Developing traceability systems for CITES-listed species
(Appendices II and III)

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BIOTRADE III
FACILITATION PROGRAMME

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OBJECTIVES OF TRACEABILITY IN CITES
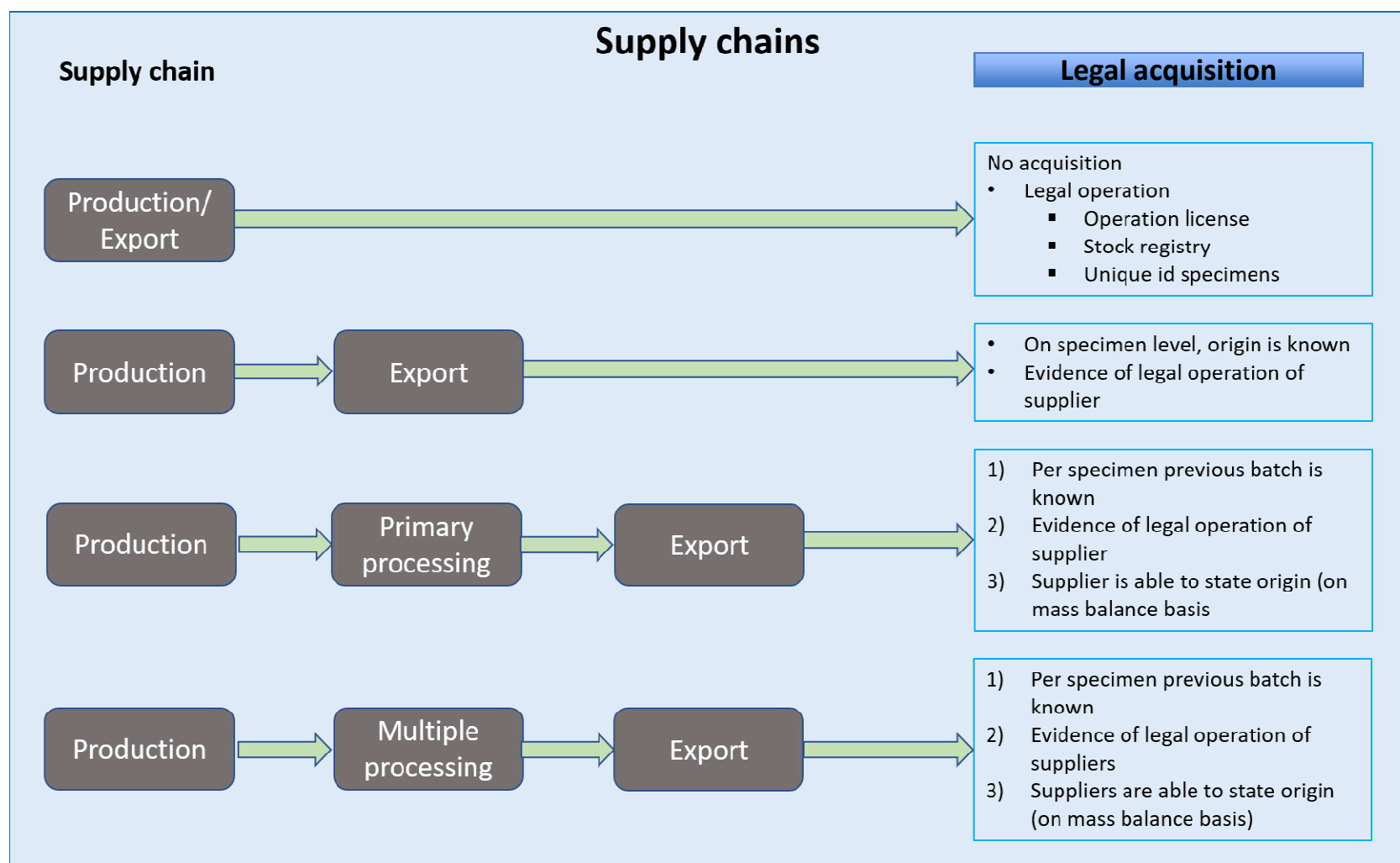
Objectives of a CITES traceability system

Primary objective	Secondary objective
• Substantiate a legal acquisition finding	• Contribute to data-based non-detriment findings

Determination of legal acquisition in function of supply chain/trade term

Supply chains

Supply chain

Legal acquisition

| Production/ Export | → | No acquisition
• Legal operation
  ▪ Operation license
  ▪ Stock registry
  ▪ Unique id specimens |

| Production | → | Export | → | • On specimen level, origin is known
• Evidence of legal operation of supplier |

| Production | → | Primary processing | → | Export | → | 1) Per specimen previous batch is known
2) Evidence of legal operation of supplier
3) Supplier is able to state origin (on mass balance basis |

| Production | → | Multiple processing | → | Export | → | 1) Per specimen previous batch is known
2) Evidence of legal operation of suppliers
3) Suppliers are able to state origin (on mass balance basis) |

KEY ELEMENTS OF TRACEABILITY SYSTEMS

Traceability definitions

GS1	GS1 Global Traceability Standard	"the ability to track forward the movement through specified stage(s) of the extended supply chain and trace backward the history, application or location of that which is under consideration"
ISO	ISO 9000:2015	"the ability to trace the history, application or location of an object" in a supply chain
OIE	Animal traceability data exchange	Animal traceability is the ability to follow an animal or a group of animals during all the stages of its life.) Traceability information should give an answer on the Why, What, Where and When questions about a (group of) animal(s) or an animal related event.
Olsen & Borit (2013)	Trends in Food Science & Technology	"the ability to access any or all information relating to that which is under consideration, throughout its entire life cycle, by means of recorded identifications"
UN/CEFACT	CEFACT/2014 (Animal traceability data exchange)	Traceability is retrieving information about the origin and history of an animal, a group of animals or animal products. Traceability information should give an answer on the Why, What, Where and When questions about a (group of) animal(s) or an animal related event.
UN/CEFACT	ECE/TRADE/429 (Traceability for sustainable trade)	"The ability to substantiate a Policy Claim that requires the involvement of a Public Authority via the collection of relevant data generated along international supply chains."

