UNECE

Enhancing Transparency and Traceability of Sustainable Value Chains in the Garment and Footwear Sector

# Explanatory Note for the Business Process Analysis Activity and the Generic Traceability Model

*Version of 14-09-2020*

## Business Process Analysis Activity – A summary

In order to develop working systems to support sustainable value chains through transparency and traceability, three questions need to be answered in detail – and answering those questions is a three-step process.

1) How do these value chains work today, what is the data currently exchanged between participants?
2) What data is needed in order to support traceability and sustainability compliance claims and when should it be collected?
3) Where do we need to make changes in existing value chain processes in order to collect and record the information defined in response to question 2?

To document the answers to these questions in a practical format we use business process analysis (BPA). It is the both the first step in the development of data standards for traceability and transparency in Textile and Leather Value Chains and is essential for understanding the challenges of implementation. Because it is for industry wide use, the BPA is intended to cover the vast majority of use cases in order to ensure uptake and use of the standard. At the same time, the Business Process Analysis **is not where decisions are made about the data standards and it is not a documentation of best practices –** although answers to question 3 may be used as input to the development of best practices**.**

In the Recommendation and Guidelines [1], which are also being developed under this project, sustainability compliance claims about products, processes or companies such as "100% organic cotton" or "No harmful chemicals used" or "Made in factories that implement good labour practices" are called "claims". "Claim" is also the term used in this document. The Guidelines contain a detailed explanation of claims and their contents.

The Recommendation and Guidelines also refer to "traceable assets". This term is used to denote "any item (for example an object, a product or other traded item or a service) that needs to be

[1] [1] Full reference and hyperlink to be added when available

tracked along a supply chain."[2] Then, for the purposes of transparency and sustainability, additional information is added to the tracking information for traceable assets (such as the origin of materials, processes used, product or process certifications, etc.).

To answer the three questions above, three types of business process analyses are undertaken. The first two Business Process Analyses (BPAs) have 5 steps which are basically identical and are described below. The first BPA identifies all of the existing value-chain partner roles, the existing processes and activities inside the value chain, all of the existing exchanges of data and the content of those data exchanges. This BPA process is not affected by traceability processes (unless traceability is already implemented) because it identifies existing processes, activities, and data exchanges.

The second BPA process attempts to identify what data are needed to establish transparency and traceability and where and when that data should be collected in the value chain. It looks to identify the data needed to establish traceability and transparency as well as when that data should be collected. When looking at the same type of product, the types of data gathered for **traceability** do not vary much because traceability is looking at chain of custody and recording processing (who had the product, when, and what did they do with it). However, data for **transparency** can vary widely, for example transparency data collection will be focussed on raw materials for a claim such as, "Made of 100% cotton" but will be focussed on conditions in factories for a claim like, "Made in factories that implement good labour practices".

The third BPA process looks to answer the question on where changes are needed in the existing processes and activities. This means comparing the results from the first two BPA processes in order to identify when and where the data needed for traceability and transparency is already being collected and if changes are needed in order to collect additional data or to collect it at a different time or place.

The results from these three BPA processes will be:

A) An input to the much more technical data analysis and data standards development process, where specific data element standards and code lists will be decided upon and

B) An input to the development of implementation guidelines. This input will help the drafters of the guidelines to identify possible changes that could be recommended in order to allow and improve the collection of traceability data within value chains. It is during the development of the guidelines, where the business process analysis is only one input, that best practice recommendations will be identified and included.

## Traceable Assets

At the heart of any traceability system are uniquely identifiable traceable assets. A traceable asset may be a trade item/product (which can be serialized), a batch of trade items, or any item that traceability partners agree they wish to trace. Another form of traceable asset is a logistics unit (for transport or storage). Examples include pallets, containers and shipments. In the case of logistics units, one or more trade items (which are also traceable assets) are aggregated together (for

[2] UNECE, Traceability for Sustainable Trade, A Framework to Design Traceability Systems for Cross Border Trade, ECE/Trade/429, http://www.unece.org/index.php?id=43763 (accessed 17-05-2020)

example grouped on a pallet or in a container) or disaggregated (for example when one batch is split across several pallets).

## Traceability, chain of custody and transparency information

Traceability data allows one to verify that the product in the consumer's possession is really the one that it claims to be and transparency data is connected to the traceability data in order to allow verification of product claims.

When traceability is implemented, as a product/component moves through the value chain from farm to store, it collects information which includes the IDs for its components (for example if the traceable asset is fabric, the IDs of the spools of thread used to weave the fabric) and the IDs of all the parties who had custody. This "chain" of product component, product and logistic unit IDs linked with the parties who have had custody makes up the "chain of custody" information used for traceability (knowing where a product is or has been).

Transparency on the other hand, requires the verification of whether or not products have been transformed using acceptable practices and/or acceptable materials. The information that allows this verification is collected at relevant stages of the value chain and is associated to a product or a product component's IDs. For example, a garment manufacturer's certificate for good labour practices could be linked to the IDs of the garments they make. And the ID of the fabric that the garment is made from could link to an inspection certificate for good environmental practices for the fabric's dyer, etc.

