

Strategies to close the living income gap of smallholder farmers

The cases of cocoa in Côte d'Ivoire and rubber in Indonesia

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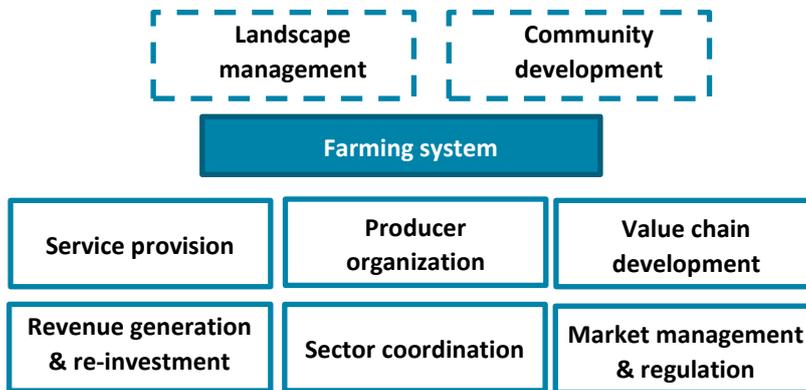
Executive Summary

The impact of public and private interventions aimed at increasing the income of smallholder in many agricultural commodities has been insufficient. Today, farmers clearly do not earn a decent standard of living. In recognition of this fact, a debate on living income has appeared on the agenda of leaders in public and private spheres. A living income is the net household income sufficient to enable all members of the household to afford a decent standard of living, including food, housing, healthcare, education, transport, communication, recreation and a buffer for emergencies and unexpected events.

To support closing the gap between actual incomes and the income needed for a decent living, this paper provides guidance on which strategies can be implemented to improve smallholder farm incomes. It looks at two particular cases: the cocoa sector in Côte d’Ivoire and the natural rubber sector in the Kapuas Hulu district in Indonesia.

The paper starts by explaining general farm-based strategies to increase income and income resilience. The basic strategies to improve income are to increase production volumes and to increase net margins per product. It also discusses two strategies which can increase income resilience. They are the adoption of risk mitigating agricultural practices and crop diversification. There are many pathways to support farmers in adopting the income and resilience-enhancing strategies. This paper presents a comprehensive set of strategies which could foster sector-wide improvement of smallholder incomes. It is based upon the Sector Transformation framework developed by Aidenvironment, Sustainable Food Lab and IIED. It defines pathways to transform the producer base, service sector, value chains and to improve the governance of the sector by sector coordination, market management and regulation and revenue generation and re-investment. They are complemented by possible interventions at the community or landscape level.

The sector transformation pathways complemented with community and landscape interventions to support profitable and resilient farms



The paper continues by presenting the cocoa sector in Côte d’Ivoire. Some one million farmers and approximately four million household members rely on cocoa production for their livelihoods. After years of sustainability efforts and some progress, major challenges persist that impede cocoa farmers in Côte d’Ivoire from earning a living income. Farmers are faced with a range of technical, financial, market, and cultural barriers to cocoa intensification and crop diversification. In times of low market prices, there is a weak business case for farmer to invest. This has been further aggravated by the price volatility in the recent context of oversupply. Efforts by the public sector, industry and other actors still reach a relatively small proportion of Cote d’Ivoire’s cocoa farmers with high quality services.

Most rubber farmers in Kapuas Hulu in Indonesia also earn less than a living income. A key challenge is the low productivity caused by the lack of access to high yielding clonal varieties, a lack of knowledge of good agricultural practices, and inadequate harvesting and post-harvesting practices. Another key challenge is the low prices smallholders receive. On one hand, this is related to poor market access, but it also relates to volatile world market prices, with long periods of low prices.

In both cases, farmers will not be in a position to earn a living income if decision-makers continue down the path of inconsequential investment and technical support in individual company supply chains as well as incohesive and ineffectively enforced policy at the sector level. Business as usual is not an acceptable strategy to improve farmers' profitability and livelihoods. To bridge the living income gap, systemic change is needed. Whereas each case study presents case-specific strategies, the paper ends by proposing six key strategies around which a living income strategy could be built:

- **Viable farming systems:** The basis of any living income strategy should be the promotion of viable farming systems in terms of profitability and resilience. This requires finding the right balance between intensification, rehabilitation and diversification. This needs to be supported by viable farm sizes. A complementary strategy is to increase quality and value addition in cases where the market rewards this.
- **Integration with landscape management and community development:** Viable farms require healthy landscapes and thriving communities. Landscape management approaches are particularly relevant when competing interests exist between landscape users and the performance of a farmer that is affected by other landscape users. Community development through investments in basic services and infrastructure can support the health of farmers and hence profitability and facilitate access to services and markets.
- **Effective service delivery models:** There is a need to develop cost-efficient, economically viable and scalable service delivery models, whether supply chain-driven, through producer organizations, the public sector or specialized service providers. Services providers should target the whole farming system and the needs of households. They should consider farmers as clients and improve their value through differentiated services to different segments of farmers. New financial models are needed to create such service delivery models.
- **Fair and inclusive value chains:** A key priority is to develop direct, stable and fair-trading relationships. Direct trading relationships enable farmers to capture the value which would otherwise have been captured by middlemen and allows for a direct transfer of incentives for quality and sustainability. Stable trading relationships provide farmers with a predictability that incentivizes them to invest in their farm and value chain actors to invest in farmers. Fair trading relationships should include favorable terms like pre-finance, quick payments, and price insurance and can include mechanisms such as minimum prices, flexible premiums and cost-plus pricing models. To support fair pricing models, one could also put more attention to the development of end products with a higher value rather than focusing on reducing costs and thereby fueling a race to the bottom.
- **Market management and integrated development policies:** Governments have a large toolbox they can use to influence markets, both directly and indirectly. It ranges from lighter mechanisms such as market promotion, product quality standards, traceability systems or price transparency to heavier market interventions such as price-fixing and price stabilization. Any pricing policy should consider short- and long-term effects on supply and the competitiveness of its sector. Supply management can entail a combination of land-use planning, production or export quota, buffer stock management, price incentives, the promotion of crop diversification, dissemination of market intelligence as well as promoting non-farm income opportunities. Supply management is preferably done based upon international coordination to avoid that countries undermine each other's strategies to increase farmer incomes. It is also important to integrate crop-specific policies in the wider agricultural and rural development policies, including regulation related to land tenure and employment creation. Creating this enabling environment comes with a cost, particularly if such policies are complemented

with investments in research, subsidized service provision and price stabilization. Hence, governments should pursue adopting mechanisms (e.g. taxes or fees) which generate the revenues to re-invest in the sector. In all of these governance aspects, transparency and accountability are key principles to be respected.

- **Sector coordination:** To reach impact beyond the scope of an individual project or value chain collaboration and alignment by different stakeholders is needed. The creation of a sector platform could promote this. The scope of dialogue in such platform could be re-framed around price and supply management, viable farm sizes, diversification, traceability, and social inclusion and land tenure. Ultimately, it should lead to a shared vision of viable farming systems, service delivery and supply chain models and a sound strategy to guide fulfilment of the vision. Effective coordination also requires sector-wide monitoring of progress towards the fulfilment of the vision and to inform evidence-based learning.

The relevance of the above pathways varies according to the context. Contextual factors will determine the feasibility and potential impact of a particular strategy. For example, in a poorly-organized smallholder-dominated sector, producer-led mechanisms are less likely to succeed or will be difficult to scale. In a weak institutional environment, certain high-impact sector-led mechanisms may be difficult to manage. However, when sector organizations and governments can demonstrate the capacity to manage quality and extension services, then perhaps some of the price management tools could become a feasible option. Supply-driven mechanisms may be more relevant in sectors with a relatively small number of supply chain actors and shorter value chains than in highly fragmented sectors with long value chains. The awareness in end-markets and willingness to improve livelihood issues of smallholders can also influence the relevance of strategies around fair pricing, value addition and value chain-driven investments. There will always be a need for a combination of pathways to improve smallholder incomes and resilience.

The paper ends with a brief description of the roles different actors could play in closing the living income gap:

- **Government in origin** - Implementation of a wide range of policies to manage prices, supply and demand;
- **Governments in consumer countries** - Policy development around due diligence and sustainability in supply chains and revision of competition law to allow for a level playing field where all companies internalize social and environmental costs into prices;
- **Supply chain actors** - Assessment of value addition and distribution in their own supply chains, investment in traceability and promotion of more favorable trading relationships with their suppliers;
- **Service providers** - Development of services relevant for whole farming systems and viable delivery models;
- **Research and advisory organizations** - Support of the development of viable farming systems, service delivery models, and value chain models. Applying living income benchmark studies;
- **Voluntary standard systems and multi-stakeholder platforms** - Support of research on living income benchmarks and actual farmer income as well as innovation of their standards systems. Multi-stakeholder platforms can facilitate the sector dialogue and roadmap development;
- **Civil society organizations** - Advocacy to public and private actors on ensuring a living income is paid and monitoring of the extent it is realized;
- **Donors and development organizations** - Support of the above actor's work, including recognizing the need for alternative livelihood opportunities with an objective of systemic change.

Introduction

Increasing the income of smallholder farmers in developing countries has been an objective of numerous development programs, policy reforms and supply chain interventions. The route that has often been followed is to support smallholders' low-intensity and poor-yielding production systems to become more productive. It has been tried in many ways by many different actors. Sometimes these efforts led to a structural and significant increase in income, but the cases are countless where farmers only realized marginal gains or no improvements at all. At best, these farmers became a little bit less poor, but they did not move out of poverty and certainly did not earn a decent standard of living. The reasons for failure are multiple; they can include adverse weather impacts, crop diseases, lower crop prices, higher input prices, illness, or simply the fact that these farmers have farms that are too small. Whatever the cause, a large share of smallholders in developing countries still fail to achieve an income which would provide them with a decent standard of living and an existence in dignity.

Over the past few years, the topic of smallholder incomes has gained increased attention. Inspired by the dynamic of a *living wage* discussion in the garment sector, the *living income* debate has appeared on the agenda of leaders in the public and private spheres (Komives et al., 2015). The concept of an income that ensures a decent standard of living is also recognized as a fundamental human right by the United Nations' Universal Declaration of Human Rights in Article 23, Paragraph 3 that says, "everyone who works has the right to just and favorable remuneration ensuring for himself and his family an existence worthy of human dignity." Donors, civil society, researchers, and industry are keen to understand whether smallholder farmers are earning a 'living income' and, if not, what it would take to get them there.

Since 2015, the members of the Living Income Community of Practice (CoP), coordinated by GIZ, ISEAL Alliance and the Sustainable Food Lab, have facilitated numerous discussions, knowledge development and exchange on the living income of smallholders and related concepts such as the living income gap and living income reference prices. The CoP has reached consensus on the definition of a living income and is currently testing methodologies for benchmarking a living income. As more and more living income benchmarks for agricultural sectors around the world are being calculated and compared with actual incomes, the next steps are to find ways to close the gap between actual incomes and living income benchmarks.

In this context, this report aims to provide guidance on which strategies can be implemented to improve farm incomes and therefore close the gap between current incomes and the living income benchmark in two particular contexts:

- the cocoa sector in Côte d'Ivoire
- the rubber sector in the Kapuas Hulu district in Indonesia.

Before discussing both cases in detail, this paper introduces potential smallholder income-enhancement strategies, in general. The paper ends with highlighting six key pathways to promote and the roles various actors could play in working towards achieving living incomes for smallholder farmers.

1. Strategies to increase farm income and improve resiliency

A farmer household can receive income it derives from the farm as well as other income sources such as rural labor, commerce, or remittances. In this chapter we focus on strategies to increase the farm income. Farm income includes both cash income derived from the farm and the products produced for own consumption. The intent of this chapter is to identify strategies which increase the income of smallholders. In recognition that farmers can be vulnerable to fluctuations in income, particularly as a consequence of price volatility or erratic weather conditions, we will also look at income resilience.

