European Commission

VALUE CHAIN ANALYSIS FOR DEVELOPMENT

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Cocoa value chain analysis in Liberia

Value chain analyses assist in informing policy dialogue and investment operations. They help the understanding of how agricultural, aquaculture and fisheries development fits within market dynamics. They permit an assessment of the value chains' impact on smallholders, businesses, society, and environment.

The European Commission has developed a standardised methodological framework for analysis (https://capacity4dev.europa.eu/projects/value-chain-analysis-for-development-vca4d/info_en). It aims to understand to what extent the value chain allows for inclusive economic growth and whether it is both socially and environmentally sustainable.

Value chain context

Cocoa is one of Liberia's main cash crops, alongside rubber, rice, palm oil and sugarcane. It is a key source of income for thousands of smallholder farmers and the country's second most important agricultural export.

Although the cocoa value chain (CVC) is increasingly seen as a strategic growth sector in Liberia, especially in light of strong international prices, its performance remains constrained by significant institutional, technical, and socio-economic weaknesses. Years of conflict, weak infrastructure, limited service provision and low levels of farm support continue to shape the sector. At the same time, cocoa retains clear growth potential, particularly in emerging production areas in the southeast and in parts of the country where agroecological conditions are favourable. Additionally, the CVC is benefiting from renewed interest of donors and investors, as evidenced by the launch of various support programmes and initiatives, including the National Cocoa Public-Private Partnership Platform (NCP), the only dedicated multi-stakeholder body for the cocoa sector in Liberia. This creates a mixed picture: cocoa offers genuine economic and social opportunity, but the extent to which farmers can benefit depends heavily on geography, access to roads and services, and the strength of support systems around them.

The Government of Liberia (GoL) is committed to investing in the sustainable and green growth of this strategic value chain. Among others, the National Agriculture Development Plan 2024–30 (NADP) sets out the goal of achieving a 25,000 ha increase in productive area made up of new cocoa farms by 2030. The government is also working to reinforce the role of institutional and technical agencies that are key to improving the governance and regulatory framework of the sector.

Intervention de l'UE

In recent years, the EU has promoted various initiatives in the cocoa sector, such as the EU co-founded Liberia Cocoa Sector Improvement Programme (LICSIP) and its successor, the Cocoa Value Chain Development Programme (COVADP). Indirect support to the cocoa sector has been envisaged in the EU multi-annual financial framework 2021-2027 for Liberia's development, particularly via the objectives of promoting coordination mechanisms; strengthening forest governance; promoting decent jobs; enhancing markets links, etc.

