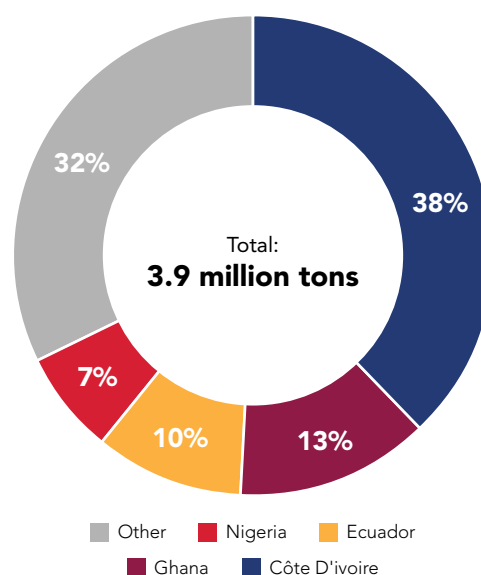# Cocoa Briefing Note

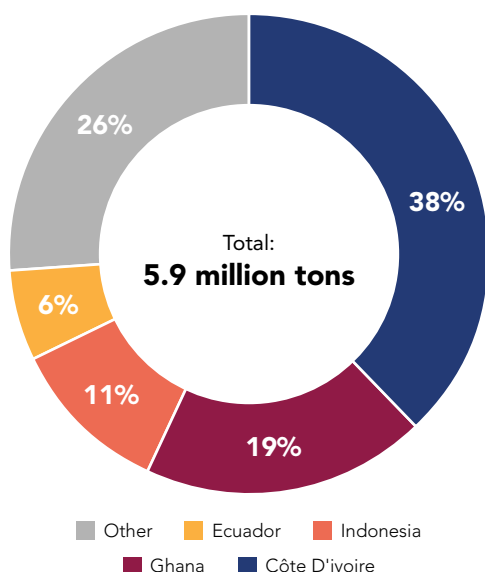# Overview of the Global Cocoa Supply Chain

Cocoa is a global commodity that has helped boost economies and provide livelihoods in major producing countries. Ghana and Cote d'Ivoire produce and export over half of cocoa beans worldwide. The rest is produced across countries in Southeast Asia, Latin America, and other countries in Africa (Figure 1 and 2). The European Union dominates global cocoa bean imports with 54% while Malaysia, the United States, and Indonesia are the other major importers (Figure 3). While the production and trade of cocoa supports over 40 million people worldwide (Bermudez et at., 2022), cocoa production is also a major driver of deforestation. Globally, cocoa is associated with 2.3 Mha of forest replaced between 2001-2015 (Global Forest Review, 2022). While this briefing note focuses on deforestation, other challenges like poverty as well as child and forced labor remain critical in the cocoa supply chain and can have an impact on the progress of eliminating deforestation in the sector.
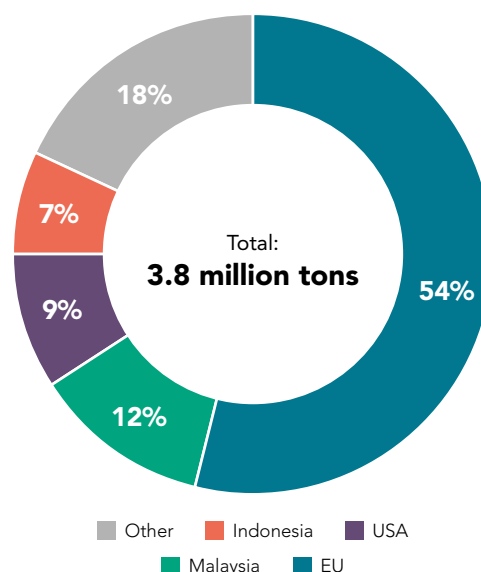
FIGURE 2 • **Global Cocoa Bean Exports in 2022**

Total: **3.9 million tons**

- 38% Côte D'ivoire
- 13% Ghana
- 10% Ecuador
- 7% Nigeria
- 32% Other

Legend:
- Other
- Nigeria
- Ecuador
- Ghana
- Côte D'ivoire

Source: FAOSTAT & OEC.