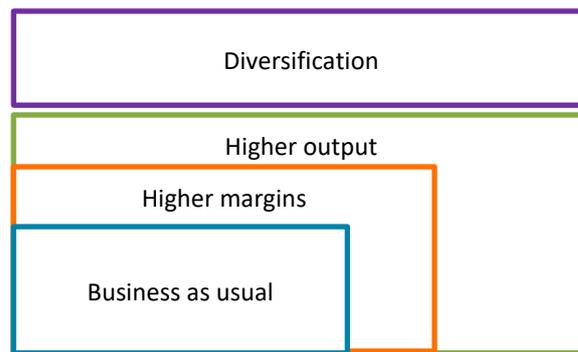
Main pathways for a household to increase its farm income:

- Increase production volumes
- Increase net margins per product

Key activities to increase income resilience at farm level:

- Crop diversification
- Adoption of risk mitigating agricultural practices

Figure 1: Main pathways to increase farm incomes and resiliency



Farm-based strategies for increased income

An increase in production volumes can be achieved through expanding the production area or increasing the productivity of a particular crop. Net margins of a particular crop can be increased either through reducing production costs or obtaining higher prices. A reduction in production costs can be the result of using less inputs or cheaper inputs. Higher prices can be obtained by increasing the product quality, adding value (e.g. primary processing) or with improved trading relationships (e.g. direct market access which results in higher prices). This all may require improving farming practices. Farmers could also shift to more profitable crops.

Outcomes like productivity, input prices and crop prices are to a large extent dependent on factors which are beyond the control sphere of a smallholder. For instance, productivity can depend on weather patterns, input prices on the oil prices and crop prices on the balance between supply and demand. As these factors often fluctuate unpredictably, their impact on income can be high. A sudden and strong drop in income can have long-lasting negative consequences for the profitability of the farm and the household livelihood; for example, it may force a farmer to sell part of the land. Farmers may not always be able to respond robustly to changing circumstance. For example, farmers may not be able to respond to price signals due to sunk costs, lack of capacity, capital or desire to switch, lack of alternative livelihood opportunities and the ability to subsidize production through other income sources (Aidenvironment, 2017). The constraints to respond may be particularly high for tree crops such as cocoa and natural rubber as such plantations have important sunk costs since new plantings only become productive after several years. Hence, the need for strategies which increase farm resilience.

Farm-based strategies for income resilience

Crop diversification can be a key strategy in creating resilience. It reduces the income dependency on one single crop. Diversification can generate new sources of cash income as well as various in-kind benefits (e.g. food or construction material for own use). Risk mitigating agricultural practices include the use of resilient planting materials (e.g. drought resistant), improved water management (e.g. irrigation or drainage), use of shade trees as well as soil conservation farming practices (e.g. zero-tillage). Conservation practices can also avoid future negative consequences of intensification. Farmers may also have other non-agricultural activities to reduce risks such as stock management, savings, insurance.

Pathways to support farmers to increase income and resilience

There are many ways to support farmers in adopting the income and resilience-enhancing strategies. Their farming systems and practices can be improved by providing them with knowledge, inputs and finance. More stable and remunerative market access can be promoted through the promotion of quality management and value addition, farmer organization and more direct and fairer trading relationships. There exist also many indirect ways to support farmers. One can improve farmer health and hence labor productivity through investments in the basic services in rural communities. The management of ecosystem services at landscape level can support farmers in their water or pest management. Policies at national level such as price management mechanisms, tariffs and subsidies can also directly or indirectly influence farmers' incomes and resilience.

The effectiveness of interventions will in many cases also depend on the enabling environment. Training farmers to intensify but without viable service providers which can deliver affordable inputs to farmers is likely to have less impact than desired. High price volatility can undermine the business case to invest in farm rehabilitation, quality management or an attempt to create more direct trading relationships through contract farming.

To be effective and to have an impact, often a combination of interventions is needed in which different actors can play a role and contribute. The pathways to support farmers in increasing their incomes and resilience may require interventions at different levels: directed at the farmer, farmer organizations, supply chain relationships, communities, landscapes or the rules, policies and institution at local, national or even international level.

To organize the multitude of possible interventions this paper uses the sector transformation framework. This framework defines building blocks or pathways, which, depending on the context, can be important to build high performing and resilient sectors (Aidenvironment et al., 2017). These building blocks are complemented by possible interventions at community or landscape level.

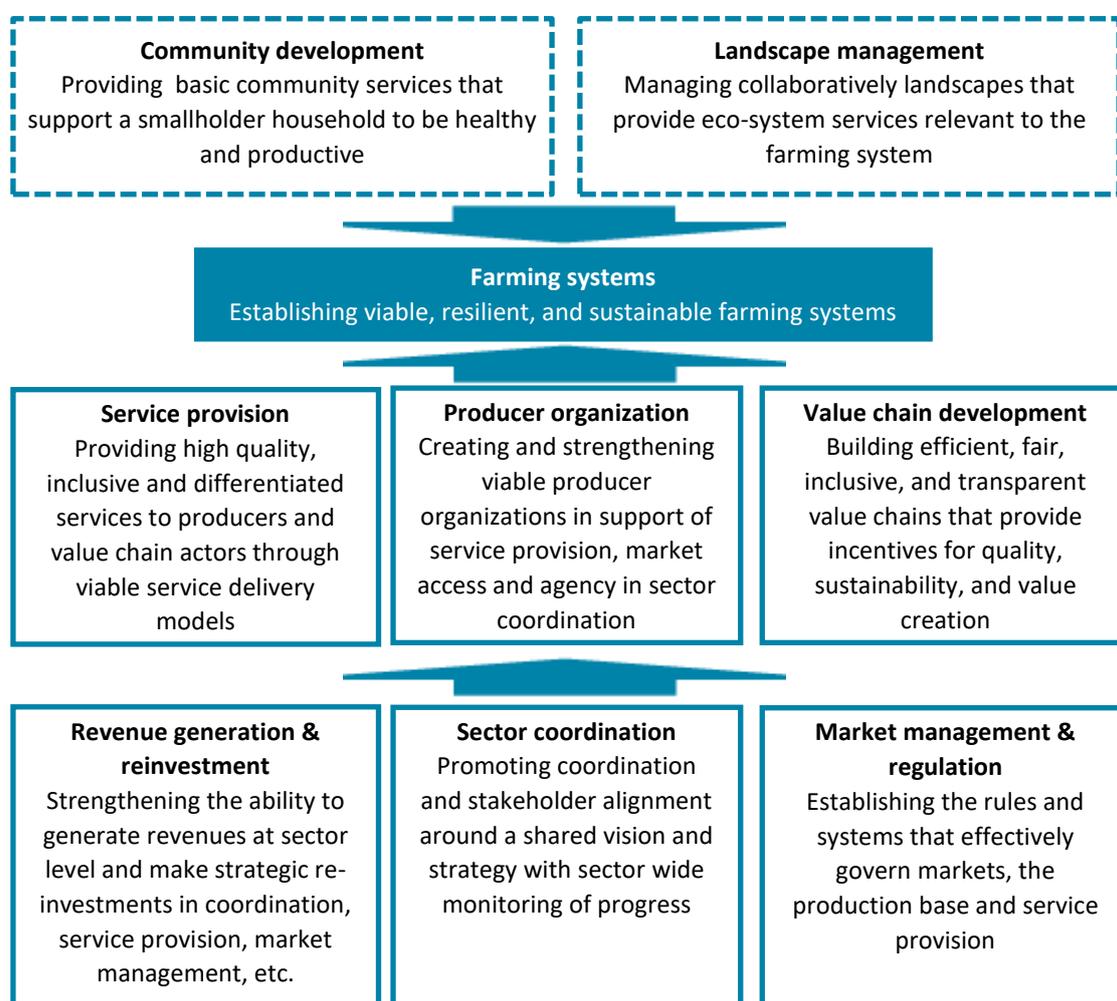
The first three basic intervention pathways: producer organization, service provision, value chain development.

- *Producer organization*: this refers to organizing producers around service delivery and market access and agency at sector level. Organizing producers can be done through amongst others farmer field schools, producer cooperatives and unions, smallholder-owned companies and even sector-wide federations organizing all smallholders. Smallholders can also be organized through the other two pathways in terms of service delivery networks or hubs and a range of supply chain structures (e.g.

contract farming or outgrower models). Functioning organizational structures can also facilitate farmer participation in sector coordination.

- *Service provision*: This refers to the development of relevant services (e.g. research, training, input provision and finance) as well as the models through which these services are delivered to smallholders and value chain actors (i.e. service delivery models). This pathway should not be about the short-term provision of project subsidized services, but the establishment of a viable service sector.
- *Value chain development*: This refers to establishing good trading relationships along the value chain, fair pricing, market incentives for quality and sustainability and creating transparent or traceable supply chains. Promoting certified supply chains or contract farming is a typical intervention in this pathway.

Figure 2: the sector transformation pathways complemented with community and landscape interventions to support profitable and resilient farms



Source: Adapted from Aidenvironment et al., 2017

Creating impact at scale through these three pathways requires an enabling environment. Key to achieve this is to improve the governance of the sector. Sector governance is the coordinated management of a sector as a whole which can include a collection of rules, stakeholder involvement and processes to manage for common/shared interests. Sector governance is broader than government, covering non-state individuals and institutions, including the private sector. It has three main functions:

- *Sector coordination*: this refers to the alignment of key stakeholders around a shared vision and strategy. It also includes the sector-wide monitoring of progress to adopt the strategy and stimulate sector-wide learning. Such process can take place through multi-stakeholder platforms and governing bodies.
- *Market management and regulation*: This refers to the systems and rules that govern trade, price, quality, demand and supply, traceability, sustainability, producer organization and service provision. Examples include price regulation, buffer stock management, quality standards, trade registries, export auctions, land use planning and cooperative regulation.
- *Revenue generation and re-investment*: these functions refer to the mechanisms to generate revenues and reinvest them in a way that furthers progress on the sector vision. Investments can be done in for example service delivery, the production base, market management and sector coordination. It is about the capability of a sector to make such investments on its own, rather than being dependent on foreign donors or lead firms.

Across most agri-commodity development work, there tends to be a focus on the producer group and value chain pathways, often combined with some work on service provision. Whereas this work is still often crop specific, raising farmer incomes and resilience may require a stronger farming system perspective. There is also increasing attention to the coordination at sector level particularly by the organization of multi-stakeholder dialogue. Market management, regulation and certainly revenue collection and re-investments receive generally less attention, although more emphasis may be needed to create a better enabling environment. In addition, specific interventions may be required at *community level or landscape level*. Such interventions can include the provision of basic services (e.g. health, education, and infrastructure) and management of natural resources (e.g. water, forests). Interventions at community or landscape level would also benefit from a well-functioning service sector, an organized producer base, a market providing the right incentives (e.g. for ecosystem service conservation) and good governance.

The relevance of the pathways may change according to the context and some interventions can have much more impact on income than others. The next sections will identify a range of relevant interventions for cocoa in Côte d'Ivoire and rubber in the Kapuas Hulu district in Indonesia.

2. Closing the living income gap of cocoa farmers in Côte d'Ivoire

2.1 The context

Cocoa farming is a major part of Côte d'Ivoire's economy. Some one million farmers and approximately four million household members rely on this business for their livelihoods. Despite some relative good years under the international cocoa agreements of the mid- to late-1970s and mid-1980s, cocoa farming has not been a very profitable business for most farmers as real prices have not consistently increased (World DataBank, 2016). Most cocoa farmers live below the international poverty line of USD\$1.90 a day (2011 purchasing power parity) set by the World Bank (AFD and Barry Callebaut, 2017).

Poverty was so dire that child labor erupted into the public eye in the late 1990s after reports by UNICEF and others. A wave of sustainability initiatives – both public and private – emerged to address the range of issues related to the problem in Côte d'Ivoire. The World Cocoa Foundation (WCF) was launched by industry in 2000. Legislation in the US was passed - called the Harkin-Engel Protocol - that banned the import of cocoa products made from child labor. In 2001, the International Cocoa Initiative (ICI) was created with the mandate to tackle child labor. Governments, foundations, and other donors such as USAID, Gates Foundation, and Jacobs Foundation funded a range of programs largely focused on increasing productivity and promoting education. In addition, some large companies created their own sustainability programs that centered on building schools and providing educational materials and resources in the country. Companies continued to focus on investing in productivity-related activities like input provision, training, and research and began to work with certification organizations around 2010 to improve the production conditions in their supply chains. Most initiatives and actors involved worked in silos and even under competition that resulted in a great deal of duplication of efforts and resources.

Beginning in 2012, the Ivorian government has introduced a series of reforms employing instruments such as an export auction, price policies, stabilization fund, quality management, trade registry and a differentiated tax regime. The reforms led to improved quality, more stable and higher (nominal) farmgate prices, more transparency and more value addition within the country.