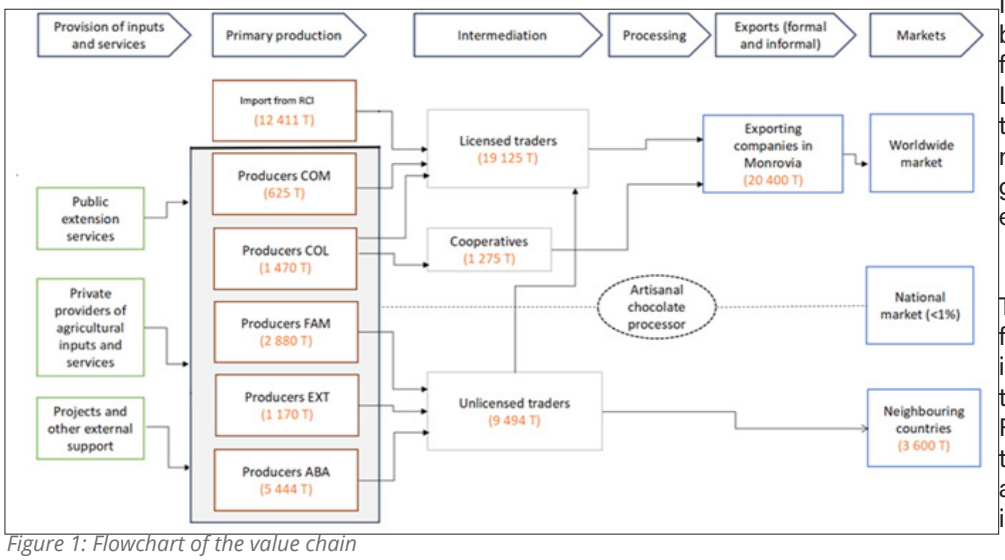

Figure 1: Flowchart of the value chain

The EU is also fully committed to fighting deforestation and to supporting initiatives that raise awareness about the European Union Deforestation Regulation (EUDR) in order to help the government of Liberia enforcing and implementing the regulation in an informed, sustainable and inclusive way.

Functional analysis

Primary production and types of farms

It is estimated that Liberia has **35,000 small producers,** 81,491 ha of cocoa plantations in production, with an annual production volume of 11,589 tonnes of dry beans. However, as data is limited, the exact number is not known, and this figure is likely to be an underestimate. Most established cocoa farms in Liberia are relatively old, with average plantation ages generally ranging from 23 to 29 years, depending on farm type. Since 2016, cocoa expansion in Liberia's south-eastern frontier has increasingly involved the conversion of forest land into new plantations, many of them established by migrant farmers. This trend is putting pressure on forest areas and points to the emergence of a new cocoa expansion model that contrasts sharply with the older, low-input smallholder systems that still dominate current production.

Criteria	Commercial farmers (COM)	Collective work (COL)	Family labour dependant (FAM)	External labour	Semi-abandoned farm (ABA)
External support	Yes	Yes	No	No	No
Farm age <8 years	Yes	No	Yes	Yes and No	No
Main labour	family and external	family	family	external	family and external
Revitalisa-tion of farm	No	Yes	No	Yes and No	No
Average in our sample (n=95)					
Active surface of the farm (ha)	3.4	2.9	2.4	1.4	2.8
Yield/ha in dry beans (kg)	174	146	141	88	159
% in our sample	2%	7%	24%	29%	37%
Computed total number of farmers in Liberia	1 050	3 500	8 400	9 800	12 250

Figure 2: Typology of actors

Producers

The study identified five main types of producers based on three major criteria: external support (including from cooperatives); whether a new or old farm is being managed, and the nature of labour, as depicted in the table 1 above.

While the ABA (semi-abandoned farms) system accounts for the largest number of farmers, the five farm types face many of the same underlying constraints. The **vast majority of producers receive no support from extension services**, projects or private partners, with meaningful support concentrated mainly among COM (commercial farmers) and COL farmers (collective work). As a result, the majority of producers operate at low intensity (requiring little or no maintenance), invest little in maintenance or post-harvest handling, and struggle to improve yields and bean quality. This matters not only for production performance, but also for inclusion; farmers with weaker labour capacity, poorer access to services, or greater distance from support structures are less able to benefit from cocoa as a pathway for livelihood improvement. These constraints are especially pronounced in the south-east, where poor roads, weak access to services and lower levels of human development leave communities more isolated and help explain why cocoa is often seen not just as a crop, but as one of the few viable pathways for local economic improvement. While some farmers, primarily COL farmers and, to some extent, external labour dependent (EXT) farmers, are increasingly adopting techniques to revitalise their old plantations such as rehabilitation, regeneration or replanting.

Despite their potential advantages, cooperatives are too few and too weak to address these shortcomings effectively. Even in production basins receiving international support, around 70% of producers do not belong to, or make use of, a farmer-based organisation. Limited producer interest in joining also reflects the weak regulation of the sector: producers can sell to any buyer, and buyers can source from any producer, with little incentive to reward quality or channel trade through collective structures.

