



Thematic Study: High Value, Low Intensity Value Chains in Forest Landscapes

Cycle 1 – Thematic Case study 2
Insights, lessons and learning tools

12 July 2018

Acronyms

DFID	Department for International Development (UK)
EA	East Africa
EM	Evaluation Manager
FP	Forest Partnership
HVLI	High Value Low Intensity
IFSLU	Investments in Forests and Sustainable Land Use
MEL	Monitoring Evaluation and Learning
NGO	Non-governmental organisation
NTFP	Non-Timber Forest Product
P4F	Partnerships for Forests
PO	Producer Organisations
SEA	South East Asia
UEBT	Union of Ethical BioTrade
WCA	West and Central Africa

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Executive Summary

This thematic study conducted by the Partnerships for Forests (P4F) Evaluation Manager sought to answer the following question: **‘To what extent and how can high value, low intensity (HVLI) value chains create sufficiently strong incentives for sustainable forestry and associated land use practices, via increasing productivity and producer incomes, rather than deforestation and land degradation’.**

This report presents key insights and lessons emerging from a literature review on this theme, the learning tools which have been developed based upon these findings, and the results of the pilot testing of a project assessment framework for seven selected Partnerships for Forests (P4F) projects.

The focus of the literature review was on identifying evidence on the impact pathway, i.e. P4F interventions and capacity building leading to producer and community benefits as well as positive ecological impacts of non-timber forest products (NTFP) commercialization processes. Most of the relevant literature is focused on NTFP, which is relevant for this study because these products are also characterised by their high value end markets, while at the same time they are found and can be harvested at a low density within forest landscapes and can act as an incentive to add value to the standing forest. In this way they may de-incentivize alternative land uses causing forest degradation or deforestation. The review generated a substantial amount of documentation on NTFP benefits for producers and harvesters, gender issues, community interests and benefits, and on the role of producer organization and capacity building. There is less documentation on value chain issues, the incubation of producer-controlled processing and different forms of community-company partnerships, and very limited information on the ecological effects of commercialization initiatives in specific products, particularly evidence on wider ecological impacts (apart from anecdotal evidence). Lastly, some information was found on land tenure issues and NTFPs, but there was limited analysis of other enabling environment issues, such as the role of multi-stakeholder platforms, economic measures or spatial plans in HVLI value chain development.

Key insights emerging from this literature review are summarised in the main report. These findings formed the basis for an assessment framework, which was used to assess to what extent the key issues identified are addressed within a selection of P4F projects. Pilot testing of this tool was supported by a P4F representative, who facilitated interactions with two regional teams. This generated initial insights in how key issues were covered by the P4F projects and/or by its partners, and what challenges were less covered.

The literature suggests that HVLI initiatives are more challenging than the facilitation of agricultural value chains more generally, due to a range of issues, including remoteness, scale and bulking, and the sophistication of processing involved in some product end uses. While there is evidence that positive economic benefits can be achieved for local producers and communities, there is no evidence whether, or not, this leads to positive ecological impacts at landscape level (i.e. more sustainable forest management, or reduced deforestation). This creates an opportunity for P4F to generate evidence on this topic, but also means real-time monitoring and evidence generated by the P4F Forest Partnerships is important on identified key issues and assumptions.

This study concludes with the following four recommendations:

1. **P4F projects create an opportunity for field-based case studies by the EM and P4F MEL to evaluate and generate evidence on key issues and assumptions in the HVLI impact pathway.** This will inform P4F and DFID as well as the wider community. The literature review and initial piloting suggests that the following are key issues:
 - a. The equitability of revenues obtained by producers and the benefits for communities and the extent these can be sustained with HVLI commercialisation. The type and governance of producer organisations and the role of secure land rights are key in securing such benefits;
 - a. The potential and challenges of (a) approaches based upon economic upgrading by producer organisations, and (b) community-corporate partnerships options in HVLI value chain development;
 - b. The linkages between improved smallholder income and livelihoods and ecological impacts at the landscape scale, especially reduced deforestation or enhanced restoration.
 - c. The scalability of HVLI initiatives and the underlying scaling mechanisms.
2. **P4F to adopt the (improved) assessment framework internally across all HVLI projects as a means of testing current designs to ensure all critical issues have been addressed from the outset.**
3. **P4F to use the assessment framework for self-assessment and the Evaluation Manager should apply it in upcoming thematic studies on other of other types of projects (e.g. Produce-Protect projects).**
4. **In future thematic studies, the EM, with P4F support, should engage more extensively with sector experts recognising the limits on available wider evidence of P4F impact pathways and the level of on-going work in the community of practice to tackle similar challenges.**

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1 Introduction and scope

This report presents key insights and lessons emerging from a literature review. It also presents the learning tools which have been developed based upon these findings. The literature review sought to answer the following research question (which was jointly developed by the Evaluation Manager (EM) and the Partnerships for Forests (P4F) team):

- **To what extent and how can high value, low intensity (HVLI) value chains create sufficiently strong incentives for sustainable forestry and associated land use practices, via increasing productivity and producer incomes, rather than deforestation and land degradation.**

The focus of the study is on **‘High value, low intensity products and value chains’**. **‘High value’** refers to products that generate high market value per unit of volume. This means that, for example, timber and charcoal are excluded because they do not have a high value, while an initiative that focuses on specific high value timber species can be included. However, we note that ‘high value’ is a relative concept, depending upon who benefits in practice. **‘Low intensity’** products are those produced as an integral part of sustainable forest or landscape management systems with the aim to protect forest and maintain high carbon stocks. The incentives which shape HVLI value chains include economic ones (e.g. productivity, incomes), and non-economic ones (e.g. other livelihood, nutrition or cultural benefits). Excluded from this study are products from trees in agricultural landscapes (e.g. baobab, shea butter trees) or products from plantations. For example, coffee or cashews grown in a semi-intensive way in forested landscapes would be included, but coffee or cashews grown in an intensive way on farmlands or in plantations would not be included.

The report is structured as follows:

- Chapter 2 explains the approach and process used in this study.
- Chapter 3 summarizes the main results including learning tools which can be used for decision-making purposes.
- Chapter 4 provides some recommendations for follow-up and use of the learning tools.
- A set of annexes presents the evidence review and learning tools. In particular, this includes the assessment framework that was developed based on the key insights from the literature review and its pilot testing.

2 Study Approach

As per the Terms of Reference for this thematic study, the following steps were applied as part of the methodology for this case study.

Step 1. Rapid literature review to gather evidence on the extent to which, and how, high value low intensity products can create sufficiently strong incentives for sustainable forest and associated land use practices vis-à-vis incentives for deforestation and degradation.

To guide analysis of the literature and to gather evidence from specialist practitioners, the EM review team developed a conceptual and analytical framework. This framework linked the analysis to the programme theory of change developed by the EM (available in Annex 4) (relevant impact pathway) and employs a systems' perspective.

First, we unpacked the anticipated causal pathway associated with this category of P4F projects. High Value, Low Intensity (HVLI) value chain development represents one impact pathway within the overall P4F programme theory of change as articulated by the EM. Its main elements include:

P4F interventions support the establishment of forest partnerships for HVLI value chain initiatives,

- ... leading to improved capacity amongst private, public and community actors (e.g. provide access to new sources of finance, provide business advice, support producer organizational development, advocate policy or regulatory reforms, build new markets),
- ... leading to adoption of key practices by producers and value chain actors,
- ... leading to benefits for producers and communities and other value chain actors that are involved,
- ... and creating incentives for producers and communities to better protect forest resources and maintain high carbon stocks.

A range of assumptions is associated with the above causal chain, several of which are further explored as part of this study.

Second, we considered the range of relevant value chain and landscape actors, as well as governance dynamics and incentives, which shape actors' behaviour in specific HVLI value chains (see Figure 1 below). This led to inclusion of the following four dimensions of the analytical framework that guided the literature review:

1. Producer and Community Level Dynamics;
2. Value Chain Dynamics, Governance systems;
3. Landscape Dynamics, Governance systems;
4. Scaling and Systemic Change.

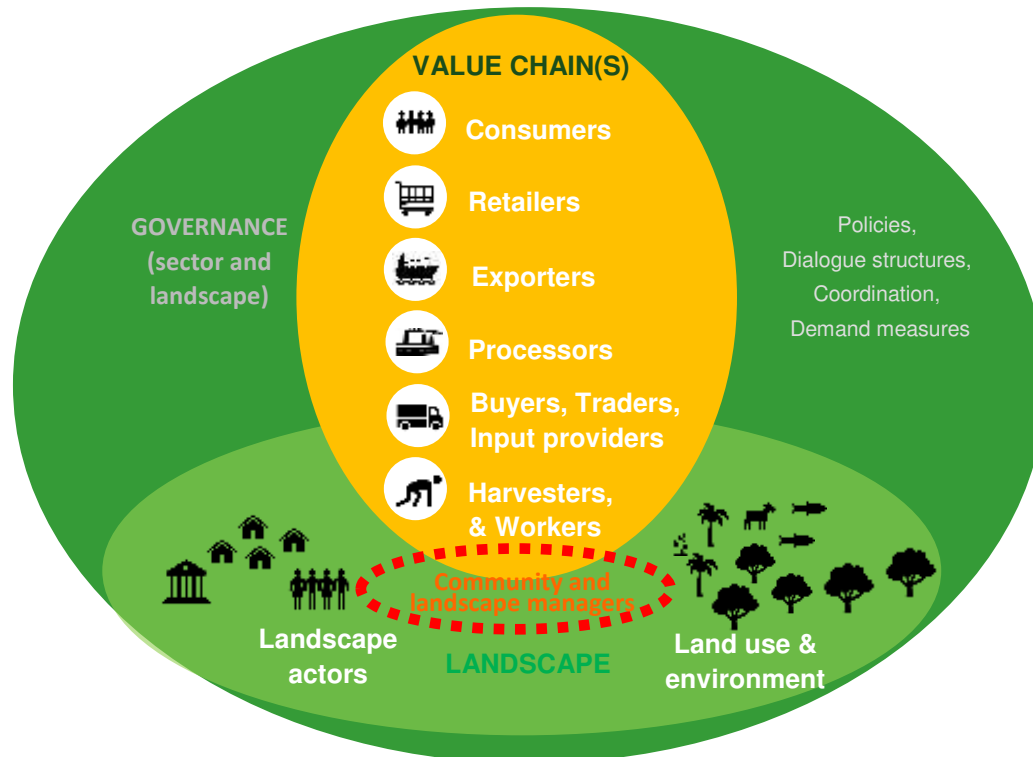


Fig. 1: HVL Value Chains, Sector & Landscape Governance (Kessler and Nelson, 2018)

The research team conducted web searches for relevant literature (grey and academic) and, also gathered papers using our research/practitioner networks. The literature sources are listed in Annex 3A. Several sector specialists were consulted on their experiences of building non-timber forest products (NTFP) value chains, the issues that may arise, and their awareness of evidence on ecological impacts (see Annex 3B for the list of experts consulted).

Most of the relevant literature findings are based on studies focused on NTFPs. NTFPs are relevant for this study because they are generally characterised by their high value end markets, such as cosmetics, and may generate substantial revenues, while at the same time are found at a low density within forest landscapes and can thus form an incentive to refrain from alternative land uses causing forest degradation or deforestation¹. Demand for a diversity of NTFPs could translate into demand for protected forest landscapes. As such, NTFP was identified as a category of products relevant for this study. Literature on forest products sold on conventional markets without a sustainability brand or premium, such as timber, tourism, edible insect production or wildlife trophy hunting was not included in the analysis, although if undertaken in a sustainable way these could also potentially contribute to sustainable integrated land management.

The focus of the literature review was on identifying evidence on the impact pathway, i.e. capacity building leading to producer and community benefits as well as positive ecological impacts of NTFP commercialization processes, as these two elements are both critical to answering the main research question. The literature review was then structured by the above four dimensions.

Step 2. Selection of P4F Forest Partnerships (FP) Cases (FPs involving high value low intensity products selected against the P4F typology/framework)

In parallel to the evidence review, and in collaboration with the P4F M&E lead, the regional P4F teams were contacted to support a selection of projects relevant for this case study and promote engagement in the study. The selection of projects was done based on the criteria of high value products in forested landscapes applying

¹ This is a generalisation and often the complementarity of markets is important for NTFPs. It is possible to sell one product at a higher value in a small quantity and this makes an associated low value high quantity product economically viable. The high value of marula oil, for example, opens up the opportunity for low value juice' (B. Bennett, *pers. comm*).

a semi-intensive forest production system. Table 1 below shows the HVLI projects located in the South East Asia (SEA) and the East Africa (EA) region. Some rejected projects were found for the West and Central Africa (WCA) region, but these were not studied in detail as they did not align with the HVLI definition adopted by the P4F team.

Table 1: Overview of initial selection of HVLI projects

P4F number	Title	Region	Country	Status
P4F-0267	Building cashew value chain	EA	Mozambique	Mature
P4F-0309	Developing a business case for Croton Nuts	EA	Kenya	Emerging
P4F-0404	ERC Jelutong	SEA	Indonesia	Emerging
P4F-0405	ERC Dragons Blood	SEA	Indonesia	Emerging
P4F-0267	Building cashew value chain	EA	Mozambique	Mature
P4F-0309	Developing a business case for Croton Nuts	EA	Kenya	Emerging
P4F-0404	ERC Jelutong	SEA	Indonesia	Emerging
P4F-0405	ERC Dragons Blood	SEA	Indonesia	Emerging
P4F-0008	Ethiopian Wild Coffee	EA	Ethiopia	Mature
P4F-0227	Masarang Illipe Nut	SEA	Indonesia	Emerging
P4F-0389	ERC Forest Honey ABT	SEA	Indonesia	Emerging
P4F-0399	Sustainable sourcing for protection of Bukit Barisan Selatan NP	SEA	Indonesia	T3- Idea Note
P4F-0407	ERC Forest Honey	SEA	Indonesia	Emerging

Step 3. Review of Case Study Forest Partnership Projects Theories of Change and developing an assessment framework

The EM review team developed a first version of an assessment framework based on key issues identified in the literature review. The assessment framework was used by the two regional teams to analyse the available documentation for seven selected projects (see Annex 2A). The assessment framework specifically looked into the theories of change of the selected projects. However, the available project documentation had several important gaps. The team hoped to address these gaps through more in-depth discussions with project leads. While the EM team did not receive responses from most of the regional teams, some additional data collection was facilitated through exchanges with a P4F representative of the South East Asia team, who had direct experience of the East Africa regional work and knowledge of the HVLI-type of projects within the P4F portfolio. However, the project document review did not really lead to sufficient insights on the projects in terms of key issues identified from the literature. The P4F representative then offered to pilot (as outlined in Step 4 below) the assessment framework with the teams in South East Asia and East Africa, thereby facilitating wider consultation of the regional teams.