Claim verification can take place either at the end of a process, at the time a traceable asset is transferred between processes and/or value-chain partners, or at the end of the entire value-chain process. There are a range of standards/guidelines which define acceptable transformation practices and the information needed to verify them. The Traceability Requestor normally decides on the standard(s)/guideline(s) to use (often in consultation with other value-chain partners). The actual verification is done by checking all of the component IDs and the IDs of all the value-chain participants "attached" to the traceable asset as well as the information associated with those IDs.

The information associated (linked) to IDs depends upon what claims the traceability is supposed to support and which verification criteria, i.e. standard(s) or guideline(s), the Traceability Requestor has selected for supporting these claims. There are often a wide range of data options including inspection or audit results, the IDs for inputs and their origins, the certification status of value-chain participants and/or the certification of specific locations, production lines or processes within a larger company), etc.

## Layers of complexity in Traceability and Transparency Systems

There are many layers of complexity that can be included in a system for traceability and transparency. One area of complexity that this project may look at in a second phase is a description of the traceability processes needed to support the integration of textiles and leather into the **circular economy**. Whether this is done, or not, will depend upon the availability of information on existing processes that support the circular economy and are based upon the implementation of traceability across pre- and post- consumer activities.

Other, additional layers of complexity that can be included in a business process analysis, but which are not covered in the business process analyses in this project are described below.

These have not been included because they are related to activities or characteristics that are unique to specific value chains and/or specific products – and the work under this project needs to be applicable across a wide range of value chains and products in the textile and leather-goods sectors. On the other hand, individual value-chains may wish to take these additional layers of complexity into account, building upon the outputs from this project. These layers of complexity are described below and some associated questions are inserted in parentheses:

1. **Event recording** (UN/CEFACT TT Level 0, or EPCIS structures) which includes recording all events associated with a product instance or batch, so this may require multiple entries while the goods are in the possession of one value-chain partner. For example, fabric may be cut, assembled into suits, buttons and zippers added, the suit ironed and then packaged within one facility. This would require at least 5 entries if all events are recorded.
2. **Physical control(s)** (how?) of the goods at one or more points (where?) in the value chain to be sure that all partners in the chain of custody have maintained their "good" behaviour. This could be done (when?) for every product, every batch of products (what is the definition of a "batch"?) or only as a periodic control (based on what risk analysis undertaken by whom?)
3. **Volume reconciliation** for **mass-balance traceability systems** (how and when and for all or which processes?)
4. **Book and claim system**. Used for cases where the asset itself has no identifying-specifying characteristics. For example . the amount of electricity used from renewable sources (the power is always 220 V 50 Hz whether its source is hydro , wind solar or carbon. Idem for water sourcing).
5. Traceability systems that trace **product-type or product-class characteristics and/or individual product characteristics**. With this level of traceability, it might be possible (if the information can be preserved and retrieved post-consumer) to meet the information requirements for reuse / recycling and other end-of-life processes for a product in a circular economy. On the other hand, this is much more expensive and technically difficult to implement.

## Value-chain partners

Understanding the different kinds of value-chain partners can help one to better understand how traceability and transparency work. Based on the analysis made to support the second Generic Traceability BPA process, this project has identified seven kinds of generic value-chain partner roles (some of which may be fulfilled by the same organization), which are described below.

1) **Traceability Requestor -** requests that a traceability process be implemented. This could be any down-stream value-chain partner that wants to make a "claim" to its clients. Therefore, it could be the spinner, the weaver, the manufacturer, or a brand/retailer.

2) **Transformation partners**[3] - process or change one or more inputs to create a different output (i.e. farmer, ginner, spinner, weaver, dyer, garment manufacturer, etc.). These

[3] This includes outsourced activities of a transformational nature. The fact that an activity is outsourced is related to payments and contracts – not to the nature of the activity. An outsourced activity can be almost any activity along the value chain. For example, it can include large transformations such as dying or sewing or smaller transformations like washing or ironing.

inputs and outputs can be traceable assets. Transformation partners include those who undertake post-consumer recycling or re-use of products.

It is the responsibility of the transformation partner to ensure that their output products and logistics units have IDs and to link each ID to specific information. An output may be a batch, a package or an individual product. For logistics units it is important to maintain the link between the ID of the logistics unit (used for tracking and tracing) and the IDs for its contents (for example batch or individual output IDs). This may also require recording the IDs for the shipments or consignments in which the logistical units are included. What constitutes an output and which information the transformation partner is required to associate with an output's ID will depend upon the requirements of the Traceability Requestor. Examples of information that can be associated with an output ID are: the IDs of inputs, the ID of the transformation partner; a process id; a production date; a bill of lading; an ID for the location of processing (which may go down to the level of production line); and initial testing results.

The IDs of the transformation partner and/or the production location will, in turn, have information associated with them. Examples of such information are certifications, inspections, audits, organizations implementing these and the dates they were performed. Which information needs to be kept is, again, decided by the Traceability Requestor.

One transformation partner will also have a special role as the "Entry point" where traceability begins and the first information about the traceable asset is registered.

