IMPERIAL COLLEGE LONDON
Faculty of Natural Sciences

Centre for Environmental Policy

Landscape approaches for integrated landscape management:

Lessons from two case studies in Latin America

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A report submitted in partial fulfilment of the requirements for the MSc and/or the DIC.

09/09/2020

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ABSTRACT

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This study investigated the relevance of the concept of "landscape approaches" (LA) in advancing sustainability in land use management through a critical literature review, a benchmark of existing approaches and the analysis of two case studies in Costa Rica and Colombia. The literature review showed that a variety of terminology refer to LA which can undermine the visibility of the concept for policy-makers; but also showed that a basic set of core characteristics can serve to define and set apart LA from other approaches or concepts. The benchmarking exercise provided evidence of the growing uptake of the concepts of LA by standard organisation and prominent non-governmental organisations (NGOs) but this uptake appears limited and the concepts of LA are only partially adopted in many cases. Jurisdictional approaches – a variant of LA – appeared to be preferred over non-jurisdictional approaches. It can be expected that this will have implications for the concept of LA.

While the two case studies operate in different contexts, the analysis yielded positive results as to the relevance and effectiveness of LA. The two LA served to coordinate and integrate the interests and activities of the different landscape actors. The notion of "balance" between environmental, social and economic agendas featured prominently in the interviews. Challenges such as the difficulty of monitoring impact and sustaining LA over time persist. General recommendations based on the case studies and benchmark exercise were formulated.

ACKNOWLEDGEMENTS

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Landscape approaches for integrated landscape management: Lessons from two case studies in Latin America

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Introduction

The "*landscape*" is increasingly described as a key scale of intervention in order to deliver on multiple outcomes linked to agriculture, ecosystem conservation and rural livelihoods (Scherr et al, 2012; Milder et al, 2014a). "Landscape approaches" (LA), as a process for multi-stakeholder and cross-sectoral sustainable landscape management are gaining popularity (Scherr et al, 2012; Rhaman et al, 2015; Sayer et al, 2017). Many prominent international organisations now implement landscape programmes. However, the academic investigation of the concept of LA has not caught up with the growing popularity of landscape approaches. Diaz-Chavez and van Dam (2019) explored the different approaches and case studies and this dissertation is a follow-up of the report.

Objectives

The aim of this project is to investigate the relevance of the concept of "landscape approaches" (LA) in advancing sustainability in land use management through the analysis of two case studies in Latin America.

The findings should contribute to the following research questions:

1. What does the concept of landscape approaches entail?
2. What is the potential of LA and added value of LA for integrated landscape management?

Methodology

This project adopts a top-down approach with a review of the review to *unravel* the concept of LA and construct an analytical framework to assess the two case studies. A benchmarking exercise of current frameworks applying landscape approaches was also conducted.

The two case studies selected were:

1. the Blueprint Project led by the Sustainable Agriculture Network (SAN) and its local member Fundación Natura (FN) in Municipalidad Bananera, Colombia
2. LandScale's pilot led by the International Union for Conservation of Nature (IUCN) in Costa Rica and supported by LandScale

An analytical framework was designed to conduct semi-structured interviews and analyse the data collected.

Landscape approaches

A great variety of terminology and labels refer to LA (Freeman et al., 2015; Pfund 2010; Reed et al. 2015; Sayer et al. 2013; Scherr et al. 2013; Erbaugh and Agrawal 2017). It was found that it is possible to define, or at least distinguish a LA, based on some core and essential concepts which seem common to most definitions identified in the literature:

A landscape approach is:

- a project or platform that involves different types of stakeholder, and thus work across sectoral siloes;
- that implements or coordinates activities on a geographical scale that is greater than a farm or other individual production unit and covers multiple land uses;
- and addresses multiple environmental and social objectives with the aim of reconciling trade-offs, and increasing synergies between conservation and development goals

Similar to LA is the concept of jurisdictional approaches (JA) which Denier et al, (2015) define jurisdictional approaches as "*a type of landscape approach that uses government administrative boundaries, primarily sub-national, to define the scope of action and involvement of stakeholders rather than social (e.g. indigenous community) or environmental (e.g. ecosystems, watershed) boundaries*". The benchmarking exercise explored the concept of JA further.

Results

Some standards organisations are starting to look beyond the unit level to reflect on the impact of the certified units on the wider landscape. At least three have clear objectives to implement JA.

Large companies find cost-effective the ability to source products from areas with a JA in place as it removes the need for individual farm or supplier auditing (Mallet et al, 2016). Jurisdictional boundaries rather than non-jurisdictional delineations facilitate monitoring by enabling the use of pre-existing datasets and provide objectivity for defining the landscape. It appears many organisations have arrived at the LA by necessity and not by desire – as they realised that working across sectors is unavoidable to scale up impact.

While the two case studies operate in different contexts, the evidence point in the same direction. The LA served to coordinate and integrate the interests and activities of the different landscape actors. The notion of "balance" between environmental, social and economic agendas featured prominently in the interviews. The main objectives for the two initiatives was to preserve ecosystem services and ensure the livelihoods of local communities. Managers of the two initiatives had a long-term perspective in mind.

Discussion

Practitioners and academics could envisage making a clearer conceptual distinction between jurisdictional and landscape approaches – while the two approaches share many commonalities – substantial differences remain (level of government and market involvement, scale etc.) – making this distinction could help clarify the research agenda and produce more adapted conclusions and recommendations.

The issue remains that a lack of measured impact leads to lower commitments from all sorts of actors, including companies who need to demonstrate progress to investors, clients etc.

Many companies are attracted by the cost-saving opportunities of sourcing products from a "verified" area (Kissinger et al., 2013), there might be a risk that they are still operating with certification processes in mind, and start converting LA into landscape-level certification. Interviewees were very much aware of the risk that such labelling schemes reproduce the pitfalls of certifications. Certification and landscape approaches provide different level of information on the sustainability of a landscape e.g. being too focused on the market needs than on the needs of the local communities. LA are used to address shortcomings of certification, but should not replace it altogether. Further research should focus specifically on the complementarity between standards and LA.

Conclusion

LA are by design long-term endeavours, and their effectiveness is difficult to measure or demonstrate. Nevertheless, the characterisation of two case studies yielded positive results. LAs were effective at coordinating and aligning stakeholder interests and implementing beneficial

activities that could not be carried out by a single actor or sector. Longitudinal and repeated studies of the same initiatives could help understand long-term dynamics. LA are implemented where sectoral solutions are not viable and where short-term results are not easily obtainable.

Recommendations

- Social objectives should be given as much importance as environmental objectives. Livelihoods and living conditions of the local communities impact the sustainability of the landscape.

- Governance mechanisms should ensure no stakeholder can take control of the landscape and exercise disproportionate power or modify the aims of the initiative. If this becomes a pattern, this would undermine the legitimacy of the concept.

- The process of defining boundaries should be documented and justified. Boundaries can be extended and new actors involved when the foundations of the initiative are sufficiently robust to accommodate additional duties.

- Early results are necessary to demonstrate the legitimacy and organisational feasibility of the initiative – and attract new members or external stakeholders.

Glossary and acronyms

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*" (Denier et al,. 2015).

To avoid any confusion, the term landscape is used only to designate an actual landscape i.e. expressions such as "the regulatory landscape" are not used.

Landscape approach: the following definition was formulated in the literature review. It is suggested to consult the important contextual information in the literature review page 21. Annex 7 in the appendices presents more definitions from the grey and academic literatures

In the context of this paper, a landscape approach is:

- a project or platform that involves different types of stakeholder, and thus work across sectoral siloes;

- that implements or coordinates activities on a geographical scale that is greater than a farm or other individual production unit and covers multiple land uses;

- and addresses multiple environmental and social objectives with the aim of reconciling trade-offs, and increasing synergies between conservation and development goals

Landscape governance has been defined as the process of multi-sector, multi-actor and multi-level interaction and decision making at the landscape level (van Oosten, 2018)

Jurisdictional approaches: "*The jurisdictional approach is a type of landscape approach that uses government administrative boundaries, primarily sub-national, to define the scope of action and involvement of stakeholders rather than social (e.g. indigenous community) or environmental (e.g. ecosystems, watershed) boundaries*" (Denier et al., 2015)

Landscape initiative: a concrete project or initiative where the concepts of a landscape approach are being explicitly applied.

Landscape approach framework: a framework developed by an organisation based on the concepts of landscape approaches.

Concepts of landscape: used to refer to the concepts of landscape approaches i.e. cross-sectorality, multiple stakeholders participation, landscape as a scale of operation, and multiple objectives.

Acronyms

FN: Fundación Natura
JA: jurisdictional approach (singular) or jurisdictional approaches (plural)
IUCN: International Union for Conservation of Nature
LA: landscape approach (singular) or landscape approaches (plural)
LI: landscape initiative (singular) or landscape initiatives (plural)
NGO: Non-governmental organisation
RSPO: Roundtable on Sustainable Palm Oil
RSP: Responsible Biomass Program
SAN: Sustainable Agriculture Network
SDG: Sustainable Development Goals

1. INTRODUCTION AND OBJECTIVES

Background

Recent years have witnessed dramatic increases in demands on agriculture and other land uses to improve food and energy production while conserving critical ecosystems and the services they provide, reducing poverty and mitigating the effects of climate change. In this context, the "*landscape*" is increasingly described as a key scale of intervention in order to deliver on multiple outcomes linked to agriculture, ecosystem conservation and rural livelihoods (Scherr et al, 2012; Milder et al, 2014a). "Landscape approaches" (LA), as a process for multi-stakeholder and cross-sectoral sustainable landscape management are gaining popularity (Scherr et al, 2012; Rhaman et al, 2015; Sayer et al, 2017). LA are built on the premise that deforestation and loss of critical environmental services require broader responses that confront these wider pressures at a landscape level, and that conventional sectoral strategies, and certifications, have limited reach. With regard to certification, LA hold potential to address impacts from indirect land use change (ILUC) by addressing 'leakage' issues where certification in one area displaces negative practices e.g. deforestation to other non-certified areas rather than eliminating them (Mallet et al.,2016) thus not producing a net benefit. By providing a practical tool for integrating diverging sectoral objectives and promote policy coherence, LA can group the implementation of Sustainable Development Goal (SDG) solutions, as many SDGs, and the general philosophy of the SDGs, display clear overlap with the concept of LA (Heiner et al, 2017). Calls for more integrated SDG strategies through multi sectoral projects and cooperation have been described by the UN itself as indispensable (UNDESA, 2014; UN, 2016).

The growing momentum around landscape restoration, commitments on zero deforestation, the increasing recognition of agroforestry and dependencies between conservation/yields/livelihoods, have led to the emergence of numerous initiatives applying the concept of LA (Heiner et al, 2017). The concept is being adopted by prominent non-governmental organisations (NGOs) such as the World Wildlife Fund, the International Union for the Conservation of Nature, and Conservation International (Pressey & Bottrill 2009; Pfund 2010; Sherr 2014), and institutions like the World Bank, Food and Agriculture

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Organisation and the United Nations Environmental Programme (Freeman et al., 2015). The Global Landscapes Forum has been organised since 2013 alongside the Conference of the Parties (CIFOR, 2013). Large multinationals are also acknowledging the "landscape risks" that can jeopardize their suppliers' crops (Mallet et al., 2016), even when certified (Kissinger et al., 2013).

In this context of growing popularity, the need to investigate LA is also growing. The academic investigation of the concept of LA has not caught up with the growing popularity of the concept, and the need for evidence of impact is mentioned consistently throughout the literature (Pfund 2010; Sherr, 2014; Sayer et al, 2017). Further analysis is required if the concept is being adopted so rapidly.

This research originated from a report by Diaz Chavez and van Dam (2019).

Research aims & objectives

The aim of this project is to investigate the relevance of the concept of "landscape approaches" (LA) in advancing sustainability in land use management through the analysis of two landscape initiatives in Latin America and a benchmark assessment of different frameworks.

The findings derived from this study should contribute to the investigation of the following research questions and objectives:

3.   What does the concept of landscape approaches entail?
     o   Objective #1: to analyse the current thinking and theories related to LA by conducting a critical review of the literature

4.   What is the potential of LA and added value of LA for integrated landscape management?
     o   Objective #2 To characterise the potential of LA as process for multi-stakeholder and cross-sectoral land management through the analysis of two case studies in Latin America

2. METHODOLOGY

This project adopted a top-down approach with a critical review of the literature to characterise LA and construct an analytical framework to assess two case studies. The literature review *unraveled* the concept of LA and informed the analysis of the case studies. To complement the literature review, a benchmarking exercise of current frameworks applying landscape approaches was conducted. For the two case studies, primary and secondary data underpinned the analysis with documentary review and semi-structured interviews for data collection.

The benchmarking analysis provided preliminary answers to the research questions. Some of these initial findings were refined with the analysis of the initiatives. These preliminary findings informed the design of the case studies analysis.

Frameworks can be methodologies, processes, guidelines or tools developed by organisations that are based on the concepts of LA. Frameworks were identified through an online search and over the course of the literature review. Six semi-structured interviews were conducted specifically for the benchmarking exercise. Four of these interviewees were were also interviewed on a separate occasion for the case studies. These 4 interviewees were members of the NGOs implementing the two initiatives and thus had relevant knowledge.