Step 4: Analysis of Project Evidence using the assessment framework

4a. Systematic analysis of P4F documentation on the selected P4F case studies

P4F provided the Evaluation Manager with relevant documentation for the selected P4F case studies, and these were then analysed by the EM.

4b. Collection & Analysis of Primary Data on P4F cases – Distance feedback and piloting of assessment framework with FP stakeholders, project staff, niche value chain specialists

To conduct the pilot assessment, and based on initial feedback, the EM team developed a second version of the assessment framework (an Issues Tree)² (see Annex 2B). This captures in a logical and sequential format the key issues for consideration in appraising NTFP value chain development initiatives to ensure producer benefits and positive ecological outcomes. The 'issues tree' assessment framework can be used to identify the remaining gaps within the current project implementation.

The P4F representative, in consultation with the regional teams in South East Asia and East Africa, piloted a self-assessment using the selected projects. P4F found that no projects for West Africa complied with the study criteria. Based on the feedback received, the EM team refined the evidence review (Annex 1) and adjusted and restructured the assessment framework (Annex 2C), responding to P4F feedback and identifying possible next steps.

5. Analysis of evidence and lessons to answer evaluation questions and support P4F adaptive management

An analysis of lessons was carried out and the draft findings were shared with the P4F representative who shared the draft report with the wider regional teams and gathered feedback, providing a useful input into this final report.

² This was a suggestion from McKinsey, who work with Issues Trees as a way to break down large, complex problems into component parts and to facilitate collective work on identifying solutions.
<http://workingwithmckinsey.blogspot.com/2014/02/Reasons-for-Issue-Trees.html>

3 Results

3.1 Evidence Review

3.1.1 Availability of evidence

The review of evidence focused on available meta-studies and recent literature, especially evidence associated with commercialization initiatives. The review generated a substantial amount of documentation on Non-Timber Forest Products (NTFP) benefits for producers and harvesters – including gender issues, on community interests and benefits, and on producer organization and capacity building. There is less documentation on value chain issues and partnerships, and very limited information on the effects of commercialization initiatives. There is documentation of the ecological effects for individual NTFPs / products, but no robust evidence on wider ecological impacts (apart from anecdotal evidence). Lastly, there is information on land tenure issues and NTFPs, but limited analysis of other enabling environment issues, such as the role of multi-stakeholder platforms, economic measures or spatial plans in HVLI value chain development.

The available literature also includes some frameworks that were developed for decision-making on NTFP projects (incubation processes, implementation of projects or understanding key influencing factors). These frameworks are all oriented at producer and community levels. For example, Newton et al (2006) identified a set of 16 key factors that exert most influence on the effects of the commercialization of NTFPs on livelihoods, as emerging from relevant empirical evidence. A decision-support tool emerged from this study (CEPFOR decision-support tool). The existing frameworks were used for developing our own assessment framework. These frameworks do not provide any information on the linkages from livelihoods to wider ecological impacts. The most relevant decision-support frameworks (tools) that were used in this analysis are:

- Process management framework in the form of a ‘dashboard’ are used for the simultaneous incubation of different products in a pipeline (Bennett, 2015)
- Risk analysis – a document which supports analysis by locally owned enterprises of their business risks (Bolin et al, 2018)
- A decision-tool for those looking to support NTFP programmes: ‘CEPFOR Decision-Support Tool. User Guide v 4.0. UNEP World Conservation Monitoring Centre, 2005’. <https://www.gov.uk/dfid-research-outputs/cepfor-decision-support-tool-user-guide-v-4-0-a-final-output-of-project-r7925>
- AC. Newton et al (2006). Use of a Bayesian Belief Network to Predict the Impacts of Commercializing Non-timber Forest Products on Livelihoods. *Ecology and Society* 11(2): 24. [online] URL: <http://www.ecologyandsociety.org/vol11/>

3.1.2 Key issues from the review

The full evidence review is included as Annex 1A, with statements in bold emerging from the literature review on each sub-category. The key insights from this process are summarised below. There was a specific request from P4F to list cases of successful cases of commercialization of NTFPs. Some possible cases of success are listed in Annex 1B. However, these are all drawn from the website of the Union of Ethical BioTrade (UEBT) (a sustainability standard) and do not appear to be based on robust evaluation studies.

Livelihood benefits and impacts

- Non-timber forest products (NTFPs) from forested landscapes frequently generate several important livelihood benefits, including economic, safety net and cultural benefits.
- NTFPs from forested landscapes are particularly valuable for the poorest households, and especially for women, as they are often a sole source of income and a survival, safety net. Commercialisation could have significant negative effects for these populations (e.g. rent capture by men if commercialization of a given chain is successful).

- The commercialisation of NTFPs may lead to disproportionate benefits for those with relatively large land holdings, existing networks and stronger capabilities. Commercialisation thus has the potential to exacerbate existing inequalities within communities and may also lead to conflicts.

Producer level organisation

- The organisation of producers in forested landscapes is a pre-requisite for effective HVLI development. Organisation is key for two reasons: (i) to ensure sustainable management of the natural resource base, and (ii) to acquire access to markets and relevant services. Cooperative and community-based models are common, which to be effective, need professional governance.
- Producer organisations in remote and forested landscapes generally have relatively low levels of education and few business skills. Capacity building should focus on organizational, business and technical skills.
- Remote and forested landscapes are characterised by power and knowledge discrepancies within the communities. Gender norms and product characteristics combine to influence diverging roles for women and men in forest businesses.

Business case for commercialisation

- There is potential for the commercialisation of products from forested landscapes, with dual objectives of local income generation and incentives for forest protection and restoration.
- Low productivity and low and/or seasonal volumes means that product aggregation and business organization is an essential component of the business case.
- Market access for NTFPs is difficult, especially for smallholders, due to issues such as perishability, long transport routes, high market entry barriers, poor access to finance, product substitution risks, and dynamic markets.
- While markets for NTFPs can be promising, they tend to be poorly developed, have low volume, are vulnerable to substitution and may be characterized by boom and bust dynamics.
- Certification of NTFPs from forested landscapes may lead to the exclusion of producers / harvesters but there are also examples of certification of NTFPs, especially for cooperatives in Latin America using the Ethical BioTrade Standard, that appear to be successful, but impact assessment is needed.
- Commercialisation can add value to products harvested in forest landscapes and contribute to increased returns to labour. This can be an important incentive to maintain wild or semi-intensive production system. Its success will depend upon continuing consumer demand for certified products and management of the commercial opportunity to sustain it over the medium to long term.

Type and quality of support services

- Production and service delivery models for NTFP harvesters / producers need to be tailored to context, given the diversity and specific characteristics of potential products, producers and production systems, but such models also need to allow for economies of scale. This may require a tiered system of support services.
- Community engagement, ownership and benefit-sharing are pre-requisites for forest business success. This is because the use of forest resources often has communal impacts and can potentially create resource-use conflicts, which represent a risk to the sustainability of forest enterprises.

Product processing and partnerships between producers and value chain actors

- Processing of NTFPs may increase product quality, reduce transportation costs and enhance profits for producers (returns to labour). Different products require differing levels of capability in processing and this shapes the extent to which local producers can engage in processing themselves and/or require support.
- Where access to markets is complex and/or technological demands are high, partnerships with business partners may have an added value. Innovative business models merit exploration, such as producer equity in joint ventures and processing contracts. Partnerships between producers and private companies need to demonstrate fair outcomes over a sustained period.

- NTFP value chains tend to be relatively long and complex. Building up successful NTFP value chain businesses takes a long time, involves risks and implies significant investment.

Legal aspects and resource stewardship

- Formalisation processes often accompany initiatives promoting NTFP commercialisation, but has risks of excluding producers or resource users, and so these risks should be assessed and mitigated. The governance and political context is critical, especially the complex interface between customary and statutory rules and regulations.
- Secure resource tenure and use rights are pre-requisites for NTFP intensification which benefits local producers. However, customary tenure systems including communal ownership are also relevant for landscape management purposes.
- Successful resource management systems take appropriate account of customary laws and resource management systems, as these often provide a more nuanced and location specific approach.

Relations between commercialisation and ecological impact

- There are very few studies on the ecological impact of NTFP commercialisation, including those at a wider landscape or ecosystem scale. However, the evidence is largely anecdotal.
- There are basically two types of relationships between NTFP commercialization and ecological impact. First is the sustainability of the resource being harvested. Here, the evidence shows that there are risks of overharvesting, exceeding sustainable harvesting rates.
- Second are ecological effects at landscape level. The evidence shows that enhancing returns to land may stimulate expansion of the production unit, and thus create pressure for deforestation, whereas focusing on returns to labour will enhance productivity and value addition.
- Factors determining these types of ecological impact seem to be market demand, land tenure arrangements, and returns to unit of land.
- The combined value of NTFPs has the potential to generate a high economic value and form an incentive to maintain forest quality. A diversity of NTFPs is important to avoid intensification of one successful product leading to monoculture expansion. However, firm evidence is not available.

Scaling and systemic change

- There are challenges in scaling NTFP commercialisation initiatives. NTFP producer groups have often been supported by NGOs or donors, but they often remain localised success stories associated with niche markets or supply chains. Second-tier organizations or private companies may support scaling.
- Government agencies can generate leverage to support effective NTFP commercialization by addressing enabling condition, systemic constraints. These would include infrastructure development, economic measures (taxes, import duties), and issues related to land tenure (land registration).

3.2 Pilot self-assessment

The issue tree developed for piloting key insights on selected P4F projects captures six main categories of criteria and 11 sub-categories. It was used for a self-assessment of the following set of seven Forest Partnerships from the P4F portfolio (see Table 2 below). It was reported that the self-assessment took half an hour per project.

Table 2: P4F projects selected for piloting

P4F number	Title	Region	Country	status	Management type
P4F-0267	Building cashew value chain	EA	Mozambique	Mature	Semi-managed forest production
P4F-0014	Ecosystem Resto-ration Concession	SEA	Indonesia	Mature	Payment for ecosystem services
P4F-0008	Ethiopian Wild Coffee	EA	Ethiopia	Mature	Wild forest production

P4F-0227	Masarang Illipe Nut	SEA	Indonesia	Emerging	Wild forest production
P4F-0245	Masarang Sugar Palm	SEA	Indonesia	Emerging	Wild forest production
P4F-0314	Sound & Fair	EA	Tanzania	T3-Idea note	Reduced impact logging
P4F-0389	ERC Forest Honey ABT	SEA	Indonesia	Emerging	Wild forest production

The results of the rating are shown in the following table 3, and apply the following legend:

- 1 It is unclear if the project, or the existing infrastructure / partnerships, are addressing the criterion.
- 2 The Project, or existing infrastructure / partnerships, has partially / attempted to address the criterion.
- 3 The Project, or existing infrastructure / partnerships, has met the criterion.

Table 3: Results of Self-Assessment of Seven Forest Partnerships in South East Asia and East Africa by P4F

Main criteria / issue	Sub-criteria / issues	Rating of 7 projects			
		1	2	3	TBD
1. Business case with significant revenues for producers and processors involved (to exceed poverty level)	1.1 Market demand established, at least for niche market, and with potential for scaling			7	
	1.2 Production model well established, generating volume, quality and return to labour for producers/processors (including diversification)	0	2	5	
	1.3 Access to knowledge, inputs and finance, for remote areas, scattered producers, low level of skills	3	2	1	1
	1.4 Benefits and risks of certification established	P4F feedback questions utility			
2. Benefits for the whole community, both tangible (economic) and non-tangible (e.g. cultural)	2.1 Benefits for the community, as a whole, not only for individual producers/processors	3	1	3	
	2.2 Material and non-material benefits for the community, including vulnerable groups		2	4	1
3. Producers are organized, have management and production capacities and business control, and legal requirements established	3.1 Producers and/or processors are sufficiently organized to access markets and services			7	
	3.2 Producer and/or processor organization is well governed		1	6	
	3.3 Producers and/or processors have sufficient skills to run their business		1	5	1
	3.4 Established or formalized land rights and management responsibilities			6	1
4. Fair and sustainable value chain relations are established	4.1 Shared vision and relations of trust between producer organization and value chain actors		4	2	1
	4.2 Partnership model considered as an alternative option to producer organization on its own, provided evidence of benefits for the producer organization	P4F feedback questions utility			
5. Well defined mechanisms to achieve positive ecological impact	5.1 Incentives for land managers are sufficient to enhance sustainable forest management		6	1	
	5.2 Risks of negative ecological impact are mitigated	2	4	1	
6. Enabling environment strengthened	6.1 Relevant public and civil agencies are involved	P4F feedback questions utility			
	6.2 Sector (value chain based) systemic issues for scaling and sustainability are defined	2	5		
	6.3 Landscape management legal and management issues are defined	1	1	4	1

3.3 Main insights, lessons and learning tools

Key insights and lessons emerging from the literature review and the pilot testing include:

- Successful commercialisation of HVLI products (or NTFPs), in terms of generating positive economic effects for producer/processor livelihoods, is a relatively complex and difficult development arena for several reasons. These include remote areas, producer organisations with scattered producers, gender aspects, benefit sharing aspects, product substitution risks, fickle markets, complex land tenure, strong community interests in forest resources, intellectual property aspects.
- Generating positive ecological effects from HVLI value chain development at landscape level, i.e. positive ecological effects resulting from cumulative livelihood benefits, are even more complex. Only anecdotal evidence is available so there are remaining uncertainties whether this can be achieved. The literature review shows that evidence on the ecological – economic dynamics is very limited³.
- The self-assessment rating of P4F projects was more positive than the preliminary rating done by the EM review team based on available documentation. This was mainly because project documentation does not capture *pre-existing* infrastructure, organizational capacity and/or partnerships, but only what the P4F project is focused upon and (aims to) achieve. The main areas of divergence between the EM team and P4F assessment focused upon issues of community benefits (2.2), producer organization (3.1, 3.2 and 3.3), and land rights (3.4). These appear to be issues that, according to the P4F self-assessment, are already in place before the P4F project started (i.e. capacity or infrastructure already exists, other partner organisations are providing support etc.).
- Issues emerging from the self-assessment requiring more attention are mainly: producer access to inputs and to finance (1.3), benefits for the community, as a whole (2.1), incentives for sustainable forest management (5.1) and risks for negative ecological effects (5.2), and absence of scaling plans or strategies (6.2).
- While the EM review team does not doubt the intended objectivity of the self-assessment, there are several issues that EM team believes would benefit further EM exploration to better understand whether and how the issue is being addressed. More detail would be useful, to understand if there are possible gaps and how they can be addressed. This would require some more time and also benefit from more joint analysis to help understand the quality and extent of what is currently in place, through field-based visits and engagement with a wider set of stakeholders.
- P4F requested inclusion of more success stories from the literature. Where we have found success stories, these are included and anecdotal cases from UEFT are listed in Annex 1B. However, positive livelihood effects are mainly based on anecdotal evidence, and positive ecological effects are limited to sustainable product harvesting, rather than incentives for no deforestation / forest degradation.
- The learning tools which have been developed are the result of work in progress, and they have benefited from extensive consultation with the P4F representative, who facilitated interactions with two regional teams, and the pilot testing as outlined above. The tools can be used as a practical tool for internal use to appraise projects, but also for external evaluative purposes.
- Based on initial insights from a P4F project desk review, an assessment approach was developed using an Issue Tree approach, which was used for the pilot self-assessment, and which proved more effective (Annex 3B)
- Building upon the results of the pilot testing, an improved and more transparent assessment approach has been developed that can generate more detailed information by referring to key issues related to HVLI initiatives – although this has not been piloted in practice as yet (Annex 3C).

³ The review by Stanley et al (2012) summarises the evidence of whether NTFP harvesting is ecologically sustainable, but it is limited to the question of sustainable harvesting of the desirable products.

3.4 Review of the main question

This thematic study sought to answer the following question:

- *‘To what extent and how can high value, low intensity (HVLI) value chains create sufficiently strong incentives for sustainable forest and associated land use practices, via increasing productivity and producer incomes, rather than deforestation and land degradation’.*

The development of HVLI or NTFP value chains appears to be challenging, because of a range of issues, as outlined above. The literature suggests that HVLI initiatives are more challenging than the facilitation of agricultural value chains more generally, because of issues of e.g. remoteness and the sophistication of processing involved in some product end uses, but challenges and uncertainties are part of any value chain development process. While there is evidence that positive economic benefits can be achieved for local producers and communities, there is no evidence, whether or not, this leads to positive ecological impacts at landscape level (i.e. more sustainable forest management, or reduced deforestation). Another option could be that of combined NTFPs for land restoration, but there is little evidence in the literature on combined incentives. This is a key area for future monitoring and evaluation.

The review of the anticipated impact pathway associated with HVLI projects, based on evidence from the wider literature and from the pilot assessment results of P4F projects, leads to the following schematic overview (Figure 2).

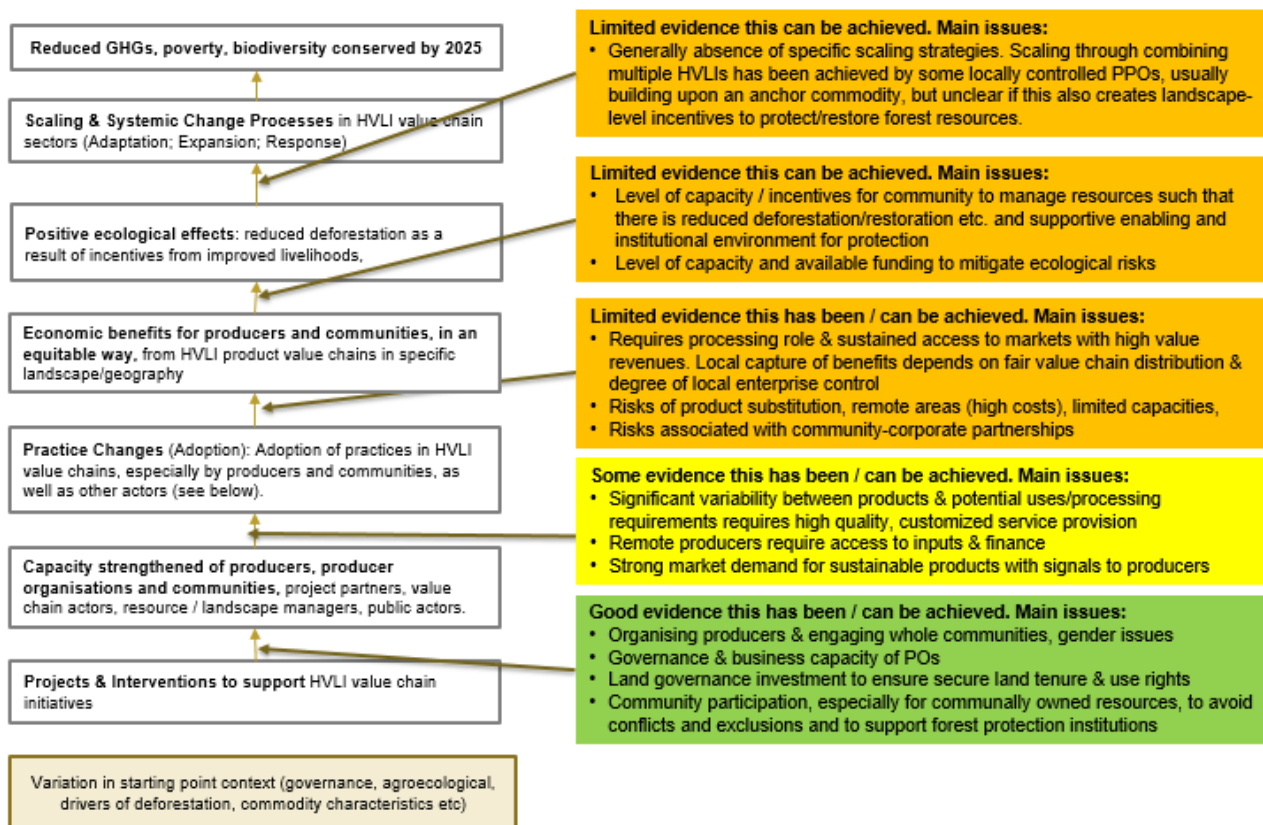


Fig. 2: Impact pathway of HVLI Value Chains, with evidence and main issues identified

4 Recommendations

1. **P4F projects create an opportunity for field-based case studies by the EM and P4F MEL to evaluate and generate evidence on key issues and assumptions in the HVLI impact pathway. This will inform P4F and DFID as well as the wider community of practice.** The literature review and initial piloting suggests that the following are key issues:
 - a. Whether revenues obtained from HVLI initiatives are equitable (reaching different types of producers) and include benefits for communities, and to what extent these benefits can be sustained with HVLI commercialization. The type and governance of producer organisations and the role of secure land rights are key in securing such benefits;
 - b. The potential and challenges of (a) approaches based upon economic upgrading by producer organisations, and (b) community-corporate partnerships options in HVLI value chain development (risks and benefits for producers and ecological outcomes);
 - c. The linkages between improved smallholder income and livelihoods and ecological impacts at the landscape scale, especially reduced deforestation or enhanced restoration;
 - d. The scalability of HVLI initiatives to realise greater impact and the underlying scaling mechanisms.

The above key issues will need to be further substantiated in terms of concrete research questions (or hypotheses) to form the basis for more in-depth case studies. Case studies should include the development of an M&E system by/for Forest Partnerships focused on selected indicators (equity, economics, ecology). The case studies could focus on a sub-set of HVLI projects, combined with country-based fieldwork (e.g. for 3 Forest Partnerships - 1 per region) to engage with a wider set of stakeholders and enable an independent review of the incubation process of these types of projects and support for the development of an FP M&E system that would generate evidence on these issues.

2. **P4F to adopt the (improved) assessment framework internally across all HVLI projects as a means of testing current designs to ensure critical issues are addressed:** The improved version of the assessment framework developed for HVLI projects (Annex 2C) can be applied to the seven selected projects (for full rating) and used across the portfolio for all other relevant projects to compare with those reviewed to validate or amend the critical issues identified in this analysis. This would also help to ensure that sufficient evidence is generated and documented to inform P4F planning and to enable external evaluation of P4F projects, including the extent to which they are building upon and coordinating with the work of other development actors.
3. **P4F to use the assessment framework for self-assessment and the Evaluation Manager should use it in upcoming thematic studies on other types of projects (e.g. Produce-Protect projects):** A similar assessment framework and approach could be employed for other types of P4F projects with the same purpose (i.e. to identify key issues). Appropriate assessment frameworks for other types of P4F projects can be developed based on the existing HVLI one, as soon as the clustering of approaches within P4F is identified/agreed (e.g. as per the three strategies recently identified by P4F enhancing the value of standing forest, transforming incumbent industries (Produce-Protect), and creating value from forest regrowth).
4. **In future case studies, the Evaluation Manager, with P4F support, should engage more extensively with external experts recognizing the limits on available wider evidence of P4F impact pathways and the level of on-going work in the community of practice to tackle similar challenges:** There would be benefits to organising more extensive engagement with experts (e.g. meetings, virtual discussions, mini-surveys, interviews) on HVLI, but also Produce-Protect and forest restoration. The purpose would be to share the findings of studies to date and inform proposed follow-up thematic field work building on work conducted. Such activities may help elicit knowledge held in the community of

practice about current approaches and evidence on successes and challenges. Specifically, on the HVL study such discussion would provide the EM review team with feedback and a chance to explore opportunities for more detailed decision-making or assessment frameworks based on the current state of knowledge. The upcoming theme focusing upon the Produce-Protect model is also a priority given its importance for the P4F programme and the anticipated limits on wider available evidence.

Annex 1A: Literature review with emerging key insights

Producer and community level dynamics

1.1 Livelihood benefits and impacts

Non-timber forest products (NTFPs) from forested landscapes frequently present several important livelihood benefits, including economic, safety net and cultural benefits. Economic benefits from the 'traditional', non-commercialized, use of NTFPs are important for subsistence purposes and may contribute to incomes, but rarely enable users to escape poverty.

Non-timber forest products (NTFPs) in livelihood systems contribute to daily household consumption, cash income generation, cash savings, safety nets and fulfil important cultural purposes (Mjoli, 2017). For example, an Ethiopian and Sudan case study of highland bamboo and natural gum and resin products details the diverse economic, social and environmental uses of these NTFPs, with their contributions to subsistence, cash income generation, and job creation, also helping to reduce conflicts and outmigration and stabilizing marginal areas and enhancing ecosystem services (Bekele et al, 2016). Similarly, forest dependent peoples living in proximity to the Yayu Coffee Forest Biosphere Reserve, Ethiopia, rely upon NTFPs, which have important subsistence and income uses, and provide a safety net during seasons of limited grain production (Asfaw and Etefa, 2017). Cultural and ritual uses of NTFPs can be important, such as incense burning in Ethiopian coffee ceremonies and Sudanese wedding ceremonies (Bekele et al, 2016).

A recent meta-review (Stanley et al., 2017) on local revenues from non-timber forest products (NTFPs) demonstrate favourable financial returns and indicate that NTFP exploitation can keep gatherers out of poverty, but much depends upon the starting point income and poverty levels, and regional differences are important. Of 71 economic assessments of NTFPs, over two-thirds met or exceeded a threshold of economic sustainability, and in 75% of the studies, harvesters earned above an international absolute poverty line. However, this does not necessarily equate with an escape from poverty for producers or mean a change in national poverty rate statistics will be achieved, especially if families have limited resource access or tenure security, as most households will continue to rely on other activities for most of their income (Stanley et al, 2017). Where NTFPs are highly seasonal, households are more likely to change to other livelihood options in the search for more stable sources of income (Marshall et al, 2006).

The mean of total household income from NTFPs in Africa was 25%, 24.3% in Asia and 24.8% in Latin America (Jensen and Melby, 2010). In one study, the highest overall NTFP incomes (across meta-analysis case studies) were found in Latin America (\$5,676 PPP) and the lowest were in East Africa (\$1,697 PPP) (Vedeld et al., 2004).

Non-timber forest products (NTFPs) from forested landscapes are particularly valuable for the poorest households, and especially for women, as they are often a sole source of income and a survival, safety net. Commercialization could have significant negative effects for these groups of people.

Those extracting NTFPs are often the poorest, so NTFP income has the potential to reduce absolute poverty and change income distribution. Not all products are sold, but they provide alternative use values for households (i.e. they may have less need to buy market purchases) (Stanley et al, 2017). Even though absolute values may be limited, NTFPs can provide a life-saving safety net at certain times of the year and during hard times NTFPs can be a key coping strategy for those trapped in poverty (Arnold and Ruiz, 2001). The safety net role is particularly important in southern Africa, where the exploitation of NTFPs is increasing in the region and one of the key drivers for this has been identified as the need for poor households to cope with HIV/AIDS related shocks, as well as natural hazards, crop and livestock losses (Weyer et al, 2018).