3) **Providers of IDs (and/or ID labels)** supply identifiers. In order for a traceable asset to be traced it must have an identifier that cannot be duplicated or moved from one (compliant) traceable asset to another one (which may not be compliant). Parties and locations in the value chain also need to have unique IDs. This value-chain partner's role is to provide the identification. The role can be carried out by a transformation partner, but it could also be done by a Certifier or an Inspection organization or an association that specializes in identifiers (such as GS1) or a government (for example, if a company is identified by its tax ID).

4) **Product-guardians** (transporters, warehouses, and traders) - make no changes to a product (traceable asset) or raw material, they only store, transport, sell, or purchase it. Their possession of the traceable asset is recorded in order to establish "chain of custody" since contamination or substitution could take place during their custody.

The Product-guardian needs to maintain the link between information about traceable assets that are products/outputs and logistics units. In particular, attention must be given to this when aggregating or disaggregating products and raw materials into logistical or storage units.

- For example, if the Product guardian **aggregates** multiple pallets into one container, the container ID should link to the IDs for the pallets it contains (which then link back to the IDs for the products packed onto the pallets).

- In another example, when **disaggregating** the contents of one pallet into smaller packages for shipping, the tracking IDs for those individual packages should be linked to the pallet ID - which again links back to product information.

As is the case for transformation partners, the IDs for the shipments or consignments in which the logistical units are included may also need to be recorded.

**5)** Validation Bodies look at planned controls and verification measures in a value-chain and validate that they are appropriate and will meet the objectives that have been set. Such objectives can include supporting claims (i.e. ensuring that a shirt is made of 100% organic cotton) or process results such as knowing every value-chain participant that has handled a traceable asset (i.e. traceability results). This is done before processes are implemented , as opposed to verification which takes place afterwards. Validation bodies are often the same organizations that undertake verification activities (see below).

**6)** **Verification Bodies** – verify that what has happened in the value-chain has taken place according to the rules agreed in advance. These bodies provide the data to prove that processes in the value chain have supported claims made about products or entities / organizations. In addition to auditors, these value-chain partners could include certifiers, inspectors, brand auditors or self-auditors. Who is allowed to have this role is determined by the "Traceability Requestor". These value-chain partners, like the validation bodies, do not produce or transform products nor do they undertake logistical activities, but they are key to ensuring proper value-chain integrity.

**7)** **Customers -** are often the customers of the Traceability Requestor but they can also be suppliers, so the customer could be the weaver who is buying "organic cotton thread" or the manufacturer who is buying "organic cotton fabric" – in addition to, or instead of, the final customer who purchases the garment. In other words, it is whomever is purchasing goods based, at least in part, on a claim made by the seller.

## Business Process Analysis – In more detail

### Detailed analysis process: 5 steps

The first two kinds of business process analyses being undertaken in this project consist of 5 steps, each of which builds upon the previous step. Examples of the outputs which document each step are in annex. A brief overview of these steps, referencing annexes with examples for steps 1-3, can be found below:

1. Prepare a **Use Case diagram** identifying the principle processes for transparency and traceability (annexes 1 and 2).

2. For each process, develop an **Activity Diagram** (annex 3) showing the participants in the process, the actions/activities undertaken, the sequence of actions and any information flows

3. For each Activity Diagram prepare a **Business Process Description** (annex 4) which describes in text, "the story" behind the diagram as well as any information exchanges, including documents. These descriptions also identify: legal requirements impacting the process; the sustainability risks for each process; methods (such as certifications) that could be used to address these risks; and the goal for that activity. Goals are expressed in the form of "user stories" which define, for individual actors, their goal for the activity and the benefit of achieving that goal. When preparing the business process descriptions, examples of documents and information exchanges are also being collected.

   Note: After receiving the Business process description information from the business experts, the data experts will also determine for each activity its "nature" according to EPCIS event categories (transformation, aggregation, transaction, object). A more detailed description of the EPCIS categories is in annex 5. This information is needed by those doing the technical data modelling and also helps to identify at which points in the process new IDs need to be generated

4. **List of Document/Information Exchanges** – This is based on information in the Business Process Descriptions and lists all of the information (including documents) exchanged during an entire Use Case and all of its processes as illustrated in its activity diagrams and described in its business process descriptions. These lists also identify where the same type of information is exchanged in different business processes within the same use case (for example, there may be multiple business processes in a use case where invoices or shipping instructions are exchanged )

5. For each of the Information Exchanges listed in 4, prepare **a List of Data Elements** (for example, date of delivery or product quantity) included in that information exchange. These are based on the list from step 4 and the examples of documents and information exchanges collected in step 3. For this project, lists of data elements are being prepared only when standards for the data exchange in question do not already exist. For example, there are already well-established UN/CEFACT standards for cross-industry invoices and for shipping instructions.

## The Existing Sectoral Business Process Analyses

## To be drafted

## The Generic Traceability Process Business Process Analysis

## To be drafted - text below is input

The purpose of the **Generic Traceability Use Case Diagram** (see annex 1)is to illustrate the principle processes for establishing traceability which are applicable across different products (trade items) – i.e. the model should be good for cotton, wool, viscose, leather, etc. This is the first output for answering the question on what data is needed and when for traceability and transparency.