FIGURE 1 • **Global Cocoa Bean Production in 2022**

Total: **5.9 million tons**

- 38% Côte D'ivoire
- 19% Ghana
- 11% Indonesia
- 6% Ecuador
- 26% Other

Legend:
- Other
- Ecuador
- Indonesia
- Ghana
- Côte D'ivoire

Source: FAOSTAT & OEC.

FIGURE 3 • **Global Cocoa Bean Imports in 2022**

Total: **3.8 million tons**

- 54% EU
- 12% Malaysia
- 9% USA
- 7% Indonesia
- 18% Other

Legend:
- Other
- Indonesia
- USA
- Malaysia
- EU

Source: FAOSTAT & OEC.

Cocoa is grown predominantly by smallholder farmers on farms between 2 to 4 hectares (World Cocoa Foundation, 2023). Once harvested, fermented, and dried on the farm, the cocoa is then weighed, sold, and transported to warehouses for export. However, from the point of sale at farms to local or international consumers, multiple supply chain actors are involved, and the length of the supply chains may vary (Figure 4). Government entities such as the Ghana Cocoa Board (COCOBOD) and Le Conseil du Café-Cacao (CCC) are actively involved in cocoa sustainability initiatives across Ghana in Cote d'Ivoire respectively. Peru and Indonesia currently do not have a public sector organization dedicated to their cocoa sectors, but both national and regional governments are involved in cocoa sustainability programming in their countries with organizations such as the U.S. Agency for International Development (USAID) and the World Cocoa Foundation (WCF).

Photo: Elle Inlom

FIGURE 4 • **Example of Cocoa Supply Chains in Cote D'ivoire and Ghana**
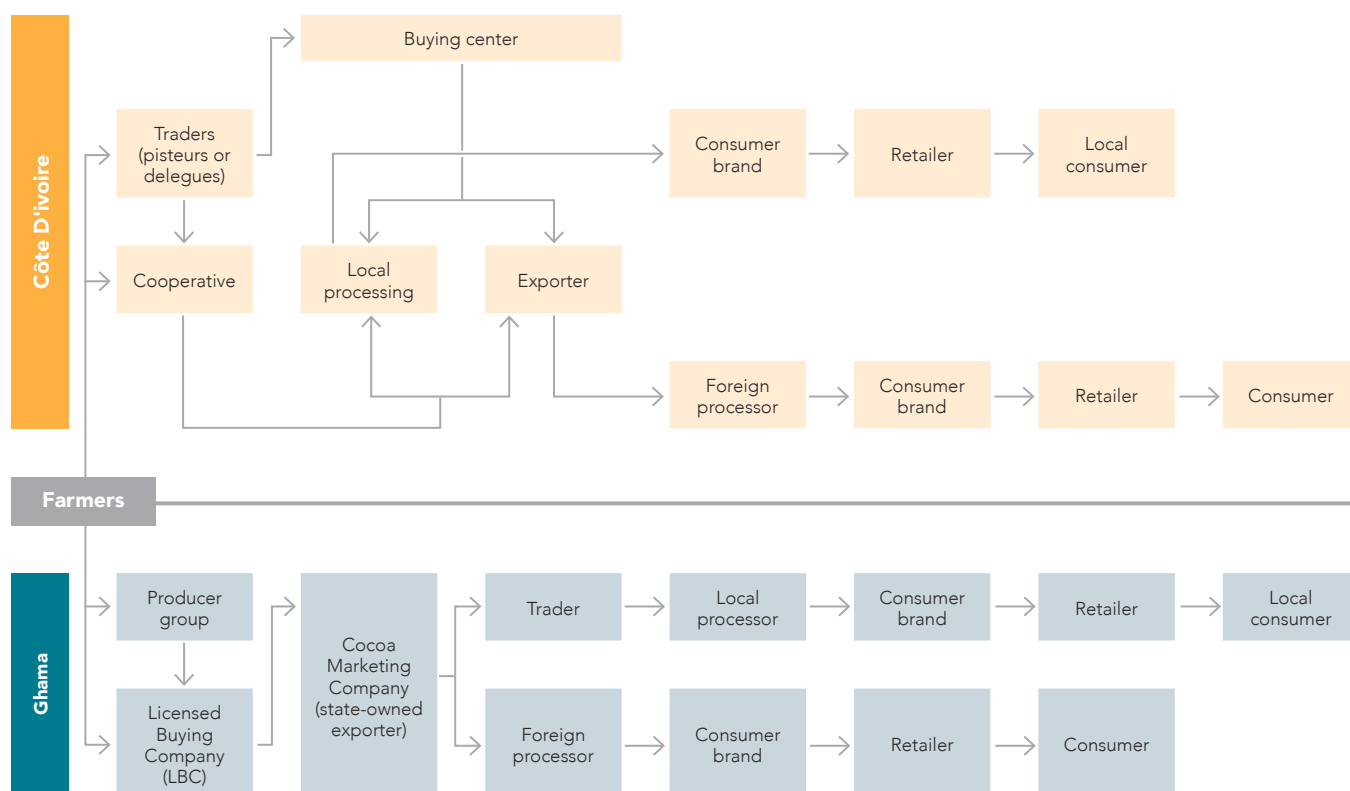
Source: Compiled by WRI.