Commercialization processes can, therefore, present substantial risks for small-scale producers and processors, especially the poorest: Reduced access to NTFPs which are being used for subsistence, cash income and as medicines or in rituals/cultural events could have a negative impact upon household livelihood security, culture and health (Belcher et al, 2007).

NTFPs often represent a sole source of cash income for women in poor rural areas, as well as supporting household subsistence, but both women and men in the household will usually be involved in the tasks associated with NTFP gathering, cultivation, or processing, because time and skills are shared in the

household. In Latin America it is more common for women to be involved in processing and cultivation activities than men and technological innovations are therefore needed which can reduce the burden on women's time (Marshall et al, 2006).

The commercialization of NTFPs may lead to disproportionate benefits for those with relatively large land holdings, existing networks and stronger capabilities. Commercialization thus has risks of exacerbating existing inequalities within communities and may also lead to conflicts.

Value chain participation depends upon access to diverse livelihood assets and capabilities, such as land and secure resource tenure (Blowfield et al, 1999), as well as business skills and contacts (Macqueen and Bolin, 2017). This is especially the case in situations of cultivation in which investments are made in land and resources. Poorer households are much less likely to be able to count upon the secure property rights that are needed to underpin intensified management in plantations or managed forest systems, or to be able to wait for the benefits to flow from slow maturing products (Belcher et al, 2007). In one scheme, relatively poor brazil nut concession holders benefited from NTFP ethical commercialisation in the Peruvian Amazon region, but porters and shellers remained relatively invisible workers (Nelson, Galvez and Blowfield, 2000).

For cultivable species/situations, larger land holders benefit more than smaller-scale landowning households. Those with large, cultivated areas of garden coffee are less dependent on NTFPs than those without (Asfaw and Etefa, 2017). Commercialisation processes can exacerbate existing inequalities. For example, in China, better off farmers were found to be most able to exploit the gains from the development of bamboo markets and intensified farm management compared with poorer farmers (Belcher et al, 2007).

There are also risks of negative impacts from NTFP commercialization for local communities, with respect to social cohesion, land disputes and violence etc. One recent example reported in the media is the rapid increase in vanilla prices on global markets, which is allegedly leading to village crime and forest destruction. The sale of rosewood from Madagascar to China has fueled income for gangs that felled the wood, but with the slowing of growth in this trade, they have now turned their attention to money laundering through the vanilla industry and sale of endangered wildlife. Theft of vanilla from local, poor harvesters has also been reported and the rising price of vanilla is contributing forest degradation in and protected areas in a context of weak governance⁴.

1.2. Producer level organisation

The organisation of producers in forested landscapes is a pre-requisite for effective HVLI development. Organisation is key for two reasons: (i) to ensure sustainable management of the natural resource base, and (ii) to acquire access to markets and relevant services. These two functions may not always be compatible, as private and community level interests interact. Challenges include low density and dispersed production and land tenure arrangements. Cooperative and community-based models are common, which to be effective, need professional governance and sufficient capacity.

Studying 19 cases in Bolivia and Mexico, Marshall et al (2006) find that the 'inequitable exertion of market power along the value chain' is the biggest hindrance to commercialization by small-scale producers, and this is intertwined with the lack of producer/processor organization. Organizational models are influenced by land tenure: while individual land plots and commercial interests are associated with cooperatives with individual members, i.e. groups of smallholders, communal ownership requires community-based organization with multiple community members.

Macqueen, Bolin and Greijmans (2015, pxiii) and Elson (2012) argue that locally controlled enterprise models are most effective to meet the diversity of local and global needs. Local needs go beyond income and, also include: food, fuel, clean water, construction materials, fertile soils, medicinal products etc. Macqueen et al (2015) suggest that to meet these needs, which may be competing, business models are needed which are democratic and entail 'local people, living with the consequences of their decisions' and reconciling 'competing needs from forest landscapes in businesses they control'. They point to evidence of better outcomes for locally controlled forestry in comparison with government controlled or private sector-controlled alternatives. However, the challenge is to make such forest businesses work economically, and significant investment in capacity strengthening is necessary to achieve professional governance and organizational development.

⁴ <https://www.theguardian.com/environment/2018/mar/31/madagascars-vanilla-wars-prized-spice-drives-death-and-deforestation>

Cooperative organizational models are common in agriculture, with well-documented strengths, e.g. individual members can benefit from cheaper farming inputs, collective marketing, credit, and other services, but they often demonstrate limitations on performance as cooperation may break down if there is elite capture, free-riding or other forms of unequal benefit sharing that creates distrust between agents (Orr et al, 2015). collective smallholder businesses may face a dilemma when deciding if a given surplus is distributed among members (e.g. as dividends) or reinvested in the business (Orr et al, 2015). As a result, many agricultural marketing cooperatives in developing countries experience challenges and demonstrate weak performance (Bennett, 2015). The levels of investment in capacity strengthening for marketing cooperatives should therefore not be under-estimated, but this does not mean there is an *inherent* problem with cooperative and communal enterprises, including second and tier level organisation of locally controlled enterprises. Various examples of successful democratic organisational models are provided in relation to forestry (Macqueen et al, 2015).

The viability of different organisational models is likely to differ with the type of product (i.e., perishable vs non-perishable, degree to which upgrading is possible), location-remoteness, levels of skills and education, cultural aspects, market structure and the policy environment.

Box 1: Producer and Processor Organisations in Namibia

Ben Bennett, NRI, reflects on his experience of 20 years working with Producer and Processor Organisations in Southern Africa. He suggests that experience indicates that small businesses owned and run by individual entrepreneurs in agriculture tend to do better than those that are collectively owned, but in situations where land and biological resources are communally-owned, a new business ownership norm is needed to prevent fundamental changes to the economic relationship between secure resource management and local livelihood opportunity. PPOs in Namibia, with long-term support, have successfully managed natural resources and the harvesting, processing and marketing of natural products, such as seeds and tubers, and paid harvesters a 'fair' proportion of the on-sale price. However, he also cautions that such initiatives can crowd out private sector initiatives (e.g. a small-scale cosmetic oil processor could not compete on price with donor-supported PPOs).

Source: Bennett, 2015

Producer organizations in remote and forested landscapes generally have relatively low levels of education and few business skills. Capacity building should focus on organizational and technical skills, of which governance and leadership skills are fundamental, and such skills will take time to mature.

HVLI producers and value chain actors often encounter a lack of market information, business contacts, financial capability, limited access to credit, a lack of technical knowledge/skills, and poor infrastructure (Marshall et al, 2006). For example, in South West Nigeria around lowland, tropical forest reserves, constraints on NTFP commercialization include issues relating to seasonality, transportation, storage facilities and market information (O Amusa et al, 2017). Direct assistance (whether from public, private or sector organisations) can support community/producer and processor organizations and increase their access to markets (Marshall et al, 2006). Tailored advisory services can build organizational and management capacity (Macqueen and Bolin, 2018). Technical and organizational skills are needed for the sustainable management of resources and harvesting practices, as well as to domesticate NTFPs, where this is appropriate, and to improve the processing of products. Farmer organization can improve product quality and quantity, as well as delivering more-cost effective transport and negotiations skills (Marshall et al, 2006). Financial administration training and financial oversight mechanisms to assure accountability are critically important, as are clear organisational structures, roles and responsibilities from the outset. Encouraging staff mobility and leadership turnover can also strengthen organisational capacity (Macqueen et al, 2015).

Remote and forested landscapes are characterized by power and knowledge discrepancies within the communities. Gender norms and product characteristics combine to influence diverging roles for women and men in forest businesses. Any interventions and related organizational structures and capacity building should address social and gender relations and support affirmative action for more equitable outcomes.

In remote and forest contexts there are frequent imbalances in power and knowledge at multiple levels, within the local community context (individual, family, ethnicity or caste and gender), but also in relation to other institutions and partners in the value chain. These can increase feelings of distrust and can make it difficult to establish well-functioning partnerships. Roles for men and women in forest businesses might differ significantly, as women tend to deal with forest-based businesses with shorter turnover such as NTFPs, woodfuel, and markets closer to the homestead, which has influence on profitability (Bolin et al., 2018).

1.3 Business case for commercialization

There is potential for the commercialization of products from forested landscapes, with dual objectives of local income generation and incentives for forest protection and restoration.

Forest landscapes are inhabited by 1.5 billion people, mostly smallholders among whom there is a high incidence of poverty. Nevertheless, the aggregate gross annual value of these smallholder crops – fuelwood, charcoal, timber and non-timber forest products (NTFPs) – lies between US\$869 billion and US\$1.29 trillion in 2017 dollars (Verdone 2017). There is much that can be done to increase the value of such production through business incubation support (Macqueen and Bolin, 2018). NTFPs are widely used in sectors as diverse as pharmaceuticals, botanical medicines, cosmetics, abrasives, and food and beverage industries. Forest landscapes are also critical to absorbing carbon dioxide at scale which reduces the pace of climate change, but only if they can be protected and restored. The challenge is to deliver livelihood improvements to the forest-dependent poor in ways that help adaptation to climate change, while also protecting and restoring forests. They key to the desired transformative change in forest landscapes is the nurturing of sustainable enterprises that incentivise forest protection and restoration in forest landscapes.

Low productivity and low and/or seasonal volumes means that product aggregation and business organization is an essential component of the business case.

In many country contexts, aggregation of forestry products from natural and planted forests makes business sense because of the high transaction costs involved with collecting, harvesting and transporting products from the forest gate to the market (Belcher et al 2007). Marshall et al (2006) suggest that product quantity, quality and marketing can be enhanced via direct assistance to producer organisations (POs).

Market access for NTFPs is difficult, especially for smallholders, due to issues such as perishability, long transport routes, high market entry barriers, poor access to finance, product substitution risks, and dynamic markets.

The remote location of forest businesses means that they often have high logistical costs with limited infrastructure in place to facilitate access to markets or stable energy supply, and limited access to technical and financial service providers (Bolin et al., 2018). Perishability for fresh fruits can be a challenge (Belcher et al, 2007), as is unreliable production, i.e. in terms of quantities, qualities, and locations of production due to climate variability and for biological reasons.

For poor people, HVLI product market requirements can be prohibitive, so commercialization is not always feasible as a pathway out of poverty (Arnold and Ruiz, 2001). There are commonly high entry barriers especially for food, herbal and medicinal products. Markets are dynamic and tastes change, so prices do not remain static. To maintain market share, therefore, productivity has to constantly improve alongside quality, and this requires investment in technical innovation (Bennett, 2015). Novel aspects of a product can be attractive to buyers and can be used to create a brand story, but there is also a risk that consumer tastes can be fickle. At the same time products need to meet international standards and codes of practice for the product group. Investment is often therefore needed in ensuring adequate quality, but this can be demanding at the same time as investing in everything else (Bennett, 2015).

There are also risks for wild harvesters that they will be outcompeted by those who begin cultivation and by the product quality of the cultivated version. Vulnerability to substitution by larger commercial operators once established is a major risk, plus there are possible risks of substitution by synthetic products and competition from large scale cultivation (Belcher et al, 2007).

2. Value chain dynamics, governance systems and HVLI outcomes

2.1 Market demand

While markets for NTFPs can be promising, they tend to be poorly developed, have low volume, are vulnerable to substitution and may be characterized by boom and bust dynamics.

NTFPs are widely used in sectors as diverse as pharmaceuticals, botanical medicines, cosmetics, abrasives, and food and beverage industries. Industry is interested in these products for their new properties, as they can be cheaper or more effective substitutes for existing products, and because they can be marketed as ‘exotic’ products. The latter reason is particularly important in the botanical medicine and cosmetics industries, both of which are extremely fickle and trend-driven (Laird and Guillén, 2002). Many of these products are considered ‘luxury’ items, meaning that change in demand is particularly difficult to predict. Rai (2004) provides a good example with the boom of the ‘*uppage*’ (*Garcinia gummi-gatta*) market when it was promoted as a weight-loss supplement and the bust of that market when scientific tests showed it to be ineffective. Similarly, *hoodia* was initially hailed as an appetite suppressant, but then concerns over toxicity from over-use emerged tempering earlier excitement (Bennett, 2015).

The marketability of an individual product can vary and change rapidly – some local delicacies may be culturally unacceptable in other markets. It can take time to build markets in some products, but this development work can come to fruition, for example, Bambara nuts in Africa hold significant potential (Bennett, 2015) and markets are expanding in the UK for baobab due to its high content of nutrients and antioxidants⁵.

Demand for many NTFPs may vary greatly from year to year because of the availability/price of other products, as in the case of brazil nuts (competing with a basket of other mostly European nuts for the Christmas nut market) and shea butter (competing with various other so-called ‘cocoa butter equivalents’ in the chocolate industry). Furthermore, keeping new products in the market is also problematic (Bennett, 2015).

NTFP markets are notoriously vulnerable to substitution, as documented in the well-known ‘boom and bust’ experience of natural chicle, which was displaced by the modern chewing gum industry. NTFP producers may have to compete with large-scale cultivation in other countries, as in the case of the Brazilian natural rubber harvesters, whose livelihoods were turned upside down by the massive production of plantation rubber from South-East Asia.

2.2 Type and quality of support services

Production and service delivery models for NTFP harvesters / producers need to be tailored to context, given the diversity and specific characteristics of potential products, producers and production systems, but such models also need to allow for economies of scale. This may require a tiered system of support services.

There has been an evolution in the actors delivering incubation services and in the recognition of the need to build strong businesses in challenging markets. The actors involved has evolved from NGOs providing generic support to producers mainly focused upon production/processing, through NGOs providing more incubator support for business development to the emergence of more recent for-profit models involving commercial partnerships.

