Dear [Name] – apologies for the late reply but this request slipped my attention

Please find below some information that is hopefully helpful

In summary – what are important elements to consider:

- Building up national database including the role and governance by local institutions/governmental and / or non-govt.
- Data quality: Importance of expertise in managing this data, this means – the right tools, the right processes etc.
- Nature of changing farms – it isn’t a one-off exercise but continuous process due to nature of land rights etc.
- Costs: how to pass these on, creating demand in the market is essential to drive and sustain change.
- Data ownership/privacy as this should be integral part of the solution

More specific related to your questions:

1. How do you identify the farm? Is it via national registers or via GPS coordinates? Any other way? Registers of farmers exist due to sustainability certification standards. These have required member registers with basic information of farmers (each gets assigned a certification code) and farms (with a farm code). Depending on the country of origin and supply chain, these are either through cooperative or other supply chain actors. These registers form basis to identify which farmers to be mapped.

   Improved national farmer databases owned by national agencies (ie, CCC, Cocobod) to centralize basic information such as farmer and farm ID and offer industry to provide complimentary would be welcome. ECA refers to this in Vision for Change (Add link)

2. Do you demand one GPS point per farm? Do you have any guidelines on whether the GPS point should be taken in the center of the farm or can it be anywhere? Or do you demand that the whole perimeter of the farm be described with GPS points?

   Mapping farm boundaries (GPS-polygon mapping) is the end objective. This means someone walks around the farm perimeter with a GPS device to create a digital footprint of the cocoa farm. Collecting GPS (mid-point) coordinates of the farm is used as stepping stone, as this can already a good indication of risk-levels. However, ultimately our aim is to have visibility in the cocoa farm to be able to accurately assess deforestation risks, but also have insight into yield/volume data. Cargill has as goal that all farms in our direct supply chain need to be mapped.

   How data is collected

   Equipped with tablets and trained on data collection methods, GPS farm mapping agents walk farm boundaries with guidance from the farm operator or owner and where appropriate using features that are easy to identify in the landscape (such as roads and rivers). Mapping agents can either be subcontractors or hired through cooperative.
At every visit, data is entered by the agent into a tablet and it is synchronized into FarmForce (Cameroon, Cote d’Ivoire, Ghana), to Koltiva (Indonesia) or to an ArcGIS Cocoa Traceability application (Brazil). Data of FarmForce is then synchronized with the Cargill Data Platform (CDP). Data from Koltiva (Indonesia) and ArcGIS Cocoa Traceability application (Brazil) may be integrated into CDP in a later phase.

Please refer to the flow diagram for a data collection process:

![Flow Diagram](image)

Depending on the country of implementation, agents are trained by Cargill and/or a third-party organization and equipped with access to appropriate hardware (tablets, mobile devices) and software to facilitate collection of farm boundary polygons (FarmForce mapping application, Koltiva mapping application). Organizations and agents are trained on collecting GPS farm mapping data in line with industry best practice, most notably: Rainforest Alliance Guidance on geospatial data collection.

Trainings focus on:
- Ensuring satellite connectivity during data collection
- Avoiding geometry errors such as overlap of farms
- Ensuring appropriate administration of the farm identification codes
- Process of FarmForce Tool usage on tablets

3. What is your policy regarding big farms? Do you set a maximum area over which the farmer needs to provide two or three GPS points? Is there a maximum area? Is the concept of “farm” you work with equivalent to a single real-estate property? What about collective property and cooperatives?
As our aim is to have GPS polygons of the entire farm, this is also the case for larger farms. In West Africa most farms are small-holders, thus more applicable for Brazil setting. For cooperatives we GPS polygon map the members of the cooperative who supply sustainable cocoa.

4. Do you have any estimates of how much does it cost for farmers to provide that data? And for you to process and check it? Is there any quantified price change that you have associated to this level of traceability?

Cargill invests in GPS mapping – this can be quite a costly exercise as we need to have the right tools, train mapping agents, provide logistics - farms can be hard to reach/logistics of mapping each farmer.

Farmer/Cooperative affordability is a constraint to implement GPS (polygon) mapping. Additional expertise is needed to analyse the maps and ensure the quality of data (no overlaps with other farms, cities, roads / no spikes etc). We have an internal M&E team in country of origin who coordinate GPS mapping, as well as a central M&E team who conduct analysis on data quality. Being able to assess the data quality and analyze the data requires specific geospatial data analysis expertise.

As such it requires significant investments, these costs need to be passed onto the marketplace. We currently do this in the form of sustainable products and services (link to website Promise Solutions). Market demand needs to be created by consumers.

5. Have you faced any reluctance or technical obstacle among farmers to implement this policy? Are there any obstacles that you can think of to extend this kind of policy across other commodities and supply chains?

Technical obstacles include technical competency of farm mapping agents, poor infrastructure (connectivity), change of farmer membership, lack of formal property rights to clarify farm / farmer connection (changing farmer ownership, expansion etc), competencies for data management/analysis at cooperative/farmer group level. This issues can result into problems with data quality. It is vital that there are clear data quality procedures and expertise/tools to identify overlaps, issues with maps etc. Due to nature of property rights in WAF, it’s important to note that mapping is not a one-off exercise – as farm boundaries can change/split etc.

