permits for use of fuel wood. Kenvo will form part of the Secretariat to ensure the eight communities are part of the activities and coordinates activities. The private sector and Government sit equally in the governance project. |
| | Ex post recognized private regulation | |
| | Pure private regulation | |

| **Financial structures in the landscape** | |
|---|---|
| Financial Mechanism<br>(How is the initiative paid for) | KENVO and the Lari Landscape stakeholders still face challenges, including attracting adequate investments for integrated objectives and coordinating investments from disparate sources. First, despite the increase in integrated programming, most of the funding from donor organizations and government agencies still comes with sectoral objectives (e.g. forest conservation, agriculture development, etc.). Furthermore, much of this funding is for specific, short-term projects with pre-existing objectives and relatively strict conditions for use. Thus, finding a sustainable source of funding for programs with integrated objectives is difficult [5]. |

| **V. Level of stringency and precision of the system** | | | |
|---|---|---|---|
| Shortly describe the level of stringency (-ies) of the system and the level of prescriptiveness | Programmes on ecosystem services (e.g. zero grazing) have not yet started | | |
| | **Level of stringency** | | |
| **Level of Prescriptiveness** | Mandatory | Semi-voluntary | Voluntary |
| Performance-based/substantive | | | |
| Compliance-based | | | |
| Measurement-based | | | |
| Management or process-based | | Based on the County plan and multi-stakeholder approach | |

| **VI. Mechanisms to monitor progress and compliance within the initiative** | |
|---|---|
| Monitoring mechanism in place | There is monitoring of the state of the forest by local communities with aid from Nature Kenya, especially on biodiversity and identification of "gaps" or open areas in the forest due to extraction of fuel wood. For the National Forest they identify areas where trees have been cut. |
| Risk management mechanisms in place | Not identified |

| **Control mechanisms in place (indicate and describe):** | | |
|---|---|---|
| | Self-imposed control | |
| | Self-declarations with submission to authority | |
| | Self-declarations with submission to 3rd party | |
| | 3rd party on-site controls | |
| | Governmental on-site control | |
| X | Other | Nature Kenya (counting birds in the region) |

| **Sanctions in case of non-compliance (indicate and describe):** | | |
|---|---|---|
| | Non-existent | |

| | | |
|---|---|---|
| X | Jurisdictional sanctions (prison, fines) | Kenya Forest Service provides permits for wood extraction. If no compliance with the permits, fines are given to infractors. |
| | Exclusion from subsidies / financial incentives | |
| | Exclusion from market access / permit loss | |
| | Reprimand | |
| | Certificate withdrawal | |
| | Other | |

| **Level of transparency in monitoring within the initiative (indicate and describe):** | | |
|---|---|---|
| | High | |
| | Medium | |
| X | Low | Kenya Forest Service monitors, still problems of corruption have been reported; Kenvo and community also report |

| Risk-based verification mechanisms[35] | | |
|---|---|---|
| Risk-based mechanisms in place: | | |
| Not exactly on risk based but the monitoring is to inform where extraction of trees has occurred. | | |
| X | Geographical focus | Eight communities within the South West area of the Aberdares and Kereita Forest |
| | Focus on specific issue | |

| **VII. Securing product sourcing from the region: Supply chain control for the commodity** | | |
|---|---|---|
| **Link of Chain of Custody (CoC) with Landscape initiative** | | |
| | CoC is organized through a certification system | |
| X? (plan) | CoC is organized through a landscape label | In collaboration with partners in Lari, Kenya, EcoAgriculture Partners decided to design and test a landscape labelling approach to marketing [7].<br>In Lari, smallholder farmers have been able to use the landscape labelling approach as a social tool to unite producers of diverse products under a common set of principles for managing their landscape. To develop this further, the initiative will require more support for adoption and capacity to mobilize resource users. For now, limited interest and expertise have stalled the process. [7]. |
| | Other… | |
| Starting point CoC:<br>. | | |

| CoC system in place *(Indicate below)* | | |
|---|---|---|
| | Book & claim | |
| | Mass balance | |
| | Segregation | |
| | Identity preserved | |

[35] Focusing on (formalised) risk-based verification approaches.