Cost recovery challenges are significant in remote forest landscapes and there are significant gaps in the current provision of services. According to Macqueen and Bolin (2018) and based on a series of forest enterprise incubation case studies, there is a need to incubate the development of many diverse locally controlled forest businesses to retain profits in the local landscape. Moreover, it is important that, where possible, such groups should be aggregated into groups to achieve market efficiencies and to capture economies of scale. Where both of these conditions hold true - i.e. the business is locally controlled and there is group aggregation for economies of scale, Macqueen and Bolin (2018) find that there is the potential for local livelihoods, capabilities and environments to benefit. Scaling is critical, i.e. the collective scale and agency of entire populations and landscapes need to be involved (Macqueen and Bolin, 2018).

The following support (incubator) services have been identified as commonly needed by incipient locally controlled forest enterprises or PPOs (Macqueen and Bolin, 2018):

- Business training and planning, accounting and financial management.
- Technical knowledge on sustainable resource management and processing technology.

⁵ <https://www.theguardian.com/lifeandstyle/2018/mar/30/baobab-fruit-takes-off-superfood-sharp-rise-uk-sales>

- Organizational development of producer groups: governance, management, leadership.
- Dealing with community dynamics, power imbalances and cultural differences.
- Access to finance.

Community engagement, ownership and benefit-sharing are pre-requisites for forest business success. This is because the use of forest resources often has communal impacts and can potentially create resource-use conflicts, which represent a risk to the sustainability of forest enterprises.

Community ownership, participation and benefits are necessary pre-requisites for business success. Because the use of forest resources usually has communal impacts, so collective business ownership is essential, or at least participation in and benefit from that business. Otherwise the risk of resource use conflict can be high which would likely undermine business sustainability. Recognizing the importance of social cohesion and community participation, many incubators include a criterion of potential social impact / need in deciding which emerging groups and businesses to support – this is not the case in conventional incubators, which tend to cover only economic impacts and not social/environmental ones (Macqueen and Bolin, 2018).

A widespread perception of forest businesses as being high risk, means that brokering and delivering finance via local financial service providers is critical. Macqueen and Bolin (2018) reviewed a series of incubator case studies and found that: a) Some incubators can access project-based finance and pass this on to clients as grants; b) In a few cases direct access to equity or loan finance is provided by an incubator (e.g. Self-Employed Women's Association or SEWA set up its own bank to improve its credit, savings and insurance services). Another incubator, Asian Network for Sustainable Agriculture and Bioresources or ANSAB, set up an equity fund for enterprises judged to have potential, but that lack access to finance. A certain % of the shareholding is covered by ANSAB during the establishment phase, but this is mostly waived for community-based enterprises.

2.3 Product processing and partnerships between producers and value chain actors

Processing of NTFPs may increase product quality, reduce transportation costs and enhance profits for producers (returns to labour). Different products require differing levels of capability in processing and this shapes the extent to which local producers can engage in processing themselves and/or the levels of capacity strengthening support needed for producer upgrading in the value chain. Innovative business models merit exploration, such as producer equity in joint ventures and processing contracts.

Processing, storing, or packing at the community level can add value to production, reducing the urgency to sell and allowing the collection of larger volumes of products, thus enhancing financial benefits and reducing transport costs for producers.

Investment in value-addition processing in the producing area can be profitable: concentrating the valuable component of the product can greatly reduce transport costs and lead to greater profits for producers. Comparative analysis of different value chains is important to map functions, value addition and impacts. Jensen (2009) analyses different agarwood value chains and found that more processing can be associated with lower value (see Box 2).

Variable levels of technology may be involved in processing and this has implications for the extent to which locally owned enterprises can conduct processing themselves and therefore potentially reap larger benefits. Some products require relatively minor levels of processing (e.g. brazil nuts, vanilla), whereas other products may entail sophisticated end uses by international clients requiring new and complex extraction/refinement technology or laboratories to extract the active ingredients for new drugs (Belcher et al, 2007). However, both share of value and shared value are important – i.e. the fair division of benefits between value chain partners and the overall size of the benefits or total value that can be shared between partners.

Box 2: Agarwood value chain analysis

Studies on agarwood production in Laos previously underestimated harvest and trade, because rapid assessments were extrapolated to form national estimates. Two different types of products were analysed by Jensen (2009): i) genuine agarwood, which is a luxury good, branded according to historical, religious and cultural significance, and with no substitutes, this product indicates price-inelastic demand. At the other extreme, low quality essential oil is an

inferior good, with declining demand and under threat from chemical substitutes and industrial perfumes and processing not adding to value. The level of agarwood processing is inversely related to value increase.

Source: Jensen, 2009

Where access to markets is complex and/or technological demands are high, partnerships with business partners may have an added value. However, partnerships between producers or communities and private companies need to demonstrate that they can deliver fair outcomes for producers and the community, also over a sustained period. Producers need the ability to exit contracts with larger companies where companies are not performing adequately.

While intermediaries were criticized in early fair and ethical trade schemes, and in some instances undoubtedly exploit vulnerable producers/harvesters, there is now more recognition in sustainable trade that private sector partners can be beneficial. Most cited benefits are to support value-addition processing, support producers' and harvesters' access to markets and credit, transport, quality control, consolidate volumes for export or processing, shoulder risk, and communicate information from consumers to producers (te Velde in Belcher et al, 2006; Bennett, 2015).

Models that could be relevant for initiatives of developing high value low intensity value chains include partnerships with non-locally controlled enterprises, notably outgrower / contracting models, service delivery networks, and organization of producers combined with lead farmers. There is limited evidence available on the relative effectiveness of these latter organizational models in NTFP commercialization and there are risks to local producers if they do not have bargaining power (e.g. to agree to sell their product collectively to ensure a fair price). On the other hand, these models could have interesting economic multiplier effects and organizational resilience.

However, others argue that locally controlled enterprises are critical for meeting competing goals and that in community-corporate relationships there are significant risks of exploitation of producers (Macqueen et al, 2015). Innovations could be possible whereby community groups invest their own capital in and run processing factories (D. Macqueen, *pers.comm*), but also there could be effective models based on community equity in outsourced processing contracts (B. Bennett, *pers.comm*).

In some instances, NTFP commercialization may involve the establishment of partnerships between NTFP product extractors and companies in the value chain, that support processing and commercialization processes. Such partnerships involve differing levels of formality in their arrangements, but they are based upon the anticipation of mutual benefits. In such scenarios, commercial partners benefit from the supply of valuable products and give support to producers through service delivery, provision of processing technology, transportation and market access. Partnerships might also improve the focus on conservation outcomes where the partner companies are targeting markets that demand social and environmental responsibility in production. Morsello et al. (2012) found that partnerships between NTFP cooperatives and commercial parties (e.g. the Body Shop) in Latin America are associated with improved economic benefits and reduced deforestation.

NTFP value chains tend to be relatively long and complex. Building up successful NTFP value chain businesses takes a long time, involves risks and implies significant investment - thus long-term commitments are required, and the level of support should not be under-estimated.

Building new value chains takes time and significant investment including in less visible aspects such as fostering relations and trust (see Lamboll et al, 2015), which in remote-forested landscapes is particularly the case.

Capacities such as mutual trust, leadership and organisational management capacity cannot be built quickly in remote forest landscapes. Co-learning/support from board or assembly of shareholders is commonly needed (Macqueen and Bolin, 2018). Maintaining commitment from producers can be challenging when benefits take time to emerge, which is particularly the case for HVLI production systems. In the case of tree planting, the time it takes between initial investment and the materialization of profits is years, during which time the business will need to manage the plantation and eventually harvest, process and transport the timber or

NTFPs. But forest businesses also need considerable time to build capacity to manage what can be quite technical business operations with challenging logistics (Bolin et al., 2018).

Estimates of value chain development time vary. Development time can be 5-10 years and require significant investment and many mistakes, including substitution risks, according to Belcher et al (2007). From identifying a product with potential to having a sustainable and secure market is much longer than a normal development project – think 20 years (Bennett, 2015). Building a successful supply chain of a *new* wild harvested product, developing local processing capacity in a country without an industrial base and persuading end users to accept a new ingredient all take significant time (Bennett, 2015).

Given the uncertainties and risks identified above, and that exist in value chain development-facilitation in agriculture and forestry, requires adaptive management and facilitation of the scaling process and these in turn mean real-time learning systems (Lamboll et al, 2015).

2.4 Legal aspects

Formalisation processes often accompany initiatives promoting NTFP commercialization, but has risks of excluding producers or resource users, and so these risks should be assessed and mitigated. The governance and political context is critical, especially the complex interface between customary and statutory rules and regulations.

High levels of informality in the forest sector can manifest at different stages of the business cycle (e.g. production, processing and marketing phases) and can pose a barrier to accessing both formal credit lines and larger value chains. As commercialisation moves beyond local and regional markets there tends to be a shift from informal agreements to formal arrangements e.g. contracts, MOUs (Belcher et al, 2007). Although in many contexts the opportunity-cost for non-compliance with all regulations remains largely positive, making the transition to formality is more challenging even if it can bring other benefits to balance out the costs (Bolin et al., 2018). Formalisation can create exclusion according to experiences from Southern Africa, including criminalisation of the behaviour of some forest users, exacerbating marginalisation (Wynberg et al, 2012).

The governance and political context is critical, especially the complex interface between customary and statutory rules and regulations (Wynberg et al, 2012). The level of state engagement that is most appropriate depends upon the robustness of existing customary systems of governance. A multitude of permitting requirements creates problems, especially where species and traditional knowledge are shared across borders. Regional policies can be helpful, but they cannot reflect local nuances. The extent/nature of formalisation needed depends upon the nature of commercialization and different types of resource use (subsistence, local trade, discovery research, commercial bioprospecting, global trade). Wynberg et al (2012) strongly recommend avoiding the formalisation of subsistence use where the risks of overharvesting are strong, because customary controls are inadequate.

Wynberg et al (2012) detail a set of key recommendations, drawing upon experiences across Southern-Africa and multiple dryland products, including, amongst others:

- Where formalization interventions to protect resources or harvester communities are needed, involve communities in the design to meet local needs, and ensure extensive stakeholder consultation;
- If there is a situation of market and trade fluctuation, then institute reactive, flexible and iterative policy making, but also conduct extensive consultations with value chain actors;
- Increase the capacity of local/indigenous peoples to navigate permitting procedures, assert their rights, contribute to effective laws/policies;
- Avoid criminalizing harvesting activities and the marginalization of producers (eliminate inappropriate, burdensome permits/procedures that do not deliver clear management/livelihood benefits);
- Adopt a light hand in formalization reflecting financial, ecological and social costs-benefits.

2.5 Potential role of value chain standards and certification systems.

Some scholars suggest that certification of NTFPs from forested landscapes is incompatible, as it may lead to the exclusion of producers / harvesters who are generally not well organized. However, there

are examples of certification of NTFPs, especially for cooperatives in Latin America using the Ethical BioTrade Standard, that appear to successful, but impact assessment is needed.

Certification can increase benefit flows and thus create incentives to invest in more sustainable harvesting practices. But if the gap between industry's certification expectations and producers' certification capacity is wide, small-scale producers may be excluded. Certification costs could place trading beyond the reach of small scale producers (Marshall et al, 2006).

The Forest Stewardship Council (FSC) certification has been adapted to NTFPs, e.g. with experiences from Brazil (Pinto et al, 2012). Brazil also led the way in adapting the FSC standards and in seeking to increase access for smallholders. Pierce et al (2012) argue that NTFPs and certification are, however, often incompatible. Key risks are the exclusion of gatherers and threats to local livelihoods, resulting from certification, even though environmental sustainability might be achieved. In an example from China, NTFP certification was found to present risks of exclusion of poorer NTFP producers (Schmit et al., 2012).

Yet, some practitioners argue that there are practical ways to allow entry for small-scale NTFP producers into global natural product markets (Welford and Breton, 2008; Bennett, 2015). There are examples of NTFPs, for example, that have been successfully certified in accordance with the Ethical BioTrade Standard, ensuring that the sourcing of the ingredients respects biodiversity and that benefits are shared throughout the supply chain. See Annex 3 for some case studies drawn from the UEBT website. We identified the following success factors emerging from these best practices:

- Grant funding to build up capacities and meet the criteria of the Ethical BioTrade Standard
- Organization of the producers in (relatively small) producer groups
- Formalization of the trade
- Improving product quality to meet market demand.

Certification processes can add value to products harvested in forest landscapes and contribute to increased returns to labour. This can be an important incentive to maintain wild or semi-intensive production system. Its success will depend upon continuing consumer demand for certified products.

A study of Ethiopian coffee (Mituki et al, 2018) found that semi-intensive coffee production linked to certification, with increased productivity per shrub, can generate the highest returns to labour and thus, profits. However, these profits entirely depend upon the premium price for certified coffee, and in turn depend upon a value chain without too many intermediaries, the price premium benefitting producers, and consumers willing to pay a high price. In contrast with this certified semi-forest coffee, more intensive coffee production from garden plots has a higher productivity and value per land area and does not rely upon certification and premium prices (Mituki, et al, 2018).

3. Landscape dynamics, governance and outcomes

3.1. Land tenure systems and governance

Secure resource tenure and use rights are pre-requisites for NTFP intensification which benefits local producers. However, it is not a sufficient condition to assure sustainable harvesting (avoid over-harvesting). Customary tenure systems including communal ownership are relevant for landscape management purposes. Understanding and investment in land governance is therefore important for any initiative seeking to facilitate commercialization processes in forested landscapes.

Intensified management, to assure high productivity and quality improvements, whether in a plantation or a managed forest system, requires security of tenure over the land/resource. Resource tenure and community organisation are important factors in determining the best production options to meet increased market demand, which may range from intensified management of the 'wild' resource to cultivation. Insecure tenure over collection areas enhances risks of over-exploitation and inability to manage the resource (to improve quality and/or quantity). In open access conditions, increased value leads to uncontrolled competition for resources and inefficient and damaging harvesting. This is known as a 'tragedy of the commons' situation. Individual tenure, therefore the ability to exclude others, provides incentives to invest in the resource (Belcher, 2007).