Landscape initiatives are projects where the concepts of LA are deliberately being applied. The two case studies selected were:

1. ~~the~~ the Blueprint Project led by the Sustainable Agriculture Network (SAN) and its local member Fundación Natura (FN) in Municipalidad Bananera, department of Magdalena in Colombia
2. LandScale's pilot led by the International Union for Conservation of Nature (IUCN) in the San José region in Costa Rica and supported by LandScale[1]

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[1] LandScale is a collaborative initiative which includes the following organisations in its secretariat: Rainforest Alliance, Verra, and Climate, the Community and Biodiversity Alliance. Partner organisations are EcoAgriculture Partners, IUCN, the Nature Conservation Resource Centre, proforest and Solidaridad (LandScale, 2020)

The two landscape initiatives were selected based on the following considerations:

- suitability to answer the research questions and derive relevant findings
- comparability of the initiatives: presence of similar commodities, situation in Latin America which implies relatively comparable political, historical and economic contexts
- feasibility of investigation: access to participants, context of the initiative
- level of cooperation and interest in participating in our research project

An analytical framework was designed to conduct the interviews and organise and analyse the data. The same methodology was applied to both case studies. The design of the analysis framework the benchmarking assessment and the literature review analysis was informed by Diaz-Chavez and van Dam (2019).

Analytical framework

1. Implementation, drivers and objectives
2. Scale and boundary-setting
3. Reporting and monitoring
4. Governance and stakeholders
5. Determining factors – this topic was used to conduct the interviews and collect data but not for organising and presenting the findings

Based on these five topics, semi-structured interviews were conducted with key stakeholders. Semi-structured interviews were conducted (in Spanish) to gather in-depth and contextualised data on the initiatives. Interviewees were selected based on their proximity to and knowledge of the initiative and through the recommendations of the landscape initiative convenors. Ten interviews were conducted in total for the case studies. A table with the interviews and dates conducted is included in Annex 1.

The information collected from the interviews was categorised into the five topics listed in the analytical framework to enable interpretation, comparisons and analysis. Narrative

analysis was important and close attention was paid to the tone and choice of words used by interviewees.

Limitations of the methodology

The benchmarking exercise proved to be time-consuming and produce limited findings compared to the amount of time it required. Not enough information was encountered; and when it was, credibility and validity were difficult or impossible to assess. Information on LA on organisation websites was often outdated, and sometimes conflicting, with papers or reports indicating that an organisation was following a LA when it was not (or no longer) the case. Most of the information was very general and not sufficiently comprehensive to produce a more in-depth analysis.

It would have been desirable to interview more landscape participants (*farmers, local communities member, civil servants*) than convenors (NGOs managing the project) . The adverse impact of Covid-19 on participants' organisation in the agricultural sectors made several interviewees unavailable as many were struggling with the disruption of their supply chains and Covid-19 restrictions. Likewise, field visits were not possible because of the Covid-19 pandemic but would have been beneficial to corroborate findings from the interviews and access "offline" stakeholders such as the local communities, farmers or lower-rank civil servants. As a result, most interviews were conducted with NGO workers, who have a better understanding of the initiative and a better general knowledge of LA, but might be biased when answering questions related to initiatives they are implementing.

Caveats

The two initiatives are quite different and are not entirely comparable. Costa Rica and Colombia are very different countries on many aspects: population, robustness of democratic institutions, environmental laws and protection, social laws etc. The selection of the two case studies was limited due to Covid-19. Nevertheless, this disparity can be considered through a positive lens as it led to more comprehensive and applicable findings.

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Another caveat of this analysis is that the two initiatives studied are in their design -and not implementation- phase. However, both initiatives are intended to serve as a blueprint for future initiatives.

3. UNDERSTANDING LANDSCAPE APPROACHES

3.1.   Defining landscape approaches

LA are described as having higher potential to achieve a better balance between conflicting objectives compared with the conventional spatial planning or sectoral approaches (Freeman et al., 2015; Reed et al. 2015; Sayer et al, 2015) . The basic premise behind LA is that sectoral approaches to promote conservation (i.e. protected areas, ban on logging etc) are hardly viable in many contexts, and that development and social concerns should be given equal weight to promote sustainable landscapes.

The merits of LA are often discussed in the context of certification schemes. Standards systems focus mainly on sustainable practices within a production unit (e.g., farm or concession), but, by contrast, the challenges faced with deforestation and loss of critical environmental services require broader responses that confront these wider pressures "beyond the farm" i.e. at the landscape level. One concern shared by many practitioners is that the farm unit is not the appropriate scale of action to achieve a lasting and tangible impact in a landscape (Sayer et al, 2013). For instance, a certified farm can be located in a degrading landscape (Mallet et al, 2016). This indicates two limits of certifications: first that the farm itself is not really sustainable as it will be impacted by the wider degrading landscape - and second, that one can suspect that the certification of this farm is not making a significant difference on the surrounding landscape.

A great variety of terminology and labels refer to LA (LA) (Freeman et al., 2015; Pfund 2010; Reed et al. 2015; Sayer et al. 2013; Scherr et al. 2013; Erbaugh and Agrawal 2017). A study by Ecoagriculture Partners identified over 80 terms all alluding in varying degrees to the concept of integrated approaches to land management (Scherr et al., 2013). Some authors and practitioners have highlighted that this diversity creates confusion, and contributes to prevention or slow uptake and implementation of LA (Scherr et al., 2013; Reed et al., 2015). Scherr et al. (2013) even claim that this apparent confusion produced a fragmentation of

knowledge, unnecessary re-invention of ideas and practices. Nevertheless, this plurality might not necessarily be viewed through a negative light and might reflect the diversity of landscapes in the real world. Interestingly, Erbaugh and Agrawal (2017) argue that a more robust conceptualisation of the LA could possibly hinder the development of future frameworks. In their seminal paper, Sayer et al. (2013), maintain that the term is "constructively ambiguous": practitioners can agree on some basic principle while having different views on a number of key details. Sunderland (2014) asserts there is "strong consensus on what it means, and also on its power and potential for tackling some of the most crucial […] issues of our times". This is perhaps why a universally-agreed definition is not necessary as the definition of LA might have to be equally dynamic as the landscape where it's applied to. Therefore, it is better to distinguish LA initiatives based on these core concepts which seem to be common to most definitions identified in the literature:

A landscape approach is:

- a project or platform that involves different types of stakeholder, and thus work across sectoral siloes;

- that implements or coordinates activities on a geographical scale that is greater than a farm or other individual production unit and covers multiple land uses;

- and addresses multiple environmental and social objectives with the aim of reconciling trade-offs, and increasing synergies between conservation and development goals

In other words, a LA is a cross-sectoral, multi-stakeholder approach that addresses multidisciplinary objectives at a landscape scale.

The above definition is a synthesis of definitions identified over the course of the literature review. A table with definitions of LA is included in Appendix 7.

Defining what a "landscape" is appears to be a more straightforward exercise. This report uses the following definition: *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 (Denier et al,. 2015).

A project working at the landscape scale cannot be automatically considered a LA e.g. a landscape-level approach to reintroduce or conserve a species is not a LA as defined above. The difference between landscape approaches and sectoral landscape-scale approaches is harder to describe. Sectoral landscape-scale approach revolve around one goal and tend to involve one sector – albeit with some degree of coordination with other stakeholders, mainly authorities while landscape approaches pursue multiple objectives and involve various sectors from the start (Ros-Tonen et al, 2018).

Table 1 Different "landscape approaches"

Using the landscape scale	Sectoral Landscape-scale Approach*	Landscape approach
Any project that uses the landscape as scale of action	integrated landscape-scale initiatives that tend to focus on a primary goal around a defined social, ecological, or political boundary (Ros-Tonen et al, 2018)	Multi-stakeholder approaches that aim to achieve multiple objectives through integrated governance and cross-sectoral collaboration (*Condensed version of the definition formulated above*)
EU quality schemes such as Protected designation of origin, Protected geographical indication, etc. Conservation of one species in one landscape	Watershed management (Sayer, 2009), deforestation-free palm oil (RSPO, 2019) etc. Supply shed approaches (Kissinger et al, 2013)	Initiatives pursuing social and environmental goals with different commodities/ sectors involved

* Ros-Tonen et al refer to these as "integrated landscape-scale initiatives".

Source: author elaboration

In the context of LA, a landscape should be capable of delivering concurrently on services that provide environmental, social and cultural benefits (Freeman et al, 2015). Defining a

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sustainable landscape would imply defining what sustainable entails. Each landscape being different, this definition of sustainability will remain landscape-dependent (Sayer et al, 2013). As Freeman et al. (2015) described, defining what sustainability in a specific landscape entails is paramount: "what is being sustained, why it is being sustained, and at what scales it is being sustained" and should be defined by local actors.

3.2. Development of the concept of LA

The concept of LA is the result of multiple iterations to attempt to reconcile social, economic and environmental preoccupations (Reed et al, 2016). The idea to operate at the landscape scale, and the concept of landscape as a unit was promoted by the field of landscape or ecosystem ecology (Forman & Godron, 1986; Freeman et al, 2015). An important assumption of landscape ecology was that the landscape was a useful and relevant spatial scale to address the interdependencies and interactions between different organisms and their environment (Forman & Godron, 1986). Calls for more integrated and holistic approaches to conservation began in the 1980s (Sayer et al., 2013; van der Hoorn & Meijer, 2015).

Conservation and Development Projects (ICDPs) in the 1980s and non-timber forest product (NTFP) strategies in the 1990s intended to reconcile conservation and development. While some ICDPs included landscape-scale projects, agriculture and food security were not major objectives and still viewed as a threat to be mitigated (Milder et al. 2014a; Scherr, 2014). Another common critique of past 'integrated' approaches is that they have not sufficiently addressed development concerns, and/or failed to incorporate trade-offs between objectives (Tallis et al, 2008; Pfund, 2010; McShane et al, 2011; Milder et al, 2012; Sayer et al, 2013; Scherr, 2014). As Sayer et al (2013) described, "people and society" were "notably absent" from such approaches. These critiques prompted a more refined approach to sustainable landscape management (Reed et al., 2015). These critiques explain why many authors emphasise the long-term nature of LA and their aim to address the underlying causes – and not the symptoms- of environmental degradation (Pfund, 2010; Reed et al, 2015; Sayer et al, 2015), in opposition to 'emergency/band-aid" conservation projects (Milder et al., 2014b). However, some review of contemporary landscape initiatives have shown that many projects do not give sufficient weight to social objectives beyond the

working conditions of workers in the participating sectors (Pfund, 2010; Milder et al, 2014a; Diaz-Chavez & van Dam, 2019). Likewise, gender equality and inclusion are not common objectives (Milder et al, 2014a).

3.3. Different approaches to landscape approaches

Self-labelled landscape initiatives range in area covered from hundreds to thousands of square kilometres (Pfund, 2010; Milder et al, 2014a). The issue of scale does not feature prominently in the literature. The grey literature suggests 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 deliver multiple functions to stakeholders with different interests (Denier et al., 2015; Heiner et al., 2017; King et al, 2018). There are usually three types of boundary-setting for landscape initiatives: jurisdictions, catchment area for water resources management, or a given area where an issue has an impact, as perceived by the landscape's stakeholders. An initiative that follows jurisdictional (i.e. administrative) boundaries can be called a jurisdictional approach. Naturally, there are jurisdictional LA i.e. a LA delineated along jurisdictional lines but jurisdictional approaches tend to be implemented at the state or provincial level so there are significant differences in terms of scale (See table 2 for a comparison of certification, jurisdictional and landscape approaches). Denier et al, (2015) offer the following definition of jurisdictional approaches as "*a type of landscape approach that uses government administrative boundaries, primarily sub-national, to define the scope of action and involvement of stakeholders rather than social (e.g. indigenous community) or environmental (e.g. ecosystems, watershed) boundaries*". The concept of jurisdictional approaches is closely related to "jurisdictional sustainability" which the Earth Innovation Institute (2017) defines as "*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*. The two terms should not be used interchangeably e.g. a jurisdictional approach can be a means to achieve jurisdictional sustainability.

The literature does not seem to differentiate very clearly between landscape and jurisdictional approaches, our benchmarking exercise will look at the two approaches in more details.

Table 2 Comparing certification, jurisdictional, and landscape approaches

	Certification/Supply chain approach	Jurisdictional Approaches	Landscape approaches
Objectives	Sustainable commodities	Cross-sectoral or sectoral objectives	Cross-sectoral objectives
Scale of landscape	Small to medium	Large	Small to Large
Adaptability of process	Low	High	High
Predictability of outcomes	High	Low	Low
Stakeholder involvement	Low – mainly limited to value chain actors and government occasionally	Medium to high – often with	High
Unit of action	Farm, plantation, mill, refineries	Administrative boundaries	Stakeholder-defined boundaries
Relative complexity	Low	Medium (leadership role of government can reduce complexity)	High
Focus	Objective-driven	Process-driven	Process-driven

Scope	Single commodity – or its value chain	Multi-sectoral	Multi-sectoral
Compliance	Third party auditing	Government-enforced	Informal to formal mechanisms
Difficulty of monitoring and reporting of impact	Low	High	High

Source: author elaboration from literature review

3.2 Limitations of LA

Some authors posit that promoting cross-sectoral and multi-stakeholder coordination (Pfund, 2010; Sayer et al, 2015) does not automatically lead to socially-just or environmentally-desirable outcomes and that many beneficial outcomes related to land use have been achieved as a result of bold and sustained activism (Ravikumar et al., 2018). As Sayer et al. noted (2015), LA should not be presented as having the potential to resolve fundamental conflicts on such polarised topics as small-scale vs. industrial agriculture etc. LA should complement but certainly not replace the conventional focus on protected areas (Sayer, 2009; Sayer et al., 2015) and they need not occur at the expense of other activism and lobbying activities nor do they purport to be a silver bullet solution to sustainable and equitable landscape management. Addressing the unchecked influence of harmful industries, land tenure issues, corruption will always be necessary. LA should do not remove the need for regulating extractive industries, addressing agricultural lobbying power, protecting areas, legitimise property rights (Sayer, 2009; Sayer et al., 2015).