| | |
|---|---|
| Label | |
| Alignment with markets | |

| Level of transparency on the sustainability of the product / commodity | | |
|---|---|---|
| | Public aggregated data at international, jurisdictional or regional level available | |
| | Public geographically explicit data at international, jurisdictional or regional level available | Kenvo has reported corruption in the region. Extraction of wood is possible for household use but still need to pay permit. |
| | Company aggregated data for its supply base available | |
| | Company geographically explicit data for its supply base available | |
| | Audit documentation files available | |
| | Grievance and complaint mechanism in place in the region | |

## VIII. References


http://peoplefoodandnature.org/?s=mau+forest&post_type=default&searchblogs=1%2C4&include=all

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Other literature sources used: Interviews with Manager of Kenvo Leah Mwangi

## 10. Initiative for Sustainable Landscapes South West Mau Forest, Kenya

| I. Summary and relevance of the initiative | |
|---|---|
| The Mau Forest Complex in western Kenya covers an area of over 400,000. More than 10 million people depend on its rivers. The forest also influences the region's microclimate such as rainfall patterns, creating ideal conditions to produce crops such as tea. Furthermore, the area is one of Kenya's main water towers and a significant percentage of its hydroelectric power is generated here. More than 25% of the forest has either been cut down or degraded, putting tea production, other sectors and community livelihoods at risk. This is caused by growing populations, unsustainable livestock grazing, charcoal burning and timber extraction from the forest. IDH (2019) through the initiative ISLA Kenya, built a strong coalition of the Nakuru, Kericho and Bomet national government agencies, tea, energy, telecommunications and timber companies; and civil society made up of NGOs and community groups, implementing partners and knowledge institutions to work together across the landscape. IDH works on four areas: forest conservation; improvement of water flow and access; sustainable energy and alternative livelihoods for communities. | |
| **II. General information** | |
| Name of initiative | Initiative for Sustainable Landscapes South West Mau Forest, Kenya (1) |
| Starting date of the initiative | 2014 |
| End date of the initiative | Ongoing |
| Initiator(s) | IDH The Sustainable Trade Initiative (IDH) |
| Partners involved | Several stakeholders related to tea, energy, timber and other companies; local governments, national government agencies as well as community representative bodies and research institutions. All under the Initiative for Sustainable Landscapes in Kenya (ISLA Kenya) including KFS, CFAs, Unilever Tea Kenya, James Finlay Kenya, KTDA, LEL Timber, Safaricom Foundation |
| **Geographical scope** | |
| Country/jurisdiction of region | The South West Mau Forest in western Kenya is part of the larger Mau Forests Complex: a montane forest covering an area of over 400,000 hectares, |
| Region within the jurisdiction | South West Mau Forest |
| Size of area to which it applies | The South West Mau is the largest of the 22 blocks of the Mau Forest Complex (MFC) and covers.60,000 hectares |
| **Context** | |
| Land use(s) | ○ A montane forest covering an area of over 400,000 hectares, and one of the five most important watersheds in Kenya.<br>○ More than 10 million people depend on its rivers.<br>○ The South West Mau Forest is the largest of the 22 forest blocks of the Mau Forests Complex, and it feeds into the Sondu-Miriu river basin.<br>○ The complex forms part of the upper water catchment area and it is the catchment source for Lake Victoria and the White Nile [2]<br>○ The forest is also home to rare indigenous trees such as cedar, African olive, bamboo, dombeya and shrubs. It also has exotic trees such as cypress, pine, grevillea robusta and eucalyptus which are regularly planted by the Kenya Forest Department mainly for commercial purposes [2] |
| Key commodities in the landscape | Key commodities: tea, energy and timber companies are involved in the project [5]. |
| Natural and environmental context *(natural landscape)* | One of the five most important watersheds in Kenya |
| Most common land use changes | Over the past 15 years, high deforestation rates and new settlement has reduced the Mau Forest by a quarter of its previous extent [4]<br>The Mau forest has thus been subject to severe deforestation in the past decades.<br>Deforestation and forest degradation stem mostly from |