Existing Theories of Change Regarding Halting Deforestation in the Cocoa Supply Chain

Various initiatives have emerged to combat deforestation associated with the cocoa supply chain (Appendix I). They are led by different types of stakeholders with various approaches. Some of them have developed complete Theories of Change (TOCs) while others have mainly laid out their objectives and activities regarding efforts to halt deforestation in the cocoa supply chain.

Multi-stakeholder partnerships

These are partnerships typically between all or an assortment of producer or consumer country governments, private sector actors, research institutes, civil society groups, and local actors that work to form a shared vision and coordinated efforts to address deforestation in cocoa supply chains. For example, the Cocoa and Forests Initiative (CFI) is a public-private partnership between 36 of the top cocoa and chocolate companies and the governments of Ghana and Cote d'Ivoire, with a mission of ending deforestation through environmental, sustainable, social and community- based pillars of action (CFI, 2022). Many of the companies that partner with CFI implement their voluntary commitments through company sustainability programs that collaborate with national and jurisdictional committees, working groups, secretariats and taskforces, and other relevant actors on the ground.

Producer country initiatives and policies

These represent efforts made by cocoa producing countries such as Cote d'Ivoire, Ghana, and Indonesia to address deforestation associated with the cocoa sector. These efforts include establishing national

traceability systems and action plans, strengthening legal frameworks and law enforcement, and facilitating the transition to sustainable cocoa production. Ghana and Cote d'Ivoire have both introduced United Nations Reducing Emissions from Deforestation and Forest Degradation (REDD+) programs that tackle the drivers of deforestation in these landscapes through national agendas, sustainable production methods, and land-use plans and policies (World Bank, 2019). The Cote d'Ivoire-Ghana Cocoa Initiative (CIGCI) was established to coordinate efforts between the two major cocoa producer countries to address pricing, livelihoods, and sustainability challenges in the sector.

Consumer country initiatives and policies

The EU member states, as the largest market for cocoa, are leading on consumer country initiatives. These initiatives have similar objectives such as ensuring living incomes for farmers, eliminating child labor, strengthening forest policy and governance, and supporting development of traceability and transparency systems in producer countries. Germany, Netherlands, Switzerland, and Belgium have established national initiatives to support the livelihoods of farmers and address deforestation in the cocoa sector. The EU Sustainable Cocoa Initiative aims to tackle deforestation associated with the sector as one of its main objectives. The European Union Deforestation Regulation (EUDR) came into effect in June 2023 to prevent commodities and products linked to deforestation and forest degradation, such as cocoa, from being sold in the EU market. Similar legislative processes focusing on illegal deforestation are also underway in the UK and the U.S. is considering regulatory and policy options as well.

Private sector commitments and initiatives

To address deforestation in its supply chains, private sector companies typically employ commitments or company-led initiatives in areas they source cocoa from. TOCs of private sector initiatives focus on sustainable farming, empowering, and supporting farmers and cocoa communities, and protecting the environment and conserving forests. Often these private sector commitments employ sustainability actions through company programs such as the Mondelez Cocoa Life Program, the Cargill Cocoa Promise, and the Olam Food Ingredients (OFI) Cocoa Compass. Many seek or claim to already have 100% traceability in their direct supply chains and employ monitoring, traceability, and reporting systems. In addition, private service providers such as Starling and Satelligence support companies and govern-ments monitor and assess deforestation risk

Civil society initiatives and tools

Initiatives and tools led by civil society organiza-tions to support deforestation-free cocoa supply chains have focused on providing aligned guidance on definitions and norms and improving traceabil-ity and transparency in the cocoa supply chain. For example, the Accountability Framework initiative (AFi) aligns clarity, consistency, and accountability and helps private sector actors to develop strong guidelines, action frameworks, and progress metrics in deforestation-free and conversion-free supply chains. Global Forest Watch Pro uses geospatial data to help monitor companies and banks in forest-risk commodity supply chains including cocoa. The Cocoa Accountability Map by Mighty Earth monitors cocoa cooperatives, protected areas, cocoa and land use, and deforestation in the cocoa supply chain in Côte d'Ivoire.

