



Cocoa Traceability Case Study

CARGILL

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Disclaimer

The opinions expressed in this publication are those of the authors. They do not purport to reflect the opinions or views of the national platforms for sustainable cocoa in Europe and/or their members, nor the stakeholders who were interviewed in the process of developing it.

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1. Introduction

Improving the transparency and traceability of the cocoa value chain¹ is an important means of improving accountability and sustainability of the chocolate and cocoa sector. For example, full traceability from farm level to first purchase point is one of the commitments of the Cocoa & Forests Initiative. This initiative is a public-private partnership aiming to end deforestation and restore forest areas. It was signed in November 2017 by the governments of Ghana and Côte d'Ivoire and a group of 35 companies. A similar framework, the Roadmap to Deforestation-free Cocoa², was signed in Cameroon in January 2021 by the government, companies, farmer organizations and NGOs, and aims to ensure the traceability of 100% of the cocoa supply from the farmgate via the warehouse to the port of exit by the end of 2025.

This is one of a series of four case studies that were developed to provide a deeper insight into the role of specific cocoa supply chain actors in the context of traceability. It complements our [Technical Brief on Cocoa Traceability](#), a publication developed to contribute to the global debate on cocoa traceability by providing clarity in defining traceability, what it can help to achieve, and how traceability and transparency in the cocoa sector could be further improved.

This series of case studies aims to provide details on (1) the existing traceability systems and the objectives of various supply chain actors sourcing cocoa from Cameroon, Ghana and Côte d'Ivoire; (2) the reliability and protection of data in traceability systems; (3) how traceability systems operate to provide accountability regarding sustainability commitments. Each case study focuses on a specific theme relevant to the role of that actor in the cocoa supply chain, including certification body, trader, primary processors and consumer brand. It considers their approach to traceability, such as mass balance and segregation, and the technology used by their traceability systems (for example, SAP and blockchain). This case study focuses on the approach to traceability as used by Cargill.



This case study comprises five sections. In **section 2** we introduce the actor, Cargill, and its role in the cocoa supply chain. In **section 3**, we describe the Cargill traceability system by focusing on three characteristics: 1. information about the origin of cocoa entering the supply chain, 2. links between sustainability characteristics, both at origin level and at later steps in the value chain, and cocoa lots through the different stages of processing and 3. transmission of data along the supply chain. In **section 4**, we investigate the potential of Cargill's approach to ensuring accountability of sustainability claims. In **section 5**, we outline the challenges to traceability as identified by Cargill.

This case study was jointly commissioned by IDH, the Sustainable Trade Initiative and the German Initiative on Sustainable Cocoa (GISCO) and obtained funding from the UK-funded Partnerships for Forests (P4F) programme in the context of the Cocoa & Forests Initiative.

1. In this document we use the term "value chain" whenever we could use both "value chain" and "supply chain". The term value chain is preferred as it better reflects the perspective of all actors involved.

2. <https://www.idhsustainabletrade.com/uploaded/2021/01/20210111-RDFC-2-Pager-2-Final.pdf>

2. Cargill and its supply chain

Cargill Incorporated is a worldwide agro-industrial conglomerate that is active in trading, purchasing and distributing agricultural commodities such as grain, palm oil, glucose syrup, cocoa, vegetable oils and fats used in processed foods and industry. As a couverture producer and trader, Cargill is a global supplier of high-quality cocoa and chocolate products including cocoa powder, butter, liquor, chocolate, coatings and fillings, and plays a key role in the global cocoa supply chain.

In 2012, Cargill established the Cargill Cocoa Promise as a framework to achieve their sustainability commitments in the cocoa sector. This was followed by the introduction of Cargill's Sustainability Goals in 2017. According to Cargill, this framework has allowed broadening of its sustainable sourcing scope to encompass the indirect cocoa supply chain and the sourcing of other ingredients needed to produce chocolate. Cargill has company wide sustainability goals to deliver on its broader sustainability ambitions.



3. Cargill's traceability system

Increased transparency about where cocoa comes from, who grows it, and the conditions under which it is produced are pivotal for Cargill as the company's demand increases for sustainably sourced cocoa, and as it drives progress and prosperity in cocoa farming communities.

For Cargill, traceability is a prerequisite for making real progress on sustainability by:

- ✓ Ensuring maximum transparency and traceability across the cocoa supply chain
- ✓ Assuring that the products it buys are responsibly sourced
- ✓ Improving knowledge of producers and producing communities
- ✓ Effectively identifying risk factors and defining targeted interventions
- ✓ Enhancing market price assurance for producing communities

The Cargill Cocoa Promise focuses on the direct supply chain, and by introducing Cargill's Sustainability Goals, the company also aims to increase transparency in their indirect supply chain. Cargill believes it important to ensure that its traceability systems are equally valuable for farmers and cooperatives, to motivate them to provide good quality data. Both farmers and cooperatives should understand how they can benefit from providing this data.