| | |
|---|---|
| | encroachment, illegal logging and charcoal burning by surrounding communities. If not mitigated, further forest loss will lead to prolonged droughts and water scarcity, affecting communities, companies and wildlife alike [5]. |
| Socio-economic context of the region (e.g. municipality(ies), counties, etc) | Montane forest in Kenya provides direct benefits to an estimated 6-10 million people |
| Land tenure | In Mau Forest, during the summer of 2008, there was a political row over resettlement of people, who had been allocated land there during the 1980s and 1990s. Some evictions were implemented between 2004 and 2006, without a resettlement scheme.<br>On July 15, 2008, Prime minister Raila Odinga issued an order that these evictions to be implemented by October 2008 in order to protect the forest from destruction. The order has been opposed by number of Rift Valley area politicians.<br>The evictions began in November 2009. Some prominent people are set to lose their land. Also, under threat is the Kiptagich Tea Factory owned by former president Mo (4) |
| Governance context | The initiative acknowledges the need of support from other parties, in particular from governments, whose engagement is critical when protection has to take place on publicly-owned land. Therefore, they seek private-public-partnerships and promote allocating some of the company concession areas to conservation and restoration represents a cost, while benefits can be uncertain for first movers. |

## III. Objectives and elements of the landscape initiative

Problems related to growing population, limited resources, deforestation, among others made past interventions focused only on the individual stakeholders and the individual value chains, with limited impact for the wider region.

IDH through the ISLA Kenya initiative built a coalition with a multi-stakeholder intervention at landscape level where the private sector has shifted to investing in larger sustainability projects which go beyond farm level.

### Objectives of the initiative (core focus)

- Forest conservation; improvement of water flow and access; and sustainable energy.
- Creating alternative livelihoods for communities is an important issue that cuts across all three, with livestock intensification forming a major part of the livelihood programs aimed at reducing communities' overdependence on the forest for grazing.

### Activities (description)

Three main activities (achievements) reported by IDH (2019) include:

- **1. Sustainable replanting** of degraded forest blocks with support from Kenya Forest Services (KFS), Community Forest Associations (CFAs), Unilever Tea Kenya, James Finlay Kenya, Kenya Tea Development Agency (KTDA), LEL Timber, Safaricom Foundation and others. So far, 200 hectares have been planted and another 300 hectares planned. As focus shifts to the northeast boundary, a survey done by KFS along the boundary has marked 32 plots of 10 hectares each, current and new partners are encouraged to adopt these
- **2. Intensification of livestock** Sustainable business models for intensification of livestock for smallholders (dairy/beef) including agreement between communities, KFS and livestock product up-takers. A two year prototype with a selection of 200 farmers from Chepseon, Kiptororo and Tinet Wards is being discussed and agreed with the implementing partner, SNV, and co-funding partners Unilever Tea Kenya and James Finlay Kenya. Implementation will start in 2017 and run until June 2019. It will be based on a model farm system between 15-25 peers similar to the farmer field school approach. Fundraising with donors continues for scaling.
- **3. Forest buffer** (Electrified fence and tea buffer) There is a proposal to install a 45-kilometer-long electrified fence along the northeast boundary next to the tea belt (NTZDC) with expertise and resources from Rhino Ark and co-financed by the private sector, IDH and the Kenyan government. In addition to controlling human-wildlife conflict, it will be used by the KFS as a tool to monitor and control access to the forest.

- **4. Addressing illegal commercial activities** shows a decline in the count of most illegal activities, especially charcoal kilns, until end of 2016, and then a reversal in the trend in 2017.

Community empowerment Bee-keeping, planting of indigenous trees under the Adopta-Forest scheme, livestock intensification and other income generation activities

- Supporting CFAs to develop and implement Participatory Forest Management Plans (PFMPs) in collaboration with KFS with the aim to improve landscape governance and field-level sustainability
- Developing a pilot on alternative energy options for households, industry and institutions.
- Sustainable Timber Based Forest Products
- This new initiative is being spearheaded by the government, county governments of Nakuru, Bomet and Kericho and the Initiative for Sustainable landscapes [ISLA]