Intermediation and exports

Liberia's cocoa trade operates through three main channels. About 33% of exports come from Liberian smallholders selling through traders to exporters in Monrovia, while 15% are sold through informal cross-border trade to neighbouring countries, often because it is more accessible and cost-effective. The largest channel, accounting for 52% of exports, involves cocoa imported informally from Côte d'Ivoire and re-exported through Monrovia, meaning much of Liberia's export trade is driven by regional trading dynamics rather than domestic production. In 2023, only eight licensed exporters operated in Liberia, including three owned by a single family and one linked to a multinational company. Although the limited number of exporters and generally poor cocoa quality may suppress producer prices, strong competition among buyers kept farm-gate prices about 40% higher than those in Côte d'Ivoire.

Governance of the value chain

Liberia's cocoa value chain is supported by a range of public institutions, public-private initiatives and donor programmes, but their impact remains limited: fewer than 10% of surveyed producers reported receiving any support. Private governance mechanisms such as certification, traceability and quality assurance systems are largely absent. As a result, the sector is governed mainly through a liberalised informal economy characterised by weak regulation, limited market information and poor coordination among actors. While intense competition among buyers can benefit farmers through higher farm-gate prices and greater flexibility, widespread informality, weak farmer organisation and price volatility undermine accountability, quality improvement, traceability and longer-term investment in sustainability.

What is the contribution of the value chain to economic growth?

Profitability of the value chain actors

Almost **all stakeholder categories** derive **significant operational profit** in terms of volume or percentage from the production, intermediation or marketing of cocoa beans in Liberia. The only **exceptions** are the **cooperatives** (that only make a profit thanks to the subsidies they receive) **and the producers who employ external labour** (their labour costs being almost equal to their production value, which is low due to the small production volume).

Actor	Selling price of one ton of dry bean	Total Subsidies	Net operating profits (total)	Average net profit for an	Return on turnover (Profit-subsidy/ Value of production)
Producer – Commercial	1 800	35 366	858 537	824	73%
Producer - Collective work	1 490	0	1 337 180	382	61%
Producer - Family labour	1 539	0	2 921 583	345	66%
Producer - External labour	1 166	0	-422 689	-43	-31%
Producer - Semi-abandoned					
Producer - Côte d'Ivoire	2 300	8 419 590	4 779 975	56 235	-124%
Cooperative	1 950	0	2 795 705	1 849	15%
Unlicensed trader	2 375	14 935	6 443 388	86 285	14%
Licensed trader	2 920	95 964	3 315 598	414 612	5%

Figure 2 – Operating profit distribution across the value chain (in USD)

Primary cocoa production that receives little or no external support is not capital intensive: the low level of expenditure explains the high profit margin, even though the annual profit for these producers remains low in nominal terms, at less than USD 400 per year. For most smallholder producers, cocoa earnings are modest and insufficient to finance significant reinvestment, especially where farms are old, yields are low and household labour capacity is constrained. The commercial producers fare much better, with an annual profit at around USD 820 from cocoa sales, demonstrating the value of support in raising output and profitability. **Licensed and informal traders have similar profit margins** of around 15%, **but different average annual profit** (USD 1,849 for an informal trader compared to USD 86,285 for a licensed trader). Similarly, while the **average net profit for exporting companies is relatively low** in percentage terms (5%), it is high in absolute terms, at an estimated USD 414,612 per year per company. The result is an economically active value chain, but not one in which the strongest gains are widely shared.

Impacts on the national economy

In total, the current cocoa value chain in Liberia contributes 2.7% of agricultural GDP and 0.1% of national GDP. The total

Public finance

The **general and specific taxes applied to cocoa in Liberia generate USD 4,2 million** for the Liberian government each year. However, it is difficult to assess national public spending in support of the CVC, as this spending is carried out by several public organisations that cover a wide range of agricultural commodities. Additionally, a significant volume of **international subsidies**, estimated at around USD 8,5 million per year, are transferred to various stakeholders, **mainly to cooperatives**. Overall, after deducting national and international public expenditure from the taxes paid by the cocoa VC in Liberia, the **public funds balance comes to – USD 4,3 million**.