Where the NTFP is collected from communal land, community organisations are needed to ensure that over-exploitation does not occur, while collection from individual plots is more likely to lead to the development of

co-operatives with individual members (Marshall et al., 2006). Both types of organisations allow for the pooling of produce to meet the minimum order requirements, sharing the costs and benefits of collective investments in storage, processing or transportation, and improved bargaining power through collective negotiation.

Even where ecological and economic conditions support market-oriented conservation, those making land-use decisions must be able to benefit from the sustainable harvest of forest resources. If they are unable to enforce exclusive rights to the forests, the conservation effect of market-oriented strategies is likely to prove elusive (Crook and Clapp, 1998). Ticktin (2014) suggests that to withstand heavy harvest, agreement or standards on specific management practices in addition to gathering are necessary for many non-timber forest products.

Successful resource management systems take appropriate account of customary laws and resource management systems, as these often provide a more nuanced and location specific approach.

The level of state intervention in processes of commercialization of NTFPs depends upon the robustness of customary systems of governance (Wynberg et al, 2012). Interventions are most successful when there is good cooperation between government and traditional authorities (Wynberg et al, 2012). Authorities should have legitimacy and sufficient capacity, with acceptance of the rules by user groups. Apart from that, land tenure and resource rights must be secure. Where customary laws are still strong, and local capacity exists to manage the resource base and deal with commercial pressures, customary laws often provide a more nuanced approach to regulation, integrating unique local cultural, ecological and economic conditions in ways that better suit this category of products (Wynberg et al, 2016). Strengthening local management and control of natural resources can bolster the implementation of national policies and laws. Strengthening the capacity of local and indigenous people is a priority to enable them to can navigate relevant permit procedures, to claim their rights and advocate to authorities at relevant levels for appropriate laws and policies.

3.2. Relations between commercialisation and ecological impact

Relationships between NTFP commercialization and ecological impact are complex. The key factors determining ecological impact seem to be market demand, land tenure arrangements, and returns to unit of land.

Several studies show that the initial response to increased demand is more intensive harvesting leading to over-exploitation of the species (Marshall et al., 2006). Almost all non-cultivated products show declining resource bases (Belcher et al., 2005). What follows this initial intensification process depends very much on the resource-tenure situation, as well as other factors such as the biology and spread (occurrence) of the species. Profits for harvesters may be pushed to the minimum. There is always someone willing to undercut the selling price, especially if the product is perishable and the market is thin, and when access to markets is limited by poor infrastructure or various 'social barriers'. In some situations, as more people get involved and/or as prices drop, harvesters are compelled to increase their harvesting, just to break even (Belcher, 2007).

Belcher et al (2007) mention three different commercialization pathways and biodiversity conservation outcomes, whereby market demand and land tenure system are key factors:

- more intensive harvesting (high returns per unit area): most studies for non-cultivated products show that increased demand leads to more intensive harvesting and overexploitation of the species.
- expansion of extensive harvesting (low returns per unit area): this may lead to forest degradation if the harvesting practices are not sustainable. It can also work sustainably in non-land or non-resource constrained areas (e.g. cardamom harvesting in buffer zones Vietnam).
- more intensified management systems (either in the forest or through cultivation): this is likely to happen where land resources are limited, and competition is high. In a communal tenure situation there would be potential for more intensive production in the forest, whereas private owned land would stimulate a shift in management system (cultivation).

The prevailing evidence seems to be that increased commercialization leads to overexploitation of the resource and tenure is the key mitigating mechanism (Marshall et al, 2006). In many cases, new markets for forest products lead to a rapid expansion, followed by stabilization and then decline in the ratio of production/extraction (Homma, 1996). If extraction and cultivation eventually occur at the same time, prices will fall. While economic theory suggests that higher prices create a greater quantity supplied, what often matters to poor people is meeting a subsistence income threshold. In other words, falling prices could also

create pressure for over-extraction as gatherers seek to get a minimum cash flow. Thus, low returns would cause overexploitation of a target species (Crook and Clapp, 1998)

On the other hand, the example of agarwood in Laos shows that market demand and high prices can lead to both increased revenues and careful selection of felling the few, most valuable trees thus avoiding any over-exploitation and creating ecological impact (Jensen and Meilby, 2008).

There is a clear risk, however, that in many cases commercialization and specialization brought by high prices often leads to a “boom and bust” type of market development (Belcher and Schreckenberg 2007).

There are very few studies on the ecological impact of NTFP commercialisation, including those at a wider landscape or ecosystem scale.

Little work has been done on the ecological impacts of NTFP harvesting *per se*. There is still less measurement of ecological impacts on ecosystem services at the wider landscape scale. Ruwanza and Shackleton (2017) claim that there are only a few studies that have explicitly sought to investigate the impacts of NTFP harvesting on soil nutrient stocks, for example. Their recent work indicated that the effects on soil nutrients is likely to be a function of the amount of biomass removed in relation to the size of the plant and the dominance of that species in the biological community.

Morsello et al (2012) found that partnerships between NTFP cooperatives and commercial parties are associated with improved economic benefits and, also reduced deforestation. However, cultural and social aspects are negatively affected. Also, impacts on hunting increase as NTFP harvesters spend more time and effort hunting while being in the forest.

When considering commercialisation-ecological dynamics, the business case may need to focus on optimizing returns to labour, rather than returns to land. Enhancing returns to land may stimulate expansion of the production unit, and thus create pressure for deforestation, whereas focusing on returns to labour will enhance productivity and value addition.

One study finds that participatory forest management policies in South West Ethiopia can rely on Rainforest Alliance coffee certification schemes to protect semi-forest coffee system from further intensification at a low opportunity cost. But this is conditional on international demand for certified coffee and consumer willingness to pay a price premium for certified coffee, plus efficiency in coffee supply chains to transmit a price premium to producers. There is a risk that, as soon as the premium price for certification declines, or land value increases, the garden plot model could become more attractive and intensification will be stimulated (Mituki, et al, 2018).

The above results from Ethiopia seem to contradict earlier findings from Indonesia and Mexico, where coffee intensification is observed to have no impact on coffee yields or revenue (Gordon et al., 2007; Romero-Alvarado et al., 2002; Peeters et al., 2003; Philpott et al., 2008). The divergent findings are most likely related to the specificity of the research area and the coffee intensification process. While coffee intensification in Ethiopia is mostly labour-intensive and replaces land for labour; the process of coffee intensification in middle-income countries like Indonesia and Mexico is likely more capital-intensive and replaces land (and labour) for capital.

There are very few studies and insufficient analysis of the returns to labour of NTFP commercialization and its consequences for commercialisation-ecological dynamics (Stanley et al, 2017).

The combined value of NTFPs has the potential to generate a high economic value and form an incentive to maintain forest quality. A diversity of NTFPs is important to avoid intensification of one successful product leading to monoculture expansion. Incomes may also be obtained from ecosystem services, such as ecotourism, but there are few examples of carbon markets leading to improved local incomes

Early research, such as that by Peters et al. (1989), suggested that the value of NTFPs which could be sustainably extracted from a hectare of Peruvian Amazon forest far outweighed the value of the timber or alternative land uses. Conservation organisations have therefore been prominent among the advocates of NTFP commercialisation, seeing it means of encouraging conservation-compatible income sources and displacing more destructive land- and resource-use options. However, initial enthusiasm regarding the

potential of NTFPs to *sufficiently* benefit poor people and to adequately tackle or not exacerbate deforestation has been tempered (Belcher et al, 2007).

More recently, interest has grown in landscape approaches and the idea of combining initiatives to sufficiently raise incentives to achieve multiple land use goals. The proposition is that additional incomes from payment for ecosystem services, particularly carbon credits and watershed management, could be generated.

In theory, there appears to be good potential for the development of forest management systems that produce a range of goods and services. In other words, whereas it may not be economical to manage a given unit of land/forest to produce a single NTFP, the combination of several products and services (as markets develop for carbon sequestration or watershed management) may be attractive from both economic and biodiversity-conservation perspectives. However, in practice, there are few examples which have demonstrated success so far. EcoAgriculture Partners commissioned a study on market and incentive-based mechanisms to support integrated landscape initiatives (Haggard et al, 2014). Reviewing a limited number of case studies, the report covers financial or monetary incentives that can compensate land managers for actions which support environmental and social goals and reduce tradeoffs, as well as purely market-based mechanisms. Key strengths included stakeholder coordination under a defined set of rules creating an institutional relationship between all parties to better manage social and environmental services. Most of the initiatives tended to be led by NGOs, and this dependency on public or donated funds to establish key mechanisms and to ensure their continuation was found to be problematic. Significant investment is required in processes of stakeholder negotiation and although all had processes of monitoring and evaluation, the required investment and complex nature of demonstrating impact was highlighted. Long-term commitments and timeframes were needed. The combination of different mechanisms enabled the creation of linkages between different stakeholders. Strong local partnerships were essential for success, with adequate recognition of non-financial cultural values of stakeholders. Private sector engagement through provision of finance tended to focus on agricultural or carbon offsets of interest, rather than extending to landscape process engagement and could be increased. To expand such mechanisms, Haggard et al (2015) conclude that ways need to be found to reduce dependencies on NGO facilitation and public or donated funds to cover start-up costs, but there are further sources of public and private finance that could be applied to these initiatives. In each case a strong business case must be developed for integrated landscape management and robust processes of monitoring and lessons learning are essential.

Successful commercialization of one NTFP is difficult, as explained earlier. Therefore, achieving the commercialization of multiple NTFPs at the same time is likely to be much more complex, requiring increased levels of investment and understanding of the potential impacts and land use implications. However, there are some examples where PPOs at the second-tier level have emerged to provide support to producer groups on diverse commodities and building on the capacity strengthening experience already gained (See the example of FEDECOVERA in Guatemala below). A key challenge is of course the continuing, relatively low value of carbon credits and other ecosystem service payments.

The need for diversification is emphasized by Macqueen and Bolin (2018), who state that value chains involving large companies will not support diversification and resilience, but rather are more likely to stimulate monoculture expansion and profits going out of the forest landscape. Instead, the focus should be on many diverse locally controlled forest businesses, often aggregated into groups to achieve market efficiencies, that can enrich local livelihoods, capabilities and environments. Macqueen and Bolin (2018) also suggest that landscape level engagement and agency of stakeholders is needed.

4. Scaling and systemic change

4.1 Scaling

There are specific challenges in scaling NTFP commercialisation initiatives. NTFP producer groups have often been supported by NGOs or donors, but they remain individual (certified) success stories associated with niche markets or supply chains. Second-tier organizations may be useful to provide services to a large group of organized members and thus achieve scaling effects. Likewise, private companies may provide such services. There is limited comparative analysis of the relative pros and cons of locally controlled second-tier organisations vis-à-vis private companies playing this role.

It has been argued that selling products to mainstream markets is probably beyond most NTFP producers and that therefore a variety of ‘green’ and ‘fair-trade’ niche markets will be the most useful starting point (Laird and Guillén, 2002). However, consideration needs to be given to how to move beyond the protected arena of fair trade markets, particularly for those products with a high volume-production potential. Scaling is necessary such that ‘the collective scale and agency of entire populations and landscapes are involved’ (Macqueen and Bolin, 2017, p297). Ideally, second tier, small-scale producer organisations would support first tier small-scale producer organisations, facilitating the aggregation, processing and marketing of their produce. Third tier organizations could facilitate policy advocacy and empowerment of small-scale producers (Macqueen and Bolin, 2017).

There are also examples of private companies providing services to large numbers of producer organisations, such as in cocoa or coffee, while stimulating sustainable production methods, which could potentially be translated to NTFPs.

Box 3: Second tier cooperative

FEDECOVERA in Guatemala is a second-tier cooperative that provides business incubation services to its many member cooperatives, which produce diverse commodities, including cardamom. FEDECOVERA itself has established processing facilities for its members’ products and so it both provides a market and generates its own revenue by adding value to member’s products. To support its members, it has also established an agroforestry business training school within its own premises — that helps in the start-up, training and financing of new member businesses — with a specific focus on youth development. FEDECOVERA, Guatemala aggregates, processes and markets a range of products from member cooperatives such as cocoa, coffee, tea, cardamom and timber. The second-tier organisation is a profitable business itself and it has a vested interest in improving the business efficiency and acumen of its member businesses.

There are examples of successful institutional innovations which have supported the development of multiple NTFP value chains simultaneously and from a sector-wide perspective. For example, a national indigenous fruits task-team in Namibia was established to facilitate high-level, national support for a co-ordinated approach to the development of new natural product-based enterprises (Schreckenber, 2003). See Box 4 below for more details.

Box 4: Institutional innovations in Namibian indigenous fruits

To manage the complexity of safely and sustainably moving from limited wild harvesting to a business based on widespread wild harvesting, Bennett (2015) describes the establishment of a national innovation platform (the Namibian Indigenous Plants Task Team) to better coordinate limited public and private investments and through the creation of a Natural Products Development Dashboard (2010) which provided flexibility to respond to uncertainties (e.g. the unpredictability of markets for novel products for which there can be huge swings, overcoming technical problems). The dashboard allows resources to be switched between the pipeline of activities in the search for products that producers can manage and gain a secure income from. The dashboard tracks and analyses for diverse products:

- *Supply chain functionality and supply capacity;*
- *Costs of production and competitiveness;*
- *Full production characterisation with specification;*
- *Regulatory compliance;*
- *Unique selling proposition;*
- *Market potential and competition analysis;*
- *Consumer products developed with formulations and specifications;*
- *IP analysis and freedom to operate;*
- *Commitment from processors, traders and consumers;*
- *Market and business plan.*

Source: Bennett, 2015

4.2. Systemic change

Government agencies can generate leverage to support effective NTFP commercialization by addressing enabling condition, systemic constraints. These would include infrastructure development, economic measures (taxes, import duties), and issues related to land tenure (land registration).