Sustainability efforts have grown and broadened in the Côte d'Ivoire since 2013. The Ivorian government launched a national cocoa strategy called the Programme Quantité-Qualité-Croissance (2QC) for the period 2014-2023 that set out the vision for the sector. New partnerships have been formed via the Public-Private Partnership (PPP) platform - to promote dialogue and collaboration on sustainability with hopes to catalyze the technical and financial resources needed to support the vision and improvements. For much of the past decade, sustainability has been thought to be mainstream in Côte d'Ivoire's cocoa sector reaching a considerable number of Côte d'Ivoire's one million farmers (IISD and IIED, 2014).

2.2 The current state of affairs in promoting Ivorian cocoa farmers' incomes

Increasing production volumes

In Côte d'Ivoire, the main income-enhancing strategy employed at the farm-level has been **increasing productivity** through the intensification of cocoa farming areas in line with the national 2QC strategy. Companies, donors, and NGOs have undertaken a host of activities to increase productivity (and efficiency) like capacity building, agricultural and financial service provision, and farmer group strengthening with the aim that farmers adopt good agricultural practices, improve soil fertility, and

rehabilitate ageing farms. Brands like Mars, Mondelez, and Nestle, cocoa processors like Barry Callebaut and Cargill and traders like Olam and Ecom have delivered or supported capacity building and directly provided agricultural services like improved or cheaper inputs. Some companies, NGOs and soft lenders facilitate credit at favorable rates, local savings and loans schemes or build financial literacy for producer groups. Capacity building has also been carried out through ANADER, the agricultural extension service in Côte d'Ivoire. Some notable initiatives have been WCF's two phases of the Cocoa Livelihoods Program and its Cocoa Swollen Shoot Virus (CSSV) initiative, GISCO's ProPlanteurs, IDH's Fertilizer initiative, and Solidaridad's Cocoa Improvement Program between 2008-2012.

Early grants from the Dutch government funded many sustainability efforts, particularly in Côte d'Ivoire. Financial service provision - outside of trade credit - has been recently employed by multi-lateral donors in partnership with national governments and multinational companies. For example, IFC announced a financial partnership with IDH and Barry Callebaut in 2016 as part of the Global Agriculture and Food Security Program (GAFSP). The partnership centers on a US \$9 million risk-sharing agreement to facilitate credit to 100,000 cocoa farmers in Côte d'Ivoire. IDH has launched the Farm and Cooperative Investment Program (FCIP) with funding from SECO to reach 150,000 farmers with loans by 2020. Also, IDH in partnership with FMO is promoting the Smallholder Finance Facility (SFF) that co-finances investments with upstream companies in service provision, which is expected to target the cocoa sector in Côte d'Ivoire. Many company and donor initiatives include farmer group strengthening to some degree in their capacity building efforts. ProPlanteurs is a good example of a specific focus.

These capacity building, service provision, and farmer group strengthening activities have been largely conducted by way of the value chain as part of company sustainability initiatives often working with **certification**. Certification organizations like UTZ, Rainforest Alliance, and Fairtrade offered systems that defined sustainable production standards, including some degree of product traceability and assessed conformity with these standards. These standard systems complemented company initiatives mainly through agricultural practices but aimed to eliminate the worst social and environmental practices. When farmers were able to sell their certified production as certified, they received a premium payment. In 2012, certified cocoa attracted on average 6-9% premium above market prices and farmers benefitted by an estimated amount of USD\$28.5 million in premiums in the Côte d'Ivoire.

Increasing net margins

The other main income-enhancing strategies has been to improve quality and fixing farm-gate prices, both with the government as main driver. At the sector level, the CCC introduced **quality standards** in 2011 as part of a broader reform package to tackle mediocre quality, flagging production, and growing numbers of farmers quitting the crop. The CCC implements a rigorous quality control system where the quality of cocoa is controlled at the factory gate and the lowest quality is not permitted to be sold. Tighter control has motivated farmers to properly ferment and dry cocoa beans. The result of this policy and enforcement was converting Côte d'Ivoire into an origin of quality cocoa receiving a premium on the world market. Quality has improved to the extent that a French company, CEMOI, has created 'Frenchoc Premium', an upmarket chocolate brand based solely on Ivorian beans.

Increased quality was part of the reason farmers raised their margins on their cocoa. In 2015, the CCC also began to **set farmgate prices** at the start of the harvest. Farmers receive a guaranteed, stable price for their cocoa throughout the season and are protected against any short-term price volatility. The CCC ensures a stable price because it manages an export auction system through which private exporters are obliged to export. The fixed price is further enforced by a CCC-managed traceability system. Under the auction system, 70-80% of the upcoming season's crop is sold forward. Based upon the realized prices of the forward sales and price forecasts, CCC can estimate the prevailing export price for the next season. A farm-gate price is derived from the expected export price. In Côte d'Ivoire the farm-gate price is set at 60% of the CIF price (Cost Insurance and Freight or the price of shipping the product to the port of destination).

Enabling conditions for income-enhancing strategies

Other broader strategies support the income-enhancing strategies discussed above. Companies, donors, and NGOs also have begun to focus attention on **community development** (including basic service provision), **women's empowerment**, and **youth development** to promote the conditions for cocoa farmers to increase incomes. Some notable initiatives in this area have been the above-mentioned CIP by Solidaridad and ProPlanteurs as well as WCF's CocoaAction and the International Cocoa Initiative's (ICI) work on youth development. Having learned from past experiences of working in silos, such strategies are being developed and implemented by multiple stakeholders through more active collaboration. Although broadening to community development, the activities are still largely shaped by cocoa actors for the cocoa sector in Côte d'Ivoire.

In nearly 20 years of sustainability efforts, some **impact** has been evidenced in Côte d'Ivoire in areas that support increasing incomes for cocoa farmers. Production has seen a large increase, culminating in the bumper harvest of 2016-2017. WCF reports that the second phase of CLP resulted in 29-55% yield increases among farmers reached between 2010 – 2013. Further in WCF's CocoaAction, 30% of farmers reached in Côte d'Ivoire applied four out of five good agricultural practices promoted and 14% adopted farm rehabilitation techniques. GISCO reports an average yield improvement of 30-50% corresponding to an increase of \$648 to \$1,080 per household each year as a result of their interventions. Barry Callebaut's recent initiative has initially seen a 23% increase in productivity per hectare. Increased productivity is a result of considerable knowledge and technology transfer and input provision as well as sustainable procurement practices like traceability to identify your suppliers and their production conditions and possibly engage in more direct and fairer trading relations.

Despite the increased production and improved quality observed, cocoa farmers in Côte d'Ivoire have only seen modest gains in their income and over a short period. Much of the productivity gains have been undermined by a dramatic drop in prices, partly driven by the high level of supply. By most measures, farmers are still poor.

2.3 Key challenges

After years of sustainability efforts and some progress, major challenges persist that impede cocoa farmers in Côte d'Ivoire from earning a living income. The are summarized in Figure 3 and further explained in this section.

Figure 3: Key challenges in the cocoa section of Côte d'Ivoire

Farming system

- Technical, financial, market and cultural barriers to existing crop diversification
- Low practice adoption by farmers

Services

- Inefficient fertilizer distribution systems and weak business case for farmer to invest

Value chain development

- Limited take-home share of premium by individual farmers and low use for farm investment
- Current efforts reach a relatively small proportion of Cote d'Ivoire's cocoa farmers

Market management and regulation

- The socio-economic, climate, and natural resource implications of externalized deforestation
- Price volatility in the recent context of oversupply

Revenue generation and re-investment

- Transparency and accountability by the CCC

In the area of services, particularly agricultural services, **fertilizer** is an important input to productive farms. Yet for some farm sizes and conditions, the cost may not outweigh the benefits in the long-term.

Moreover, fertilizer use is less profitable when cocoa prices are low. Smallholder farmers must consider the financial implications of investing in their farm. Fertilizer may be expensive, replanting produces a revenue loss in the short-term, and farmers are averse to the risk of taking on debt. Moreover, imperfect information and distribution systems limit reaching farmers for whom fertilizer would be suitable.

Despite significant funding, capacity building as a central intervention strategy has not sufficiently produced the desired results. Ivorian cocoa farmers are **not adopting the practices** learned in training and observed in demonstration plots on their own farms at any noteworthy scale. CocoaAction's low practice adoption results occur only among a target group of 10% of cocoa farmers in Côte d'Ivoire. It raises questions as to the structural barriers to a productive farming system and the typologies of viable cocoa farmers in Côte d'Ivoire.

Another significant yet unaddressed challenge has been the **externalized cost of deforestation** in the cocoa sector. The economic value of deforestation that is not reflected in the cocoa price is estimated to be 13% of the total external costs of €5.75/kg at the farmgate (TruePrice and IDH, 2016)¹. Production gains in West Africa, including Côte d'Ivoire, have been driven by expanding production areas through the clearing of forests without any serious forest policy enforcement. This 'ecological subsidy' has long stressed water, soil, and other natural resources and exacerbated climate change, which will pose a high cost of adaptation to vulnerable smallholders affecting gains in incomes and improvements in livelihoods.

It has been common practice in the cocoa sector - Côte d'Ivoire is no different - to trade on a short-term basis, apply unexpected discounts (e.g. poor quality), and squeeze suppliers on price and premiums. The **premiums** paid by the industry have been partly used to pay for the organization and certification of smallholders. Another part has been transferred in cash to producer groups and smallholders. While this had a minor positive impact on the total farm income - certainly not enough to close the living income gap - there is little evidence that farmers used these premiums to make the farms more profitable. What's more, as the uptake of sustainable cocoa increased in the market, it became clear that companies along the supply chain arbitrarily applied fixed margins that did not reflect the absolute sustainability premium and would not reach the farmers in Côte d'Ivoire. Few downstream companies today - mainly a handful of leading small and medium-sized chocolate manufacturers - pay premiums directly to the farmer groups they source from.

The focus on the productivity and quality of cocoa has fallen short to sufficiently increase incomes. **Crop diversification** can be considered as an alternative income-enhancing strategy where relevant. However, cocoa farmers would face practical challenges if they were to convert to other, ideally high-value crops. Farmers who have decided to invest in their cocoa plantations may not convert due to the sunk costs and timeframe that newly planted trees require before bearing fruit. If no financial barriers are present, farmers may not have the technical capacity to take on a new crop. Still yet, farmers may decide to not convert to more profitable crops due to tradition, the national importance of cocoa for cultural reasons (i.e. farmers identify with being a cocoa farmer), or lack of alternative, high-value crops.

Recent sustainability efforts only managed to reach a small percentage of cocoa farmers in Côte d'Ivoire - the so-called '**low-hanging fruit**'. Some companies successfully promoted working with cooperatives, which were viewed to still be plagued by a lack of capacity to undertake capacity building and mismanagement of funds to maintain trust among members. Few traders - mainly international - organized farmers beyond certification projects and with sufficient safeguards (i.e. governance, clear and fair terms of trade) to empower farmers to ensure their fair share of value. To reach more farmers and in more meaningful ways, diverse models that have emerged must be built upon to organize smallholders into well-functioning groups that can deliver services to their members over the long-term.

¹ The report uses a farmgate price of €1.35/kg of cocoa beans

Like other commodities, the promotion of sustainable production in the cocoa sector has been driven by companies and even donor and NGO initiatives through the value chain. Such an approach can be limited and undermined by wider **sector weaknesses** like price volatility and diminishing value capture by farmers. The setting of farmgate prices by the CCC that stabilized prices and allowed farmers to increase their income was an effective intervention in the short-term. The oversupply of cocoa in 2016-2017 and resulting 40% drop in the cocoa price underscored the importance of matching supply management with market interventions.