Incidentally, the extractive industries such as the oil, **gas, mining very rarely participate in landscape initiatives** (Milder et al. 2014a)**. This is not necessarily a limit as** extractive activities have shorter lifespans, and are less dependent on the landscape's health in order to be carried out, and it can be suspected these industries are less likely to be involved in

conservation strategies in general. Still, further research should focus on the inclusion of the extractive industries in landscape initiatives as there could be potential in terms of landscape restoration.

Another challenge is the lack of data. Despite the widespread support for LA, many papers signal a paucity of empirical evidence documenting their general effectiveness and their superior performance relative to sectoral approaches (Pfund, 2010; Mallet et al, 2016; Sayer et al., 2017; Reed et al, 2018). There are few or no studies on their long-term effectiveness due to the novelty of the concept (Sayer et al., 2017). Time is needed for evidence to surface from existing initiatives. Interestingly, claims of success in the grey literature contrast with the lack of empirical data in the scientific peer-reviewed journals (Denier et al,. 2015).

4. RESULTS AND ANALYSIS

This chapter presents the results of the benchmark analysis of the two case studies.

4.1 Findings from the benchmark

A benchmark exercise was conducted to analyse frameworks developed based on the concepts of LA. Organisations might have developed their own "branded" approaches, frameworks, methodologies or tools based on the concepts of LA. Studying these applications of the concepts of LA is important and useful for two reasons. First, how leading organisations decide to embrace the concepts of LA will potentially have an impact on a number of LI. Second, it will help determine if and how practitioners incorporate the fundamental principles behind the concept of LA identified in the literature review. Six interviews were conducted with members of organisations implementing a landscape initiative and/or developing a landscape approach framework to complement the information available online.

Note: I11, I12, etc. refer to interviewees. Please see Annex 2 for more details on the interviews.

As seen in the table 2 in Annex 4, some certification schemes are starting to look beyond the unit level to reflect on the impact of the certified units on the wider landscape in different ways. PEFC is considering certifying trees outside forests, while Roundtable on Sustainable Biomaterials (RSB) and Sustainable Biomass Program (SBP) conduct landscape-scale assessments. Roundtable on Sustainable Palm Oil (RSPO) and Rainforest Alliance are clearly embracing the concepts of LA with the implementation/piloting of jurisdictional approaches. Most standards mention their intention to tackle "off-farm" issues and impacts but most of them are not designing landscape approaches (See table 2 in Annex 4). The inclusion of smallholders is frequently cited as a benefit of JA and LA e.g. Earthworm, RSPO, Rainforest Alliance etc.

Regarding the private sector (table 3 in Annex 5), a number of prominent multinational companies are engaging with landscape approaches (Unilever, 2015; Mars, 2020) . Large

companies find attractive and cost-effective the ability to source products from areas with a jurisdictional approach in place as it removes the need for individual farm or supplier auditing (Unilever, 2015; Mallet et al, 2016). Nespresso (Heiner et al, 2017), Nestlé (2020) and Touton (IDH, 2018) are also members of current landscape approaches. All of these companies are participating mostly in jurisdictional approaches with strong government leadership. It could be hypothesised that with so many stakeholders involved in an iterative project with no clear objectives, companies are reassured by the leadership provided by governments. These companies do not initiate landscape approaches.

Most organisations and frameworks have a primary objective e.g. responsible sourcing for companies, sustainable palm oil for RSPO, sustainable forestry for Rainforest Alliance etc. It is realistic to expect organisations, especially standards, to give more weight to the objectives related to their core mission. The objective was to analyse whether the means used to reach this overarching objective follow the principles of LA as defined in the literature review (inclusion of other sectors, multiple objectives etc.) – this information was difficult to assess with scarce documentary evidence and without interviews - hence the importance of case studies to understand how the concepts of LA are being applied.

The benchmarking exercise indicated that jurisdictional approaches are more popular with companies, standards, and NGOs than LA. One of the benefits of having jurisdictional boundaries compared to stakeholder-defined boundaries is that it might be more straightforward to integrate administrative entities than with LA that overlap jurisdictional boundaries, and authorities. Jurisdictional boundaries also facilitate monitoring by enabling the use of pre-existing datasets. Jurisdictional boundaries could possibly avoid clashes on the definition of the boundaries as they are considered more "objective" than stakeholder-defined boundaries where deliberate exclusion or inclusion of specific land uses could occur. (LandScale, 2019; I11, I14, I15, 2020).

RSPO (2019) speaks favourably of the cost-saving opportunities of JA compared to conventional certification methods, and the ability to benefit from government capacity and authority to enforce agreements and regulations.

While LA and JA seem to differ only on the issue of size and scale, this supposedly translates into completely different projects in practice: a LA of several hundred square kilometres is arguably very different from a jurisdictional approach that covers an entire state (e.g. Mato

Grosso in Brazil or Kalimantan in Indonesia) or even a country (RSPO's scheduled jurisdictional pilot in Ecuador).

Frameworks analysed in the benchmark are not restrictive nor overly prescriptive in their guidelines and theoretical definitions. For instance, most frameworks do not have a rigid definition of what a landscape is. I11, I12 and I15 shared that most organisations design a draft or preliminary framework, test it through the implementation of a pilot initiative and then refine the framework based on the pilot. I11 and I15 mentioned that a LA could start with one sector or focus on one issue initially, and then integrates other sectors and take on additional objectives.

Based on our narrative analysis, it appears many organisations have arrived at the LA by necessity and not by desire – as they realised that working across sectors is unavoidable to scale up impact – this was also confirmed by I11, I12 and I15.

Lastly, the simple fact that many resources-strained organisations now decide to invest in landscape programmes could be interpreted as positive evidence for the relevance of LA.

4.2 Introduction to the case studies

4.1.1 LandScale's pilot led by the International Union for Conservation of Nature (IUCN) in the San José region, Costa Rica[2]

The landscape is located in the Greater Metropolitan Area of San José. Land uses in the area include protected forests, pastures for milk production, coffee plantations and several minor crops such as sugar. Land degradation, strained water resources and urbanisation are the main challenges. Watersheds suffer increasing contamination and degradation from high population growth, lack of planning, and land use change. Agriculture, and especially coffee , are impacted by climate change, and could cause deforestation when production must shift to higher altitudes. Poverty levels are generally low. There are no particular social conflicts.

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[2] For further information :
https://www.landscale.org/pilots/

Migrant communities from poorer central American countries are key workers for some agricultural crops, and especially coffee.

The landscape where the International Union of Conservation for Nature (IUCN) is implementing a landscape initiative is made up of 11 municipalities (see figure X). Notably, IUCN is testing the LandScale Assessment Framework to track progress at the landscape level, and better align efforts between public and private initiatives in the landscape. A key actor in the studied landscape, is the water fund Agua Tica made up of private and public partners aiming to protect the sub-watersheds of the Grande and Virilla Rivers where 57% of the national population and 75% of the national industry are located (Agua Tica, 2019). The proximity of the landscape to a major city is quite original as most initiatives reviewed in the benchmark occur in rural areas.
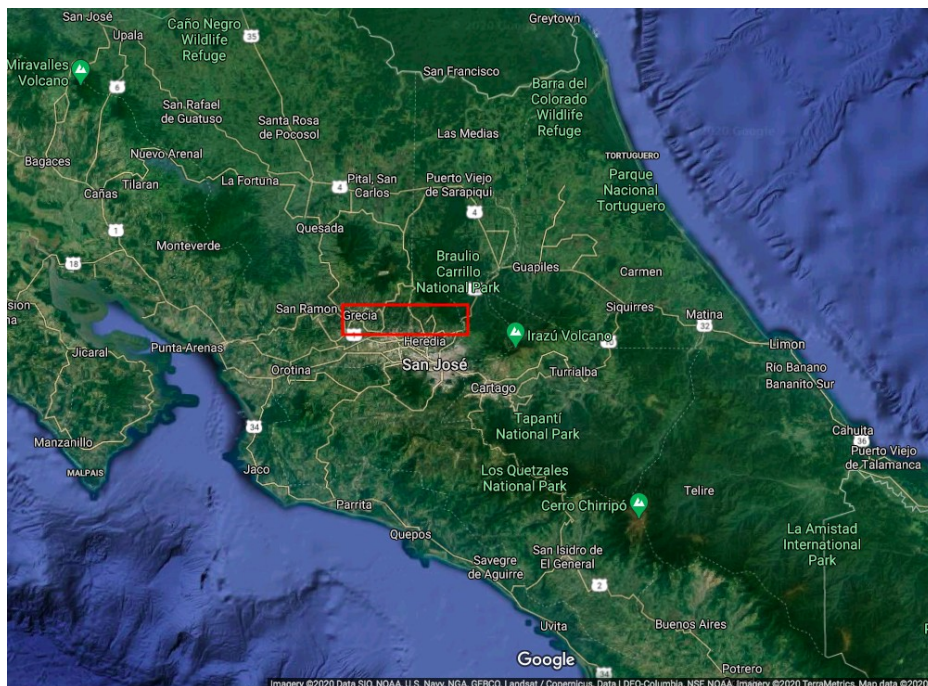
Figure 1 Location of the landscape in Costa Rica Source: Google Maps

Figure 2 Location of Costa Rica Source: Google Maps
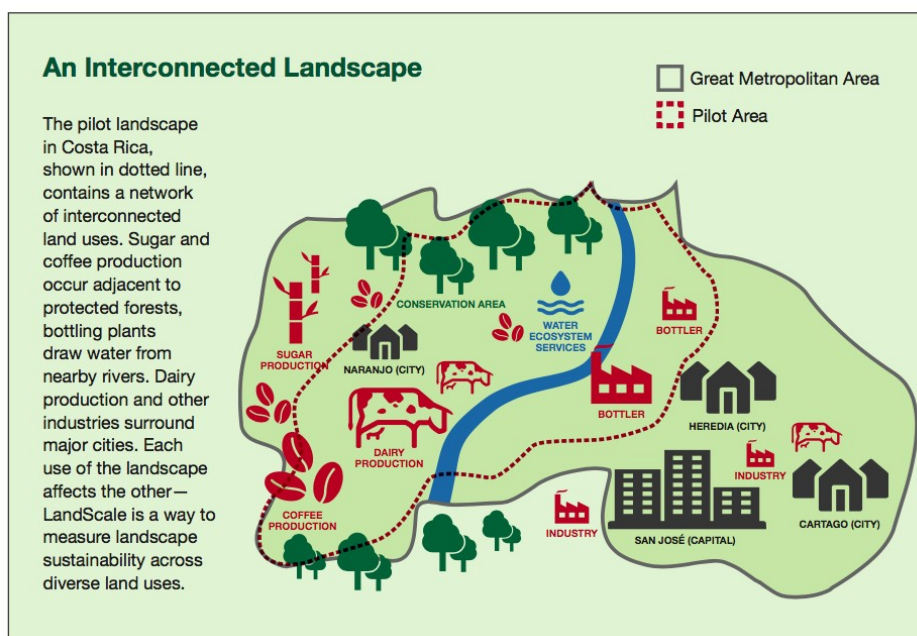
Figure 3: the LandScale pilot landscape in the Greater Metropolitan Area of San José, Costa Rica. Source: (LandScale 2020)
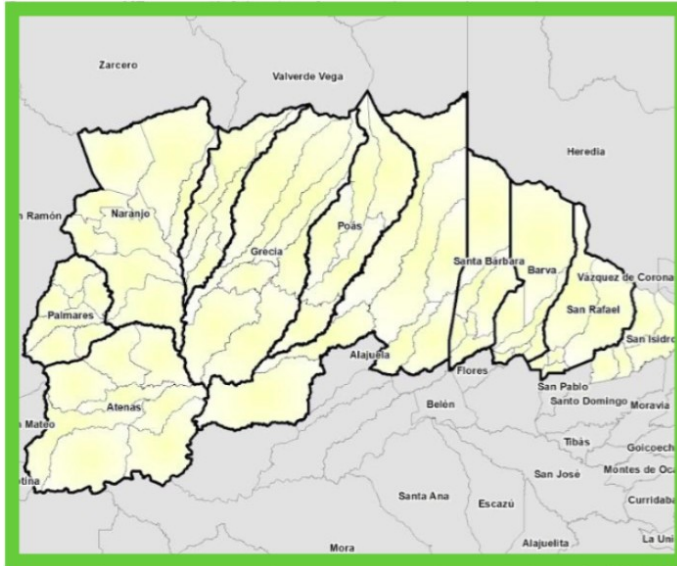
Figure 4 The 11 municipalities of the Greater Metropolitan Area that make up the landscape initiative .Source: (LandScale, 2020)

The Blueprint Project led by the Sustainable Agriculture Network (SAN) and its pilot initiative in Municipalidad Bananera, Colombia[3].