Balance of trade

Since the domestic market for consumption is negligible, the sector's turnover comes solely from formal exports from Monrovia and informal exports to neighbouring countries. These **export revenues amounted to USD 66 million in 2023**. Most of the equipment and inputs used to produce and trade Liberian cocoa are imported. By far, the **biggest import** expense is **the purchase of cocoa beans in Côte d'Ivoire**, which accounts for almost 90% of the total amount. All these imports amount to around USD 25,8 million per year. Overall, the sale of cocoa generates a trade surplus of around USD 40,2 million a year.

Viability in the international economy

The **Nominal Protection Coefficient (NPC)** is close to 1 **(0,93)** meaning that the cocoa value chain is not protected and the overall VC remuneration is lower than it would be if international prices were applied. The **Domestic Resource Cost (DRC)**, i.e. the ratio between non-tradable national resources (labour + capital) and VA (tradable output - inputs), is only **0,058**. This VC thus appears to be economically efficient.

Is this economic growth inclusive?

Distribution of income among the actors

Cocoa contributes materially to rural incomes in some parts of Liberia, and in a number of cocoa-growing areas it can account for a significant share of household earnings (30% of farmers income in some areas). Income from profit made with cocoa production and trade is estimated at USD 9,7 million per year, or around 25% of the VA. Cocoa also generates wage income (USD 5 million), which is important in rural areas where livelihood options are limited. Total income is estimated around USD 14,7 million per year. Although the income generated by cocoa is socially important, for most smallholders it remains modest and does not, on its own, lift households out of vulnerability.

The CVC has a **Gini coefficient of 0.64**, indicating a high level of inequality in the distribution of returns. In practice, this means that while many actors participate in the chain, most of the total profit accrues to a relatively small number of downstream actors operating at greater scale. Price dynamics do provide some protection for farmers: because sales are not tightly locked into contractual channels, farm-gate prices remain relatively strong in comparison with neighbouring Cote d'Ivoire, and excluding COM-type producers, farm-gate prices fluctuate around USD 1,400 per tonne, or roughly 48% of the FOB price in Monrovia. Even so, the chain remains only partially inclusive. Upstream actors can achieve good return rates in percentage terms, but on very small volumes, while downstream actors capture larger absolute gains through aggregation, logistics and export. Despite relatively favourable prices, cocoa income at household level remains low. Average earnings of around USD 400 per household per year are small in relation to rural needs and do not provide much scope for reinvestment, resilience-building or asset accumulation. This helps explain why many smallholders struggle to intensify production, improve quality or comply with more demanding market requirements. It also explains why immediate cash needs often take precedence over longer-term value maximisation.

Jobs creation and employment

The cocoa value chain relies heavily on **unpaid family labour and part-time work**, and the number of formal waged jobs is limited. Even when domestic labour is excluded, primary production provides the largest share of paid employment, but wages are low and conditions are highly informal. Cocoa supports rural employment, but the quality of that employment is often weak. The gender story is similarly mixed. Women are active in primary production, particularly in the FAM, EXT and ABA systems, and some also own cocoa farms. However, their participation declines in the more supported and commercialised segments of the chain, and they remain underrepresented in downstream activities. Economic participation is taking place, but it is uneven, with women facing additional constraints linked to labour capacity, literacy, access to services and decision-making power.

Is the value chain socially sustainable?