Certification programs

Third-party voluntary programs and labels such as the Rainforest Alliance 2020 Certification Program and the Fairtrade International Standards set environ-mental, social and economic criteria for producers to obtain certification. Both programs joined together to strengthen deforestation risk assessment where their certified producers are located. Both initiatives include data systems to monitor supply chain trace-ability and transparency.

Photo: Jason Hew

Gaps in TOCs

At the global level, several gaps highlight the complexities within cocoa supply chains and reveal areas for improvement in future TOCs to address deforestation

Limited consideration of power dynamics and benefit distribution

While major TOCs to address deforestation in the cocoa sector focus on strengthening traceability systems, especially at the "first mile, they often overlook mechanisms to empower farmers and cooperatives. Most systems prioritize entities overseeing traceability, offering limited ownership or benefits for farmers and producer organizations. Key aspects such as farmers' access to sustainability data and equitable distribution of the financial benefits within the supply chain remain underemphasized. Additionally, smallholders—the most critical stake-

holders—are frequently left out of the co-design and co-development of sustainability plans, reducing their influence in shaping outcomes that directly impact their livelihoods.

Insufficient focus on demand-side regulations

TOCs generally focus on supply-side interventions, while demand-side policies in consumer markets such as the EU, UK, and the U.S. are emerging to support sustainable cocoa production. These measures can create a more favorable environment and foster partnerships between consumer and producer countries, but TOCs often overlook how to integrate these regulations into their strategies. Greater emphasis is needed on how demand-side regulations can drive sustainability outcomes in cocoa supply chains and strengthen incentives for producer countries.

Photo: Sara Gomes

Limited scope and coverage

TOCs often target direct supply chains but fail to adequately address deforestation risks associated with indirect suppliers and intermediaries. This gap presents a challenge for companies committed to zero-deforestation policies, as monitoring and tracing through indirect channels is difficult (Parra-Paitan et al., 2023). Additionally, while some initiatives have demonstrated success in specific regions, they have not been scaled to cover all cocoa production areas. Furthermore, the financial sector is not sufficiently involved in cocoa sustainability efforts. The 2023 Forest 500 report found that no financial institutions had specific deforestation policies for cocoa (Thomson and Fairbairn, 2023), pointing to a critical gap in TOC engagement with the finance sector.

Lack of financial transparency

Many TOCs fail to address financial transparency, especially concerning smallholder farmers. Little data exists to show that price premiums or living income differentials (LIDs), designed to support sustainable practices and enhance incomes, actually reach farmers. Informal taxes and fees within the supply chain, along with market volatility, further reduce farmers' income, as seen in 2020 when market changes offset the benefits of LIDs in West Africa (Chandrasekhar, 2021). Greater transparency in how financial incentives are distributed across the supply chain is needed to ensure sustainability initiatives translate into real economic benefits for farmers.

Gaps in standardized monitoring frameworks and accountability mechanisms

Despite recent efforts to standardize frameworks for monitoring deforestation and sustainability in cocoa supply chains, there remains a lack of alignment across different regions and initiatives. This inconsistency makes it difficult to compare progress, verify claims, and assess the long-term impacts of supply chain initiatives. While private sector commitments are included in many TOCs, they often lack formal accountability mechanisms. The 2023 *Mighty Earth Chocolate Scorecard* highlighted the absence of public grievance mechanisms to hold companies accountable for their environmental promises (Perkiss and Mawutor, 2023).

Imbalance in data ownership and governance

Data ownership and governance represent critical gaps in traceability and monitoring systems within the cocoa supply chain. Currently, large companies, certification bodies, and governments control most of the data related to farm boundaries, deforestation risks, and supply chain monitoring. However, very few cocoa farmers have ownership of or access to this data, despite being primary stakeholders in sustainability efforts. The absence of clear, equitable data governance frameworks leads to fragmentation, where different stakeholders hold separate data sets, impeding coordination and creating blind spots that hinder efforts to address deforestation risks effectively.