Figure 4: Price development of cocoa beans 2000-2017



Source: International Cocoa Organization on Index Mundi

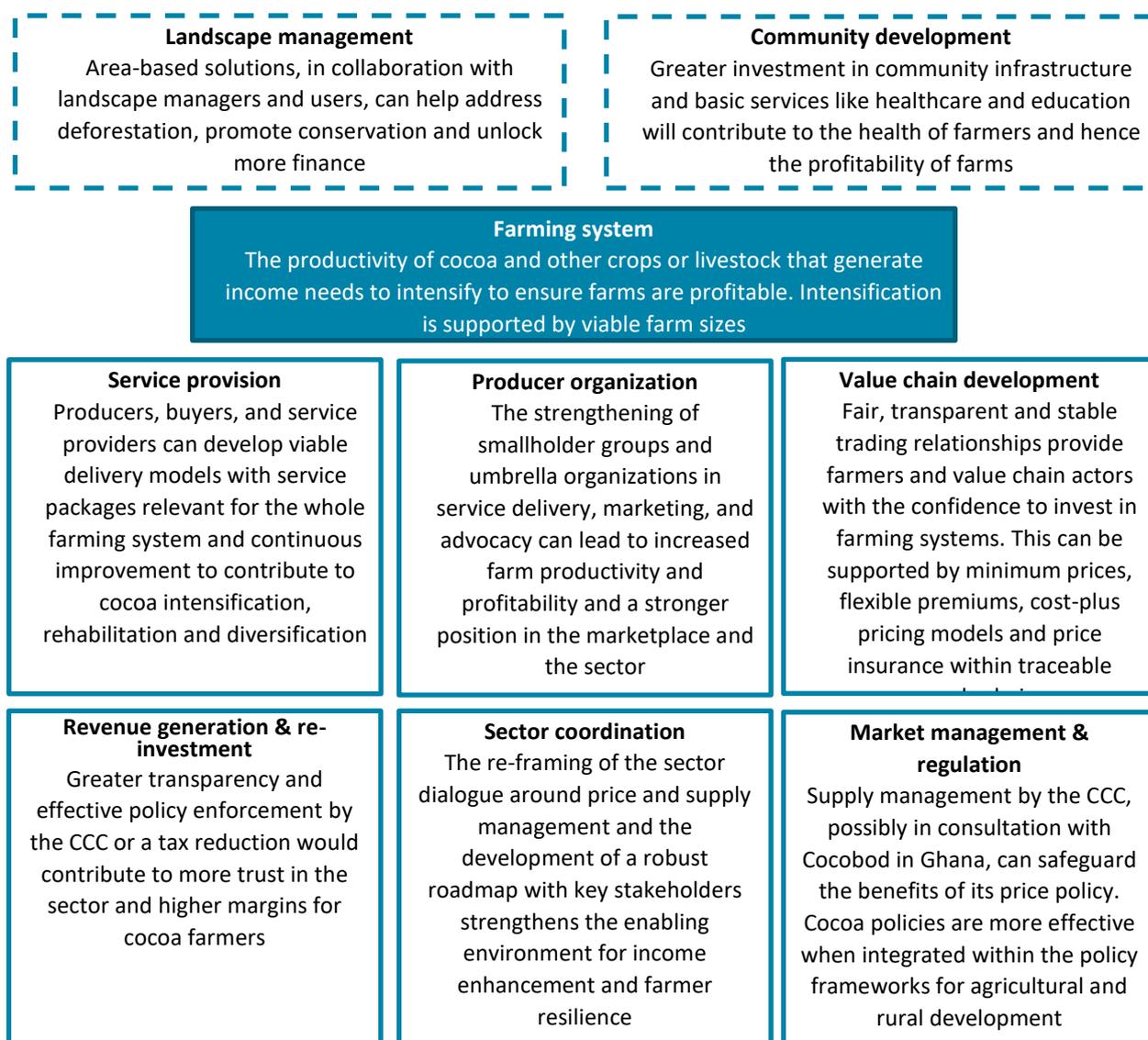
Despite the CCC’s impact on price stability and quality of cocoa beans, **governance** is a widespread concern. For example, there is no transparency on how the auction’s prices are determined and volumes awarded. Poor enforcement of the system’s rules, particularly those related to local exporters, gave them the opportunity to benefit disproportionately from the auction, which contributed to the widespread default in 2017. It was unclear whether the stabilization fund would be sufficient to compensate farmers who could no longer sell to local exporters who had defaulted. Management capacity has also hindered the effectiveness of the traceability system. Transparency and accountability is also an issue when it comes to revenue generation and re-investment in the sector. There is a structural lack of transparency on how the high level of resources derived from taxation are re-invested, the tangible benefits to farmers, and monitoring and evaluating the effectiveness, efficiency and sustainability of such investments.

2.4 The next iteration of strategies to increase Ivorian cocoa farmers’ incomes

With an understanding of the current income-enhancing strategies and the main challenges, a fresh outlook is given on a set of strategies that could effectively close the living income gap for cocoa farmers in the Côte d’Ivoire. The strategies and associated interventions presented are organized by the building blocks of the sector transformation framework.

Figure 5 highlights the priority strategies that are needed to support farmer resilience and livelihoods. The potential of the cocoa sector to deliver a living income to farmers is centered on a fair and inclusive cocoa value chain, opportunities to diversify from cocoa as a main source of income, and the health of the broader landscape. An enabling environment for the cocoa sector is transparent and accountable, focusses on price and supply management and is also made possible by a robust, aligned national and provincial agricultural policy.

Figure 5: key strategies to close the living income gap in the cocoa sector of Cote d'Ivoire



The focus on productivity and quality by industry, CCC and development agencies have fallen short to sufficiently increase incomes. Continuing down the path of inconsequential investment and technical support in individual company supply chains as well as incohesive and ineffectively enforced policy at the sector level will not bridge the gap for cocoa farmers to earn a living income. Business as usual is not an acceptable strategy to improve farmers’ profitability and livelihoods. Extraordinary measures are needed. These measures are presented in the following paragraphs.

Farming systems

Key message on Farming systems

- To ensure farms are profitable, cocoa productivity needs to intensify while other crops or livestock that generate income need to intensify as well. Farm diversification through agro-forestry and production on viable farm sizes are key success factors.

A key component is to rethink the farming system. Farms need to become much more profitable, which requires a dramatic increase in the productivity of cocoa farms. To avoid that productivity increases will negatively affect prices, and thus undermining the possible income gains by intensification, the management of supply is a fundamental challenge that needs to be simultaneously addressed. The cocoa intensification strategy should go hand-in-hand with the promotion of crop diversification to bolster farmer resilience and improve livelihoods throughout the year. For example, agro-forestry can be re-introduced to cocoa farming to improve both cocoa quality and ecological value and resilience of the farming system. Farmers could also divide their farms with plots for intensive cocoa monoculture and plots for other crops. A diversified farm can grow other crops that are high-value, like rubber or vegetables, or for own consumption or local sales, like cassava and plantain, as it is relevant to the context. Women can undertake activities like producing and marketing other crops, raising poultry or livestock. Many cocoa farmers in Côte d'Ivoire have already diversified. In such cases, it is particularly important that farmers are supported to make these other crops more profitable. Promoting viable and diversified farming systems requires a collaborative effort by the cocoa industry and its stakeholders as well as the sectors of the diversified crops.

Developing viable farming systems which can sustain a living income may in certain contexts also require promoting viable farm sizes. Larger farms could optimize the area needed for cocoa and allow for additional less labor-intensive crops.

Community development

Key message on Community development

- Cocoa farmers need to be in good health, have the basic skills to run a farming business, and be able to send their products to buyers in an efficient way. The profitability of farms is supported by greater investment in community infrastructure and basic services like healthcare and education

The cocoa production base is only as strong as its surroundings. Viable farms are located in a broader community and landscape where continued effort and investment must be made. It is a priority that the Ivorian government - with support from donors – continue to invest in community development. This implies investments in community infrastructure and basic services like healthcare and education to strengthen the human development capability and reduce the costs of a decent living in Côte d'Ivoire. Under CocoaAction, companies and ICI have made a considerable contribution through organizing community-based structures that enable women's alternative income generation. The needs in communities, however, are overwhelming and companies will be hesitant to boost their support for such social infrastructure since it is primarily the responsibility of the government. Community development in cocoa growing regions should be integrated and complemented by government policy that seeks rural development opportunities.

Landscape management

Key message on Landscape management

- Area-based solutions - in collaboration with landscape managers and users – can help address deforestation caused by cocoa promoting conservation as well as unlocking more finance needed for implementation

When looking beyond the cocoa farm, a key strategy that can be employed with both on- and off-farm effects is landscape management. Landscape management has the potential to transform social and environmental conditions for (cocoa) farming and conservation of natural resources in a given geographic area. In practical terms, landscape approaches include activities like conservation value assessment, geographic monitoring and land-use planning with local authorities. High ecological value landscapes not only support intensification and productivity in the cocoa farming but can open up

opportunities in international financing facilities like Payment for Environmental Services (PES) and the Reducing Emissions from Deforestation and Degradation (REDD+). Today, there are only a few frontrunner companies and NGOs working in a meaningful way on landscape management in Côte d'Ivoire. To be sure, the Ivorian government's new Forestry Policy and company action plans to address deforestation as part of the Cocoa & Forests Initiative promise to ensure that landscape management will feature more prominently in sustainability strategies in the short-term at a significant scale.

Text box 1: Côte d'Ivoire's new Forestry Policy supports landscape management

The Ministry of Water and Forests in Côte d'Ivoire has developed a new forestry policy that is aligned with WCF's Cocoa & Forests Initiative. The main aim of this policy revision is to protect and manage forests more responsibly recognizing the socio-economic importance of agricultural production for the country. The policy will protect classified forests and reclassify degraded classified forests as agro-forests, also in forests of rural areas. This move to agro-forestry is envisioned as an intervention for cocoa intensification and timber production. In areas currently classified as forests, agro-forestry will shift responsibility to agricultural companies to address landscape management and farmer livelihoods as they seek to develop the land concessions. The focus on agro-forestry within the policy environment is also promoted by IDH through its programs on landscapes and the cocoa sector, in general. Ultimately, it is hoped that such a policy contributes to curbing the expansion of cocoa production in illegal zones, guiding cocoa production to regions with the most appropriate agronomic conditions and respecting the customary land rights of smallholders present in such re-classified forested areas.

Source: WCF's Report on the Launch of the activities of the Joint Framework of Action (2018)

Wider and deeper attention solutions at a landscape-level could include, for example, landscape monitoring in combination with company no-deforestation policy enforcement and cocoa traceability to reduce the incentive for farmers to convert forests for cocoa production. Landscape management is an opportunity for the next level of partnership between governments, companies, donors, and NGOs in the cocoa sector. It will incentivize the involvement of relevant stakeholders from non-cocoa landscapes in these partnerships.

Producer organization

Key messages on Producer organization:

- Farmer-based groups in Côte d'Ivoire need to be strengthened to be able to deliver the services their members need, market effectively cocoa and other products, and sell higher quality cocoa nationally or exporting
- Umbrella organizations need to be strengthened to articulate farmers' voices at the sector-level in Côte d'Ivoire and at the international level

The strengthening of producer organizations - of varying types - is a priority to enable them to fulfil their critical role in organizing smallholders around market access, service delivery, and agency at the sector-level. Producer organizations, both formal and informal groups, aggregate farmers to commercialize their cocoa creating economies of scale through which quality and value addition can be driven in cocoa, cocoa-related activities, and other crops produced.

Producer organizations delivering services to their members can tailor activities to meet their specific needs in cocoa and the production of other crops. These models – operated by cooperatives or associations – can shorten the value chain to reach smallholders directly and greatly empower the farmer groups to increase the productivity and improve livelihoods of their members. The limits to this model are the group’s capacity to effectively manage the service business, financing, and the ability to scale and impact more producers. The better performing groups could also be strengthened to undertake value-added activities like exporting as this could increase profitability if the additional risks are well-managed.

Umbrella producer organizations could also be strengthened contributing to enhanced leverage in the market, improved access to services, and articulating the producer’s voice at the sector level. This strategy would apply a gender lens to ensure women are empowered and well represented. This could promise to lead to more professional organizations of producers that are inclusive, competitive, profitable, and more sustainable.

Service provision

Key messages on Service provision

- Cocoa intensification and rehabilitation along with farm diversification require capacity building, inputs, and financing
- Innovative models led by cocoa buyers, producers, and commercial service providers can be used to effectively provide these services to cocoa farmers
- These models can focus on segmenting and ranking farmers and providing access to progressively complex services to promote continuous improvement

For cocoa producers to be more productive and profitable, affordable, quality, and tailored services in areas of training, inputs and finance and effective delivery models are a priority. In fact, service provision should be viewed as a business to take advantage of the opportunities. Besides producer-led models, other models, both formal and informal, can be employed that support producers though they mainly have a sourcing purpose. Value chain actors have a dominant role when it comes to service provision to cocoa producers in Côte d’Ivoire. They deliver already a range of services to farmers in order to secure their cocoa supply. Their models can be an efficient approach due to integrated service and commercial teams and closer control on ensuring a return on investment in service delivery. These companies can design support programs that match the scope and level of services with the professionalism of the producer group. As producer groups demonstrate more professionalism the type and amount of services widens. With the training, agricultural, or financial services provided, conditionality could be built in as an incentive for performance. For example, traders can provide seedlings, fertilizer, production tools, or other relevant products like mobile phones, solar panels, and construction materials to those cocoa farmers who show improvement by adopting good agricultural practices, farm rehabilitation, or soil fertility management. These companies are also in a position to provide services that are relevant to the farming system as a whole rather than only applicable to cocoa, possibly in partnership with other companies or service providers. For example, cocoa seedlings and of crops suitable for inter-cropping – cassava and plantain - or those relevant for diversification – rubber and coffee - can be provided. Shade trees useful for cocoa and other crops grown can also be distributed. Ecosystem services, in general, could be promoted to protect or restore the ecological value that underpins farm performance. Multinational company models can be an effective approach to provide comprehensive technical packages to producers at a large scale. It tends to focus mainly on productivity and may not ensure that producers net incomes are increased.