Hereafter referred to as the Blueprint Project or the Blueprint landscape

The second landscape initiative is located in the municipality of Zona Bananera, in the Magdalena Department. The surrounding area is rich in biodiversity with the two main rivers of Frío and Sevilla flowing into the Cienaga Grande, Colombia's largest protected wetland (Ramsar site). The downstream areas of the two watersheds lie in the Zona Bananera. Water stress during the dry season, and damaging flooding during the wet season are the two main environmental concerns. These two issues produce a host of severe social and ecological consequences (lack of clean water, disruption of transport, mangrove loss, economic loss etc.) The region is also highly vulnerable to climate change. Forecasts indicate that the local climate will go from semi-arid to arid, with a precipitation reduction of 25 % by 2040 (WWF, 2016).

The landscape is home to many small and large banana and oil-palm farms, with a high poverty rate. Banana and palm oil are the two major crops of the area, banana being the

[3] For further information :
https://www.isealalliance.org/innovations-standards/innovations-projects/designing-blueprint-sustainable-landscapes

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largest of the two. The vast majority of the banana production is exported. Palm oil cultivation is more recent in the area and has benefited from subsidies. Coffee production occurs on a smaller scale. Banana cultivation is more socially-accepted than palm oil as it requires more labour, and banana constitutes a core element of the local diet and contribute to food security (Valencia & Martinez, 2018). Private actors from the banana and palm oil industries engage in numerous philanthropic activities e.g. sponsoring of local events and sports teams (I7, 2020).

As in other areas of Colombia, the region is fraught with conflicts. Paramilitary groups were fairly active in the area with negative consequences (forced evictions or purchase) on the local population. Restitutions of land has been occurring since the 2016 Peace Accords. Forced relocations to make way for palm oil plantation has also occurred in the region (Valencia & Martinez, 2018).

The two landscapes have different characteristics. The Blueprint landscape is more biodiverse than the LandScale landscape which is located close to the capital San José and its urban belt. Both landscapes -and countries- face significantly different challenges in terms of poverty, education, land tenure issues and institutional capabilities more broadly.
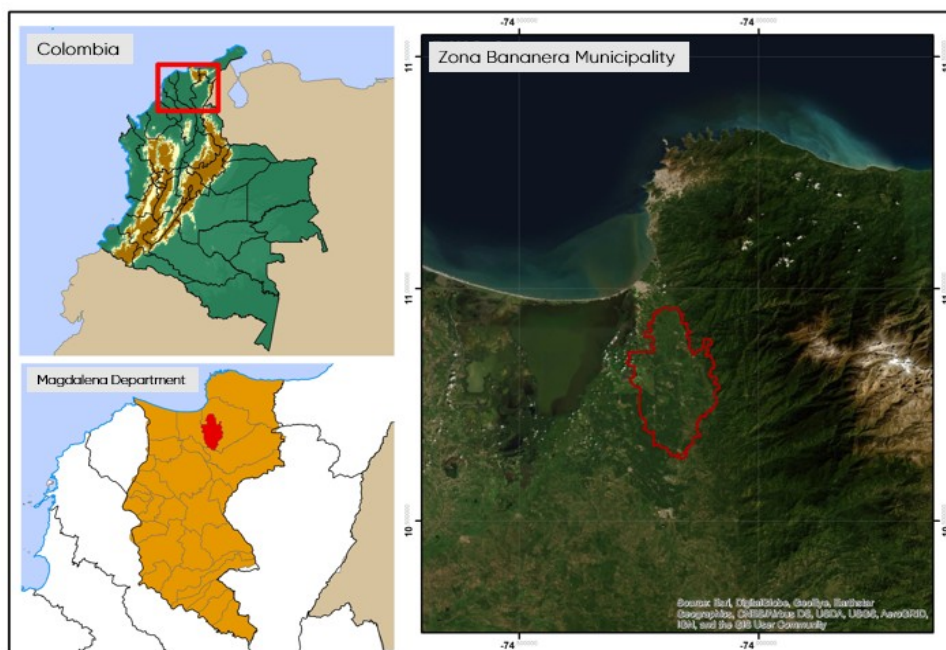
Figure 5 Location of landscape in Colombia Source: SAN

Figure 6 Close-up of the two selected areas of the landscape in Colombia Source: SAN

Table 3 Overview of case studies

	LandScale Pilot	Blueprint Project
Location	Greater San José area, Costa Rica	Municipalidad Bananera, Magdalena, Colombia
Convenors	IUCN	SAN & Fundación Natura
Funding	German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU)	Grant from ISEAL Innovations Fund supported by the Swiss State Secretariat for Economic Affairs
Size (ha)	95,743	14,538
Biodiversity level	Low	High *(when including the nearby Cienaga)*
Main land uses	Coffee, pastures, urban dwelling, primary and secondary forests	Banana and palm oil plantations
Main commodities	Coffee *(second largest production area in Costa Rica)*, dairy, sugarcane	Banana, palm oil *(Largest source of revenues in the area)*
Other productive activities *(non-agricultural)*	Bottling plants Hydropower plants	None significant
Poverty levels	Low	High

Source: see references in 4.2 section

4.3 Findings from the case studies

C1 refers to the LandScale pilot. C2 refers to the Blueprint Project

I1, I2, etc. refer to interviewees. Please see Annex 2 for more details on interviews.

'Convenors' refer to interviewees from the NGOs managing the initiatives (SAN and FN, IUCN).

4.3.1   Drivers and objectives

a) Findings

In both cases, water stress and long-term investment in the protection of water-recharging areas was a common concern. Water stress (and the risk of flooding in the Blueprint landscape) was impacting communities, crops, and natural ecosystems. In both landscapes, legal and institutional gaps or shortcomings such as lack of enforced regulation on agriculture practices, land development, permitting, water treatment regulations etc. make

the implementation of a multi-stakeholder and cross-sectoral platform relevant as a mechanism to manage environmental challenges .

In C1, sustainability commitments of companies such as the water-recharge goals of Coca Cola Costa Rica & Florida Ice and Farm Company S.A. are strong catalysts (I1 & I2, 2020). The sectoral Nationally Appropriate Mitigation Actions (NAMAs) for the coffee and livestock industries in Costa Rica are also accelerators – prompting the two sectors to connect with other stakeholders (I1, 2020). Interestingly, all interviewees from C1 mentioned that the local communities did not perceive the threat and danger of future water stress while water suppliers, some businesses and commodities had a longer time horizon. All interviewees from C1 attribute this to higher standards of living that Costa Ricans have gotten used to, where people are less sensitised to future issues. I2 mentioned that water providers are turning to LA as they are aware that they "can't purchase the whole area to protect it", and have "reached the limits" (I2, 2020) of payments for ecosystems services or protected areas strategies. The need to incentivise and involve land owners in more creative ways has grown. In the two landscapes, the necessity to involve smallholders increased the relevance of implementing a LA – this was more emphasised in Case 2 (I6, I7, I8). In both cases, interviewees have strong expectations regarding the "cost-sharing and risk-sharing" efficiencies created by the pooling of financial as well as technical resources as in both landscapes, interviewees were adamant that one sector or actor alone could not single-handedly make a significant contribution to solving environmental issues.

In both cases, the first step was evaluating the status of the landscape, and defining a common vision of what sustainability in the landscape is, and what it entails, and deriving actions plans and objective from this vision. The initiatives have not built a specific list of objectives yet. An objective from convenors of both initiatives is to achieve a locally-relevant vision of sustainability defined by local stakeholders. In Case 2, there was concern on the legitimacy and inclusiveness of this vision: "Are we trying to get a point of view of imposing our vision?" (I7, 2020). IUCN for the LandScale pilot, and SAN and FN for the Blueprint Project emphasised the necessity of considering the social sustainability of the landscape. This was even more essential in Case 2 as levels of poverty, child mortality, illiteracy, and educations in this region of Colombia are not comparable to those of Costa Rica. One of the

core characteristic of Case 2 is the intention from SAN and FN that the local actors and farmers be at the centre of the landscape initiative.

In any case, it is encouraging to note that convenors of both initiatives aspire to a holistic view of the landscape, and aim to go beyond environmental and conservation goals. There is also an awareness that conservation goals need to be more creative (i.e. not relying solely on PES or protected areas) and more embedded in wider systemic development strategies (I1,I2, I6, I7, 2020).

Because the agricultural sector will be involved in the two initiatives, productivity and yields can be expected to become core objectives (or benefits) of the landscape plan. Increasing or maintaining yields and productivity are essential arguments for gathering the support of private actors and channelling their resources into the initiatives – the agricultural sector having a significant impact on both landscapes.

4.3.2 Scale and boundary-setting

In both cases, scale and boundaries were determined based on a mixture of factors: coherency with ecological characteristics such as water catchment areas, jurisdictional boundaries, stakeholders to involve, impact area, and financial resources. Financial feasibility played a major part as well. I6 & I7 & I8 mentioned that mapping the area with Geographical Information Systems (GIS) is expensive. I1 expressed that coordinating and onboarding different stakeholders is time-consuming e.g. the LandScale pilot has 11 municipalities alone which translates into 11 municipal councils to organise meetings with and onboard. Each municipality has its own interests to secure and agendas, politicians and financial resources. Interviewees from both cases shared that the cost of monitoring also increases with scale.

Likewise, as I1 put it: "*homogeneity is far from being the norm even within the same sector*": any agricultural sector is made up of competitors, smallholders, larger farms, new comers etc.

In the two landscapes, emphasis was put on presenting objective arguments for determining the boundaries e.g. not excluding protected areas, or including a disproportionate share of agricultural land.

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Lastly, it is very encouraging that the "inevitability" of working the landscape scale was systematically mentioned by all interviewees from the two cases using almost the same words: "There is no other way to achieve impact at scale".

4.3.3   Reporting, monitoring and impact

a) Explanation on topic

Common critiques related to this topic is that more resources are dedicated to planning than implementing (Sayer, 2009; Reed et al., 2015) and that monitoring is considered an additional, and expendable, cost (Lebel & Daniel, 2009; Sunderland et al., 2013). However, these critiques are not limited to LA, and apply to conservation projects in general (Muir, 2010). Nevertheless, the planning phase is inevitably time and resource-consuming as a poorly designed LA has no chance of being successfully implemented.

A more important concern is the difficulty and lack of monitoring because of the multiple drivers and complex nature of LA (Pfund, 2010) – which are exacerbated by scale (Milder et al., 2014b). It is paramount to bear in mind when analysing LI that they operate in difficult contexts where other attempts to work across sectors and scales have probably failed or are failing (Sayer et al., 2017).

b) findings

As both cases are "pilots", there is a strong emphasis on demonstrating results and investing in monitoring. A key objective for convenors in both cases was to implement "model" initiatives to showcase the effectiveness of LA and convince more municipalities and regions to adopt them. This is all the more important for the Blueprint landscape where a toolset is being developed for replication in other areas. On a more immediate level, tracking and demonstrating progress was also described by interviewees from both cases as important to attract new members, funders and benefit from relevant government mechanisms.

I1 & 2 & 3 and I1 emphasised the desired longevity of the initiative and the objective to achieve. Interviewees want the initiative to achieve long-lasting structural benefits.

Interviewees were looking to avoid the common pitfalls and critique of conservation projects not being sustainable without active external support or funding.

Reporting and monitoring is a core objective of C2 where SAN and FN are designing an innovative evaluation system to be used directly by the local stakeholders (e.g. municipality and smallholders) to demonstrate impact, but most importantly, to be an accessible decision-making tool so that stakeholders be empowered to make informed decisions, and sustain the initiative over time.

I6 & I7 & I8 & I1 described LA as useful to address the limits of certification and engaging smallholders. I6 & I7 & I8 in C2 and I1 in C1 were not entirely confident of the positive impact of certified units on the sustainability of the wider landscape.

In both initiatives, some commodity sectors (e.g. coffee and milk/livestock in the LandScale landscape and banana in the Blueprint landscape) expressed their interest in demonstrating the social and environment benefits of their participation in the initiative to EU and national customers. Some sort of landscape labelling was considered for the CR case.

In both initiatives, foreign buyers (wishing to remain anonymous) expressed their potential interests in sourcing from a "sustainable landscape".

I1 & I2 & I3& I4 and I6 & I7 & I8 strongly emphasised the use of scientific methods and the availability of precise information on land use (GIS) and on the ecological characteristics a major success factor. This in-depth knowledge of the landscape is key to guide conservation and development activities. In C1, this was perceived as a means to guarantee objectivity in the prioritisation of coordinated conservation activities.

Interviewees from C2 also emphasised the need and value of having similarly precise social-demographic data in order to have a complete picture of the landscape's sustainability status. Likewise, C1 hopes to conduct household surveys for comparable reasons.

4.3.4   Governance

a) Explanation on topic

LA are meant to be cross-sectoral but have to engage several levels of government agencies organised around sectors which can be time-consuming (Heiner et al, 2017). The Literature Review identified that involving the private sector can be a challenge (Pfund, 2010; Milder et al, 2014a) as private companies are reluctant to relinquish part of their authority to an external decision-making process in the name of uncertain, and potentially changing, objectives (Milder et al, 2014a; Milder et al, 2014b; Kozar et al, 2014). Overcoming power disbalances and knowledge asymmetries between participants is also a concern (Kozar et al, 2014; Clay, 2016). The lack of legalisation and the absence of formal recognition and incorporation of agreements made between stakeholders by local or regional governments are described by some authors as problematic (Pfund, 2010; Reed et al. 2016; Sayer et al., 2016).

b) findings

The governance structure and mechanisms were not yet fully designed because of the early stage of the initiatives, but there was mature reflection from the interviewees. Landscape initiatives are long-term endeavours where governance and monitoring arrangements need time to mature, as the initiative gathers momentum and trust and commitments build.
It emerged from the interviews from both cases that a culture of cooperation in the area and in the country in general greatly facilitated the establishment of cross-sectoral activities. This aspect is extremely important as it provides a useful indicator as to the level of legitimacy to the landscape initiative. One could argue these levels of cooperation are due to the incipient nature of the initiative, as there are not yet serious causes for conflicts, but no indications of latent conflicts were found.
In both cases, mobilising the private sector was not described as a challenge as the private sector (agricultural sector) were key actors as they are or would be strongly impacted by the degrading landscape. However, for the Blueprint pilot, C2/I3 mentioned that governance mechanisms will have to incorporate, and sometimes challenge, well-established informal customary rules over natural resources in the landscape such as access to water in times of droughts, where usually the largest producers have the means and influence necessary to divert water flows.