The most effective interventions are those that have a simultaneous impact on many similar production units. Thus, policy level interventions that encourage investment in processing and trade may be an effective way to support raw material producers, as seen very clearly in the case of the China bamboo sector (Ruiz-Pérez et al., 2004b). In other cases, the most helpful intervention may be improvements to transport infrastructure, as this often forms the main constraint to access markets.

Support for forest business incubation can be obtained from a combination of development and climate finance, whereby support from a combination of local service providers and government services could potentially be game-changing or transformational (Macqueen and Bolin, 2018). In Indonesia forest management units at area levels and agriculture departments are considering how to develop better forest business incubation for community forest businesses. In China, 1000 one stop shops were established, acting as forest ownership management service centres, and tackling issues with land registration and land title disputes, establishing cooperatives, and providing access to credit and insurance with a significant investment in capacity development.

Annex 1B: Ethical bio-sourcing case studies

EcoFlora – A Colombian company case study in ethical bio-sourcing

In 2010, Ecoflora received a Community Trading Grant, awarded by UEFT with the support of the Doen Foundation and designed to support and facilitate Ethical BioTrade practices at the community level. The grant to Ecoflora had, as a specific objective: to support the ethical sourcing of laurel wax. The laurel wax supply chain is being developed in partnership with local non-profit organisations which promote local development in the South Pacific area of Colombia. With the support of this grant, Ecoflora and its partners are working to develop the laurel wax supply chain in accordance with the Ethical BioTrade Standard, ensuring that the sourcing of the ingredient respects biodiversity and that benefits are shared throughout the supply chain. A Colombian company, Ecoflora develops technological solutions, bio-inputs and services from biodiversity for food, cosmetic and personal care, household and pet care industries. Strong sustainability principles from outset. One division joined UEFT member since 2009. Interest in developing laurel wax supply chain as wax has a melting point similar to body temperature so the product could be an interesting ingredient for lipsticks, lip balms, creams, foundations and mascaras. So Ecoflora is improving product quality to add value (and looking for other uses) and to generate revenue at the local level. Agreement with communities to buy laurel wax from producers in SW Andean region and support them to establish sustainable production/supply to meet new market demand. Community Trading Grant (from UEFT and Doen Foundation, 2010) to enable the company to develop ethical sourcing of laurel wax in accordance with the Ethical BioTrade Standard and with support of local non-profit development organisations. South Pacific is one of poorest regions in Colombia, few income sources except logging, so deforestation is a serious problem and laurel de cera cutting is a problem as it grows in ecologically significant areas e.g. riverbanks. The grant has also supported awareness raising activities on the environmental importance of the species in terms of conservation and regeneration of soils and watersheds. Development of laurel wax as a cosmetics ingredient will give the shrub a higher value as a fruit-bearing plant than as timber. Traditional local uses (soaps, candles, moulds) require little processing and add little value before sale on local markets, so adding value is possible to develop alternative income generating activities. Wax is generally low in quality and seen as a marginal and non-profitable product locally. The grant is also supporting formalization as previously the trade was informal, and largely unregulated – i.e. developing contracts and documents, developing management plans, obtaining certifications and improving legal compliance. Plan is to produce 7 tonnes of Laurel wax in the first three years, with 60% approx. of turnover going to producers, with the other 40% covering logistics-related expenses. By year 5, approximately 50 producers will deliver more than 25 tonnes, representing a significantly higher income for producers. To increase production, Ecoflora is promoting good practices and informing the communities on the properties of species and its potential for commercialization. More important than increasing quantity is improving the quality of the laurel wax – the development of better extractive procedures will help ensure the constant high quality of the ingredient demanded by international markets. It is estimated that 20 families will benefit in the short term and 100 in the longer term with the product becoming a more significant source of income – previously the resource was only sold sporadically and in small quantities. Key challenges remaining: tackling seasonality of the laurel wax, expanding production capacities, enhancing product quality, ensuring equitable sharing of benefits all along the supply chain.

Source: UEFT, (undated)

Novel Development Tanzania, company and an international partnership

The company, Novel Development Tanzania Ltd, has been registered in Tanzania with support from Unilever, to take over the former Unilever Public Private Partnership Novella Project which piloted a sustainable *Allanblackia* supply chain in Tanzania. The company is developing

a new oil from endemic *Allanblackia* tree seeds with about 5000 farmers. Unilever's Becel margarine with *Allanblackia* oil has been marketed in Sweden since 2014. *Allanblackia* grows wild in Tanzania, Ghana, Nigeria, Cameroon and Liberia (an estimated 25,000 people involved) mainly in rainforest areas. It is an evergreen, medium-sized tree bearing large fruits. The kernels are high in stearic and oleic acids. Traditional subsistence uses include cooking oil or medicines and soap. Its melting point is at body temperature, so it is useful for spreads and in cosmetics. As the oil is solid at room temperature it does not require hardening or fractionation. Mostly produced through wild seed collection. Annual production is unpredictable, despite the millions of trees in natural forests, because the trees are dioecious (separate male and female plants) and they do not flower or fruit each year. The international partnership involving IUCN, ICRAF, Unilever, Union of Ethical Bioproducts and others has sought to develop sustainable value chains. Training of local farmers, gatherers and oil producers on the standard and how to meet its requirements and the potential benefits has been carried out, plus local auditors trained to verify compliance. Novel Development Tanzania's management system and local supply chains are verified by independent auditors every three years against the UEBT standard. Creating a market for the oil means promoting the value of local biodiversity and forest products that would otherwise be cut and used for firewood. Income benefits can motivate farmers and communities to protect the trees and plant new ones. Whether trees are planted on farms or for restoration of degraded landscapes they are expected to contribute to environmental conservation. Cultivation programmes are recent – appropriate guidance on management of the crop to provide a low risk way into international markets for smallholders has been developed and, so far, more than 3,000 smallholder farmers in Tanzania have been mobilized and trained to plant new trees. 50% of wild seed collection is by women who mostly invest the income into family wellbeing. Seeds are dried by the community before being transported to a local crusher for oil extraction. For each group of villages, a contact person ensures that seeds are gathered, and collectors are paid. For each group of villages, a contact person ensures that seeds are gathered, and collectors are paid. One smallholder group consists of representatives from 15 – 30 families. The smallholder groups choose a clerk from amongst their members who receives training in finance from a local company setting up the supply chain (Novel Developments). A clerk earns a set wage for each day plus a 10% commission on the volume of seeds bought. Fruiting occurs in when savings from other crops (e.g. cocoa) are low and inputs are needed to prepare agricultural lands so the *Allanblackia* income can help bridge this income gap.

Source: UEBT case studies: <http://ethicalbioproducts.org/our-members/trading-members/novel-development-tanzania-ltd/allanblackia-in-a-nutshell/> and file:///C:/Users/Valerie/Documents/Valerie%202018/IFSLU/Niche%20Products/Allanblackia_Treasure_of_the_Forest.pdf

Interest in production is growing in Liberia and Cameroon. However, there is a need for improvement of propagation techniques, biodiversity-rich production systems, equitable benefit sharing throughout the supply chain and consistent prices for farmers are all challenges that need to be met before the Novella Partnership and the *Allanblackia* trade can really be claimed as a success. Unilever has committed to buy oil from seeds grown by smallholders, but to meet estimated volumes that the market can absorb (>100,000 tonnes), a vast increase in planting and future production needs to take place. Production volumes at present are too low to render the supply chain viable, owing to the widespread nature of the "wild" trees and the low levels of seed-producing domestic trees. There are also other hindrances, e.g. a lack of planting material to increase production, long gestation periods of seed propagated trees, and limited capacity and knowledge of *Allanblackia* cultivation and production. However, with support from the partnership the local in-country partners are overcoming these obstacles and the number of farmers involved in production is increasing; around 10,500 farmers have been mobilised and trained to collect and plant new trees (100,000 planted to date). More than half of these farmers are women. In 2010 over 300,000 trees will be planted, and Unilever will purchase over 200 tonnes of oil for use in their margarines. Those farmers already involved are seeing additional income of around USD 100 from seeds harvested from around 15 trees. A scaling-up of production will generate increased income for more farmers, whilst stabilising the supply of oil. Fair price-setting for

purchasing from the farmers and the Novella companies is a commitment that all Novella Partners are striving to achieve. In order to meet potential market- demand, the aim of the Novella Partners is to achieve production levels of 10,000 tonnes in ten years and 60,000 tonnes in 20 years with the involvement of over 40,000 farmers and by sustainable planting of eight million trees.

To meet these production levels requires the development of larger-scale plantings of Allanblackia. However, with all members of the partnership committed to a sustainable supply chain, the challenge will be to ensure that any new actors adhere to the same principles as those established by the Novella Partnership. Partners are now investing in using different production models to demonstrate and field-test to ensure the economic viability and environmental sustainability of planting Allanblackia trees in agroforestry systems and degraded landscapes, following the principles of Forest Landscape Restoration. In collaboration with the Union for Ethical Bioproducts a verification framework is being developed for a variety of production systems, including wild collection, agroforestry and small to medium size plantations, and will therefore be applicable to all systems that may be used to increase stocking rates of Allanblackia. With the Novella Partners committed to the development of this verification framework an exciting opportunity exists to ensure that all production of Allanblackia oil is sustainable. Through IUCN this work is being supported financially by the Swiss State Secretariat for Economic Affairs (SECO).

Source: Rural 21 (2010).

file:///C:/Users/Valerie/Documents/Valerie%202018/IFSLU/Niche%20Products/Allanblackia an%20ingredient%20for%20poverty%20reduction_Rural%2021.pdf

Herbal Tea Programme

Herbal tea program UEBT/UTZ UEBT and UTZ Certified offer a joint certification program for herbal and fruit tea. This programme covers all plants and parts of plants (leaves, fruits, flowers, seeds, roots) that are used to make herbal and fruit teas, both from cultivation and wild collection. The UEBT Ethical BioTrade standard fits the large number of different herbs at low volumes used in the herbal tea sector. UTZ provides its traceability system and the UTZ label. The collaboration provides a good solution to address sustainability issues in the global herbal tea sector.

The UEBT Annual Report 2017 states that the baseline study for herbal teas found some early results, especially in one of the cases where the sourcing company had already implemented several interventions. At the local company level, for instance, studies showed a monitoring and traceability system in place, interventions such as training and construction of infrastructure already conducted, and the development of positive perceptions on potential benefits. At the collector/producer level, findings included positive perceptions of potential benefits, securing demand, increase in prices, identification of challenges for sustainable use of biodiversity, infrastructure investment (e.g. warehouse in one case) and contracts signed with seasonal workers. The baseline studies provide some insights that can be used for further strengthening of the programme, for instance on the empowerment of women, and on possible strategies to enhance biodiversity. The final impact evaluation will take place in two to three years to measure changes at both producer/collector and the company levels that can be attributed to the UTZ/UEBT certification program.

<http://ethicalbioproducts.org/herbal-tea-program/>

Farmaverde

Farmaverde is a cooperative in Usme, South of Bogota, Colombia which produces/promotes herbal remedies made from ingredients cultivated on its farm in Usme

aimed at the local market and communities with limited access to national health care. A collaboration with a community in Guaduas, 100 km away, seeks to help restore these degraded agricultural lands and secure various ecosystem functions. Cultivation of four species that grow wild - cadillo (*Bidens Pilosa*), balso (*Ochroma pyramidale*), guasimo (*Guazuma ulmifolia*) and prontoalivio (*Lippia alba*) due to their interesting properties for herbal remedies, cosmetics and aromatherapy and which could be a source of income as well as ecological benefits. Traditionally, the first three have been wild harvested by local communities for use in sugar can processing to make panela, a traditional Colombian agreement. But they may have other properties e.g. cadillo has anti-bacterial and anti-fungal ingredients. Guasimo is a diuretic. Prontoalivio is often used in Colombia as an essential oil. With the support of the Community Trading Grant, Farmaverde has been investigating the scientific properties of the four species and has developed technical data sheets for each ingredient. These will be necessary for future buyers of the plant material. Still in the early stages, but Farmaverde has successfully purchased its first order of prontoalivio from the community, which was of a sufficiently high quality to distil for use in the cooperative's finished products. The eventual aim with this ingredient is to install a distillery for the community's use and purchase the essential oil rather than the leaves. This would add value to the product at the local level, but it is significant investment and not possible in the short term. For the moment, Farmaverde has committed to purchasing the dry rather than fresh leaves, which helps add value at the local level. Producer training on cultivation techniques both general and relative to the species concerned is being delivered, including on composting, choosing complementary plant species to stimulate germination and methods of pest and disease control. Future sessions will focus on quality control and Ethical BioTrade principles. Balso and guasimo are small trees that can be planted in on private cultivable land to provide wind breaks and shade for other plants grown on the small holding. While this type of reforestation is on a small scale, Farmaverde believes it will have benefits for the regeneration of the ecosystem. However, some challenges have been encountered: a) Although Farmaverde has begun research on cadillo, balso and guasimo and would like to introduce them into the communities' smallholdings, progress with these species has been slow. An unseasonal cold spell significantly affected the germination and taking of cuttings and this work will need to be continued. This means that the species have not been introduced to the community at the scale that was hoped. b) In addition, motivating and organizing the community has been challenging. The number of community members involved in the project has decreased since its inception. Due to the challenges experienced with some of the species it has not been possible to generate the benefits originally hoped for at this early stage. Without obvious short term benefits it is difficult to motivate community members to become involved in the project. However, Farmaverde believes that when progress with the species has been made and benefits experienced by those participating, finding new participants to cultivate the plants will be relatively easy.

Source: Farmaverde (UEBT, undated).