Collaboration: The Ethical Tea Partnership (ETP) was formed as a means for tea purchasers to address tea supply chain challenges and operates in Kenya, India, Indonesia, Sri Lanka and China. The 36 member companies created the ETP Global Standard, which contains a set of principles and action steps to guide tea estates to adopt consistent practices around social issues, such as gender, harassment, wage levels, child labour as well as environmental management. Some environmental principles reach beyond the estate- or farm-scale to guide managers to include assessment or interventions in the areas of soil management, reduction in agrochemical use, waste management, ecosystem management, and provisions around the establishment of new production areas, which is only allowed if land use capacity studies demonstrate long-term production capacity is available (ETP Standard, 2019)

**Sustainability goals: scope of the initiative** (indicate and explain shortly)

| | | |
|---|---|---|
| X | Environmental | Several aspects from reducing deforestation to water supply and quality in the landscape; and energy. Sustainable energy options for domestic, institutional and industrial use to be developed and adopted by 2020 to reduce the use of biomass and illegal charcoal production. |
| X | Social | Local communities |
| X | Economic | Piloting landscape branding, aligning market incentives, verified sourcing areas |

**Link to sustainability framework** (indicate which one (s), more than one link is possible)

| | | | |
|---|---|---|---|
| | Standardization | X | Monitoring |
| X | Certification | X | Collaboration (broader engagement, organization) |
| X | Legislation | X | Strengthening governance |
| | (Supply) risk mitigation | | Promoting integrated / multi-functional land use |
| X | Education (technical assistance) | X | Other (indicate): innovative financing |

**IV. Stakeholder involvement in the landscape initiative**

**Type of stakeholders involved**[36] (if indicated, please provide details of stakeholders and their roles. Possible roles are: standard setting; input in public consultation; voting right; education and extension; monitoring compliance)

| | | |
|---|---|---|
| X | Primary producers | Farmers (realizing certification) |
| | Secondary producers | |
| X | Traders and buyers | Unilever • James Finlay (K) Ltd • Kenya Tea Development Agency • Safaricom Foundation • KENGEN • Timber Manufacturers Association |
| X | Government | **National government agencies**<br>• Kenya Forest Service<br>• Kenya Wildlife Service<br>• Water Resources Management Authority |

[36] Including partners of initiative, as well as other stakeholders directly or indirectly involved through e.g. collaboration, information sharing or managing the landscape.

| | | |
|---|---|---|
| | | • Nyayo Tea Zones Development<br>• Kenya Water Towers Agency<br>**Local governments**<br>• Kericho County<br>• Bomet County and Nakuru County<br>**Ministries**<br>• Ministry of Environment and Natural Resources<br>• Ministry Water and Irrigation |
| X | NGOs | Civil Society<br>• Community Forest Associations<br>• Water Resource Users Associations |
| X | Business associations | ISLA - Unilever • James Finlay (K) Ltd • Kenya Tea Development Agency • Safaricom Foundation • KENGEN • Timber Manufacturers Association |
| X | International organizations | • IDH<br>• GIZ<br>• Rhino Ark<br>• CIFOR<br>• the Dutch Ministry of Foreign Affairs Unilever, ICRAF |
| | Research and education | |
| X | Certification bodies | Not clear yet |
| X | Indigenous people | Tribes in the communities |
| | Other | |
| There are Working groups - representatives from companies, farmers, the indigenous communities and NGOs | | |
| **Level of cooperation of the initiative** (if indicated, please elaborate) | | |
| | Low | |
| | Medium | |
| X | High | There are multi-stakeholder working groups and specific commitments. |
| **Governance model of the initiative** (indicate and explain) | | |
| | Public regulation | |
| | Co-regulation | |
| **X** | Delegated co-regulation | Several private businesses are included in the governance system and therefore contribute to the governance of the landscape |
| | Ex post recognized private regulation | |
| | Pure private regulation | |
| **Financial structures in the landscape** | | |
| Financial Mechanism<br>(How is the initiative paid for) | | • The initiative states the need for new finance mechanisms; finance institutions are also highlighting the lack of projects that can attract long term capital.<br>• No examples provided for Kenya |
| **V. Level of stringency and precision of the system** | | |