These general processes have been identified based on the knowledge of experts with experience in traceability systems and have been refined based on the practical experience gathered during the

third step of the process where traceability and sustainability requirements are "overlaid" onto existing processes.

The Generic Use Case Diagram also identifies the value-chain partners who participate in traceability. Descriptions of these partners are given below.

In parallel to the "Generic Traceability" process analysis described earlier, the project is undertaking a detailed business analysis of the Cotton to Finished Garment Process as it exists now in order to provide inputs to the work on the first pilot under the project. In addition, analysis of the Farm to Fashion-Leather Good Process has begun.

When finished, the project will "overlay" the Generic Traceability process on top of the existing processes for cotton and leather in order to determine where additional activities or data collection need to be added into existing processes.

**In summary, the project is currently in the process of undertaking 3 ½ process analyses (as described in the 5 steps above)**

1) **One that is Generic for Traceability (see annex 1 for the Use Case (step 1) overview)**
    - To identify what data needs to be exchanged, with whom and when in order to establish traceability for **a claim** by a brand / producer / factory/farmer
    - To identify what data needs to be exchanged, with whom and when in order to establish traceability for transparency about a **product's characteristics** (technical, environmental and social)
2) **One for the Cotton to Finished Garment Process as it exists now (see annexes 2, 3 , 4 and 5 for examples)**
    - To identify what product and process data are currently exchanged, with whom and when
3) **One for the Farm to Fashion-Leather Goods Process as it exists now**
    - To identify what product and process data are currently exchanged, with whom and when

**2,5) A Revised Cotton to Finished Garment Process (and, eventually a Revised Farm to Fashion-Leather Goods Process) that includes the actions and data needed for Traceability**

- To identify if any new product or process data will be needed to implement the generic traceability process
- To identify when and from whom data should be collected in order to implement the generic traceability process – with a secondary objective of trying to minimize additional data collection and exchanges (i.e. costs)

The outputs from the above will be passed to the technical standards team who will use them to identify the specific data elements and codes to be recommended.