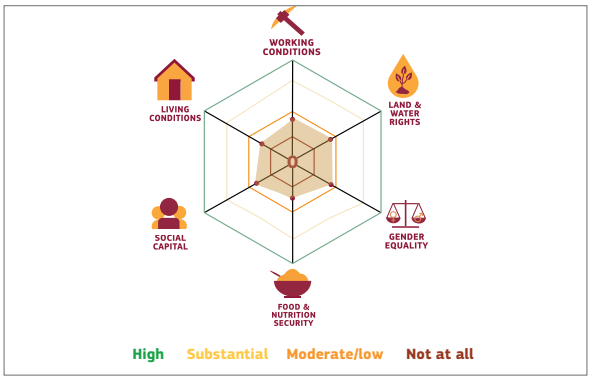

Figure 4. Social profile

The Liberian cocoa value chain creates important social value, but benefits remain unevenly distributed across regions and population groups. Cocoa is a key source of income for smallholder households, supporting spending on food, education and healthcare, and therefore plays an important social role in rural livelihoods. However, social sustainability remains limited by persistent poverty, informal labour arrangements, child labour, safety risks, weak infrastructure, unequal access to services, gender inequality, insecure land tenure and widespread food insecurity. These challenges affect participation, benefit-sharing and vulnerability across different groups and locations. Overall, the value chain has strong social potential, but greater progress depends on addressing the structural barriers to inclusion, resilience and decent living conditions.

Working Conditions	• Labour standards exist but enforcement is weak. • Labour is mostly informal, relying on family labour and Kuu systems. • Labour shortages and safety risks increase vulnerability and child labour risks.
Land and Water Rights	• The Land Rights Act 2018 strengthens customary land rights. • Implementation is uneven and governance challenges persist. • Women's rights have improved, but discrimination remains.
Gender Equality	• Women are active in cocoa production but face barriers to leadership, assets and services. • Labour constraints and heavy workloads particularly affect female-headed households.
Food and Nutrition Security	• Cocoa-growing areas experience high poverty and food insecurity. • Cocoa income supports household needs but is often insufficient to prevent vulnerability.
Social Capital	• Farmer organisations have expanded, but many cooperatives remain weak. • Informal networks remain important for labour, finance and mutual support.
Living Conditions	• Poor infrastructure and seasonal isolation limit access to markets and services. • Low literacy and weak public services continue to constrain resilience and productivity.

Is the value chain environmentally sustainable?

The environmental assessment is based on Life Cycle Assessment (LCA), which quantifies impacts along the value chain from production to export, considering inputs, emissions and resource use. Results are expressed per tonne of cocoa at the export boundary or per unit of economic value, allowing complementary interpretations within defined system boundaries.

In terms of **climate change** (global warming), cocoa production in Liberia generates **relatively low greenhouse gas emissions** compared to more intensive conventional systems in neighbouring countries. At farm level, emissions are estimated at around 161 kg COeq per tonne of dried cocoa, ranging from 43 to 362 kg COeq per tonne depending on production systems. These values remain far below international estimates (1,600 to 28,700 kg COeq per tonne, WFLDB), reflecting the low-input nature of Liberian cocoa. Most emissions (54%) originate from land use change and residue burning.

The low-emission profile of Liberian cocoa could support value-added opportunities, particularly in markets where consumers are increasingly sensitive to environmental impact. However, when informal cocoa flows from Côte d'Ivoire in 2023 are taken into account, the overall carbon footprint rises significantly due to more input-intensive production practices.

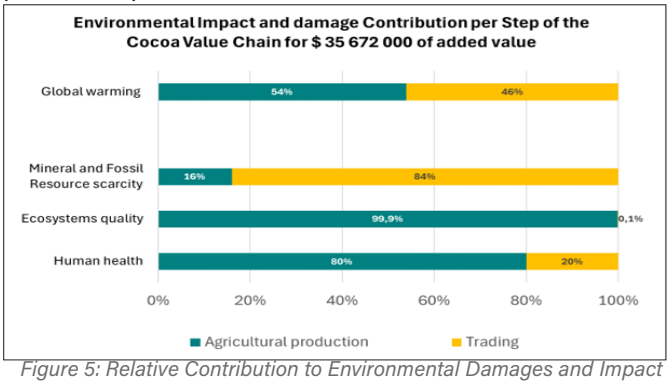

Figure 5: Relative Contribution to Environmental Damages and Impact by Step by total added value (USD$ 35 672 000) Cocoa National Value Chain in Liberia

The production stage is the main contributor to **human health damage, primarily through the emission of fine particles from crop residues and pod burning**, although this concerns less than 23% of farms. **Trading operations account for around 20% of damages**, primarily linked to transport combustion emissions; this share decreases to about 1% when informal cocoa flows are included.