| | | | | |
|---|---|---|---|---|
| Shortly describe the level of stringency (-ies) of the system and the level of prescriptiveness[37] | | The system is mandatory for the issues on no deforestation and water protections. Semi-voluntary for tea and timber producers (although not completely clear on how this works) | | |
| **Level of Prescriptiveness** | | **Level of stringency** | | |
| | | Mandatory | Semi-voluntary | Voluntary |
| Performance-based/substantive | | | | |
| Compliance-based | | | | |
| Measurement-based | | | | |
| Management or process-based | | X | X | |
| **VI. Mechanisms to monitor progress and compliance within the initiative** | | | | |
| Monitoring mechanism in place | | The initiative has a monitoring programme using flights and GIS for mapping.<br>Since the last quarter of 2015, law enforcement officers from KWS, KFS and other government departments participate in quarterly aerial surveillance flights co-funded by Finlays and IDH, and guided by Rhino Ark, during which they fly over the South West Mau Forest to spot illegal activities (e.g. charcoal kilns, logging, cultivation, livestock and associated structures). | | |
| Risk management mechanisms in place | | | | |
| **Control mechanisms in place (indicate and describe):** | | | | |
| | Self-imposed control | | | |
| | Self-declarations with submission to authority | | | |
| | Self-declarations with submission to 3rd party | | | |
| | 3rd party on-site controls | | | |
| | Governmental on-site control | | | |
| | Other | None at the moment | | |
| **Sanctions in case of non-compliance (indicate and describe):** | | | | |
| | Non-existent | | | |
| X | Jurisdictional sanctions (prison, fines) | As the initiative also includes as stakeholders the local governments there are some jurisdictional sanctions e.g. related to forestry and land use | | |
| | Exclusion from subsidies / financial incentives | | | |
| X | Exclusion from market access / permit loss | This applies to the private sector that is located in the initiative | | |
| | Reprimand | | | |
| | Certificate withdrawal | | | |
| | Other | | | |
| **Level of transparency in monitoring within the initiative (indicate and describe):** | | | | |
| | High | | | |
| X | Medium | Only what is reported in the websites and in the media | | |
| | Low | | | |

[37] There can be multiple levels of stringency in one landscape: For example, some requirements are mandatory (e.g. no deforestation), while others are voluntary based. The mandatory requirements may be based on performance-based indicators, while the voluntary requirements may be monitored based on process-based indicators.

| | | |
|---|---|---|
| **Risk-based verification mechanisms** | | |
| Risk-based mechanisms in place: | | |
| The initiative has a monitoring programme using flights and GIS for mapping.<br>Since the last quarter of 2015, law enforcement officers from KWS, KFS and other government departments participate in quarterly aerial surveillance flights co-funded by Finlays and IDH, and guided by Rhino Ark, during which they fly over the South West Mau Forest to spot illegal activities (e.g. charcoal kilns, logging, cultivation, livestock and associated structures). | | |
| | Geographical focus | No |
| | Focus on specific issue | See above |
| **VII. Securing product sourcing from the region: Supply chain control for the commodity** | | |
| **Link of Chain of Custody (CoC) with Landscape initiative** | | |
| X | CoC is organized through a certification system | For example, through certification of tea for the tea market |
| | CoC is organized through a landscape label | |
| | Other… | |
| Starting point CoC: | | Not found |
| CoC system in place *(Indicate below)* | | |
| | Book & claim | |
| | Mass balance | |
| | Segregation | |
| | Identity preserved | |
| Label | | No |
| Alignment with markets | | Yes, with the tea market |
| **Level of transparency on the sustainability of the product / commodity** | | |
| | Public aggregated data at international, jurisdictional or regional level available | |
| | Public geographically explicit data at international, jurisdictional or regional level available | |
| X | Company aggregated data for its supply base available | Particularly for the tea and dairy industry |
| | Company geographically explicit data for its supply base available | |
| | Audit documentation files available | |
| | Grievance and complaint mechanism in place in the region | |
| **VIII. References** | | |
| *(Literature references and websites used)*<br>(1) IDH The Sustainable Trade Initiative 2019 https://www.idhsustainabletrade.com/resource/5369/<br>(2) The Star https://www.standardmedia.co.ke/lifestyle/article/2001227875/the-story-of-mau-forest-complex<br>(3) Landscape for people, food and nature http://peoplefoodandnature.org/landscape/south-west-mau-kenya/<br>(4) https://en.wikipedia.org/wiki/Mau_Forest<br>(5) IDH landscape program:<br>An integrated approach to Production, Protection and Inclusion, see: | | |

https://www.idhsustainabletrade.com/uploaded/2018/01/Landscape-Overview-small-updated-07112017.compressed.pdf