Annex 2A: Learning tools: Assessment framework for project desk review

Number
 Archetype
 Level of maturity of project
 Products and value chains

Theory of Change:

Project Objectives/Basic Information:

Sustainable Land Use Impact:

GHG impact:

Social impact:

Business case:

Partnership Potential:

Scale up and replicability potential:

Additionality:

Planned Activities:

Risks:

Mini-Analysis

1. Producer & Community Level Dynamics, Governance & Outcomes

- 1a. Livelihood & Employment Benefits ●
- 1b. Small-scale producer organisation ●
- 1c. Business Case for Producers ●

2. Value Chain Dynamics, Governance & Outcomes

- 2a. Market Demand ●
- 2b. Service Provision ●
- 2c. Value Chain Relations ●
- 2d. Sector Governance ●
- 2e. Potential for standards and certification ●

3. Landscape Dynamics, Governance & Outcomes

- 3a. Land Tenure Systems ●
- 3b. Ecological Sustainability ●

4. *Scaling and systemic issues*

- 4a. Scaling ●
- 4b. Tackling systemic issues ●

Success Stories & Factors

Annex 2B: Learning tools: Assessment framework using issue tree approach

Figure 1: Issue Tree for Project Appraisal of High Value, Low Intensity Products



		Key													
		3	The Project, or existing infrastructure / partnerships, mean this criteria it met												
		2	The Project, or existing infrastructure / partnerships, mean this criteria is partially / attempted to be met												
		1	It is unclear if the project, or existing infrastructure / partnerships are addressing this criteria												
			East Africa	East Africa	East Africa	SEA	SEA	SEA	SEA						
			P4F0008	P4F0267		P4F0014	P4F0389	P4F0227	P4F0245						
			EWC	Cashews	Sound&Fair	ERC	ABT Honey	Illipe	Sugar Palm						
Category	Sub Category	Rating	Justificatio	Rating	Justificatio	Rating	Justificatio	Rating	Justificatio	Rating	Justificatio	Rating			
1	Business case with significant revenues for producers and processors involved (to exceed poverty level)	3	TNS work	3	Although li	3	Already ha	3	Market de	3	Javara Mo	3	Current Bu	3	Current bu
1	Business case with significant revenues for producers and processors involved (to exceed poverty level)	2	Coffee pro	2	Cashew pr	3	Already ha	3	Productio	3	Productio	3	Business n	3	Model dev
1	Business case with significant revenues for producers and processors involved (to exceed poverty level)	2	Access to	1	Access to	1	Access to	1	Access to	3	Know ledge	2	Limited Kn	TBD	TBD
1	Business case with significant revenues for producers and processors involved (to exceed poverty level)	?				3	FCS certifi	N/A	?						
2	Benefits for the community, as a whole, both tangible (economic) and non-tangible (e.g. cultural)	3	Via PFMs	2	Plant prov	3	Building of	1	Potentially	1		1	Processing	3	Via Massar
2	Benefits for the community, as a whole, both tangible (economic) and non-tangible (e.g. cultural)	3	Strong cult	2	Via other E	3	As above t	2	Dependant	3	Honey Col	3	Illipe trees	TBD	TBD
3	Producers are organized, have management and production capacities and business control, and legal requirements established	3	Via PFMs e	3	Cashew Pr	3	S&F access	3	Via ERCs	3	Via ERCs	3	Via Phat Fr	3	Via Massar
3	Producers are organized, have management and production capacities and business control, and legal requirements established	3	Via PFMs	3	We are he	3	Communit	2	dependant	3	Defined Ov	3	Via Phat Fr	3	Via Massar
3	Producers are organized, have management and production capacities and business control, and legal requirements established	2	GIZ workin	3	We are he	3	As demons	3	Many ERC:	3	Working to	3	Via Phat Fi	TBD	TBD
3	Producers are organized, have management and production capacities and business control, and legal requirements established	3	Via PFMs	3	Via CNRM	3	Land rights	3	ERC conce	3	ERC conce	3	Phat Fores	TBD	TBD
4	Fair and sustainable value chain relations are established	2	P4F is com	2	Yes, excep	3	Shared visi	2	dependant	2	Javara and	3	Processors	TBD	TBD
4	Fair and sustainable value chain relations are established	N/A		3	Partnershi	N/A		3	Partnershi	3	Partnershi	3	Partnershi	TBD	TBD
5	Well defined mechanisms to achieve positive ecological impact	2	Price prem	3	Closely tra	2	Communit	2	developing	2	Price prem	2	Price prem	2	Price prem
5	Well defined mechanisms to achieve positive ecological impact	1	Risk of For	3	Eg- risk of	2	Risk of pro	2	Governanc	2	Risk of tre	2	Risk: Rest	1	Risk of Sug
6	Enabling environment strengthened	3	CDTMA an	3		3	N/A								
6	Enabling environment strengthened	2		1		2	Having pilc	1	Scaling me	2	Building a	2	Building a	2	Building a
6	Enabling environment strengthened	3	PFMs	3	CNRMGs	3	through th	2	Through El	3	Through El	1		TBD	TBD

Annex 2C: Learning tools: Assessment framework developed following pilot testing

Component and criteria	Rating 1 (low, red) [issues for evidence of rating]	Rate 2 (orange)	Rating 3 (high, green) [issues for evidence of rating]	Key issues for HVLI initiatives
Component 1. Business case with significant benefits for producers and processors				
1.1 Market demand established, at least for niche market, and with potential for scaling	<ul style="list-style-type: none"> Markets not yet established Unclear pathway to scale No feasibility study done One or very few buyer contracts 	In between	<ul style="list-style-type: none"> Market established, with high value sales Feasibility study completed & being implemented Several buyer contracts, major market share Brand acquired for low intensity 	<ul style="list-style-type: none"> Product substitution risks Product perishability Dynamics in demand Market entry barriers
1.2 Production model well established, generating volume, quality and return to labour for producers/processors, to exceed poverty level	<ul style="list-style-type: none"> Production model being developed No local processing developed Product diversification not included 		<ul style="list-style-type: none"> Proof of concept established Evidence of high return to labour Revenues at least living wage/income level Gender issues addressed Local processing developed (ideally with local control for value capture) Product diversification addressed 	<ul style="list-style-type: none"> High costs of transportation Quality to meet market demand Revenues beyond poverty level Equality in incomes between types of producers and gender Benefit sharing mechanisms
1.3 Access to knowledge, inputs and finance established, for remote areas, scattered producers, low level of skills	<ul style="list-style-type: none"> Services are either non-existent, of low quality and/or not responding to the needs of producers 		<ul style="list-style-type: none"> Services are high quality and tailored to the need of different categories of producers Access to finance that is affordable to all producers 	<ul style="list-style-type: none"> Remote or inaccessible areas influencing service delivery High levels of risk for producers High levels of poverty Capacities to engage in processing
1.4 Benefits and risks of certification established	<ul style="list-style-type: none"> Certification established but risks of excluding producers not assessed Unclear how premium price will be shared among producers 		<ul style="list-style-type: none"> Evidence of net benefits of certification for all types of producers Benefit sharing mechanisms of premium price established 	<ul style="list-style-type: none"> Diversity of producers Exclusion risks of certification
Component 2. Benefits for the whole community				
2.1 Benefits for the community, as a whole, not only for individual producers/processors	<ul style="list-style-type: none"> FPIC not applied No potential benefits for the community (e.g. employment) 	In between	<ul style="list-style-type: none"> Community benefits from social services according to their demand Mechanism for community to express complaints 	<ul style="list-style-type: none"> Local processing and employment Benefits for those without land ownership

Component and criteria	Rating 1 (low, red) [issues for evidence of rating]	Rate 2 (orange)	Rating 3 (high, green) [issues for evidence of rating]	Key issues for HVLI initiatives
	<ul style="list-style-type: none"> No insights in community dynamics and power relations 		<ul style="list-style-type: none"> No inequalities in income created within the community 	
2.2 Material and non-material benefits for the community, including vulnerable groups	<ul style="list-style-type: none"> No insights in vulnerable groups at community level, e.g. through social mapping 		<ul style="list-style-type: none"> Cultural values of product strengthened Local forest management practices 	<ul style="list-style-type: none"> Cultural values of HVLI products Cultural values of forest resources
Component 3. Organisation of producers, with management and production capacity				
3.1 Producers and/or processors are sufficiently organized to access markets and services	<ul style="list-style-type: none"> Producers are not organized, were brought together recently and/or lack capacity Producer organisation (PO) exists but does not include all types of producers and gender 	In between	<ul style="list-style-type: none"> Producer organization (PO) exists, represents all types of producers and social / gender groups PO benefits from input supply, processing, transportation, and marketing PO has ability to produce/process at scale 	<ul style="list-style-type: none"> Diversity of producers in terms of capabilities and interests (discrimination) Lack of experience of collective action
3.2 Producer and/or processor organization is well governed	<ul style="list-style-type: none"> PO does not have clear structure or governance system No support on management and governance of POs 		<ul style="list-style-type: none"> PO has clarity on roles, responsibilities and structure PO has good track record PO has local control of the business PO benefits from capacity building on management and governance 	<ul style="list-style-type: none"> Relatively low levels of education
3.3 Producers and/or processors have sufficient skills to run their business	<ul style="list-style-type: none"> PO does not have experience in running a business No support on business skills of POs 		<ul style="list-style-type: none"> PO has sufficient business and technical skills to run a local business 	<ul style="list-style-type: none"> Relatively limited experience in running a business
3.4 Established or formalized land rights and management responsibilities	<ul style="list-style-type: none"> No mapping of local land rights and resource management systems 		<ul style="list-style-type: none"> Understanding of customary private & communal ownership, user rights and management responsibilities Community land / forest rights are strengthened / formalized 	<ul style="list-style-type: none"> Complex land tenure Local resource management systems
Component 4. Value chain relations with added value, fair and sustainable				

Component and criteria	Rating 1 (low, red) [issues for evidence of rating]	Rate 2 (orange) In between	Rating 3 (high, green) [issues for evidence of rating]	Key issues for HVLI initiatives
4.1 Shared vision and relations of trust between producer organization and value chain actors	<ul style="list-style-type: none"> Lack of trust between POs and value chain actors Poor communication between POs and value chain actors 	In between	<ul style="list-style-type: none"> Fair trading relations established PO has capacity on negotiation skills, FPIC, property rights etc. Shared vision on sustainable forest management / protection 	<ul style="list-style-type: none"> Lack of trust with value chain actors, especially middle men
4.2 Partnership model considered as an alternative option for processing to producer organization on its own	<ul style="list-style-type: none"> Partnership model established without sufficient consultation or analysis of risks for local producers 	In between	<ul style="list-style-type: none"> Partnership model fully developed, with local processing options & innovations promoted Evidence of sustained benefits and ownership of partnership model for producers / POs Established service delivery model, based on a cost-recovery basis 	<ul style="list-style-type: none"> Risks of exploitation where producers tied into contracts with companies that do not perform
Component 5. Mechanisms to support positive ecological impact				
5.1 Incentives for land managers are sufficient to enhance sustainable forest management	<ul style="list-style-type: none"> No specific incentives defined to motivate more sustainable forest management by POs and value chain actors 	In between	<ul style="list-style-type: none"> Incentives developed and tested, e.g. price premium, access to markets for forest products, carbon credits, buyer arrangements Evidence that incentives can motivate change of practices regarding sustainable forest and land management 	<ul style="list-style-type: none"> Complexity of economic-ecological dynamics Lack of evidence and insights of factors that influence behaviour regarding sustainable forest and land use management
5.2 Positive ecological impact at landscape level or negative effects mitigated	<ul style="list-style-type: none"> Poor awareness on risks of improved productivity causing forest encroachment, including displacement effects 	In between	<ul style="list-style-type: none"> Measures implemented to reduce risks of negative effects on forests, including displacement effects Measures implemented to enhance positive forest management effects Functional monitoring to assess ecological impact 	<ul style="list-style-type: none"> As above
Component 6. Enabling environment strengthened				
6.1 Product (value chain based) systemic issues for scaling and sustainability are defined	<ul style="list-style-type: none"> No specific measures defined for scaling Scaling not discussed in partnership model 	In between	<ul style="list-style-type: none"> Mechanisms for scaling defined Multi-stakeholder platforms or national industry platforms supported 	<ul style="list-style-type: none"> Tendency for HVLI initiatives to remain localized (individual producer groups – islands of

Component and criteria	Rating 1 (low, red) [issues for evidence of rating]	Rate 2 (orange)	Rating 3 (high, green) [issues for evidence of rating]	Key issues for HVLI initiatives
	<ul style="list-style-type: none"> Dependency on donor funding (affecting sustainability) 		<ul style="list-style-type: none"> Supportive economic measures (taxes, import duties) and infrastructure development Strategic partnership with sector organization to enhance scaling Attention for financial and institutional sustainability aspects 	<ul style="list-style-type: none"> success) or limited to niche markets Examples of successful national coordination (Namibia) Untested potential for combined value chains creating landscape-wide incentives for land managers/resources users
6.2 Landscape management legal and management issues are defined	<ul style="list-style-type: none"> Lack of policy coherence and /or land-use planning to support positive forest management 		<ul style="list-style-type: none"> Supportive legal and management systems related to land tenure and land-use planning 	<ul style="list-style-type: none"> Lack of policy coherence Lack of coherence in land use plans at different scales

Reporting scheme for assessment of HVLI projects

Component and criteria	Rating (1, 2, 3)	Justification, referring to relevant issues	Reference to issues having been covered by partners or in earlier initiatives, or covered in current FP	Key issues for follow-up (gaps)
Component 1. Business case with significant benefits for producers and processors				

1.1 Market demand established, at least for niche market, and with potential for scaling

1.2 Production model well established, generating volume, quality and return to labour for producers/processors, to exceed poverty level
Etc.

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Annex 3B: Experts interviewed

- Duncan Macqueen, Principal Researcher, Forests, IIED
- Adrian Newton, Professor and Director, Conservation Ecology, University of Bournemouth
- Ben Bennett, Deputy Director, Natural Resources Institute, University of Greenwich

Annex 4: Evaluation Manager Theory of Change

P4F Programme level Theory of Change