Land use change drives most damages in terms of **ecosystem quality**, especially when cocoa production expands into natural or semi-natural areas. Although fewer than 20% of farms involve conversion from **woodland or forest, these changes account for over 40%** of total impacts—and up to 74% where land-use change has occurred within the past 20 years—highlighting the significant effect of recent deforestation captured in the LCA. This highlights the importance of prioritising the rehabilitation of existing plantations or previously cultivated land, rather than expansion into natural areas.

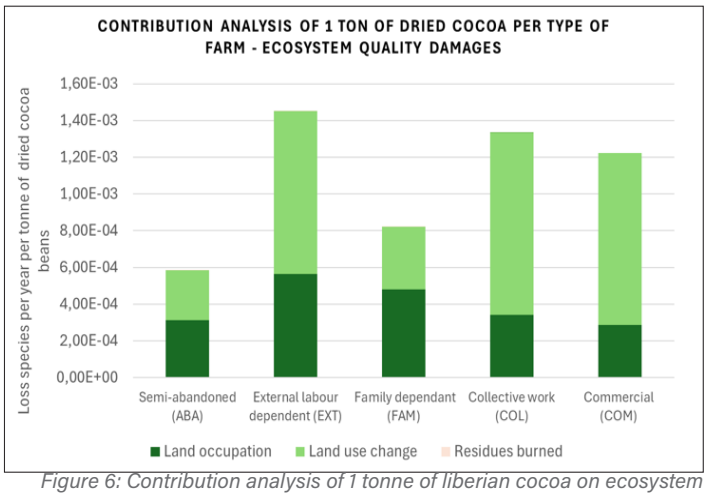

Figure 6: Contribution analysis of 1 tonne of liberian cocoa on ecosystem quality damages

Resource depletion is mainly driven by fossil resource use, with around 84% of damages linked to trading operations, particularly fuel consumption for transport. At the production stage, **fossil resources are primarily used in the manufacturing of pesticides**. Although input use remains limited, these impacts show that reliance on imported inputs still contributes to resource depletion, highlighting the potential to develop locally produced inputs that are more consistent with agroecological practices.

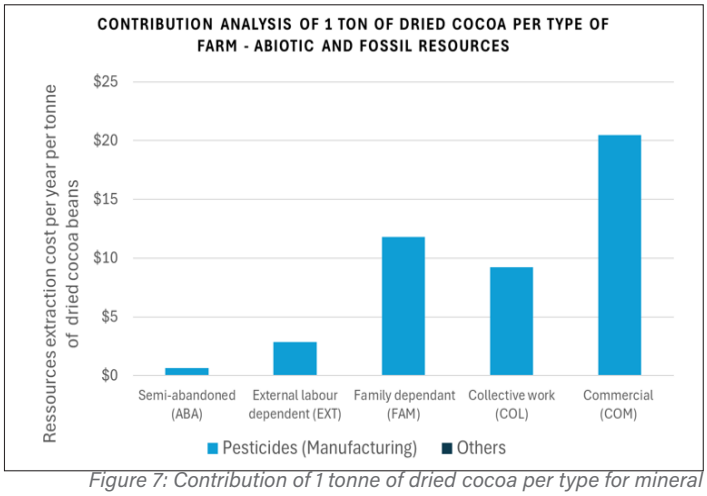

Figure 7: Contribution of 1 tonne of dried cocoa per type for mineral and fossil resources

In terms of **biodiversity, deforestation** is the main threat. Between 2001 and 2023, Liberia, experienced one of the **highest rates of forest loss in West Africa**, with an estimated 2.36 million hectares of tree cover reduction (around 25% of total cover), of which approximately **15% is attributed to cocoa expansion**).

Overall, the traditional Liberian cocoa value chain exerts relatively limited environmental pressure due to low use of external inputs, minimal management, and ageing cocoa trees; however, these factors are also closely linked to low productivity. Improving sustainability requires enhancing productivity and income without raising environmental pressures. Agroecological practices, combined with better control of post-harvest processes and the development of quality-oriented value chains, offer key pathways to improve both environmental and economic performance while avoiding a shift towards more input-intensive systems.