(6) IDH. 2017 Driving Business Solutions For Sustainable Landscape Forum 8-9 Feb 2017 IDH, the Sustainable Trade Initiative. https://www.idhsustainabletrade.com/uploaded/2017/03/IDH_Landscapes_forum_report_march_29th_2017_Final.pdf

(7) TEAM UP 2017. Going above and beyond. https://www.idhsustainabletrade.com/uploaded/2017/07/Team-Up-2017.pdf

https://www.idhsustainabletrade.com/landscapes/south-west-mau-forest-kenya

(8) ETP standard. 2019. Ethical Tea Partnership. http://www.ethicalteapartnership.org/

# Annex B - Interview background and guide

**Objective of interview:** To understand better the practical experiences from regional governance approaches, a limited group of experts are asked for their experiences about the effectiveness and legitimacy of landscape approaches in the field, to get better insights in their bottlenecks and opportunities for implementation (for the biobased economy).

Note: [A] means that this is a more generic question (for landscape experts)

**Background of the project**

This study is part of a project under IEA Bioenergy (www.ieabioenergy.com) which aims at making recommendations for improving the legitimacy and effectiveness of governance and certification systems to benefit sustainable bioenergy deployment locally and globally. The overall research question of the study is how regional and landscape approaches may be able to mitigate certain sustainability risks related to land management, which cannot be solved by existing legislative and certification systems, or other existing governance approaches.

A desk study was conducted, which explored the characteristics of regional and landscape approaches to compare those of existing public and private governance systems.

By interviewing people with operational experiences with regional and landscape approaches, this part of the study investigates which are the challenges and opportunities offered by regional and landscape approaches in the field, beyond those offered by existing legislation and certification systems. Through these interviews we are seeking to better understand:

Drivers and incentives

A. Which are the exact drivers behind the establishment of regional/landscape approaches?
B. Which are the scopes of the initiatives?

Organization and participation

C. Which are the partners?
D. Which stakeholders are involved?
E. What is the expected lifetime of the initiative; is it a permanent or temporary initiative that only exists until its goals have been achieved?
F. Which have been the incentives or barriers for different stakeholder groups to participate?

Funding mechanisms

G. Who are funding the initiative, initially?
H. What are the measures for financing the landscape on the long-term)?

System design including monitoring

A. How is the initiative linked to existing governance?
B. Which are the mandatory or voluntary governance elements of the initiative?
C. How prescriptive are the requirements?
D. What is the design of the auditing systems? Is there any 3rd party auditing?
E. Is monitoring of sustainability indicators taking place?
F. What is the role of the monitoring system for governance?
G. Are there any sanctions in case of non-compliance?

H. Are there any control systems in place for the supply chains starting from the included landscapes?
I. What is the level of transparency of the initiative?
J. Does the initiative have its own sustainability label?

Under "landscape governance", we understand the process to involve multi-sector, multi-actor and multi-level interaction and decision making about sustainability issues at the landscape level.

By traditional governance approaches, we refer to more top-down authoritarian and sectoral governance structures, such as legislation. Within the private sector, certification is a voluntary mechanism to govern the sustainability of a single supply chain from the producer to the end-market, which we also consider as a traditional governance approach. Examples are the Forest Stewardship Council (FSC), Fair Trade, or Sustainable Agriculture Network (SAN) by Rainforest Alliance.

The interview should take about 30-60 minutes of your time. Below are the questions that will be used as a guide for the interview. The interview will be conducted by Jinke van Dam, owner of Jinke van Dam Consultancy, and/or Rocio Diaz Chavez from Stockholm Environment Institute in Nairobi. Your responses will be treated anonymously unless you indicate otherwise. Please ask if questions are not clear, and if you feel uncomfortable answering a specific question, feel free to skip that question.