## The "Desired Future" Traceability Process Business Process Analysis

## To be drafted

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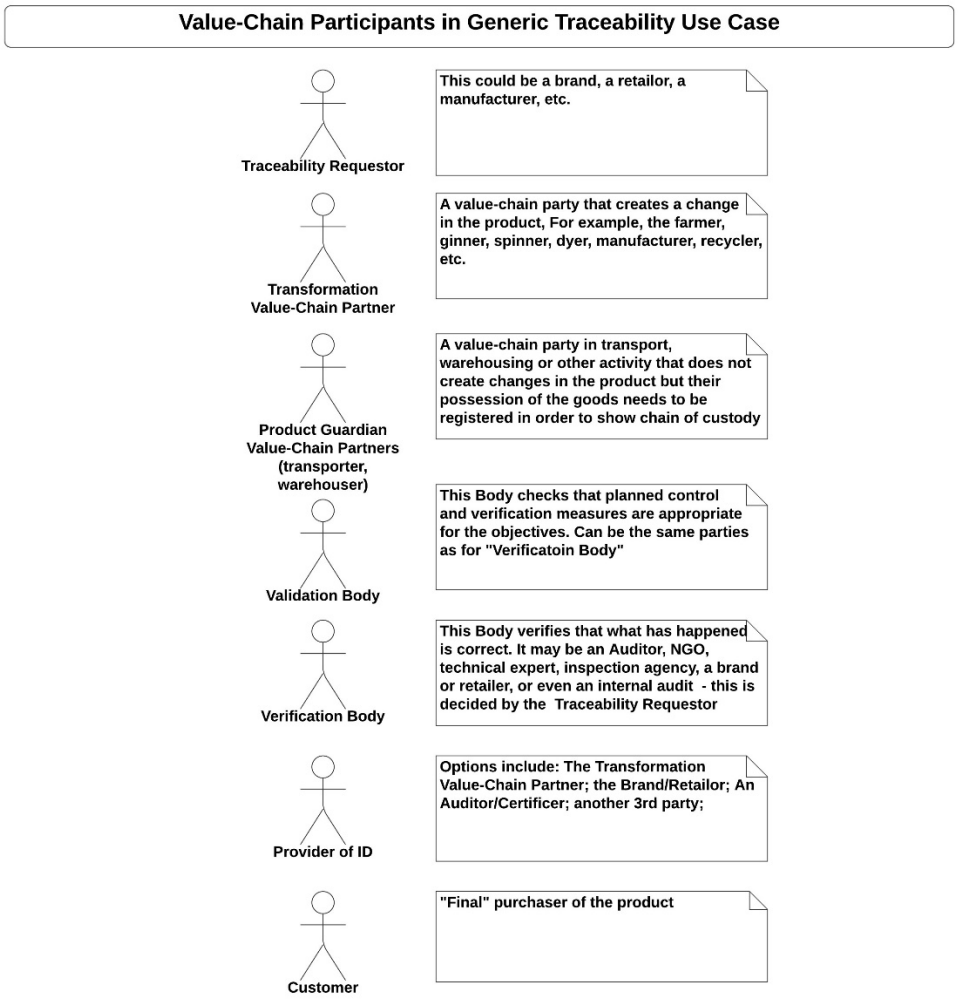