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Some more context related to traceability in Cargill supply chain

To achieve first-mile traceability Cargill Cocoa & Chocolate works to implement two important components: 1. Supply chain mapping, i.e., knowing where the farm is through farm polygon mapping and 2. First mile traceability: i.e., tracking which farmers have supplied cocoa coming into our direct supply chain.

Supply chain mapping: We use GPS farm polygon maps (i.e., perimeter of the farm) to evaluate and verify partner farmers against, among others, protected area boundaries, historical forest loss and future deforestation risk.

First mile traceability: First mile traceability allows us to follow from which farms and farmer cocoa into our direct supply chain is sourced. Through third-party certification (UTZ, RA, FT), we assure and verify that our suppliers of sustainable beans document (often paper-based) and separate the flow of sustainable certified cocoa from conventional cocoa and from the farm to the cooperative level.
Further, in 2017 we started implementing a digital system in Côte d’Ivoire (Cooperative Management System) that allows us to trace a bag of cocoa from the farm into the supply chain (i.e., up to Cargill warehouse) through bar-coding.

Critical elements are:
- Farmer ID – all farmers need to have a (digital) unique ID; this needs to be linked to a farmer and farm profile (with unique farm ID)
- Farm ID – all farms need a unique ID, linked to Farmer ID/profile
- Coop ID – all cooperatives need a unique ID
- Coop registers – all cooperatives need to have updated registers of farmers associated to them and for each crop year. These need to be updated at start of the crop.
- Sales ID (linked to CCC Receipt) – all sales need a unique ID, so that they can be traced back to the farmer. Sales need to include vital information on:
  - Farmer ID
  - Coop ID
  - Volume
  - Price
  - GPS location of the sales

Another critical element of first mile traceability for Cargill is identifying the estimated sales of the farmer basis estimated yield & land size. This is a control point for credibility.

Our approach as summarized above resonates with the Accountability Framework Initiative Operational Guidance on Supply Chain Management, specifically chapter 2 Supply chain mapping and traceability.

Besides GPS mapping, first mile traceability is also important. We need to know where the farms/farmers are located and also the volume flow into the supply chain. With this data we can make accurate assessment of supply chain risks and needed interventions. Each farm (or polygon) has a unique identifier which we can connect to a record of cocoa bag purchases in our warehouses, or to data we’ve obtained through digital farm surveys: information on the size of the farm and estimated yields, to how crops are cultivated, or whether it is engaged in replanting. Furthermore, these farm maps can be overlaid with geo-spatial data that is available in platforms like the Global Forest Watch Pro platform, on the extent of forests, protected areas or annual tree cover loss. These analyses can then help us to better understand risks of deforestation in our supply chain and prioritize high-risk suppliers or sourcing areas for mitigation and engagement.

Trust this information is helpful for you.
Please note that as a member of ECA (European Cocoa Association) and (WCF) World Cocoa Foundation we also collaborate with our partners in establishing cross industry position papers.
More information can be found here: www.eurccocoa.com / https://www.worldcocoafoundation.org/ or here more on Cargill https://www.cargill.com/sustainability/cocoa/sustainable-cocoa

With regards

From: [Redacted]
Sent: Monday, October 4, 2021 12:43 PM
To: <cargill.com>  
Cc: <ec.europa.eu>;  

Subject: Inquire - Traceability - Cocoa

[EXTERNAL] This email came from outside of Cargill. Do not click links or open attachments unless you recognize the sender. If you suspect this is spam, send this email as an attachment to spam@cargill.com

Dear [Name],

I hope this email finds you well. I’m a member of the European Commission’s team working on international forest issues. I followed your presentation within the Cocoa Dialogue.

I’ve allowed myself to contact you to ask you some information regarding the traceability of supply chains.

I’ve seen the Cargill is implementing traceability of cocoa to farm level. I’d have a few questions regarding this:

1. How do you identify the farm? Is it via national registers or via GPS coordinates? Any other way?
2. Do you demand one GPS point per farm? Do you have any guidelines on whether the GPS point should be taken in the center of the farm or can it be anywhere? Or do you demand that the whole perimeter of the farm be described with GPS points?
3. What is your policy regarding big farms? Do you set a maximum area over which the farmer needs to provide two or three GPS points? Is there a maximum area? Is the concept of “farm” you work with equivalent to a single real-estate property? What about collective property and cooperatives?
4. Do you have any estimates of how much does it cost for farmers to provide that data? And for you to process and check it? Is there any quantified price change that you have associated to this level of traceability?
5. Have you faced any reluctance or technical obstacle among farmers to implement this policy? Are there any obstacles that you can think of to extend this kind of policy across other commodities and supply chains?

I’d be very grateful if you could provide this information as soon as you can. This would be extremely useful for our work.

Thank you very much!

Best regards,

European Commission