Cargill has developed a number of tools and applications that are used to obtain and document origin information (dimension 1), link sustainability characteristics to this origin information (dimension 2) and transfer traceability data along the supply chain (dimension 3). At present the use of these tools is limited to Cargill's direct supply chain. However, Cargill is developing a due diligence system for the indirect supply chain. Globally, approximately 60% of Cargill's cocoa supply chain is directly sourced, and 40% indirectly, although this varies by country.

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3.1 Dimension 1: How is origin information obtained and documented?

Cargill expressed the ambition to have 100% traceability for their direct and indirect supply chain by 2030.

To achieve traceability Cargill is implementing two important components³: 1. Supply chain mapping and 2. First mile traceability, tracking which farms and farmers supplied the cocoa beans coming into their direct supply chain.

Supply chain mapping: This aims to map the supply chain to farm-level. Cargill uses GPS farm polygon maps (i.e., mapping the perimeter of the farm) to evaluate and verify partner farmers against measures such as protected area boundaries, historical forest loss and future deforestation risk. For their direct sourced network (approx. 60% of the volume) they have mapped back to the first point of purchase.

First mile traceability: First mile traceability tracks the source farms and farmers from which cocoa enters the direct supply chain. Initially through third-party certification such as UTZ, Rainforest Alliance and Fairtrade International, Cargill verifies that cocoa suppliers document and separate the sustainable certified crop from conventional cocoa. This must be done from the farm to the cooperative level, and is often paper-based.

Cargill has gone further and introduced digital tools to manage first mile traceability in the supply chain. Using CocoaWise™ BeanTracker, each bag of cocoa is tracked by an electronic tracking system. The set-up and management process varies by local supply chain to ensure maximum effectiveness. Within the Cocoa Promise program, Cargill can trace the cocoa back through the cooperatives to individual farmers. Farmers have a unique farmer ID linked to the GPS location of their farm and this is attached to each lot's purchase information. Cargill implements several mechanisms for control and verification along the chain: yield estimates to support verification that the cocoa sourced really comes from these farmers and verifying how the cocoa was transferred from the farmer to the cooperative to the main warehouse and then on to Cargill for further shipment or processing. The internal Cargill Verification team also conducts on site checks on the implementation of traceability systems.

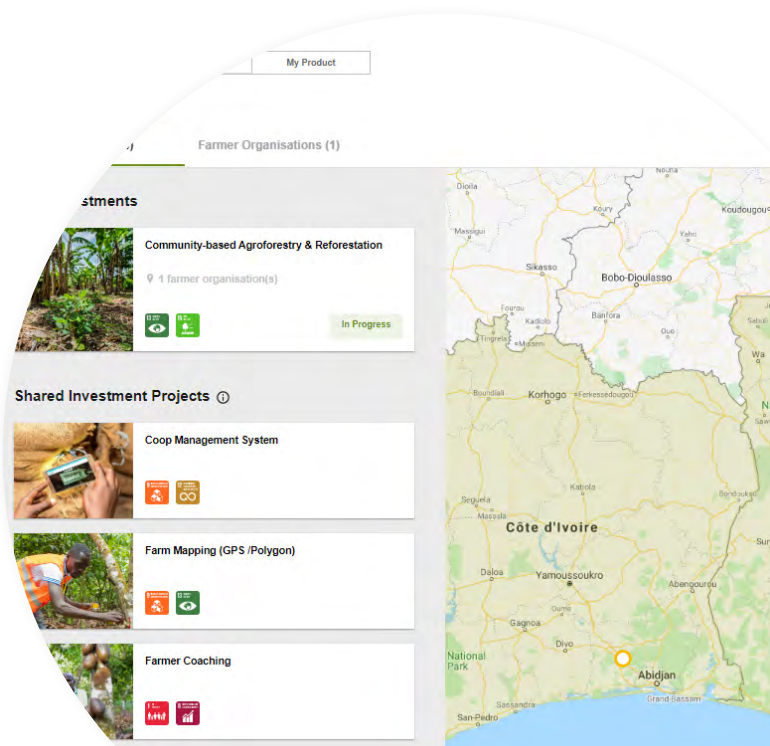
3. Cargill's approach is aligned with the [Accountability Framework Initiative Operational Guidance on Supply Chain Management](#), specifically chapter 2 Supply chain mapping and traceability.

Cargill also has a set of automated data quality checks to increase reliability of the data. After a first analysis, the country teams verify the data in the field. Cargill also works with third party verification to ensure the reliability of the data.