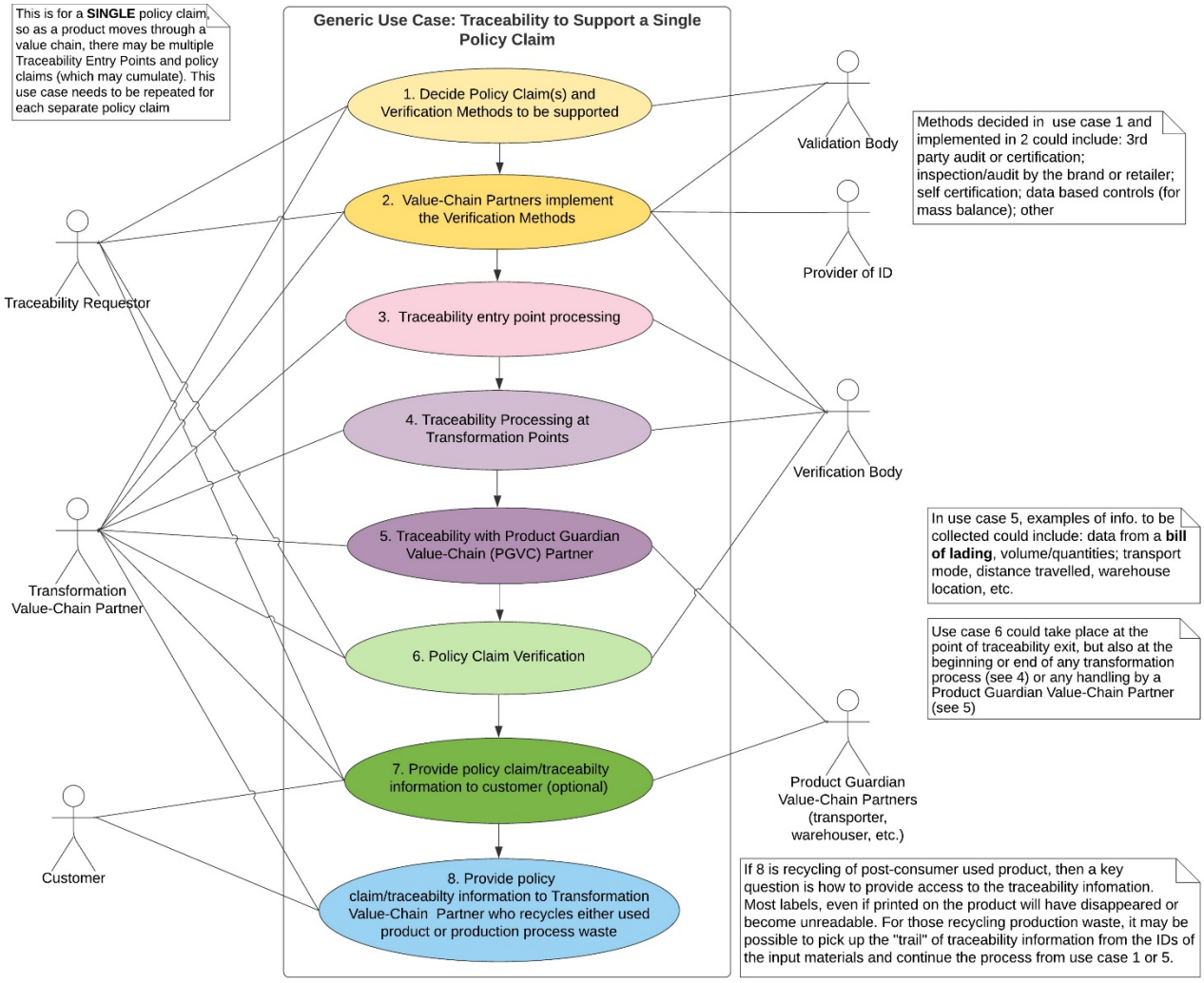
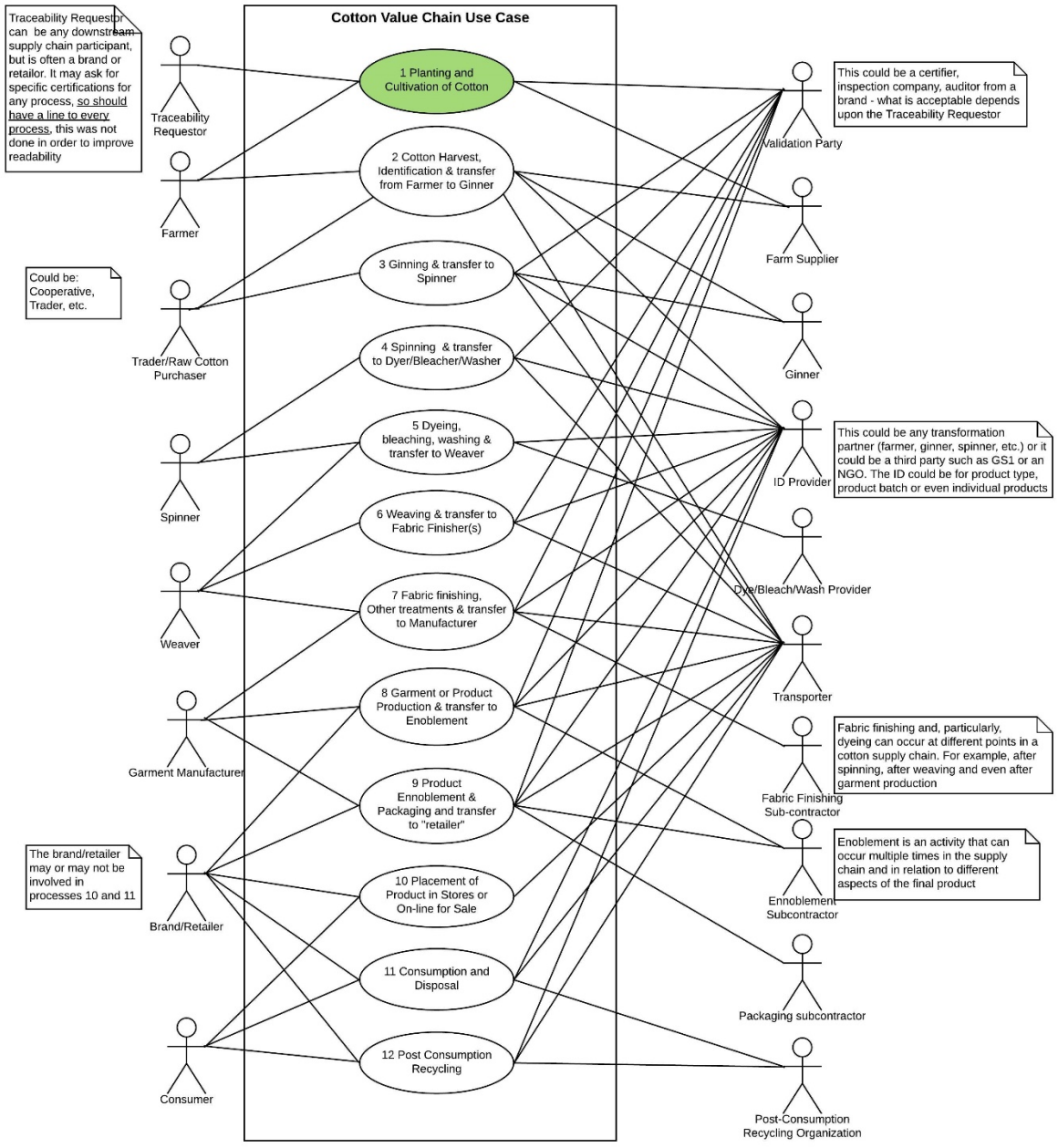
# ANNEX 1
# Value-Chain Participants & Use Case for Generic Traceability