In both cases, as mentioned previously, achieving a shared sustainability vision is essential to organise an action plan, and design governance mechanisms around this common mission. Interviewees from both cases emphasised the voluntary nature of the initiative. It is expected that participants will be able to exit the multi-stakeholder platform without legal repercussions so as to attract reticent or hesitant stakeholders. In both cases, strict accountability measures were not given strong emphasis. On the contrary, sanctions were described as not in "*the spirit of the initiative*" (I6, 2020) and both initiatives relied on the voluntary and "win-win" arguments to foster meaningful engagement (I6 & I7, 2020). In both initiatives, the need to engage more directly with local communities "besides cooperatives and farmers" (I1) was expressed. Interviewees from the Blueprint Project described the support from local communities and access to their knowledge as key to understand the dynamics shaping the landscape, and its history.

Interviewees from C1 signalled the environmental commitments of the national governments as a positive factor for the initiative. Interviewees from C2 were less emphatic but still described the national Colombian government and its commitments as something positive, or at the minimum, a "non-obstacle".

Interviewees from both cases explained that the support of local and regional governments is of importance. Additional hardships can be caused when the approach is not supported or considered in local and regional decision-making e.g. if a regional-level decision runs counter to the objectives of the initiative.

4.3.5   Summary

Interviewees from both landscapes expressed strong optimism on the initiatives' future performance. Interviewees were confident that the initiatives will deliver a more integrated and durable impact than a unilateral intervention from a single sector or actor. The notion of "balance" between environmental, social and economic agendas featured prominently in the interviews.

Table 4: Summary of case studies

		LandScale Pilot	Blueprint Project
Main drivers		• Water stress • Climate change	• Water stress • Poverty/livelihood
General aims		• Preserve ecosystem services • Achieve balance between social, environmental and economic objectives	• Preserve ecosystem services and improve resilience of local communities • Achieve balance between social, environmental and economic objectives
Scale & Boundaries		• Defined by convenors • Selected 11 municipalities	• Defined by convenors with funder & donor • Selected two representative areas of the Zona Bananera municipality for piloting
Reporting & Monitoring		Using the LandScale Assessment Framework	Developing own reporting tool
Governance	Mechanisms	• Voluntary • No legal sanctions	• Voluntary • No legal sanctions
	Action plan	Will be proposed	Will be proposed
	Future coordinator	Under discussion – Possibly the existing Agua Tica water fund	Under discussion – Possibly the Municipality
Positive aspects	Internal	• Scientific basis (analysis to identify conservation areas) • Presence of Agua Tica water fund	• GIS mapping of the area • Interest and proactiveness of municipality • Knowledge of Fundacion Natura of the area
	External	• General environment favourable • Water-recharge commitments of companies • Coffee and livestock sector NAMAs	• General environment favourable
Main challenge		• Sustaining initiative over time • Size • Number of stakeholders	• Sustaining initiative over time • Poverty levels, urgency of environmental issues • Powerful banana and palm oil sectors

Source: summarised version of the interview findings described in the preceding sections

5. DISCUSSION

The dissertation is structured over two research questions. The first aimed at gaining a better understanding of the concept of LA. This objective was achieved by conducting a critical literature review and a benchmarking exercise. The second research question focused on assessing the potential and relevance of LA for sustainable landscapes. These objectives were achieved via the characterisation of the case studies and the thematic analysis of the semi-structured interviews.

5.1.   Potential of landscape approaches

It remains difficult to characterise the relative performance of LA compared to sectoral approaches. One hypothesis could be that LA are most useful when there clearly are multiple drivers and dimensions to consider to address a sustainability challenge in a given landscape i.e. a LA might be less useful if the sustainability of a landscape depends primarily on the actions of one sector. However, it can be argued that most landscape challenges do face multiple and interdependent drivers and causes – thus suggesting that the application of LA remains relevant in many landscapes. The main benefit of LA in our analysis was the organisation of the multi-stakeholder and cross-sectoral dialogue and coordination with the aim of achieving more aligned and effective decisions on natural resources, agriculture practices, and land uses for the benefit of sustainability in the entire landscape. Both initiatives were clearly filling institutional gaps in cross-sectoral coordination.
Both initiatives were in countries classified as upper middle-income countries by the World Bank and do not experience the same level of challenges and constraints that poorer countries do.

5.2.   Scale and boundaries

Practitioners and academics could envisage making a clearer conceptual distinction between jurisdictional and landscape approaches. The two approaches share many commonalities but while substantial differences remain (e.g. level of government and market involvement, scale etc.), they are often featured in the same analysis and investigated with the same

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methodologies and criteria. Making this distinction could also be useful to clarify future research and produce more adapted recommendations.

The same holds true for large-scale (state or provincial initiative) and small-scale landscape approaches (municipalities, departments/counties).

It appears large NGOs and companies favour large-scale LA, it would be advisable to investigate whether this has implications for the future of LA. LA – just like the landscapes in which they operate- are evolving and iterative projects, and a landscape approach can be very different in 2, 5 or 10 years in terms of formality, mandate, scale and governance. It would be interesting to study if common patterns such as phases or stages can be detected in how LA evolve over time.

5.3.   Demonstrating impact

The issue around impact assessment has been featured prominently throughout this research. The issue remains that a lack of measured impact leads to lower commitments from all sorts of actors, including companies who need to demonstrate progress to investors, clients etc. so that their participation in a LA be favourably considered. In any case, short-term indicators on implementation are needed to demonstrate that progress is being made in negotiation of goals, meaningful stakeholder engagement, existence of connections to policy processes, and effectiveness of governance. An interesting and useful debate is striking the right balance between effective reporting and metrics that do not discourage the implementation of clear processes etc. nor end up depicting an inaccurate picture of the effectiveness. Appraising the overall performance of a landscape initiative will remain difficult, as Sayer et al (2013) had already described in 2013 : "*Components of the landscape can be assessed, and trade-offs can be measured, but securing information about the overall success of a negotiated strategy, which is itself under frequent revision and change, is a challenge.*"

As other conservation projects, LA struggle to sustain long-term funding, and face even greater difficulties in attracting conventional streams of funding (Milder et al., 2014b; Reed et al., 2016) – it therefore appears that securing funding through markets premiums and the future commitments of buyers could be an important longevity factor. As a result,

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interviewees in both case studies mentioned the possibility of establishing a label or a certified origin certificate or a similar scheme to attract sustainability-minded buyers and donors. Interviewees were very much aware of the risk that such labelling schemes reproduce the same pitfalls of certifications (I1, I6, I7, 2020) e.g. being too focused on the market needs than on the needs of the local communities (Diaz-Chavez & van Dam, 2019). Such claims systems should reassure buyers of the sustainability of the landscape and their purchasing – while accepting the fact that a rigid and market-oriented certification scheme is not feasible nor desirable. Reporting and certification fatigue from producers should also be kept in mind. Not reproducing the pitfalls of certification also requires the cooperation of forward-thinking companies that understand the complexities of LA. Many companies are attracted by the cost-saving opportunities of sourcing products from a "verified" area (Kissinger et al., 2013), there might be a risk that they are still operating with certification processes in mind, and start demanding compliance with specific criteria which might be irrelevant or burdensome. Foreign buyers can support LA provided they are willing to adapt their sustainable procurement criteria to the complexities of LA e.g. compared with conventional certification and auditing mechanisms.

LA are used to address shortcomings of certification, but should not replace it altogether. Companies should be aware of abandoning unit-level certification too rapidly. As I6 put it the advent of LA is "a wake-up call for standards". Certification and landscape approaches provide different level of information on the sustainability of a landscape. Unit-level certifications provide a more granular vision of farm-level issues (e.g. working conditions) that aggregate landscape-level assessments cannot produce. Further research could focus specifically on the complementarity and interplay between standards and LA.

5.4. Long term impact of LA

The role of champions and coordinators or mediators is rarely discussed in the literature review, but proved essential in the establishment of a LA in both case studies. The role of a coordinating agent as a key success factor should therefore be investigated further. Further study could also focus on how LA differ depending on the type of actors that initiate them. The bulk of the work might occur in the first years, where "urgent" challenges are addressed and collaboration nodes and governance mechanisms are established. However,

sustainability is not a static goal, and landscapes are not static either. This begs the question of the extent to which LA can persist without the presence of an external NGO, or convenors. This seems paramount as a sustained initiative would provide increased the legitimacy of the concept. Both initiatives emphasised the need to convince local stakeholders that a LA is beneficial for them. This is one of the most crucial factor as the longevity of the initiative depends on the engagement and involvement of the local stakeholders. Most stakeholders' activities are dependent on the long-term sustainability of the landscape but short-term interests often produce conflicts. Perhaps the two initiatives studied showed positive results because the sustainability challenges (e.g. water stress and changing climate) were already perceived by a number stakeholders. Stakeholders must have a clear picture of what they can derive from their participation but based on the two case studies, this "persuasion phase" can prove to be time-consuming for the convenors.

Another concern is the viability and balance of power of the multi-stakeholder without the mediation of a "neutral" and disinterested agent in the landscape. In our analysis, both initiatives implementors had long-term viability in mind, hence the emphasis on the empowerment of local communities and the onboarding of other actors.

In the Blueprint Project, the involvement of the municipality would play a key role in the longevity of the platform (I6, I7, I8, 2020). In the LandScale landscape, the governance mechanisms established would be incorporated into the existing governance framework of the Agua Tica water fund (I1).

The inclusion of the private sector in the two initiatives is paramount as any decision it makes has a profound impact on the landscape, even more so in C2 where the banana and palm oil sectors hold much power. Managers of LI should mobilise the financial and technical resources and the political clout of the private sector while not allowing powerful actors to advance their interests and alter the focus of the initiatives. Still, it can be argued that once the groundwork and the governance mechanisms are established, less influential stakeholders e.g. local communities and smallholders might be better equipped to deal with more dominant actors.

One initial concern from the literature review was that LA were still too skewed towards conservation goals. It appears the next challenge would be that they are not too geared

towards agriculture and productivity especially when companies are key actors in the landscape. Social sustainability should be made as prominent on the action plans of LA, starting with redistribution of benefits beyond philanthropy, fair access to natural resources and better living conditions for the entire communities and not just those involved with the commodities.

6. CONCLUSION AND RECOMMENDATIONS

The aim of this dissertation was to investigate the relevance, and effectiveness of the concept of landscape approaches for sustainable landscape management.

The following takeaways can summarise the contribution of this dissertation:

- The literature review illustrated that having a precise and unified definition of landscape approaches is not realistic, nor desirable. While there is no universal definition of a LA, it is possible to see beyond this alleged confusion by focusing on the core attributes of the concepts of LA. A series of characteristics can indeed be used to identify a LA but LA will be context-dependent.

- While the two case studies operate in different contexts with distinctive challenges, the evidence point in the same direction. The analysis yielded positive results regarding the effectiveness and the potential of LA. LAs are effective at coordinating and aligning stakeholder interests and implementing beneficial activities that could not be carried out by a single sector alone. LA seem better positioned to produce a more comprehensive and permanent impact than uni-sectoral approaches. LA in these two case studies are filling a gap to bridge sectoral siloes. Landscape approaches in both cases were described as necessary and "inevitable".

- This project cannot claim to contribute novel findings to the debate on impact measurement. Landscape approaches are the epitome of an iterative and multidimensional project. The fact that many attributes of landscapes are difficult to measure, evolve slowly over time, and are influenced by multiple drivers of change should be accepted.

- Further analysis and theory-building remain necessary but this research is aligned with others that describe LA as a relevant and promising concept. Studies with more resources could conduct their own external assessments and not rely on information reported from LI managers. Further research could focus on building the case country-

by-country for landscape approaches and identify the country-specific barriers, or potential accelerators to LA. Longitudinal and repeated studies of the same initiatives would help understanding long-term dynamics and consequences. Future studies could also focus on smaller and less visible initiatives not organised by high-profile NGOs.

A great many conservation fads have come and gone – some making a contribution and some not. It should be acknowledged that LA are no exception as there is no single silver bullet approach (protected areas, community forests, eco-tourism etc.) that offers the answer to all the problems and opportunities that arise in a rapidly changing and increasingly globalised world.

LA are implemented where sectoral solutions are not viable and where short-term results are not easily obtainable. LA are by essence long-term endeavours – and in this short-term obsessed world, is this long-term vision that LA brings not something to be treasured and promoted?

Similarly, working across sectoral siloes has been advised since at least the publication of the Brundtland (1987) report, LA appears like a practical and manageable concept to deliver on this challenge. Sustainability requires more sectoral integration, dialogue between competing stakeholders, and more localised solutions: is it not what LA are offering?

Some recommendations are offered here based on the case studies and analysis and the benchmarking exercise.