- Cargill has reached 100% farmer-to-factory traceability through its system in Ghana and 61% in Côte d'Ivoire. At present, more than 70,000 farmers are included in digital Cooperative Management Systems in Côte d'Ivoire and the system has tracked about 120,000 metric tons of cocoa beans. In Ghana, around 25,000 farmers have registered to a fully traceable bar code and digital payment system to date.
- In 2020, Cargill introduced this electronic cocoa bean tracking system in Brazil and Cameroon, scaling it up in Côte d'Ivoire and Indonesia and maintaining its coverage in Ghana.

In conclusion, Cargill has implemented bag level traceability in their direct sustainable supply chain and uses various procedures to continue tracking cocoa origin as the bags are repacked throughout the production process. Since data recorded for each bag is connected to the unique farmer ID, this methodology ensures that the farmer's identity is connected throughout the supply chain.

Cargill shares data on the origin of the cocoa via a [tool](#) called CocoaWise™ Map. This is an interactive map showing the name and location of the 128 cooperative offices in Côte d'Ivoire, the 7 buying stations in Ghana and the 11 buying stations in Cameroon belonging to Cargill's direct sourcing network.



3.2 Dimension 2: How are sustainability characteristics linked to supply origin data?

According to Cargill, the value of a traceability system lies in connecting origin data with data on sustainability characteristics like good agricultural practices, location of farms (e.g., proximity to protected forests), and social conditions in producing communities (living income, labour conditions, etc.). These linkages enable Cargill to target its interventions on the basis of risk assessments and where it can have the most impact. For example, the location of forest loss or potential encroachment is considered. Based on this analysis, Cargill verifies the data and tailors interventions accordingly.

CocoaWise™ Insight is the monitoring and evaluation system through which Cargill tracks and monitors progress in achieving cocoa sustainability goals. This includes detailed data, such as tree density, cultivation methods used and replanting activities, along with information about farming families and their communities, including child labour monitoring.

Cargill also collects sustainability characteristics through a set of tools that are designed to increase transparency and traceability while enhancing [cocoa farming](#) practices and community [well-being](#).

- **CocoaWise™ eFinance** – Cargill emphasises the importance of financial traceability. This is a mobile money solution provided to farmers to ensure fair, secure and accurate payments. They are piloting mobile money solutions to ensure that the financial payments can be traceable as well. In Ghana, 100% financial traceability has already been achieved.
- **CocoaWise™ ProFarm** – A set of digital tools supporting farmers to make informed decisions based on agronomy and access up-to-date weather and market information. It provides farmers with tailored farm management plans aimed at boosting productivity. This system also gathers farm data such as geolocation, crop health, household and income data.
- **CocoaWise™ ProCoop** – A set of tools that manages first mile traceability and supports farmer cooperatives to be more professional in how they sell and manage their cocoa.

3.3 Dimension 3: How is traceability data transferred along the supply chain and verified?

Cargill uses a number of tools to transfer and verify traceability and sustainability data both downstream (from Cargill to their clients) and upstream (from Cargill to their suppliers and producing communities).

Cargill has launched CocoaWise™ Portal, a digital portal for customers sharing information about the origin of the products they source from Cargill's direct supply chain. CocoaWise™ Portal provides customers with fast, easy access to the sustainability data of Cargill's cocoa supply chain.

CocoaWise™ pools information to a centralized data platform, CocoaWise™ 360 (data platform), from a suite of Cargill's digital tools designed to increase transparency and traceability while enhancing cocoa farming practices and community well-being. CocoaWise™ 360 compiles all Cargill's sustainability and first-mile traceability data in one place. Through this

platform, Cargill can layer data from multiple sources including CocoaWise Insights, Coop management System, internal Enterprise Resource Planning systems and publicly available information. This gives a clearer picture of what is happening on the ground, helps assessment of interventions, and shows where impact can be increased.

In addition to using internal systems, Cargill works with KPMG to provide assurance of its data. Cargill collaborates with third-party verification and certification organizations that provide internationally recognized and independent standards for sustainable production and provide assurance.

4. How does this traceability system provide accountability on sustainability commitments?

Cargill's motivation for traceability is driven by both consumer demand for sustainable chocolate and ensuring effective management of their supply chain. By 2030 Cargill aims to reach 100% traceability from farm to first point of purchase for both their direct and indirect supply chains.

Currently, Cargill has different traceability approaches for their direct and indirect supply chains:

Direct supply chain

In its direct supply chain, Cargill works directly with the first point of purchase, i.e. cooperatives and buying centres. It also has a clear overview of which farmers have contributed to a specific lot of sustainable cocoa. Cargill supports farmer organisations, cooperatives and buying centres to build their capacity with robust internal management systems:

- By ensuring that the cooperatives have a robust traceability system,
- By designing and implementing targeted sustainability programs, and
- Tracking progress on their sustainability commitments.