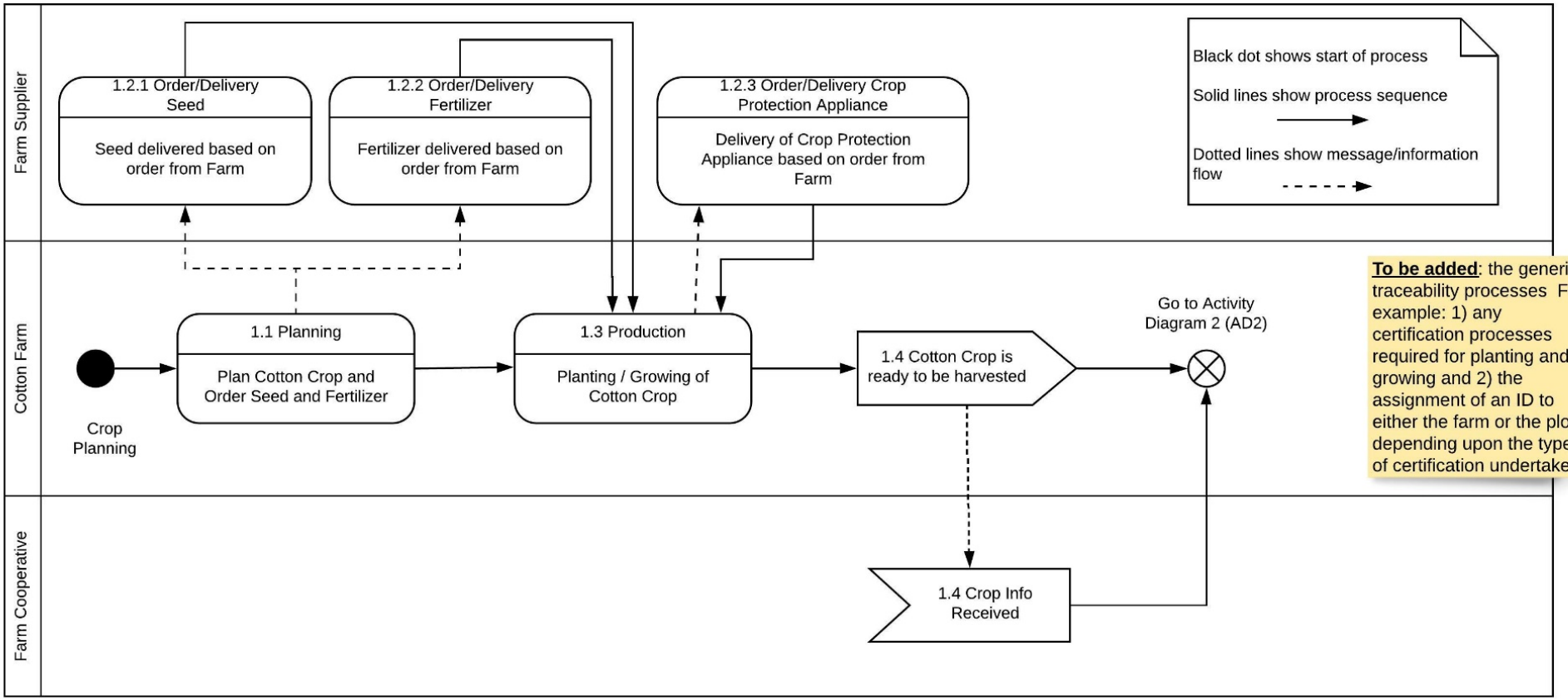

This is for a **SINGLE** policy claim, so as a product moves through a value chain, there may be multiple Traceability Entry Points and policy claims (which may cumulate). This use case needs to be repeated for each separate policy claim
Generic Use Case: Traceability to Support a Single Policy Claim
1. Decide Policy Claim(s) and Verification Methods to be supported
2. Value-Chain Partners implement the Verification Methods
3. Traceability entry point processing
4. Traceability Processing at Transformation Points
5. Traceability with Product Guardian Value-Chain (PGVC) Partner
6. Policy Claim Verification
7. Provide policy claim/traceabilty information to customer (optional)
8. Provide policy claim/traceabilty information to Transformation Value-Chain Partner who recycles either used product or production process waste
Traceability Requestor
Transformation Value-Chain Partner
Customer
Validation Body
Provider of ID
Verification Body
Product Guardian Value-Chain Partners (transporter, warehouser, etc.)
Methods decided in use case 1 and implemented in 2 could include: 3rd party audit or certification; inspection/audit by the brand or retailer; self certification; data based controls (for mass balance); other
In use case 5, examples of info. to be collected could include: data from a **bill of lading**, volume/quantities; transport mode, distance travelled, warehouse location, etc.
Use case 6 could take place at the point of traceability exit, but also at the beginning or end of any transformation process (see 4) or any handling by a Product Guardian Value-Chain Partner (see 5)
If 8 is recycling of post-consumer used product, then a key question is how to provide access to the traceability infomation. Most labels, even if printed on the product will have disappeared or become unreadable. For those recycling production waste, it may be possible to pick up the "trail" of traceability information from the IDs of the input materials and continue the process from use case 1 or 5.

# ANNEX 2 – General Use Case – Cotton Value Chain



# ANNEX 3 Activity Diagram Example for Use Case 1

**1 Cotton Planting and Cultivation - ACTIVITY Diagram**



# ANNEX 4 Business Process Description Example for Use Case Activity Diagram 1

| | | | | | |
|---|---|---|---|---|---|
| **Name of process area** | **Cotton Value Chain –** The information in this example was "invented" as an example, it needs to be filled in by a cotton value-chain expert | | | | |
| **Name of business process activity (use case)** | 1. Cotton Planting and Cultivation | | | | |
| **Process participants** | Cotton Farm, Farm supplier, Farm Cooperative | | | | |
| **Input and criteria to enter/begin the process** | Information available for crop planning. This is what has to be completed before this process can begin. For example, for spinning, the cotton has to have been ginned and delivered to the spinner before the process can start | | | | |
| **Parallel Processes** | List any processes from the use case diagram that can be undertaken either completely or partially in parallel with this process. If it is only partially in parallel, explain. | | | | |
| **Description of Activities**<br>A step by step description of what happens in the process. If parallel or overlapping steps must be finished before the next step, the first two digits of the number should be the same with a third digit added. For example, step 1.1 is followed by parallel steps 1.2.1 and 1.2.2 which are then followed by 1.3 | **Description**<br>Needs to mention all of the participants to this step in the process | **Periodicity**<br>Daily, monthly, every 8 weeks, yearly, etc. | **Required Documents + Who sends doc to Who Includes entry of data into computer systems (include name of system)**<br>Examples of all documents or images of data entry screens (screenshots) should be collected<br>Please scan document/screenshots into a pdf file and use the following naming convention for the file: The activity number (using a dash and not a period), the document name and your participant initials. For example: "2-5 CMR HB.pdf" | **Required Other Information / Communication method + Who sends info to Who**<br>Examples of emails, pdfs, etc need to be collected<br>Please send a pdf or image of the communication and use the following naming convention for the file: The activity number (using dashes and no periods), the communication method, the purpose and your participant initials. For example: "2-3 SMS time-of-delivery HB.pdf" | **User Stories**<br>**For each user story indicate who is the individual user.** For example, the truck driver (not the transport company) or the inspector (and not the inspection company)<br>NOTE: there can be more than one User Story for an activity<br>**In this column you can go beyond the process as it is today and say for activities what your goal for the activity is in the future and the benefit of realizing that goal** |
| | 1.1 Crop planning by the farmer<br>Farmer plans cotton crop and plans initial seed and fertilizer orders | Yearly in January | Plan made and kept by farmer | None | Individual (as a): farm owner<br>Goal (I want): to have the largest possible crop at the best time<br>Benefit (so that): My farm can be profitable and support my family and workers |
| | 1.2.1 Order/Delivery Seed<br>Order sent by Farm to Farm Supplier who delivers Seed | Yearly in February | Order from farmer to farm supplier and invoice | Availability of seed / SMS from farm supplier to farmer | Individual (as a):<br>Goal (I want):<br>Benefit (so that): |