- Make the inclusion of social components more consistent, and elevate it to the same rank as environmental objectives. If poverty issues are not addressed, the environmental sustainability of the landscape will be negatively impacted. Local communities should be involved through more direct channels

- The process of defining boundaries should be documented and justified. The benefits and drawbacks of increasing scale should be carefully considered. Increasing the scale and extending the boundaries of the initiative should not be hastened. External

actors should also be vigilant: are key areas excluded/included so as to provide a misleading representation of the landscape?

- LA can appear very impractical or unrealistic to neophytes and "cautious" actors. Early results in terms of implementation and design are necessary – for good or bad- to confirm and demonstrate that the legitimacy and organisational feasibility of the initiative -progress is being made in negotiation of goals, meaningful stakeholder engagement, existence of connections to policy processes, and effectiveness of governance. These would help to onboard and convince stakeholders of the impact of the initiative

  - The voluntary basis and informality should be balanced with the need to establish formal rules and consider institutionalising some aspects of the governance mechanisms. This can be done at a later stage.

  - Governance mechanisms should be designed with worst-case scenarios in mind to ensure the initiative can withstand setbacks and remain effective over time. Governance structure should ensure no stakeholder can take control of the landscape and exercise disproportionate power or modify the aims of the initiative. Similarly, when involving private actors, practitioners should remain vigilant so that LA do not become a vehicle for powerful industries to gain even more influence on a landscape – this would undermine the legitimacy of the concept.

  - Connections to traditional local and regional decision-making processes should be established. Agreements and objectives of LA should at least be taken into account and at best integrated into the decision-making processes of relevant authorities.

Lastly, government policies could support the creation of multi-stakeholder dialogue platforms.
Governments policies should continue to foster (careful) decentralisation and promote empowerment of local authorities over payment for ecosystem services, regulation of natural resources management, and more fiscal authority etc.

Furthermore, there are yet no formal policies supporting LA while other policies for similarly "ambiguous and loosely-defined" concepts e.g. circular economy laws or net zero targets have become national policies. Policies promoting LA will hopefully emerge in the following decade – given the enormous potential of LA to support compliance with the intended nationally-determined contributions from the Paris Agreement, SDGs, and sustainability policies in general.

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ANNEXES

Annex 1 Interview Structure

I. Implementation, drivers and objectives
1. What drivers or concerns led to the initiative?
2. What led your organisation to take part in the initiative?
3. What are the key objectives of the initiative? The expected outcomes?
4. Is there a common vision of what sustainability is in the landscape?

II. Scale and boundary-setting
1. Is there a formal boundary?
2. How were the boundaries created? Do they follow a particular jurisdiction? Which stakeholders decided on the boundary-setting ?
3. Are there challenges linked to scale of initiative?
4. What are the benefits of operating at this scale? Inconvenients?
5. Could the scale have been smaller/larger? Should it have been smaller/larger?
6. Do you see the advantages of working across sectors? What are they?
7. Why do you think landscape approaches are effective and relevant ?

III. Determining factors/Effectiveness
1. What are the <u>most and least</u> successful aspects of the initiative?
2. Which external factors or existing policies have been most important <u>in supporting or undermining</u> the initiative's effectiveness?
3. What is the role of the local institutions in supporting the initiative?
4. What is the role of regional or national institutions in supporting the initiative?
5. Could this type of organisation/structure be replicated in different settings?
6. How do you ensure the initiative will persist over time?
7. How will the initiative look like in 5, 10 years?

IV. Reporting and monitoring
1. Can you describe the reporting and monitoring processes?
2. Baseline established?
3. How is monitoring carried out?
4. What reporting tools are being used?
5. Standards: what is the added value of this landscape approach compared to certification?
6. How is sustainability in the landscape/progress demonstrated to other stakeholders?
7. Is taking part in this landscape initiative recognised by your clients/partners/funders?

V. Governance and stakeholders
1. Is there an agreement between members? An action plan? If not, is it an objective?
2. How are objectives and responsibilities reviewed? Is there a process?

3. Are there accountability measures are in place?
4. Sanctions?
5. Has any part of the agreement become legally-binding?
6. Standards: are there any commodity standards used in the landscape?
7. How are they helping the initiative?
8. How would you describe the level of cooperation between different stakeholder groups?
9. What were the barriers to overcome to promote cooperation?
10. How are decisions taken?
11. How is the local community represented? What interests do they have?
12. How will you ensure the initiative remains fair and just over time? E.g. a powerful actor taking control of the initiative

Thank you very much for your responses. Would you like to add something? Do you know anyone I should contact for an interview?

Annex 2 Table of interviews

16 semi-structured interviews were conducted through online video calls over the month of July to August. The interviews were anonymous so the names and organisations of the interviewees are not indicated in this dissertation.

1-Benchmarking exercise

	Organisations	Date
I11	Rainforest Alliance	09/07/2020
I12	RSPO	02/08/2020
I13	IUCN	21/07/2020
I14	Earthworm	19/07/2020
I15	SAN	22/07/2020
I16	SAN	22/07/2020

2-LandScale's pilot led by the International Union for Conservation of Nature (IUCN) in the San José region, Costa Rica.

	Organisations	Date
I1	ESPH (Empresa de Servicios Públicos de Heredia) *Water supplier*	13/07/2020
I2	UNAGUAS (Unión de Asociaciones Griegas por el Ambiente y la Salud) *Union of local water aqueducts*	15/07/2020
I3	LandScale	16/07/2020
I4	Coca Cola	21/07/2020
I5	IUCN	09/07/2020

3-The Blueprint Project led by the Sustainable Agriculture Network (SAN) and its pilot initiative in Municipalidad Bananera, Colombia.

	Organisation	Date

I6	SAN	14/07/2020
I7	SAN	14/07/2020
I8	Fundación Natura	27/07/2020
I9	WWF	02/08/2020
I10	Cenipalma *Investigation Centre for Palm oil*	05/08/2020

Annex 3 Benchmark: table 1 - Branded approaches to landscape approaches

See next
  page

Name of approach, organisation and reference	Comments	Status	Short Description	Area	Primary objective	Objectives	Useful information	Definition of landscape	Land uses	Size of landscape / scale	Boundary setting	Link to market	Reasons/Drivers for landscape approach	Private Sector involvement	Government involvement	Multistakeholder	Governance	Funding	Indicators	Sanctions/Monitoring
Production, Protection & Inclusion approach (PPI) (IDH, 2018)	Included in comprehensive reviews of landscape initiatives e.g. Milder et al (2014 & 2014a)	In use	Land users in a region often rely on the same land, water and forest resources. Decisions made to increase production in a single sector without effective coordination with other users are likely to have negative impacts on the overall availability of resources. With a growing pressure on natural resources, there is a real danger of depletion and deforestation. In order to mitigate this risk, IDH has developed a three-pronged approach (PPI approach), to invest in sustainable landscape management.	13 landscapes in 9 countries	Sourced commodities	Three interlinked goals: creating areas where commercial and food crops are grown sustainably (production); the creation of verified sourcing areas and socio-natural processes (protection); forests and other natural resources are sustainably used and farmers' and communities' livelihoods are enhanced (inclusion).	Can lead to the creation of better sourcing areas. We do this by convening the supply chain and working towards the creation of verified sourcing areas. Across the landscapes we develop PPI compacts. These are agreements between public, private and civil society stakeholders to make land more productive and improve livelihoods, in exchange for protection of natural resources, most notably forests.	Entire regions (province or state)	Multiple land uses		At the core of improving practices, within single forms or jurisdictional power of governments, and the knowledge and networks of local CSOs	Yes. Business engagement of our landscapes have is essential, as economic growth is critical as it can give market targets to reduce deforestation/natural land-use plans and achieve them.	Regional or provincial governments in some of the landscapes where we operate. These coalitions discuss and agree on laws and regulations. PPI compacts clearly define the land to be protected.	Yes. Each PPI compact area needs to become economically self-sustaining and self-governing, with roles and responsibilities for public and private sectors, independent monitoring as well as practical implementation of a stakeholder coalition, and recognized by local and national governments—"to the components of the project (Production, Protection and Inclusion)"	Catalysing finance. We build multi-stakeholder coalition in and set governing.	In particular, more research needs to happen on the development of possible priority incentives and possible priority mechanisms that can support implementation of these agreements.
International Model Forest Network (IMFN) (IMFN, 2008)		In use	A Model Forest is best understood as a process for bringing a diverse partnership of stakeholders and groups together to realize a common vision of sustainable development in a large landscape	Forest Conservation	Progressively adopting or estate-level protection of palm oil.	Forest conservation through improving livelihoods and creating positive dependencies on forests wellbeing	The Model Forest approach follows six main principles, based on flexible landscape/jurisdictional environmental challenges, focuses on the political level at which land-use decisions and governance policies for sustainability are made and enforced.	Geographically, a Model Forest is a fully working landscape of forests, forms, protected areas, rivers and towns.	Multiple		No boundaries, organised around the forest, and communities respond	Inherent	NTFP	Traditional certification doesn't reach smallholders	Forestry businesses, agencies, businesses	Government is often a stakeholder; a partner	Yes – diversity of stakeholders involved	Transparent and effective functioning internal control system, with grievance and complaints mechanisms and credible governance of it.	Not specified	Production, Ecosystems, Governance, Livelihoods	At is established with legal authority over all producers and demonstrates progress in meeting landscape indicators
Roundtable on Sustainable Palm Oil (RSPO, 2019)	Design phase	Design phase / Jurisdictional approaches. RSPO has developed an approach that will allow the P&C to be applied at the jurisdictional level. A first draft of the RSPO Jurisdictional Approach (JA) for Certification Framework	RSPO Principles & Criteria (P&C) across a wider production area and to address sustainability issues related to palm oil sustainability.	State of Sabah, Malaysia. District of Seruyan, Central Kalimantan, Indonesia. Ecuador.	Sustainable palm oil: production-free deforestation-free	All four	It emphasizes multi-stakeholder partnerships to tackle landscape/jurisdictional environmental challenges. A type of landscape management, to integrate policy and practice for multiple land and cropping needs, and challenges of growers and millers (especially independent smallholders and medium stakeholders for inclusion in the RSPO system	No definition. Use definition of jurisdiction (not included here) and broad range of jurisdiction requires to palm oil	Focused land uses related to palm oil		A jurisdiction can be any region with politically and/or administratively defined boundaries	Palm oil sector	JA is dependent on government policy to support RSPO	Yes. Multi-stakeholder Board established with balanced representation of stakeholders (government, producers, NGOs, community chain actors).	Compliance to landscape performance/measures procedures such as the New Planting Procedure (NPP) at every step are measured by fulfilling all the requirements of the current step and compliance to applicable standards.	Market premiums from certified palm oil beyond the immediate area of actors.	Landscape indicators will depend on a collaborative between sectors and across entire jurisdictions and landscapes.	

Name of approach, organisation and reference	Comments	Status	Short Description	Area	Primary objective	Objectives	Useful information	Definition of landscape	Land uses	Size of landscape / scale	Boundary setting	Link to market	Reasons/Drivers for landscape approach	Private Sector involvement	Government involvement	Multistakeholder	Governance	Funding	Indicators	Sanctions/Monitoring
LandScale co-led by Verra, the Rainforest Alliance and the Climate, Community and Biodiversity Alliance (LandScale, 2019)	Piloting	First full version of approach for release for wider use by November 2020. The verification mechanism, data and reporting platform, and a variety of supporting tools will also be available for use at this time.	LandScale provides a standardized approach for assessing and communicating the sustainability performance of landscapes where key commodities are produced	8 Pilots programs. Used in Ghana for cocoa where "The Group conduct LandScale assessments on an annual basis and meet regularly to review the results'	None	All four	COMPONENTS: An assessment framework a set of indicators and performance metrics to assess progress towards critical landscape sustainability goals relating to ecosystems, human wellbeing, governance, and production. A verification mechanism: a process for evaluating compliance with the guidelines for LandScale use and the accuracy of LandScale assessment results. A data and reporting platform: an online platform to store data and communicate the results of LandScale assessments.	A geographical mosaic composed of natural and/or human-modified ecosystems. An appropriate to provide meaningful considerations such as company sourcing areas, investment or project areas, and ecoregions or other geographic parameters of primary interest to LandScale users.	Multiple. In general, the optimal area for LandScale ranges from hundreds to thousands of square kilometers. This size is generally too small to provide meaningful performance and to facilitate action to improve it. If the landscape is too small, it may not sufficiently capture the breadth of land uses that influence, or are impacted by, sustainability within the landscape. If the landscape is too large, the results may not be meaningful for driving action to make improvements.		3 options for landscape boundary setting: 1. Jurisdictions, 2. Catchments, or 3. User-defined landscapes set by LandScale users based on considerations of primary interest to LandScale users. Because the boundaries of jurisdictions and catchments are pre-defined and generally accepted as a land use management units, either of these boundaries can be used without restrictions or need for further justification. For user-defined landscape boundary setting, additional guidelines provided below are intended to help ensure consistency of LandScale's application and to account for key interactions and potential impacts in the boundary zone that borders the user-defined landscape.	N/A	We need to look beyond our own borders—be it of a form, village or supply chain—to fully understand these challenges and implement actions that will be effective in addressing them. We need to think bigger and collaborate between sectors and across landscapes.	N/A	N/A	Yes	Not specified	Landscape indicators will depend on a collaborative between sectors and across entire jurisdictions and landscapes.	
Landscape Assessment Framework ● (Conservation International, 2020)		In use	Supports measurement, monitoring and communication of progress towards tailored landscape sustainability goals	None		Doesn't Say	A landscape is interpreted as a geographic space that results from the interaction between social, ecological, economic and governance processes (Introduction & Monrig, et al (Eds.), Climate-Smart Landscapes; Basic Propositions, in P.A. Multifunctionality in Practice)	A landscape should be delineated such that the area is large enough to understand the connections and tradeoffs between conservation and production, yet small enough to feasibly support and manage as a holistic manner. It might be beneficial to delineate landscape boundaries in relation to administrative or jurisdictional boundaries to best integrate government actors and enable use of pre-existing datasets.	Doesn't Say					Yes				