Cargill declares that a traceability system, able to keep records of farmers and purchases, is the foundation of any cocoa sustainability program.

Indirect supply chain

With less influence on the indirect supply chain, Cargill's focus is on supply chain mapping and tailoring its approach based on risk. Cargill has started to map its indirect supply chain by mapping its first-tier suppliers and then mapping their suppliers, effectively Cargill's second tier suppliers. Based on this information and related risk assessments, Cargill aims to improve sustainability in the indirect supply chain. Traceability is always a means to an end, so it is essential to ensure that the system is fit for this purpose and that it meets the sustainability objectives of both Cargill and its clients.

However, when buying from other sources, Cargill also wants to ensure due diligence is in place and work together with suppliers to address the identified risks. Cargill has been developing the implementation of a due diligence system in which indirect suppliers are assessed. Based on risk-profiles,

Cargill engages and supports suppliers to work together through active supplier engagements, support capacity building and other incentives to address the risks identified.

Physical bean and product segregation has its limitations. With segregation, it is possible to guarantee that cocoa comes from a certified farmer, but there is not necessarily the required information about the origin and sustainability dimensions. For Cargill, it is important to understand not only where the cocoa is sourced from, but also under what conditions it was produced, so that it can help design targeted sustainability interventions. By knowing the origin of all the cocoa bought, Cargill can provide their customers with supply chain transparency.

Aligning definitions, ambitions and reporting

Currently, several definitions of traceability and indicators for monitoring traceability are used across the supply chain which makes it harder to interpret, understand and report on progress.

Cargill supports the efforts to align definitions, ambitions and reporting requirements between the national platforms for sustainable cocoa in Europe. Cargill indicated that the World Cocoa Foundation (WCF) could also play a role in this regard.

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Improve data quality

Cargill sees the improvement of data quality within traceability systems as one of the key challenges. Meaningful analysis is only possible if the data quality from the field is very good. Cargill has implemented different checks to ensure that the data they get from their traceability system is reliable.

Data protection, data ownership and privacy

Cargill does not share certain sets of data with their customers, for instance personal information about farmers or their names. For certain types of information, Cargill shares aggregate data rather than raw data. From a sustainability perspective, Cargill believes that cooperatives should maintain ownership of their data and should always have access to the systems. Its traceability system is accordingly set up such that Cargill only gets access to the information that is relevant to its operation. With new and evolving data privacy legislation in every country, ensuring that the data collected adheres to these laws is a challenge. Côte d'Ivoire, for example, has strict data privacy laws.

Interoperability

Cargill believes that increasing interoperability and collaboration between traceability systems is essential for effective traceability. Processors, traders, producing country governments and certification bodies are all developing their own tools. Developing and maintaining a good, working collaborative ecosystem for traceability in the cocoa sector is important.

According to Cargill, the emerging regional African standard is an opportunity for the sector, but it needs to be implemented in a credible fashion with an excellent assurance and monitoring mechanism in place. For the company, it is very important to understand what issues can and cannot be solved in isolation; for example, deforestation cannot be prevented by a single actor. The basic requirements to ensure a standard is adopted need to be identified, such as good enforcement and strong local institutions. Successful implementation of the standard will require building the capacity of various actors in the value chain (first mile), ensuring that traceability from the beans' perspective goes back to the farmers and can be correlated with their sustainability programs, interventions and financial flows.



5. Challenges to traceability identified

Creating a level playing field

Since each farmer may supply many companies and is registered in several different traceability systems, a single farmer could potentially have multiple ID's. Hence, it is important to establish a shared national platform providing unique farmer IDs that could be used by the traceability systems of different supply chain actors.

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Cargill supports the efforts to align definitions, ambitions and reporting requirements between the national platforms for sustainable cocoa in Europe. Cargill indicated that the World Cocoa Foundation (WCF) could also play a role in this regard. Whilst providing end-to-end traceability options to certain customers, Cargill contends that keeping the beans separate throughout production, transport and storage can be very costly and suggests that supply chain transparency is possible without such segregation.

Improve data quality

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It is important that traceability is also always seen as a means to an end and does not divert attention from addressing sustainability challenges on the ground.

Data protection, data ownership and privacy

Sharing of data with others needs to take place under the right conditions to ensure personal information - for instances from farmers - is not inappropriately shared. For certain types of information, Cargill shares aggregate data rather than raw data. From a sustainability perspective, Cargill believes that cooperatives should maintain ownership of their data and should always have access to the systems. Its traceability system is accordingly set up such that Cargill only gets access to the information that is relevant to its operation. With new and evolving data privacy legislation in every country, ensuring that the data collected adheres to these laws is a challenge. Côte d'Ivoire, for example, has strict data privacy laws.

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