| | | | | | |
|---|---|---|---|---|---|
| | | | from farm supplier to farmer | Delivery date /SMS from farm supplier to farmer<br>Delivery location inside farm / SMS from farmer to farm supplier | |
| | 1.2.2 Order/Delivery Fertilizer<br>Order sent by Farm to Farm Supplier who delivers Fertilizer | 3 times a year in March, May and July | Order from farmer to farm supplier and invoice from farm supplier to farmer | Availability of fertilizer / SMS from farm supplier to farmer<br>Delivery date /SMS from farm supplier to farmer<br>Delivery location inside farm / SMS from farmer to farm supplier | Individual (as a):<br>Goal (I want):<br>Benefit (so that): |
| | 1.2.3 Order/Delivery Crop Protection Appliance<br>Order sent by Farm to Farm Supplier who delivers Crop protection appliance | Yearly in May or June | Order from farmer to farm supplier and invoice from farm supplier to farmer | Availability of crop protection appliance / SMS from farm supplier to farmer<br>Delivery date /SMS from farm supplier to farmer<br>Delivery location inside farm / SMS from farmer to farm supplier | Individual (as a):<br>Goal (I want):<br>Benefit (so that): |
| | 1.3 Production Planting / Farmer grows of cotton crop | Yearly from March to September | None | None | Individual (as a):<br>Goal (I want):<br>Benefit (so that): |
| | 1.4 Ready to Harvest Crop<br>Crop is ready to be harvested by Farmer who sends estimated harvest to Farm Cooperative | Yearly in September or October | None | Information on expected yield /SMS or e-mail from farmer to farm cooperative | Individual (as a):<br>Goal (I want):<br>Benefit (so that): |

| | |
|---|---|
| **Output and criteria to exit the business process** | The cotton is ready for the farmer to harvest it. The criteria to exit usually becomes the input criteria for the next process |
| **"Common" exceptions/problems** | Example: Poor weather results in loss of crop |
| **Circular economy related observations** | For example, if there are waste products from this process that could be re-used and/or if one of the inputs could be a recycled product |
| **Other Observations, in particular related to traceability needs for different activities** | |

| The 2 sections below are being filled in separately, based on information already provided by value-chain participants. The draft versions will be circulated for comment at a later time | | | | |
|---|---|---|---|---|
| **Related laws, rules, regulations** | Laws regarding child labour as well as pesticide and fertilizer use | | | |
| **Sustainability Risks, Criteria and Verification**<br>If the list is too long this section can be moved to an annex. | **Sustainability risks (hot spots) within this process** | **Sustainability criteria and standards to address the risk** | **Verification methods for criteria and standards** | **Measurements** |
| | Child labour | XXX Guidelines | For example, Certification, Audit, Inspection, Self-evaluation, etc. | For example, if the measurement is volume of water or a % (for example of chemical content) or a "grade" like gold, silver, bronze or A, B, C, etc |
| | **Use a new line for each risk** | | | |

## ANNEX 5 EPCIS Event Descriptions to be added to the completed Business Process Descriptions


### Basic Event Types to align with EPCIS (Electronic Product Code Information Services)

**Transformation event** captures the relationship between one or more objects that are fully or partially consumed as inputs or as outputs (3 product parts make 1 product)

**Aggregation event** objects or processes are grouped (products or batches grouped). For example, several bales of cotton may be put in one container, or several garments in one box.

**Transaction event** one or more objects become associated or disassociated with one or more business transactions. For example, an object becomes associated with a purchase order or invoice.

**Object event** an event happened to an object that was not one of the other 3 types of events, for example the object was shipped

**For more information:** https://www.gs1.org/standards/epcis-and-cbv-implementation-guideline/12#3-Anatomy-of-an-EPCIS-event+3-5-EPCIS-Event-types-and-action