Annex 4 Benchmark: table 2 – Standard organisations and landscape approaches

Organisations	Use of the landscale scale	Landscape or jurisdictional approach	Link with landscape approaches	Area
Rainforest Alliance	Yes	LA and JA	Rainforest Alliance has a "sustainable landscapes program offers innovative ways for companies to meet their commitments while also having a long-lasting positive impact on farm and forest communities." (Rainforest Alliance, 2019). The focus is on sustainable supply chains. Rainforest Alliance is one of the partner organisations **developing the LandScale assessment framework** which "provides a standardized approach for assessing and communicating sustainability status and trends across landscapes". (LandScale, 2019) Rainforest Alliance introduced **CSA (climate-smart agriculture) at a landscape scale in the Juabeso-Bia District of western Ghana**. The aim was to improve the capacities of farmers to mitigate and adapt to climate change while simultaneously increasing productivity. The project focused on organizing individual farmers, establishing landscape management structures, diminishing pressures to further encroach on surrounding forestlands, and restoring ecosystems within cocoa agroforests and other degraded land-use systems while increasing cocoa production. (Noponen et al, 2014)	-Ghana and Côte d'Ivoire for the landscape programmes
Roundtable on Sustainable Palm Oil (RSPO)	Yes	JA	RSPO is piloting and testing the concept of certified jurisdictions. The idea would be that the existing RSPO standards be adapted and applied to an entire jurisdiction to assert that palm oil sourced with the area is sustainable. In June 2019, the first draft of the RSPO Jurisdictional Approach (JA) for Certification framework was made available. *The JA aims to address environmental and social issues by strengthening stakeholders' engagement and ensuring smallholder inclusion through strong government involvement, and enabling a wider impact area than that of single producer certification.* *RSPO Principles & Criteria (P&C) across a wider production area and to address sustainability issues related to palm oil more effectively,* **RSPO has developed an approach that will allow the P&C to be applied at the jurisdictional level**. *A jurisdiction can be any region with politically and/or administratively defined boundaries. It will be the jurisdiction that obtains certification, and palm oil that is produced within its boundaries can be considered RSPO-compliant.* Source: https://rspo.org/news-and-events/announcements/public-consultation-jurisdictional-approach-for-rspo-certification	State of Sabah, Malaysia District of Seruyan, Central Kalimantan, Indonesia Ecuador
Roundtable on Responsible Soy (RTRS)	No information	None	RTRS had envisaged the concept of the RTRS Community (Mallet et al, 2016) but no information was found on RTRS' websites. RTRS was planning to conduct a pilot project in India in 2016 "RTRS Community which is a group of producers that: › were audited and certified for the first time (individually or group); › operate in a common geography/landscape; › voluntarily decided to integrate as a Community with a common binding factor; and › will develop exchange networks within the Community and with other interested producers " (Mallet et al, 2016)	N/A
Roundtable on Sustainable Biomaterials (RSB)	Yes	None	RSB doesn't implement or participate in landscape approaches as we defined it in the literature review but it does use a beyond-the-farm scale to take into account the "off-farm" impacts of certified biomaterials e.g. leakage issues. *RSB standards ensures operators demonstrate that biomass was produced, without any additional land conversion, out of land that was not previously arable, or from waste/residues.*	
Sustainable Biomass Program (SBP)	Yes, jurisdictional-level sustainabiliy assessment	None	SBP doesn't implement or participate in landscape approaches as we defined it in the literature review but it uses jurisdictional-level (country or region within country) risks assessments in order to assess the sustainability risks related to biomass in a given region - thus considering "off-farm" impacts e.g. leakage issues, land conversion etc. The process is also designed to consult a broad range of stakeholders beyond stakeholders directly related to the biomass value chain. (SBP, 2019)	
Bonsucro	No	None	Bonsucro considered beyond-the-farm approaches with the Origins program in 2015-2017 but the project has apparently been discontinued. Bonsucro appears not to be considering jurisdictional or landscape approaches at the moment. (N.Tunon, personal communication, 26th August, 2020)	N/A

Organisations	Use of the landscale scale	Landscape or jurisdictional approach	Link with landscape approaches	Area
Programme for the Endorsement of Forest Certification (PEFC)* ***Information dates from 2016 - more recent information could not be obtained**	Yes	More information needed	PEFC is focusing on Sustainable Landscapes for Sustainable Livelihoods and exploring the potential for forest certification to expand its impact and scope through the landscape approach: 1. Into further places (i.e., outside of forests) 2. To further constituents/people (i.e., more smallholders operating throughout the landscape) 3. To further products and services (i.e., non-timber forest products, ecosystem services, etc.) to build consensus around best practice on the certification of trees outside of forests. The work is ongoing in 2016, and clearly contributes to elaborating the "landscape approach" — seeing the need to look beyond individual stands to the larger landscapes in terms of sustainable management, planning, ecosystem services, etc. (PEFC, 2016)	
American Tree Farm System (ATFS)	Yes, landscape-level sustainabiliy assessment	None	ATFS uses landscape-level sustainabiliy assessment of risks and opportunities for sourcing forest products. "*Forests in Focus is a new tool in development that takes just such an approach, offering a dynamic, landscape-level assessment of risks and opportunities for sourcing forest products. By visualizing and analyzing data from the US Forest Service and other trusted providers, Forests in Focus enables verification of fiber sourcing while complementing other sourcing tools, such as forest certification. The landscape scale offers meaningful level of sustainability analysis and visibility into issues that brands care most about such as high conservation value forests, the use of GMOs, or the vitality of local communities.*" (American Forest Foundation, 2020)	USA only
Marine Stewardship Council (MSC)	Fishery	None	Marine Stewardship Council (MSC), the unit of certification is the fishery itself, bringing together numerous fishing vessels within a jurisdiction under a common management plan. (Mallet et al, 2016) The concept of fishery has interesting commonalities with landscape approaches (scale, multistakeholder, negotiation etc.) but revolves around one sector (fishing) as opposed to landscape approaches which are multisectoral endeavours.	
Aquaculture Stewardship Council (ASC)	More information needed	More information needed	ASC and partner organisations have one project called: "Integration of seafood certification and jurisdictional assurance models" (ISEAL, 2020) Duration for the project is July 2019 - June 2021	Particular focus on the Southeast Asian
Better Cotton Initiative (BCI)	More information is needed	None	Better Cotton Initiative (BCI) is working towards a watershed approach to cotton production with plans to team up with the Alliance for Water Stewardship (Mallet et, 2016) "*In 2017, we broadened the scope of our water principle and aligned it with the concept of 'water stewardship,' a holistic water management approach that encourages collective action towards sustainable use of water at a local leve [...] farmers in the five pilot countries (highlighted above) have also been engaging and collaborating with local institutional, scientific and NGO communities in order to drive collective action on water stewardship*" (BCI, 2019)	
Forest Stewardship Council (FSC)	Yes, with group certification	None	FSC (2019) has a Group Certification scheme (below) but does not have landscape programmes. *To ease barriers to forest certification, FSC created a system of group certification. Group certification involves sharing costs of certification among members of the group. While group certification is typically pursued by small family forest landowners, forests of any size can seek certification as part of a group.* FSC mentions: "2019 – Multi standard and landscape approach analysis" in their 2019-2020 – upcoming activities.	

Annex 5 Benchmark: table 3 – Private companies and landscape approaches

This table is not exhaustive. Other companies that have participated or are participating in landscape approaches include SAB-Miller (watershed management), Starbucks (regional producer supports in Chiapas, Mexico and Aceh, Indonesia), Natura (Kissinger et al, 2013) and Carrefour (IDH, 2018).

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Organisation	Focus	Landscape or jurisdictional approach	Link with Landscape	Area
Marks and Spencer	Reducing greenhouse gas emissions from supply chain Sustainable procurement	JA	"Marks and Spencer and Unilever recently jointly committed to sourcing commodities from regions that have designed and are implementing jurisdictional forest and climate initiatives, a variation on the landscape approach." (Mallet et al, 2016).	
Unilever	Sustainable procurement	JA	"Unilever, convened by The Sustainable Trade Initiative (IDH), have joined forces with three district governors, hydropower operators and community stakeholders in Kenya to develop an action plan to reduce negative impacts on the local forest, because the changing microclimate caused by deforestation is affecting their tea yields" (Heiner et al, 2017)	Kenya
Mars	Sustainable palm oil	JA	"While landscape approaches for addressing deforestation are still nascent, Mars is engaging in several promising pilot efforts. In cocoa, Mars is engaging with partners such as ProForest and Verra to pilot jurisdictional approaches in Ghana, Cameroon and other countries. In palm oil, Mars is partnering with Conservation International and other organizations on the Coalition for Sustainable Livelihoods to support smallholders and sound natural resource management in Aceh and North Sumatra, Indonesia. Mars partnered with Earthworm in Aceh, Indonesia to reduce deforestation and demonstrate balancing commodity production, conservation and good social and labor practices at scale. Mars is also working with Earthworm on stopping ecosystem degradation in pulp and paper production landscapes, including Northwest Russia and British Columbia. Mars also supports landscape-level initiatives, such as the Cerrado Manifesto, which engages companies to halt soy-driven deforestation and promote sustainable land management in the Cerrado grasslands in Brazil" (Mars, 2020)	Ghana, Cameroon, and other countries Aceh and North Sumatra, Indonesia
Nespresso	Sustainable coffee	LA	"In 2013, the International Union for Conservation of Nature (IUCN), Nespresso and a local NGO, Instituto Pesquisas Ecologicas, worked together on a project to identify the ecological impacts and dependencies of the coffee production chain in the Cerrado biome in the state of Minas Gerais, Brazil. " (Heiner et al, 2017)	Cerrado biome in the state of Minas Gerais, Brazil
Touton	Sustainable cocoa	JA	"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 ap- proach in the Bia West and Juabeso districts in West-ern 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. The company 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" (IDH, 2018)	Ghana
Nestlé	Sustainable palm oil	JA and LA	"Beyond working directly within our own supply chains, we also work to conserve natural landscapes around our supply chains. These initiatives aim at working collaboratively with a variety of stakeholders, beyond the scale of individual plantations. La Encrucijada Biosphere Reserve is an area of protected mangrove and wetland habitats in southern Mexico. It is also home to hundreds of families who produce a variety of crops, including palm oil. Nestlé, Grupo Bimbo, palm oil supplier Oleofinos, Earthworm Foundation and staff from the reserve are working together on a conservation initiative that includes farmer resilience, conservation and restoration (including eliminating invasive palm oil), and land use planning, such as preventing the expansion of palm oil in the reserve. In East Kalimantan, Indonesia, we supported awareness-raising on the need to protect high-conservation-value forest habitat for orangutans, via a workshop in which seven plantation companies participated. The workshop resulted in a commitment from participating companies to protect orangutan habitats and established a dedicated orangutan security taskforce responsible for doing so. We also supported two further landscape initiatives in Indonesia with Earthworm Foundation and several other companies, aimed at ending deforestation via multi-stakeholder sustainable land use planning."	Southern Mexico East Kalimantan, Indonesia
Danone	Watershed management	LA (watershed)	Danone has watershed management plans involving several actors: governments, communities, farmers (Danone, 2020)	Indonesia Argentina France