Preliminary results will be available during spring 2019 while final results are expected around summer 2019. If you indicate your interest, we will send you the preliminary results for your possible review, and final results for your information. The study is carried out by IEA Bioenergy, and the results are intended for peer-review scientific publication and presentation in conferences, by the following responsible authors:

Jinke van Dam, Jinke van Dam Consultancy, jinke@jvdconsultancy.com

Rocio Diaz-Chavez, rocio.diaz-chavez@sei.org

**Questionnaire outline**

Landscape approach: [name]

Name respondent:

Role in developing the landscape approach:

Organization or stakeholder group:

Date:

### A. Drivers, partners, scope and progress

- What were the main reasons for setting up the landscape approach?
- Who were the most important initiators (partners) for this?
- How is sustainability defined within the landscape?
- Who elaborated this definition and what was the process? Were other stakeholders involved?
- How many years does the landscape exist and in which phase (preparation, development, implementation, long-term embedment) is the landscape approach at this moment compared to the end target?
- [A] Is the landscape approach, in your opinion, able to mitigate the sustainability risks defined as important for the landscape?

- Could these challenges have been solved through traditional certification systems or public regulations? If not, why not? If yes, why was the landscape approach chosen before certification?
- [A] Can you say something about the required timeline needed for fully developing and implementing your/a landscape approach to the last phase as described in the previous question?

### B. The role of stakeholders and stakeholder processes

- Have mechanisms been set up to involve stakeholders actively?
- If yes, what were the goals of these stakeholder processes?
- What are the experiences in cooperation so far with developing your/a landscape approach together with different stakeholder groups, each with their own interests and power relations? What were the largest barriers to overcome to establish cooperation between different groups?

### C. Financial mechanisms developed in regional governance systems

- Which financial mechanism has been developed to set up the landscape approach?
- Is the landscape dependent on external funding?
- How far into the future has financial support been secured for the long-term, if relevant?

### D. Monitoring mechanisms developed in regional governance systems

- Have mechanisms been developed to guarantee a certain level of sustainability in the landscape, and to measure progress towards this? And if yes, which mechanisms?
- Have mechanisms been developed to measure, monitor and document progress of the expected (and unexpected) benefits of the landscape approach? And if yes, which mechanisms?
- Have mechanisms been developed to guarantee transparency (e.g. of responsibilities, measuring progress) in the landscape? And if yes, which mechanisms?
- Have mechanisms been developed to trace sustainable products from the landscape approach throughout value chains, for example to export markets? And if yes, which mechanisms?
- Are you making use of a specifically designed landscape governance scheme label, or planning to do so? And if yes, how does this work?
- [A] Is a landscape approach an appropriate governance mechanism to show compliance with requirements that buyers impose to ensure sustainability (e.g. quality standards from international buyers or policy directives as the EU-RED for biofuels)?
    - If not, why not?
    - If yes, can you explain how?

### E. Experiences so far when developing the regional governance system

- [A] In general, what have been the main hurdles in implementation when developing and starting this landscape approach?
- Are these benefits beneficial for all stakeholder groups or is the landscape approach (so far) mainly beneficial for a particular stakeholder group?
- Are there negative impacts of the initiative evident for any stakeholder group?
- How would you define a successful landscape approach?
- [A] What do you see as the key factors and conditions for a high probability of success?
- [A] Do you see a landscape approach as an opportunity to involve all sectors and land uses in increasing the level of sustainability in the landscape?
- Is there, to your opinion, a maximum geographical scale for a/your landscape approach to be able to keep ensuring legitimacy and effectiveness?

## Regional governance systems and the biobased economy

- [A] How can landscape approach, in your opinion, be used to promote the sustainability of a biobased product or bioenergy?
- [A] To what extent is one sector (e.g. the biobased or bioenergy sector or a soy-based sector) able to initiate a landscape approach? Or should more sectors always be involved?
- What is needed for one sector to establish a landscape approach on its own?
- [A] Other remark

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## Further Information

IEA Bioenergy Website
www.ieabioenergy.com

Contact us:
www.ieabioenergy.com/contact-us/