Another model is purely service-oriented where service provision is independent of commercial cocoa sourcing. A specialized, commercial service sector could tailor services to farmers where the benefits

exceed the costs at the farm-level. These companies are in a position to innovate in the broader agricultural value chain. Each service delivery model carries the associated benefits, risks, and funding needs. Ultimately, service providers must understand and adapt to changing market dynamics and advise their customers on the expected benefits, trade-offs, and financial implications of their decisions.

Financial services are a key in enabling the implementation of technical packages, particularly soil fertility, farm rehabilitation and crop diversification. Donors are instrumental in guaranteeing risk in loans provided by banks to farmers. Social lenders that provide capital to producer groups can also closely monitor the impact such investments have on their members' incomes and livelihoods. For example, Oikocredit has a financial partner in Côte d'Ivoire that uses the Poverty Probability Index for over 5.000 individual value chain clients. Producer groups could be strengthened by support programs on financial risk management mechanisms such as hedging, strategic stock management, and crop insurance. Producer groups play an important role in managing supply and demand dynamics on behalf of their farmer members. There is experience in other similar sectors like coffee in using financial risk management mechanisms.

Value chain development

Key messages on Value chain development

- Fair, transparent and stable trading relationships provide farmers and value chain actors with the confidence to invest in viable farming systems
- Fairness could be promoted by introducing minimum prices, flexible premiums and cost-plus pricing models within managed and traceable supply chains. In return, farmers need to show performance on quality and sustainability
- Partnerships with other sectors should be explored to promote diversification

To dramatically strengthen value chain development, the promotion of fair and stable trading relations is a priority. Several cases exist of small and medium-sized chocolate manufacturers offering Ivorian suppliers favorable trading terms, including fair pricing models. These companies apply mechanisms such as minimum prices, flexible premiums and cost-plus pricing models. Suppliers benefit from good terms like pre-finance, quick payments, long-term supply arrangements and price insurance, which can successfully bring higher returns and stability to cocoa farmers. Long-term supply arrangements also support farmers to invest in their farms. To promote diversification, this could be done in partnerships with other sectors.

Large companies could consider altering their business models to pay cocoa farmers a higher price that covers the cost of sustainable production without impeding competition in a free market. A leading multinational chocolate manufacturer already includes sustainability in their sourcing criteria and reward suppliers who effectively compete on this criterion although it may prove to insufficiently compensate producers. Another priority strategy is to encourage fully traceable and exclusive supply chains. This would provide a disincentive to increase production by farmers excluded from the supply chain. It would also allow downstream companies (i.e. brands, retailers) to pay sustainability premiums directly to producer groups or even to individual farmers, removing the number of intermediaries handling such payments. Tony Chocolonely operates a fully traceable supply chain ensuring cocoa liquor and cocoa butter is produced from beans they source from cooperatives in Côte d'Ivoire with whom they have long-stand relationships, which enables them to pay directly the living income-based premium to their producer groups.

Market management and regulation

Key messages on Market management and regulation

- To sustain the benefits of the CCC's price policy, supply management is needed in tandem (e.g. regulation, diversification, macro-economic modeling) and in consultation with Cocobod in Ghana
- Trade registration and licensing is a light mechanism that supports price and quality policy implementation and unlocks access to finance. The CCC could allocate funds to effectively manage it
- Coherent policies on agricultural and rural development are needed in Côte d'Ivoire to direct the appropriate, complimentary business activities in respective communities whether cocoa, other crops, and/or non-agricultural employment

Within the enabling environment, a few strategies can be employed in the area of market management and regulation that would support increased incomes for cocoa farmers. In Côte d'Ivoire, the experience of farmgate price management (i.e. stable and higher prices) led to increased harvesting and production. To mitigate the effect of oversupply on the market and farm-level interventions on productivity, it is a priority that prices be managed in the context of supply and demand over the long-term. As the world's largest producer (43%), Côte d'Ivoire - together with its neighbor Ghana (20%) – has an important influence on the global supply of cocoa beans and shape international markets to some degree. Therefore, the CCC could apply sound macro-economic modelling of supply – demand dynamics, with a focus on production, preferably at the regional level. It would be counterproductive if Côte d'Ivoire tries to control supply to improve prices, while Ghana pushes for higher volumes, undermining the gains for Ivorian cocoa farmers (Aidenvironment & Sustainable Food Lab, 2018).

Supply management can include a combination of production controls, buffer stock management, land use planning and monitoring (e.g. based upon the new Forestry Code), and the promotion of crop diversification. Particularly when combined with market intelligence (e.g. production and demand forecasts), diversification will allow to inform farmer's decision to shift resources between crops. Ultimately, effective implementation of any combination of measures is key to fulfil the reform objectives and convince stakeholders of the government's management capacity. Managing supply successfully in support of living incomes of cocoa farmers will mean that some farmers will have to leave the sector. Hence, it is a priority that the cocoa strategy be embedded in a more comprehensive strategy for rural development. The cornerstones of such policy framework would include socio-economic development, employment creation, social inclusion, viable farm sizes and land tenure.

Another priority strategy in market management is to strengthen the trade registry and licensing system currently operated. When properly and effectively operated, these systems – for traceability and export rights – can not only implement quality policies but, from a living income perspective, support price policies and access to finance. In the coffee sector, iCafe in Costa Rica has been successful in getting farmers, washing stations, and exporters to report trade data and monitoring all transactions. A trade registry and licensing system ensures established prices and any sustainability premium are indeed paid to farmers but also facilitates trade and commercial credit to farmers guaranteed by supply contracts. To be sure, a key success factor of this system is the governance body's strong capacity to manage the system and in accordance to its rules. The CCC's ability to efficiently manage all of the system's features could be strengthened by re-directing a share of the revenues generated to this important effort.

At an international level, the specific debate on prices is gaining momentum among stakeholders in the cocoa sector with a focus on Côte d'Ivoire. Competition or anti-trust law has been a central consideration of the possible scope of this debate. In general, the purpose of competition law is to regulate the behavior of companies - for example, no price fixing - promoting fair competition that benefits consumers. It could be argued that a level playing field where all companies internalize social and environmental costs into prices would benefit consumers from a moral, rather than economic,

perspective. Inter-governmental institutions like the International Cocoa Organization (ICCO) and the Ivorian Ministry of Agriculture along with development actors have a critical role in guiding the debate on price and supply management within the prevailing and potential scope of competition law.

Revenue generation and re-investment

Key message on Revenue generation and re-investment

- Greater transparency and effective policy enforcement by the CCC or a tax reduction would contribute to more trust in the sector and higher margins for cocoa farmers

Cocoa taxes are an important revenue source in Côte d'Ivoire. The CCC applied for several years a 22% export tax (revised to 16% since the recent drop in prices) which is partly used for investments in the sector, including research, extension, market management and investments in social infrastructure. The government also provided tax breaks for cocoa grinders to stimulate value-added processing in-country and this strategy turned Côte d'Ivoire into the world's largest grinder.²

The significant revenue generated from taxes could be allocated to robustly support cocoa regulations and the transition to profitable farming systems. For example, the CCC wide-ranging reforms could be more impactful if greater resources were earmarked for the enforcement of specific rules and systems that govern the cocoa sector. This would minimize bad market behaviour that undermines the sector's governance as well as amplify the investments in research and extension services and the PPP platform. If current investments in research and extension are shown to be less instrumental as desired, the government could consider lowering the export tax as a way to share more value with farmers (similar to what happened in Ghana in the last two decades). Ultimately, transparency and accountability on revenue generation and re-investment would promote greater trust within the sector and the effectiveness of the public-private investments made contributing to more resilient and profitable farmers.

Sector coordination

Key message on Sector coordination

- The enabling environment for income enhancement and farmer resiliency can be strengthened by re-framing the sector dialogue around price and supply management
- A robust roadmap for Côte d'Ivoire- developed and monitored by key stakeholders - could guide and commit actors to delivering on an objective of a living income for farmers

At this stage of sustainable development in Côte d'Ivoire, the cocoa sector dialogue could increasingly discuss a better and more coordinated enabling environment to strengthen the promotion of farmer income and resilience. The scope of dialogue could be re-framed around price and supply management, viable farm sizes, diversification, traceability, and social inclusion and land rights. Ultimately, it should lead to a shared vision for a sustainable cocoa sector in Côte d'Ivoire and be supported by sector-wide monitoring (e.g. on the living income gap). The Global Cocoa Agenda set in 2012 defined a series of actions for stakeholders to take at the global level but lacked a robust roadmap for key countries with timebound indicators and reporting as well as a meaningful partnership directed by a Steering Committee. Inspiration could be drawn from the Malawi 2020 initiative in the tea sector. To address critical sustainability issues in Malawi, the industry led the development of a coalition comprised of value chain actors and, in consultation with government and civil society, created a 5-year roadmap to revitalize the tea sector (Malawi 2020, 2017).

² Ecobank (2015), *Middle Africa*, Briefing Note – Soft Commodities - Cocoa, September 2015.

Text box 2: The Malawi 2020 initiative: revitalization, living wages and living incomes in the tea sector

Nearly two-thirds of Malawians live below the poverty line. Its tea sector is Africa's second largest and jobs on tea estates pay above Malawi's minimum agricultural wage. To address production and market issues facing estates and smallholders, an industry-led coalition developed the Malawi Tea 2020 initiative. The development process resulted in a 5-year roadmap whose actions contribute to five themes of: a profitable estate sector, motivated workforce, living wage payment, profitable smallholder sector, and energy and environmental sustainability.

Malawi Tea 2020 defined a core set of farm-level strategies and targets to close the living income gap based on its research related to household characteristics, actual incomes and living income comparisons, and price and yield scenarios. The strategies are categorized by smallholders' farm sizes - less or greater than one hectare. For farmers whose farm is less than 1 ha, the strategy is to dedicate the entire farm to tea production, increase yield by at least 40%, and engage tea estates to pay at least 40% more. For farmers whose farm is greater than 1 ha, the yield and price targets are the same and the complimentary strategy is to find other paid tasks for additional labor and create off-farm income generating activities.

To complement the strategies implemented in the production base, the initiative developed a price discovery model to give clarity on sustainable procurement practices and enables the global tea industry to fairly share the additional cost of a living wage for farm and factory workers in Malawi. This price range is negotiated and functions within a framework provided by a Mombasa market reference and a base price. Several buyers have committed to use this model as a basis to determine their additional contribution to close the living wage gap. This advancement is innovative since it means that the companies use a common, pre-competitive model to negotiate prices and determine price differentials with their suppliers. Also, Malawi Tea 2020 is looking into how additional buyer contributions can be distributed to workers across the tea industry – either paid directly to farms within a company's supply chain or contributed to a collective Living Wage Allowance Fund that equally benefits the Malawi tea workforce. At this stage, the initiative seeks agreement from stakeholders on the yearly living wage allowance, value distribution, and contracting commitments.

Source: Malawi Tea 2020: Living and Actual Income, Learnings from Tea Sector, Malawi Experiences, presentation at the Living Income Community of Practice workshop, Berlin 2017

In any case, the next iteration of sector coordination would see a strong role for donors and civil society organizations to bring important thematic expertise, play key facilitation roles, and convene government and company participation. Donors and civil society organizations along with companies could strengthen their lobby and advocacy of the Ivorian government to develop, align, and embed policies that are part of the enabling environment for agricultural development, in general.

Enhanced sector dialogue and closer coordination would result in a set of coordinated and complimentary intervention strategies in the area of market management, regulation and revenue collection and re-investment that, if implemented in an effective and accountable way, would systematically contribute to increase farmer incomes. A healthy debate would be needed by the Ivorian government and global industry with support of donors and civil society.