Overall insights and recommendations

Smallholder production dominates Liberia's cocoa value chain which gives the sector both its social importance and its structural fragility. Cocoa generates cash income, employment and export value, and there is clear **growth potential** in both established and emerging production zones. The **Roadmap to a Sustainable Cocoa Sector in Liberia** (2019) acknowledges the importance of the cocoa sector in the country's economic development, as well as its contribution to reducing rural poverty and creating jobs. However, the sector remains constrained by low yields, poor quality, weak coordination, informality, poor infrastructure, limited service access and uneven capacity to meet future compliance requirements. The central message from the study is not simply that the cocoa sector in Liberia has growth potential, but that the **quality of that growth will be important**. Without stronger attention to inclusion, labour conditions, producer organisations, rural services and land governance, the gains from cocoa sector growth are likely to remain uneven and vulnerable. Environmental risks and regulatory compliance issues, such as the EUDR, must also be addressed.

The Liberian CVC is at a crossroad facing several challenges and opportunities. The following recommendations are suggested in order to make the sector more attractive and less risky, especially from the marketing and environmental point of view:

- Support differentiated upgrading pathways that reflect regional conditions and producer typologies. Region-specific practices like agroforestry can improve quality and sustainability;
- Strengthen extension, farm rehabilitation support and service access in remote areas, not only where farmers are already organised.
- Increase support for **formalization and cooperative strengthening but also work with informal farmer groups and trusted local structures such as Kuu, Susu and VSLAs**. This can help boost quality, equity, and adherence to standards;
- Make women's and youth inclusion explicit through access to land, labour-saving support, training, literacy, finance and leadership opportunities;
- Reduce child labour and injury risk through practical labour safeguards, awareness and support to labour-constrained households;
- Build traceability and EUDR compliance systems for market access, in ways that do not exclude poorer or less connected farmers;
- Promote **innovative land use strategies**: utilizing degraded lands for cocoa while preserving forests, aligning with growth and sustainability goals;
- Strengthen land governance, community consultation and dispute resolution, particularly where new cocoa expansion is occurring;
- **Strengthen sector coordination and collaborative planning**: promote joint action among public, private and producer actors to improve traceability, align support to cooperatives and farmer organisations, and strengthen sector-wide planning and information systems;
- **Strengthen the enabling conditions for inclusive and socially sustainable market development**: improve rural services, data systems and access conditions so that market growth is matched by more equitable participation, stronger resilience and better social outcomes;
- Incentivize **long-term investment opportunities within the sector**: encourage public and private sourced investments in infrastructure, data systems and various cooperative models;
- Support the implementation of **environmental safeguards strategies**: prioritize sustainable practices to ensure compliance with international standards such as the EUDR, certification schemes and others.

Value Chain Analysis for Development (VCA4D) is a tool funded by the European Commission / INTPA and is implemented in partnership with Agrinatura. Agrinatura (http://agrinatura-eu.eu) is the European Alliance of Universities and Research Centers involved in agricultural research and capacity building for development. The information and knowledge produced through the value chain studies are intended to support the Delegations of the European Union and their partners in improving policy dialogue, investing in value chains and better understanding the changes linked to their actions. VCA4D uses a systematic methodological framework for analysing value chains in agriculture, livestock, fishery, aquaculture and agroforestry. More information including reports and communication material can be found at: https://europa.eu/capacity4dev/value-chain-analysis-for-development-vca4d-

This document is based on the report "Cocoa Value Chain Analysis in Sierra Leone" 2026, by YShee, A., Mazancova, J., Walsh, C., Kamara, P.M., 2026 . Maize Value Chain Analysis in Georgia. Report for the European Union, DG-INTPA Value Chain Analysis for Development Project (VCA4D CTR 2017/392-417), p + annexes.