Annex 6 Benchmark: table 4 – Organisations* and landscape approaches

*excepting standards and private companies-

Organisations	Comments	Focus	Use of landscape scale?	JA or LA	Link with Landscape	Area
BioCarbon Fund Initiative for Sustainable Forest Landscapes - World Bank Group	Supports large-scale jurisdictional approaches	Reducing emissions from Land Use Sector In Mexico & Colombia program: no indicators on development	Yes	JA	"The ISFL utilizes a landscape approach in each jurisdiction, which requires stakeholders to consider the trade-offs and synergies between different sectors that may compete in a jurisdiction for land use—such as forests, agriculture, energy, mining, and infrastructure. ISFL funds the jurisdictional-level design and implementation of climate-friendly land use policies in regions with a high risk of agricultural expansion into forests, working closely alongside REDD+programmes to balance improved livelihoods, protected forests, and higher agricultural productivity. Each ISFL program focuses on an entire jurisdiction (state, province, or region) within a country, thereby enabling it to engage with multiple sectors affecting land use and have an impact on a relatively large area. " (ISFL, 2019)	6 programs in Colombia, Ethiopia, Indonesia, Mexico, and Zambia
LandCare International	LandCare projects appear very focused on farmers. Local community needs beyond farmers do not feature prominently in the material reviewed. LandCare uses the term "community" more than "landscape". However, LandCare projects can take different very forms so general comments are limited	Soil restauration & soil conservation Sustainable agriculture in general	Yes	Doesn't specify	Promotes multistakeholder collaboraiton at landscape scale. Each project is different but frequently involves governments and private sector at the minimum. "Landcare is a community participation model based on voluntary groups of farmers and other committed people working together at a local level to address local issues. While objectives vary across the diversity of Landcare activities internationally, they usually centre on developing, sharing and implementing more sustainable ways of managing land and water resources, conserving biodiversity and creating sustainable livelihoods for local people. The Landcare approach is founded on 4 basic cornerstones: community leadership, appropriate technologies and practices, partnership development, and institution building. As an APPROACH…Landcare is an extension approach/method that rapidly and inexpensively disseminates sustainable farming practices among thousands of farmers based on the farmers' innate interest in learning and sharing knowledge about new technologies that earn more money and conserve natural resources. This embodies three basic cornerstones: appropriate technologies, partnership building and institution building. " (LandCare, 2019)	LandCare is Parent organisation, Founded in Australia in 1986 Present in: Australia Germany Iceland New Zealand Philippines South Africa Indonesia Kenya Sri Lanka Tanzania Uganda United States of America
Landscape Finance Lab by WWF	The Fiji and Paraguay initiatives seem to include more social objectives than the other four projects which seem very geared towards conservation. Nevertheless, this is based on the limited information available.	Finding sustainable financing for landscape approaches	Yes	Doesn't specify Focuses on very large landscapes	The Landscape Finance Lab by WWF functions as an incubator for sustainable landscapes - facilitating funding and de-risking. "This approach engages stakeholders across the landscape to create large scale programs that link land, water and coastal resource management." "There has never been more money and political will for conservation and sustainability* than in this decade. Yet investors and land managers are struggling to originate high-quality, de-risked, land use projects. The Landscape Finance Lab bridges this gap. It is a system to structure, de-risk, launch, and fund sustainable land use deals at landscape scale – covering millions of hectares, mobilising hundreds of millions of dollars and catalysing major impact – including carbon sequestration, food security, poverty reduction and biodiversity conservation."(Landscape Finance Lab, 2019)	"Focused exclusively on programs covering over a million hectares, million tonnes of traded goods, million tonnes greenhouse gases, and $100 million investment size"
International Model Forest Network (IMFN)	Each model forest is very different. Some model forests qualify as landscape approaches while others don't because they are too focused on conservation goals or do not involve other stakeholders.	Sustainable forests	Yes	LA	"Model Forests are defined by a large-scale landscape approach and a voluntary and broad-based governance structure that represents a wide range of interests. These include forests, agricultural land, conservation areas, mining concessions, recreation areas and communities " (IMFN, 2019)	IMFN is a Canadian organsation with individual organisations (networks) in many countries.
IDH	See Table One for further details on IDH's approach.	Sustainable trade	Yes	LA and JA	IDH brings together businesses, governments, farmers, communities and civil society to build sustainable governance models across tropical forest regions, or landscapes. Through our three-pronged PPI approach, we create areas where agricultural products are grown sustainably (Production), forests and natural resources are safeguarded (Protection), and communities thrive (Inclusion) (IDH, 2018)	13 landscapes in 9 countries (Asia and Africa)
EcoAgriculture Partners	EcoAgriculture Partners have been advocating for landscape approaches for a long time (McNeely & Scherr, 2003). They have developed numerous practical tools to aid landscape practioners and policy briefs.		Yes	JA and LA	"Our multi-pronged approach allows us to make an impact at the landscape, national, regional and international level. Each of these scales reinforces the others as we mainstream integrated landscape management around the world."(Sherr et al, 2013) "Ecoagriculture refers to an approach to managing landscapes specifically to meet three goals simultaneously and sustainably (that is, to be able to continue meeting those goals indefinitely): conserve biodiversity and ecosystem services, provide agricultural products, and support viable livelihoods for local people" (ibid)	Brazil, Costa Rica, El Salvador, Guatemala, Honduras, USA Djiboudi, Ethiopia, Kenya, Tanzania, Uganda Indonesia, Vietnam
CARE-WWF Alliance	The alliance uses the community as a scale, and not the landscape e.g. the Alliance has empowered "community-based natural resource management" (WWF, 2020). The alliance pursues conservation, agriculture and poverty alleviance objectives simultaneously.(ibid)	Care: ending poverty WWF: conservation Emphasis on women empowerment	Uses the community as a scale of intervention	Doesn't specify	The CARE-WWF Alliance partners with governments and private sector companies to help communities create just and sustainable food systems around the world (WWF, 2020)	Tanzania, Mozambique, Madagascar Nepal
Solidaridad	Solidaridad is implementing some projects - with other partners that use the landscape scale, involve different sectors and pursue multisectoral objectives.	Solidaridad works to create sustainable supply chains from the producers to consumers	Yes	Responsible supply chains and sustainable commodities	"At Solidaridad, we realize that sector-specific policies alone cannot safeguard the resilience of ecosystems and society. Together with our partners, we are increasingly focused on a landscape approach which transcends a single sector, and looking for opportunities to strengthen local ecosystems and communities." (Solidaridad, 2015) The term landscape has been included in Solidaridad's mission: "Underlying this strategy is our mission to bring together supply chain actors and engage them in innovative solutions to improve production, supporting the transition to a sustainable and inclusive economy that maximizes the benefit for all. We aspire to transform production practices in such a way that it provides fair and profitable business opportunities, guarantees decent working conditions and a living wage, and does not deplete landscapes where people thrive."(Solidaridad, 2019)	Central America (Honduras) and Mexico Kilimanjaro, Tanzania
International Union for Conservation of Nature (IUCN)	IUCN uses the concepts of LA in several ways.	Project-dependent	Yes	Doesn't specify	IUCN work with landscape approaches in several ways: 1) Project title: Livelihoods and Landscapes Strategies (LLS) Project background: Livelihoods and Landscapes Strategies (LLS) was a global IUCN initiative structured around four main themes: poverty reduction, natural resource-based markets and incentives, forest governance (including forest rights and tenure) and landscape transformation (through policy influence and forest landscape restoration). 2) IUCN is also piloting one of the two case studies studied in this research (LandScale Pilot in Costa Rica) 3) IUCN Netherlands has a "landscape approach solution" in its portfolio of activities "IUCN NL brings together various stakeholders in a landscape to take joint responsibility over sustainable social and economic development. By aligning the interests of the various stakeholders with the carrying capacity of nature, we are working on improved landscape management. This way, we build future-proof management structures, which conserve biodiversity and give sufficient space and recovery time for nature to continue fulfilling important ecosystem services, such as water supply, food security and climate resilience." (IUCN NL, 2020)	Chiang Rai, Phang Nga and Ranong Provinces, Thailand Duration: 2007 – 2010
Conservation International	Conservation International has not developed a landscape approach framework but is convening two high-profile landscape initiatives in Indonesia.	Economic development, Reduce poverty Improve natural resource management	Yes	JA	"The Coalition for Sustainable Livelihoods (CSL) launched in September 2018 during a collaborative planning workshop in Medan, Indonesia, that aimed to gather stakeholder input for shaping and building the initiative. The goal: to capture the value of diverse collaboration through a sustainable landscape approach in contributing to sustainable livelihoods and improved natural resources management. The Coalition for Sustainable Livelihoods (CSL) is an emerging initiative focused on collective action to drive economic development, reduce poverty and improve natural resource management in the Indonesian provinces of North Sumatra and Aceh. [...] More than 130 representatives from across government, private sector, financial institutions and civil society joined the Coalition's initial supporters, which have grown to include Barry Callebaut, Conservation International (CI), Danone, Earthworm Foundation (formerly The Forest Trust), The Sustainable Trade Initiative (IDH), The Livelihoods Fund, Mars Wrigley, Mondelêz International, PepsiCo, Unilever and the United Nations Development Program (UNDP)." (Conservation International, 2020)	North Sumatra and Aceh
Earthworm Foundation	Earthworm is developing a landscape approach framework and is convening two jurisdictional approaches.	Reducing deforestation	Yes	JA	"In 2017, Earthworm Foundation, with the support of our Coalition partners and funders, launched a pioneering programme to advance long-term, landscape level sustainability transformation in Aceh Tamiang, Sumatra" (Earthworm, 2020)	Aceh, Sumatra Tocache, San Martin, Chile

Annex 7 Table of definitions

Papers Full references are in the references list	Landscape Approach In-text references of extracts are in the references list	Landscape	Boundaries	Benefits	Scale
Have integrated landscape approaches reconciled societal and environmental issues in the tropics? (Reed et al, 2017)	A landscape approach is best considered as a process—as opposed to a project—but in order to progress towards "outcome" objectives, it is important to recognise what those objectives are, who defines them, and what mechanisms can facilitate progress towards them. The general overarching objectives of the landscape approach are enhancing sustainability and multi-functionality within the landscape to achieve multiple outcomes.				
Measuring the effectiveness of landscape approaches to conservation and development (Sayer et al, 2017)	Landscape approaches aspire to make long-term improve- ments to conservation, production, and livelihoods (Estrada-Carmona et al. 2014) and to achieve these improvements by engaging and empowering the people who are affected. Capacity building, local empowerment, improving governance, and providing transparency in resource management negotiations are widely regarded as central components of landscape approaches (Smith et al. 2009; Pfund 2010; Milder et al. 2014). Moreover, land- scape approaches recognize the importance of learning, flexibility, adaptation, and the need for a holistic view of outcomes and impacts in a constantly changing context (Sayer 2009).			The assumption behind landscape approaches is that by accounting for trade-offs and exploiting potential synergies, they will achieve a better balance between conflicting objectives compared with the conventional spatial planning or sectoral approaches	
Ten principles for a landscape approach to reconciling agriculture, conservation, and other competing land uses (Sayer et al, 2013).	The 10 principles include: 1. Continual learning and adaptive management† 2. Common concern entry point 3. Multiple scales† 4. Multifunctionality 5. Multiple stakeholders‡ 6. Negotiated and transparent change logic 7. Clarifications of rights and responsibilities 8. Participatory and user-friendly monitoring 9. Resilience 10. Strengthened stakeholder capacity	Landscapes"have been definedin various ways. Drawing on ecosystem def-initions, we define a landscape as an areadelineated by an actor for a specific set ofobjectives. It constitutes an arena inwhich entities, including humans, interactaccording to rules (physical, biological, andsocial) that determine their relationships.In many cases, the objectives, arena, enti-ties, and rules will change: our point is thatthe landscape is defined in broad concep-tual terms rather than simply as a physicalspace		Food prodduction goals have to be met in ways thatalleviate poverty, improve nutrition, and con-serve the environment. Interactions amongthese challenges require that they be ad-dressed in a concerted way. Sectoral ap-proaches, despite still being predominant,have long been recognized as inadequate.	
Integrated landscape management in action: insights from twenty-three cases in Latin America and the Caribbean (Milder et al, 2014)	For the purpose of the study, we defined integrated landscape initiatives as initiatives that 1) seek to advance goals across the four domains of landscape performance (i.e., landscape multifunctionality), 2) work at a landscape scale (i.e., areas between tens to tens of thousands of sq. km), 3) support multi-stakeholder processes, platforms or institutions, and 4) have moved beyond the concept development and design phase to implement specific activities and report outcomes.				
What are "Integrated Landscape Approaches" and how effectively have they been implemented in the tropics : a systematic map protocol.	A landscape approach can be defined as a framework to integrate policy and practice for multiple competing land uses through the implementation of adaptive and integrated management systems				
Towards viable landscape governance (Kozar et al, 2014)	Does not provide a snapshot definition of landscape approaches but a more contextualised description	'Landscape' is a construct that helps us to communicate about and manage areas that are shaped by interactions between humans and nature; it serves to improve linkages between people and nature and is a part of our heritage that we hold in trust.	Furthermore, boundaries within and between landscapes will tend to shift over time owing to changes in use or policy		As the scale increases, goals may become broader and perspectives more divergent. The social structures concerned as well as the types of ecosystems present will determine the scale of the landscape and the scope of landscape uses, and therefore options for management.
Sharing or sparing (Kusters, 2014)	The term *landscape approach* refers to interventions in rural areas that are aimed at optimizing relations among the various land-cover types, institutions and human activities at the spatial scale of the landscape. It is meant to identify – for instance, through multi- stakeholder negotiations – the interventions and policies that best reconcile the often conflicting goals of different stakeholders. The navigation of trade-offs at the landscape level is not merely a technical issue, but a long-term multi-stakeholder process that is likely to require social and institutional changes (Sayer 2009).				
Empowering local stakeholders for planning, Indonesia (Dewi et al, 2014)	The main concepts of the landscape approach have been evolving from those of Integrated Natural Resource Management (INRM) since the mid-1990s (Sayer and Campbell 2001), with the promise of managing trade-offs between development and conservation where ecosystem services are at stake. In contrast to a sectoral approach that addresses issues of forest loss in isolation from other issues in the landscape, a landscape approach treats landscapes holistically, allows for inter-dependent issues and finds ways to address policy factors. Landscape approaches should adopt four best practices: • embrace the principles of INRM to maintain or restore ecosystems and deliver services and benefits through conservation, development and land-use planning processes; • adopt multiple instruments, using both incentives and disincentives; • respect local rights and apply social safeguards (see article 5.6); and • carry out performance-based monitoring to evaluate the effectiveness of the				
New Generation Plantations: what future role towards sustainability? (Silva, 2014)	A landscape approach provides the concept and tools for planning and managing a range of land uses and balancing social, environmental and economic objectives. It involves thinking, planning and actions that go beyond individual sites and interests to the broader context, where people share and shape the socio-economic, governance and ecological components of their land. Landscapes can incorporate not just physical or ecological boundaries (often a catchment or sub-catchment), but also social, governance and economic elements.				