3. Closing the living income gap of natural rubber farmers in Indonesia

3.1 The context

Natural rubber is produced by the rubber tree (*Hevea brasiliensis*) and is harvested in the form of raw latex (Hauser et al., 2015). Latex is a sticky, milky colloid which is “tapped” by making an incision in the bark of the rubber tree and is collected in cups. Tapping starts in the fifth to seventh year after planting of the tree and continues for 25 to 30 years.

Indonesia is the world’s second largest producer and exporter of natural rubber. Approximately 85 percent of the Indonesian natural rubber production is produced on small-scale farms. Rubber cultivation can be found across Sumatra and Kalimantan. In Kapuas Hulu in West Kalimantan, the focus district of this study, all rubber is produced by smallholders. One can find the following rubber production systems (Aidenvironment, 2011):

- *Wild rubber*: Rubber collection from wild rubber trees within primary forests. This practice has largely been superseded by the following two systems:
- *Agro-forestry*: This is the dominant production system. After having planted, farmers allow secondary forest regrowth which they enrich with unselected rubber seedlings. Rubber trees represent often more than 50% of the trees. The remaining of trees include both fruit trees and timber trees. In other areas these systems also include other cash crops such as cocoa or coffee.
- *Mono-culture plantations*: These plantations use improved (cloned) varieties and require regular application of fertilizers and weeding as they perform best under zero-competition with other plants.

Text box 3: Kapuas Hulu

Kapuas Hulu Regency is located in Western Kalimantan on the Indonesian part of Borneo. It enshrines a territory of 29,842 km² with a population of 231,000 (Census 2013). In total 74 percent of the districts’ area are covered with tropical forest of which 42 percent is primary forest. Natural rubber is an important income source for the population, which grows rubber trees in agro-forestry systems.



Though rubber has been widely cultivated in Kapuas Hulu since the 1970s, improved infrastructure in the 1990s significantly improved access to markets resulting in a notable increase in the number of rubber farmers. Nowadays, rubber cultivation is the primary source of income for many households. The popularity of rubber as a smallholder activity stems, in part, from its flexibility. Rubber tapping requires relatively little time investment and periods of non-tapping do not compromise yields. As a result, rubber can function as a safety net when cash income is low and harvesting can be adapted according to market prices and the availability of alternative income opportunities. Other sources of cash income available in the region are gold mining and the collection of eaglewood, of which both become increasingly scarce due to overexploitation. Fishing is common across Kapuas Hulu, both as a means of subsistence and as a source of income. Commercial aquaculture is predominantly found around freshwater lakes. Collection of other Non-Timber Forests Products (NTFP) such as rattan, honey, fruits and medicinal plants is widely carried out and primarily used for subsistence (Leonald & Rowland, 2016).

Rubber is planted on old swidden plots (shifting cultivation), in mixed agroforestry gardens or in rare cases, through deliberate forest clearing. The average size of a rubber garden is between 1 and 3 ha in Kapuas Hulu (Leonald & Rowland, 2016). After tapping, the latex is collected in cups and allowed to coagulate naturally. Every few days, the coagulated rubber (cup lump) is collected, stored and sold to

the traders afterwards. Farmers in Kapuas Hulu produce predominantly cup lumps. Various intermediaries exist between the farmers and crump rubber factories; they can consist of a village collector, sub-district trader and district trader. Village collectors are often rubber farmers themselves. They collect the rubber from other producers and store the rubber until they have reached sufficient quantities to sell in the nearby town. They may have their own transport means or ask their buyer to come and collect the rubber. The traders at the sub-district or district towns have trucks to transport the rubber directly to a rubber crump factory (several factories are located in Pontianak). Generally, no contracts exist between producers, traders and factories - it is a system of cash and carry and on —the-spot negotiations. In the rubber crump factory, the cup lumps are processed into low-quality rubber blocks which are then sold to the tire industry (Aidenvironment, 2011).

3.2 Key challenges

The total household income of the majority of rubber smallholders in Kapuas Hulu is well below a living income. A recent living income benchmark exercise in Kapuas Hulu show that between 63% and 89% of the households (of a sample of 63 households distributed over three villages) earn less than a living income (Martin, 2018). In the sample, rubber farming makes between 7% and 24% of the total family income and 42% to 94% of the agricultural income per household. The exercise shows that the majority of farmers earn with rubber farming far less per day than a living income (Martin, 2018). There are several causes. Research in neighboring regencies show that the productivity of smallholder plantations is low compared to what is feasible. Agroforestry systems normally produces 500-600 kg/ha per year, smallholder monoculture plantations approximately 950 kg/ha per year, which is still considerably below the normal production of over 1,200 kg/ha per year in estate plantations (Wulan et al., 2008). Important causes for underperformance include the lack of access to high yielding clonal varieties, a lack of knowledge of good agricultural practices, and inadequate harvesting and post-harvesting practices.

Another key challenge is the low prices smallholders receive. On one hand, this is related to poor market access. Farmers are also often not aware of quality requirements and how this could affect prices. They also do not know the prices in the international markets. This puts them in a weak negotiation position towards the collector, especially if they are indebted to them. Quality at factory gate is often not tested, which facilitates adulteration by collectors and farmers (e.g. soaking cup lumps in water to increase its weight). This practice results in a lower quality rubber. Consequently, factories anticipate such adulteration practices with all kind of other unethical practices. There is little trust in the supply chain and farmers generally do not emerge as winners in terms of value capture (Aidenvironment, 2011).

In addition, volatile world market prices, with long periods of busts, present a structural constraint to farmer incomes (Aidenvironment, 2016). The world market prices for natural rubber have fluctuated strongly since 2000. Structural issues that have an impact on the price of natural rubber are related to supply and demand alterations, changing oil prices,

Figure 6: Price development of natural rubber 2000-2017



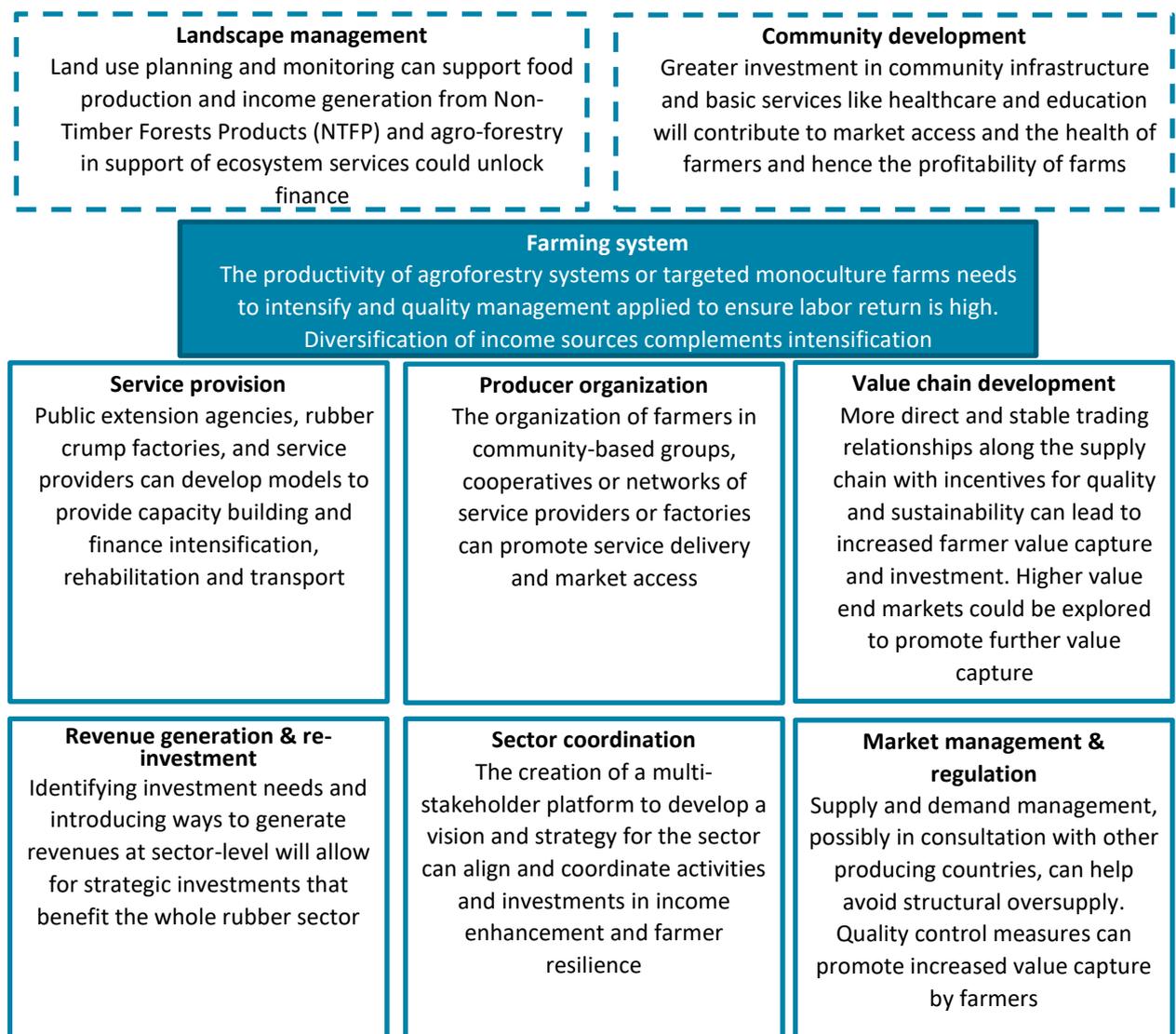
Source: Singapore Commodity Exchange (SICOM) on Index Mundi

uncertainty about economic cycles, weather, and regulatory programs. In 2001, prices reached the lowest level in 30 years, while they reached historical price peaks in 2008, 2010, and in 2011. Since 2011, prices have decreased drastically driven by oversupply and low oil prices (Accenture, 2015). In the past few years, local prices of rubber have fallen considerably to not yet 50 percent of what they were in the peak years. As a result, many rubber farmers in Kapuas Hulu stopped tapping and have switched to waged labor on palm oil plantations, or less commonly, converted their rubber farms to palm oil plantations (Leonald & Rowland, 2016).

3.3 Strategies to increase income or natural rubber smallholders

Figure 7 presents the priority strategies that could be considered to close the living income gap in the natural rubber sector of Kapuas Hulu in Indonesia. This section discusses them in more detail.

Figure 7: Key strategies to close the living income gap in the Indonesian smallholder rubber sector



So far, there have been little efforts in Kapuas Hulu to increase the income of smallholder rubber farmers. Projects that have taken place in other locations in Indonesia over the past two decades give some insights on potential strategies.

Farming systems

Key messages on Farming systems

- Efforts to intensify agroforestry systems or monoculture plantations should be combined with promoting income diversification and need to consider the return on labor
- Improving quality management in harvest and post-harvesting will increase value capture by farmers

The first element of strategy is to make the farming system more profitable by improving productivity and quality. Strategies to improve the quality of rubber includes adopting better harvesting cycles, using the right coagulant and better harvesting tools and improving post-harvest and storage practices (Aidenvironment, 2011). One way to make the current low-intensity agroforestry plantations more productive is by introducing higher yielding cloned species instead of unselected rubber seedlings. ICRAF has developed Improved Rubber Agroforestry Systems (RAS) with different intensities (Wulan et al., 2008). Some of the models also include the planting of timber and fruit trees. An economic analysis of the improved RAS in the neighboring district Sanggau showed that the improved systems can drastically improve the returns on labor and land (see Table 1).