Photo: Jeffrey Valenzuela

Assumptions in TOCs

Reliance on voluntary commitments

Some TOCs assume that voluntary commitments from private sector actors will be sufficient to eliminate deforestation in cocoa supply chains. However, in practice, this assumption often falls short. In West Africa, for instance, satellite data has revealed ongoing deforestation in cocoa-growing regions despite widespread corporate commitments to halt deforestation. Between January and March of 2023, Mighty Earth reported 3,300 hectares of forest disturbance in Ghana and 2,600 hectares in Côte d'Ivoire within cocoa-growing areas, detected through the Radar for Detecting Deforestation (RADD) system (Mighty Earth, 2023). This underscores the need for more robust accountability mechanisms and mandatory measures beyond voluntary pledges to ensure meaningful progress.

Collective action among stakeholders

TOCs often assume that collective action among stakeholders can drive sustainability in the cocoa sector. However, achieving effective collective action is often hindered by poorly defined responsibilities and unequal representation among key actors. In some cases, critical stakeholders—such as smallholder farmers or local communities—are not adequately included in decision-making processes. This weakens the potential for collective efforts to address deforestation challenges in cocoa supply chains. Future TOCs must establish clearer frameworks for collaboration that emphasize inclusive participation and well-defined roles.

The role of transparency and traceability

Many TOCs focus on strengthening transparency and traceability requirements in cocoa-producing countries, assuming that this will prompt companies and farmers to adjust their sourcing and farming practices. However, increased transparency and traceability alone do not automatically lead to reduced deforestation. While they provide crucial data, these measures must be supported by strong forest governance, law enforcement, and sustained engagement across the supply chain to reduce deforestation risks effectively. TOCs should emphasize the integration of transparency and traceability with comprehensive forest management and regulatory enforcement to achieve lasting impacts.

Level of diversity and organization among smallholders

TOCs often categorize smallholders as farmers operating between 2 to 4 hectares of land, but this definition does not fully capture the diversity within the smallholder community. Factors such as ethnicity, age, gender, immigrant status, and level of land ownership can significantly influence a farmer's relationship with their land and their willingness to adopt sustainable practices (Schulte et al., 2020). For instance, farmers with secure land tenure are more likely to invest in sustainable agricultural techniques such as agroforestry. Additionally, farmer organizations play a crucial role in engaging smallholders and helping them achieve higher incomes, but TOCs often overlook the need to strengthen these organizations as key drivers of sustainability.

Photo: Rodrigo Flores

Recommendations

Incorporate smallholders into data collection systems

TOCs should place a stronger focus on integrating smallholders into traceability and monitoring systems. Improved access to and control over agricultural data can help smallholder farmers and cooperatives to unlock new business and opportunities, better monitor and manage deforestation risk, increase negotiation power, and facilitate access to price premiums for adoption of sustainability practices. When mapping and tracing smallholder farms, data collection systems should provide clear incentives for farmers, ensure that data is shared with or owned by the farmers themselves, and prevent the use of data to exclude farmers from supply chains. TOCs can adopt a farmer-centric data governance approach to improve farmers' data access and ownership (Van Geuns et al., 2023).

Align monitoring frameworks and traceability systems

There is a need to align monitoring frameworks and traceability systems developed by various stakeholders. TOCs should focus on creating credible mechanisms for monitoring, verification, and accountability to track progress in reducing deforestation. Initiatives like the Cocoa and Forests Initiative, the Accountability Framework, the Forest Data Partnership, the Cocoa Accountability Map, and Global Forest Watch Pro are making strides in standardizing monitoring and traceability in the cocoa sector, and these efforts should be reinforced.

Strengthen financial transparency systems and policies

TOCs often emphasize securing living incomes for farmers and providing financial support, but there is a gap in ensuring that these benefits reach the farmers themselves. Financial transparency systems need to be established to track the distribution of premiums, incentives, and income support. For example, Olam

Food Ingredients uses the Olam Farmer Information System (OFIS) to track financing, purchases, and other transactions, while Starbucks' C.A.F.E. principles ensure direct payments to coffee farmers. These systems should be adapted for the cocoa sector to improve transparency and accountability.