Table 1: Economic performance of various rubber systems (at discount rate 11%) based upon data from 2005/2006

Farming systems	Net Present Value (Rp'000/ha)	Internal Rate of Return (%)	Estimated cost (Rp'000/ha)	Labor return (Rp/day)
Traditional system	(1,073)	9.15	13,629	17,907
RAS-1 Low maintenance	10,087	21.01	10,874	40,838
RAS-1 Medium	11,197	20.20	14,318	47,629
RAS-1 High density	13,496	21.91	12,657	47,629
RAS-2 with food crops	4,116	14.16	21,834	25,113
RAS-2 Associated trees	18,316	26.32	15,373	42,749
RAS-3 with cover crops	2,864	14.33	19,427	23,189
Monoculture private	11,307	20.06	17,217	32,415
Monoculture ideal	18,567	24.18	19,035	35,683

Source: Wulan et al. (2008)

An alternative model to promote is the mono-culture plantation with clonal species. This model has been promoted by various Indonesian public-sector programs across the country. The same study by ICRAF shows that more intensive monoculture rubber offers the highest yield and profitability. Intensification will require more labor and capital inputs than the current traditional agro-forestry systems. It is important to realize that this may be a challenge as many farmers in Kapuas Hulu appreciate the current systems for their low labor and capital input. Farmers also value the diversity of products that are derived from these systems (Ilahang & Anas Nasrullah, 2011). There is indeed a trade-off between maximizing the income from rubber in monoculture versus the more diversified agro-forestry systems. This is also relevant from a living income perspective, as the agro-forestry systems and

community forests produce a considerable part of the food needs, thereby reducing costs of a decent living with almost a third (Martin, 2018). This trade-off needs to be considered when promoting a farming system. An interesting outcome of ICRAF's study is that, in terms of labor return, low-intensive, improved agroforestry systems score relatively high compared to more intense agroforestry systems and monoculture plantations (see Table 1). This could be an interesting alternative to higher levels of intensification as it reduces the risks related to investments in rubber plantations and frees up household labor for alternative income opportunities. This seems to be a particular interesting opportunity in cases where viable alternative income opportunities exist. Already identified opportunities for income diversification include wage labor on palm oil plantations, the intensification of staple crops (e.g. rice) and livestock production (Martin, 2018).

Community development and landscape management

Key messages on community development and landscape management

- Community infrastructure such as roads and telecommunications and basic services like health and education can have an important impact on labor productivity and market access.
- Landscape management can support the harvesting of NTFP as an income diversification strategy and reduce the impact of rubber farming on biodiversity and unlock payments for ecosystems

It may require a more landscape management approach to optimize the different on-farm and off-farm (e.g. NTFP) livelihood opportunities in Kapuas Hulu, while preserving the ecosystem services that support these, including the rich biodiversity and the production of food. Examples of relevant activities include a judicious planning and monitoring of land use. An option to consider is whether farmers could preserve ecosystem services through maintaining their agro-forestry systems and whether they could be paid for this. Possible linkages with REDD+ could be explored for this. Similarly, basic community infrastructure such as roads, communication, health and education can have an important impact on labor productivity and market access.

Producer organization

Key message on Producer organization

- To promote service delivery and market access, farmers can be organized in community-based organizations, service provider networks (e.g. credit unions and input providers), farmer cooperatives and factory supply networks

Effective service provision and market access will benefit from a certain degree of producer organization. Companies could connect to farmers through managed middleman or their own extension staff. Service providers could build their own networks. The scale of such efforts could be promoted by organizing farmers into groups or cooperatives, although this often requires a time and resource-intensive process with an uncertain outcome. If the creation of strong producer organizations succeeds, they could also develop their own service provision to their members. In West Kalimantan, other organizations exist with the potential to reach a large number of farmers. One example is the credit unions that have many grass-root groups across the Province. They can play an important role in providing relevant agricultural financial services but their network could also be interesting for other service providers. For example, the partnership facilitated by Solidaridad between the Perkumpulan Keling Kumang Group, a major credit union in West Kalimantan, and Pupuk Kaltim (PKT), Indonesia's largest producer of various fertilizers.³

³ <https://www.solidaridadnetwork.org/news/solidaridad-facilitates-tie-up-between-indonesia%E2%80%99s-largest-public-sector-fertilizer-company-pkt>

Service provision

Key messages on Service provision

- Farmers require access to knowledge, inputs, and finance to make investments in their agricultural, harvest and post-harvest practices
- A mix of (partly) subsidized and (semi-)commercial service provision is needed by the public extension services, rubber crump factories or specialized service providers

In order to improve the productivity and quality of farming systems, whether through agro-forestry or monoculture, a range of good agricultural practices are recommended. These practices require farmers having access to knowledge, labor and inputs (planting material, fertilizers, pesticides, coagulants). The accessibility to these services is compromised by poor availability (e.g. high yielding seedlings) or the lack of capital to procure them. A factor that contributes to capital constraints is the duration of the immature periods or new rubber trees. Quality and inclusive service provision is needed. Some of the service delivery models may need to be subsidized, others may be (semi-)commercial, in which the pre-financing of inputs and other costs will be a critical success factor. Finance for storage and transportation means may also be needed for farmer groups to upgrade quality and create direct market access. Depending on the context, service could be provided by the public extension services, rubber crump factories or specialized service providers (e.g. credit unions and input providers). It is important to realize that at certain rubber price levels the business case lacks to adopt certain good practices.

Value chain development

Key messages on Value chain development

- Direct trading relationships between farmer groups and rubber crump factories will promote value capture by farmers and incentivize investments in their farms
- Rubber crump factories need to be incentivized by their customers to invest in their supply base
- Value capture can be improved by promoting value addition at the farm or farm group level or by targeting higher-end markets

A very important complementary strategy is the promotion of more stable and direct value chains between smallholders, rubber crump factories and downstream companies. More trading relationships can be organized by supporting farmers to transport their rubber collectively to rubber crump factories or by having rubber crump factories to open collection centers in the district. Stable trading relationships offer a better environment for farmers to invest in their farms and for supply chain actors to invest in these farmers through service provision. Companies could organize or facilitate access to training, farm inputs or credit. Direct trading relationships will also result in higher prices to farmers. This can be obtained by capturing the margins which were otherwise captured by middlemen and by the transfer of market incentives for quality and sustainability. For example, in a SNV project on Sumatra, the facilitation of direct trade between rubber farmers and a rubber crump factory resulted in approximately 30% higher prices to farmers (personal comment SNV, January 2018). Creating direct market access in other projects also resulted in double digit increases farm-gate prices.

While investments in the supply base by a rubber crump factory may improve the quality of their input and hence their processing costs, their business case to invest will partly depend on the incentives they receive from their customers. Whereas the awareness and commitment by natural rubber end-users is far behind, for example, the cocoa sector, some companies start to pay more attention to this. Michelin's zero-deforestation commitment, its effort to map its supply chain, and its investments in

sustainable rubber production in Indonesia is an example.⁴ Another example, highly relevant for Kapuas Hulu, is the GIZ partnership with Continental to create a traceable and sustainable supply chain from that district.

In the current projects in Indonesia, there is no drive towards certification. There is hardly any demand for it. In other parts of the world, there are a few FSC large-scale rubber plantations, this standard is also promoted by the Fair Rubber Association. FSC also has a standard applicable to groups of small-scale rubber growers.

Text box 4: The combination of GAP and direct market access results in significant income benefits

Swisscontact is an independent Swiss foundation, which focuses on international development whilst maintaining close linkages with the private sector. Their READ program, which took place in Indonesia between 2008 and 2012, supported the economic growth and business literacy of rubber farmers. The program resulted in 1546 farmers in 28 villages in the region of Aceh Tamiang (Indonesia) obtaining training in Good Agricultural Practices in rubber and more than twice as many received training in financial literacy. The program established six village nurseries. The project also organized farmers into groups and facilitated direct market linkages between these groups and the processing factories. As a result, 874 farmers stated they enjoyed an income increase of around 20-60%.

Source: <https://vdocuments.net/asia-regional-report-2011.html>

Organized farmers could also increase their income by engaging in value adding activities. An opportunity could be to set up small-scale processing units for the production of rubber blankets, an intermediary product that is sold to rubber crump factories. In Java, certain farmers make a better living by drying or smoking slabs into the higher valued Ribbed Smoked Sheets (RSS) or Air Dried Sheets (Aidenvironment, 2011). In Malaysia, the Rubber Board is developing a vertical integration model which links upstream and downstream players and encourages smallholders to have a small processing plant.⁵ Another potential important revenue stream from rubber farmers is the commercialization of rubber wood. In Malaysia, the rubberwood industry has been actively promoted and it constitutes nowadays one quarter of the total export value of rubber related products.⁶

Organizing and training smallholders on good agricultural practices and creating direct trading relationships with factories can have an important impact on the income of these smallholders. The question is to what extent and in what timeframes such projects are scalable and replicable. Kapuas Hulu has tens of thousands rubber smallholders and a few projects supporting a few hundred will not have a wide impact. It is also unclear whether the conditions for replicating success stories are in place.

Besides, the depth and sustainability of the impact of these projects will also be largely dependent on the enabling context. For example, the structural, low international rubber prices remain an important barrier to increase incomes. Consequently, successful donor and/or supply chain-driven projects could make rubber farmers less poor but it is doubtful whether under current market circumstances they can make them to earn a living income. This will require more systemic change in the Indonesian rubber

⁴ <https://purchasing.michelin.com/en/responsible-management-natural-rubber-supply-chain/>

⁵ <http://www.malaysiandigest.com/frontpage/282-main-tile/643602-malaysia-s-rubber-industry-looking-optimistic-despite-global-economic-downturn.html>

⁶ <http://www.malaysiandigest.com/frontpage/282-main-tile/643602-malaysia-s-rubber-industry-looking-optimistic-despite-global-economic-downturn.html>

sector. A condition to create a systemic change in the performance of the sector, including the opportunities it offers for smallholders to earn a decent living, is improved governance.

Sector coordination

Key messages on Sector coordination

- The creation of multi-stakeholder platforms at national and provincial levels allows for a review of the viability of current production models and market segments. Platforms can create a shared vision for the sector and facilitate the coordination and alignment needed to carry out the vision

Currently, Indonesia has no coordination mechanism at the national or provincial level in which the relevant stakeholders participate in developing a vision and the related strategies for the sector. However, GIZ is currently setting up a national coordination platform and promotes jurisdictional approaches. This offers various opportunities in terms of promoting dialogue, coordination and aligning investments. A combination of national, provincial and/or district platforms can link strategy development at national level with practical alignment and knowledge sharing at local level (i.e. the Cocoa Sustainability Partnership in Indonesia has such a multi-layered structure). A key role for such a platform is to develop a clear vision on where the sector wants to be in the near future and beyond. This vision should be supported by the main stakeholders and encompass the ambitions in terms of competitiveness, sustainability and inclusiveness. It should give direction to investments in farming systems, value chain structures, market position and value addition (for natural rubber and rubberwood). For example, Indonesia produces generally a poor quality of rubber. The question should be posed whether this has the potential to create enough value to sustain living incomes of rubber farmers or that much more emphasis should be given in creating higher value supply chains.

Text box 5: A coordinated approach to develop Malaysian rubber sector

The Malaysian rubber industry has evolved through the years and transformed itself into a more integrated industry with rapid developments of the mid- and downstream industries. This was vastly aided by the introduction of the three Industrial Master Plans that gave greater impetus to the growth of the rubber and rubberwood manufacturing sectors. The rubber cultivation industry or the upstream sector became a major raw material supplier to two value-added resource-based industries. With this development, the competitiveness of the rubber industry as a whole has been greatly enhanced.

Another positive factor that cannot be overlooked is Malaysia's advantage as the foremost authority on R&D in all aspects of natural rubber. This technical advantage has enabled Malaysian producers to accelerate productivity through the application of new planting, better farm management, processing and manufacturing technologies.

Source: the [Malaysian Rubber Board](#)

Market management & regulation

Key message on Market management & regulation

- Increased effort to regulate quality management can promote value capture by farmers
- Supply and demand management measures need to be considered to avoid structural oversupply, preferably in consultation with other rubber producing countries

More performant production models, robust supply chains, and increased value addition require enabling policies. The low world market prices are a consequence of overproduction. This means that Indonesia, producing roughly one quarter of global rubber, should make an effort to, at least, not further increase its total production as this could further undermine prices. Hence, the efforts to make existing plantations more profitable (partly by making them more productive), should be complemented by measures that manage total supply. Examples of measures include prohibiting expansion and facilitating farmers to shift to other crops when more profitable alternatives exist. It could also promote demand. In an effort to curb a further fall in natural rubber prices, Thailand, Indonesia and Malaysia, under International Tripartite Rubber Council (ITRC), have already agreed on the measures to increase national rubber consumption and discuss measures to manage supply.⁷ The government could also become more involved in quality management. Depending on the competitive advantage, it could introduce stricter quality regulation in support of pushing the sector towards market segments with a higher value. Other possible, relevant regulation can include input provision, market information, price setting, trading practices or producer organization models.

Revenue generation & re-investment

Key message on Revenue generation & re-investment

- Introducing ways to collect revenues at sector level will allow strategic investments to be made in the development of the whole rubber sector

Transforming the rubber sector, whether at national, provincial or district level, will require investments. Investments may be required in research and development (e.g. on tree varieties, farming systems and primary processing), farmer capacity building, renovation of older plantations, land-use monitoring, quality management, infrastructure development, and multi-stakeholder facilitation. Part of these investments could be made by smallholders or supply chain actors, although some activities may need financial support (e.g. through subsidies). Other investments may be more pre-competitive (e.g. R&D, capacity building or quality management). Hence, it is important to consider mechanisms to generate revenues for strategic re-investment. While pilots could be supported by foreign donors or lead firms, a healthy sector should be able to fund its own longer-term development.

⁷ <http://www.malaysiandigest.com/frontpage/282-main-tile/643602-malaysia-s-rubber-industry-looking-optimistic-despite-global-economic-downturn.html>

4. Conclusions and recommendations

4.1 Six key pathways

Aiming for a living income for smallholder farmers is a high ambition. The living income gap can be large and many attempts to increase smallholder incomes structurally have failed in the past. The previous chapter showed many relevant strategies which can support closing the living income gap in the context of cocoa in Côte d'Ivoire and natural rubber in Indonesia. Raising smallholder incomes to a living income level demands complementary strategies of which some may be significantly different than what has been done so far. This is particularly needed if one wants to increase incomes beyond the scope of an individual project or supply chain. Raising incomes at scale requires systemic changes at various levels. Although the menu of relevant strategies is long and comprehensive, we propose six key pathways around which a living income strategy could be built:

1. Viable farming systems

The basis of any living income strategy should be the promotion of viable farming systems in terms of profitability and resiliency. Smallholder production systems generally have low productivity levels and opportunities exist to close an important part of the income gap by intensification and rehabilitation. A complementary strategy is to increase quality and value addition in cases where the market rewards this. Crop diversification could promote more stable incomes (often considered to be as important by smallholders as higher incomes). The different roles men and women play in farming and post-harvesting activities should be considered when selecting the crop mix. Promoting crop diversification will also imply that farmers need to be supported to make these alternative crops more profitable and access new markets. A viable farm requires a viable farm size. Where absent, investment strategies and agricultural policy will be needed to promote these.

2. Integration with landscape management and community development

Viable farms require healthy landscapes and thriving communities. Although often not considered as an immediate priority, landscape and community interventions can be important complementary strategies to create the enabling environment for farm performance. Landscape management approaches are particularly relevant when competing interests exist between landscape users and the performance of a farmer that is affected by other landscape users. It is also a means to combine farmer income enhancement with other objectives such as forest protection. Community development can also impact the performance of smallholders. For example, labor productivity will largely depend on the health of a smallholder household. Hence, the importance to ensure the basic services that support good health. Other infrastructure like schools, roads, energy and communication in the community can also have an important indirect impact on the profitability of farming.

3. Effective service delivery models

In the transition towards more profitable and resilient farms, smallholders and their organizations need access to knowledge, inputs and finance. This requires cost-efficient, economically viable and scalable service delivery models. In many sectors there is still a need to establish or strengthen models, whether supply chain-driven, through producer organizations, the public sector or specialized service providers. As in most cases, services are delivered through aggregated farmers (e.g. lead farmers, informal and formal groups), which need to be strengthened as well. IDH (2017) presents many insights that can guide the design of service delivery models. It emphasizes the need to develop new financial models allowing to balance financial sustainability of service delivery models and impact at farm level. Services need to be tailored to a farmer's need and either offered in a bundled way or, at least, be designed to complement other critical services. To promote farmer resilience, buyers that deliver services need to look at the whole farming system and the needs of households (instead of a single focus on the main

cash crop). By considering a farmer as a client and by monitoring their satisfaction, service providers can continuously refine their offer to improve their value. By segmenting and ranking farmers, providing access to progressively complex services could promote continuous improvement.

4. Fair and inclusive value chains

Another key priority is to develop direct, stable and fair-trading relationships. Direct trading relationships enable farmers to capture the value which would otherwise have been captured by middlemen. It also allows for a direct transfer of incentives for quality and sustainability. Stable trading relationships provide farmers with a predictability incentivizing to invest in their farm. Stable trading relationships also facilitate supply chain-driven service provision. If diversification is a priority, companies can bring in companies from other markets to support this. Fair trading relationships relates to transparency and fair pricing models. This includes mechanisms such as minimum prices, flexible premiums and cost-plus pricing models. Companies have a choice to stop treating price as something exogeneous and see it as something that they can influence for the benefit of both producers and themselves. To support fair pricing models, they could also put more attention on the development of end products with a higher value rather than focusing on reducing costs and thereby fueling a race to the bottom. Fair pricing models could be complemented with favorable terms like pre-finance, quick payments, and price insurance. All of these strategies would benefit from fully traceable and exclusive supply chains. This provides a disincentive to increase production by other farmers and so hopefully avoids oversupply. It would also allow downstream companies (i.e. brands, retailers) to pay sustainability premiums directly to producer groups or even to individual farmers.

Smallholder incomes could also be promoted by making them benefit from downstream activities. This could be done either by supporting farmer groups to engage in these activities (e.g. processing, exporting) or by giving them a share in downstream activities (e.g. the Malawi 2020 Roadmap envisages producer ownership in tea factories, something which already exists in the tea sector in Kenya).

5. Market management and integrated development policies

The importance of a sound regulatory and policy environment cannot be understated when promoting livelihoods and resilience among smallholders. For example, governments have a large toolbox they can use to influence markets, both directly and indirectly. It ranges from lighter mechanisms such as market promotion, product quality standards, traceability systems or price transparency to heavier market interventions such as price-fixing and price stabilization. Any pricing policy should consider short- and long-term effects on supply and the competitiveness of its sector. As closing the yield gap is such an important strategy to increase smallholder incomes, governments should prioritize avoiding oversupply which can depress prices and annul any gains from increased productivity. Supply management can entail a combination of land use planning, production or export quota, buffer stock management, price incentives, the promotion of crop diversification, dissemination of market intelligence, as well as promoting non-farm income opportunities. Supply management is preferably done based upon international coordination to avoid that countries undermine each other's strategies to increase farmer incomes. If the ambition is to influence international markets, rather than react to them, then it is recommended to base this upon sound macro-economic modelling of supply – demand dynamics and do this in a transparent way. Governments could also decide to subsidize farmer households rather than farm output. Alternatively, governments can support demand, for example by promoting the creation of higher value processing industry. In implementation market-related mechanisms, effective management is a key success factor.

A healthy crop-specific sector requires a healthy agricultural sector and hence it is important to integrate crop-specific policies in the wider agricultural and rural development policies, including regulation related to land tenure and employment creation. This will facilitate crop diversification and a general transformation toward higher performing farming systems. Creating this enabling environment

comes with a cost, particularly if such policies are complemented with investments in research and subsidized service provision. Hence, governments should pursue adopting mechanisms (e.g. taxes or fees) which generate the revenues to re-invest in the sector. In all these governance aspects, transparency and accountability are key principles to be respected.

6. Sector coordination

Increasing smallholder incomes to a living income is not an easy challenge. Without collaboration and alignment by different stakeholders, it has little chance to succeed, at least not beyond the scope of individual projects or supply chains. The creation of a sector platform could promote collaboration and alignment. The scope of dialogue in such platform could be re-framed around price and supply management, viable farm sizes, diversification, traceability, and social inclusion and land tenure. Ultimately, it should lead to a shared vision of viable farming systems, service delivery and supply chain models and a sound strategy to guide fulfilment of the vision. Effective coordination also requires sector-wide monitoring of progress towards the fulfilment of the vision and to inform evidence based learning.

Inspiration could be drawn from the Malawi 2020 initiative in the tea sector. To address critical sustainability issues in Malawi, the industry, government and civil society created a 5-year roadmap to revitalize the tea sector. The roadmap sets out a series of actions that contribute to the overall aims of a competitive and profitable Malawian tea industry where workers earn a living wage and smallholders earn a living income.

4.2 Context matters

The relevance of the above six key pathways varies according to the context. There is no standard recipe or roadmap for increasing smallholder incomes. Contextual factors will determine the feasibility and potential impact of a particular strategy. For example, in a poorly-organized smallholder-dominated sector, producer-led mechanisms are less likely to succeed or will be difficult to scale. In a weak institutional environment, certain high-impact sector-led mechanisms may be difficult to manage. However, when sector organizations and governments can demonstrate the capacity to manage quality and extension services, then maybe some of the price management tools could become a feasible option. Supply-driven mechanisms may be more relevant in sectors with a relatively small number of supply chain actors and shorter value chains than in highly fragmented sectors with long value chains. The awareness in end markets and willingness to improve livelihood issues of smallholders can also influence the relevance of strategies around fair pricing, value addition and value chain-driven investments. Other influencing factors include the opportunities for mechanization in farming (which influences the potential to realize economies of scale), the perishability of crops and products (which determines the feasibility of stock management strategies) and the presence of commodity exchanges (which could facilitate price management but impede direct trading relationships). From a food security perspective, there may also be less appetite for strategies that result in higher prices of staple crops than of more luxury products. Like these, there are many more influencing factors to consider.

There will always be a combination of pathways needed to improve smallholder incomes and resilience. The prioritization of pathways can also differ. When there are no viable farming systems, service delivery models or supply chain models yet, then a priority should be to focus on developing their proof of concepts. If these models are more or less known, but not yet widely applied, then an emphasis on building alignment, an enabling environment and investments to apply them is more relevant. In most situations, different pathways should be implemented in parallel, preferably based upon a common vision and strategy. Hence, the importance to start the sector dialogue early in the process. The sector coordination pathways will be a logical entry point to engage on this topic in many sectors.

4.3 Roles for different actors

To close the living income gap, different actors have different roles to play. This paper ends with a summary of possible roles for different actors (see also Business Fights Poverty and Sustainable Food Lab, 2017):

- **Governments in origin:** They can implement a wide range of policies to manage prices, supply and demand as long as transparency and accountability is respected. It is preferable that these efforts are based upon international coordination and sound macro-economic modelling. Governments can also initiate a multi-stakeholder sector dialogue. Another important role is to integrate commodity-specific policies in the wider agricultural and rural development policies, which should comprise topics such as farm diversification, land tenure, community infrastructure and rural employment. Policy making could be informed by living income benchmarks.
- **Governments in consumer countries:** They could work on policies around due diligence and respecting sustainability in supply chains and revising competition laws to allow for a level playing field where all companies internalize social and environmental costs into prices. Examples include the OECD-FAO Due Diligence Guidance for Responsible Agricultural Supply Chains and the UN Guiding Principles Reporting Framework on Human Rights.
- **Supply chain actors:** They can look at their own supply chains, invest in traceability and promote more favorable trading relationships with their suppliers. These could include setting a minimum price or paying (flexible) premiums, as well as offering more stable off-take, direct and quicker payments, pre-finance or price insurance. Developing higher value end products will enable to share more value with farmers. Companies could also invest in service delivery to producers, which, in partnership with other actors, could put more emphasis on farm diversification. Their producer engagement and incentive mechanisms make them also relevant partners in landscape management initiatives. Living income benchmarks can inform farm support strategies and price setting.
- **Service providers:** Whether public, private or non-profit, service providers have an important role to play in developing relevant services and viable delivery models. In order to support income improvement they should look at the whole farming system, rather than a single crop, and the needs of households. Service providers could incentivize continuous improvement by offering diversified service packages to different segments of farmers.
- **Research and advisory organizations:** They can support the development of viable farming systems, service delivery models, and value chain models. They can also apply living income benchmark studies within specific geographical contexts.
- **Voluntary standard systems (VSS) and multi-stakeholder platforms:** They can promote alignment in methodologies and commit to living income benchmark studies and increase transparency on actual farmer income (or prices paid to farmers). VSS can increase the scope of their standards from product-specific to farming systems and pay more attention to supply chain dynamics in their systems, including direct payments of premiums, minimum prices and flexible premium models. Multi-stakeholder platforms have an important role to ensure the creation of a sector strategy and align stakeholders behind it. They can also facilitate the dialogue on complex issues such as pricing and supply management.
- **Civil society organizations:** They can advocate to the public and private sector to ensure a living income is paid and can monitor to what extent this is realized.
- **Donors and development organizations:** They can support the above actors in achieving the activities and use the living income benchmark as a criterion for success. They can also support alternative livelihood opportunities in cases that it is evident that a proportion of farmers need to exit the sector to make it viable. It is important that they prioritize the support of systemic change and accept that this is at the cost of short-term results in terms of number of farmers or hectares.

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