Involve financial institutions in TOCs

It is important for TOCs to involve financial institutions to help cocoa farmers to increase their productivity without clearing forests. Studies in Ghana and Côte d'Ivoire show that farmers with access to credit tend to achieve higher productivity (Schulte et al., 2020). Future supply chain initiatives should highlight the role of financial institutions in their TOCs, and there is an opportunity for initiatives like the Finance Sector Roadmap to include cocoa in their strategies for addressing commodity-driven deforestation.

Include smallholder perspectives in TOC planning

With smallholders producing most of the world's cocoa, it is critical that their perspectives are included in the transition to deforestation-free production. Research shows that restoration efforts led by local actors—such as smallholders, cooperatives, and communities—are more likely to achieve long-term success (Mathai, 2023). International NGOs and civil society organizations should collaborate with local actors to align social, environmental, and economic priorities. This includes supporting smallholder farmers' understanding of their role in the global cocoa value chain, forming cooperatives with unified visions, and ensuring their inclusion in national action plans, poverty alleviation strategies, and traceability initiatives.

Looking Ahead

While voluntary measures led by private sector actors play a significant role in addressing deforestation in cocoa supply chains, they must be accelerated and complemented by mandatory policy frameworks in both producer and consumer countries. Tools and resources from civil society organizations can support this transition. Private sector actors should align their traceability and monitoring efforts with national programs, while governments should enhance the implementation of public policies and initiatives. There are opportunities for the private sector to engage in producer-country initiatives such as the Côte d'Ivoire-Ghana Cocoa Initiative (CIGCI). TOCs focused on deforestation should also account for interconnected issues like poverty, child labor, and forced labor challenges within the cocoa sector.

The EUDR, effective as of June 2023, lists cocoa among seven key commodities. Given the EU's status as a primary cocoa importer, private sector actors must strengthen their traceability, monitoring, and supply chain management capacities to comply with this law. The requirement for geolocation and origin tracing under the EUDR presents a challenge, as cocoa beans are often mixed and traded through multiple intermediaries before export. Traders frequently engage in short-term relationships with cooperatives and buy cocoa outside formal certification or sustainability programs (Tropical Forest Alliance, 2023). TOCs can address these issues by supporting efforts to establish better information-sharing agreements between the private and public sectors and by building capacity in public sector traceability systems to manage deforestation risks.

Satellite-based monitoring systems are still expanding and face some technological challenges such as differentiating agroforestry systems from forest cover. In some cases, response protocols for deforestation alerts lack clear guidelines. Strengthening community-based monitoring and national monitoring systems are two pathways to drive effective, inclusive, and standardized monitoring. Tools such as the Cocoa Accountability Map, Trase, and Global Forest Watch Pro can provide datasets, monitoring, and visualization to support global and national initiatives such as CFI to map and monitor deforestation risk in cocoa producing regions.

Photo: Tope. A Asokere

Appendix I

Examples of initiatives halting deforestation in the cocoa supply chain

Types of Initiatives	Examples
Multi-stakeholder	• Cocoa and Forests Initiative • Cocoa Action Brazil • Cocoa, Forests and Peace • Roadmap to Deforestation-free Cocoa in Cameroon • Partnership 4 Forests • UNDP Green Commodities Programme (GCP) • Forest Data Partnership
Consumer Country	• Dutch Initiative on Sustainable Cocoa (DISCO) • Swiss Platform for Sustainable Cocoa (SWISSCO) • German Initiative on Sustainable Cocoa (GISCO) • Beyond Chocolate • EU Sustainable Cocoa Initiative • EU Deforestation Regulation • UK Environmental Act • U.S. FOREST Act • European Forest Institute Sustainable Cocoa Programme
Producer Country	• Ghana Cocoa Forest REDD+ Program • USAID- ACTIVE (Indonesia) • African Cocoa Initiative Phase I and II • Cacau, Forests and Diversity Agreement • The Cote d'Ivoire-Ghana Cocoa Initiative (CIGCI)
Private Sector	• Retailer Cocoa Collaboration (RCC) • Mondelez Cocoa Life Program • Cargill Cocoa Promise • Olam- OFi Cocoa Compass
Civil Society	• The Accountability Framework • Global Forest Watch Pro • Trase • Mighty Earth Cocoa Accountability Map
Certification	• Rainforest Alliance 2020 Certification Program • Fairtrade International

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