Types of traceability systems

Type	Application area	Traceable Unit (TU)	Aggregation level	Relationship to physical product	Implem-entation effort	Integrity level	Potential for information loss in value chain	Examples
Single Item	Solid materials Few units Large, valuable	Single item	Low	Yes	High	High	Low	Diamonds
Batch/ Segregation	Materials produced: non-continuous	One batch of production	Med	Yes	Med	Med	Med	Foodstuff
Mass Balance	Commodities	Production mass per time unit	High	No	Low	Low	High	Commodities (Palm oil, cotton, coffee)

Principles of traceability
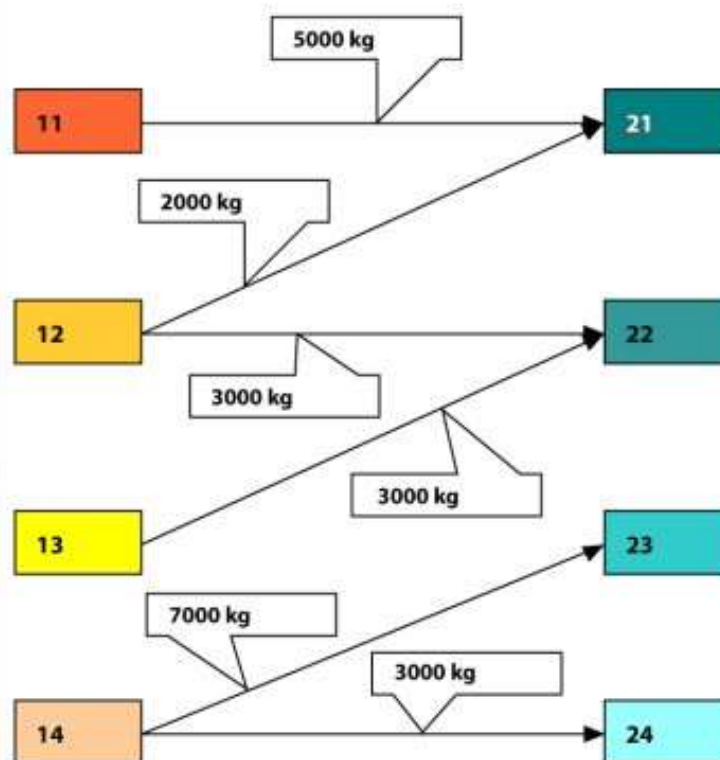
- Traceability systems are constructed using:
  - Unique Identification (UI)
  - Critical Tracking Events (CTEs)
  - Key Data Elements (KDEs)
- This answers the basic questions:
  - What (the goods)?
  - When (time)?
  - Where (location)?
  - Why (details of the operation)?

Element of traceability	Unique identification	Key data element	Critical tracking point
Examples	• Single Units	• Unique identifier	• Reception
	• Batches	• Supplier ID	• Processing
	• Barrels	• Quantity	• Mixing/ Grading
	• Boxes	• Date	• Dispatch
Performance dimensions	*Precision*	*Breadth*	*Depth*

Identifiers and data carriers

AUTOMATED IDENTIFICATION AND DATA CAPTURE TECHNOLOGIES

One-dimensional barcodes	Two-dimensional barcodes	Radio-frequency identifiers (RFID)	Natural feature identifiers
Standards: e.g. Code128	Standards: QRCode	Standards: EPCGlobal	Standards: GS1 identifier GDTI

IMPORTANT: data carriers do not by themselves establish traceability

SCOPE AND OUTPUTS FROM THE CONSULTANCY

Outputs from the consultancy

- **Paper 1: Traceability: a working definition**
  - Scope: Definition of terms, review of definitions of traceability in supply chains, proposal for a definition within CITES, examples
  - Supports: Decision 17.152 para a
  - Status: Draft, delivered to working group

- **Paper 2: Traceability: Technical Standards**
  - Scope: Review of technical standards for traceability by type (high level, semantic, syntactic and exchange standards)
  - Supports: Decision 17.152 para d
  - Status: initial discussions on scope and outline

Outputs from the consultancy

- **Paper 3: Managerial best practice for planning and implementing traceability systems**
  - Summary: Reviews best practice in implementing traceability systems for legal compliance
  - Supports: Decision 17.152 paras b, c and g
  - Status: Draft, delivered to chairs

- **Paper 4: Information on projects related to traceability**
  - Summary: Reviews systems, pilots and studies of traceability in the CITES context
  - Supports: Decision 17.152 para d
  - Status: Draft, delivered to working group

DEFINING TRACEABILITY IN A CITES CONTEXT

CITES definition of traceability

❑ **Elements of a traceability definition for CITES**

➢ Traceability can be different in the State of export and State of re-export

➢ The definition needs to link to legal acquisition and support non-detriment findings of a species

➢ Country-internal traceability cannot be prescribed

❖ Export states must be able to determine the exact nature of internal traceability to a specimens' origin (whether processed or not), taking into consideration the type of events to be recorded

❖ Re-export states players can be assumed to be more advanced; batch traceability should be able to link export goods to incoming CITES permits

➢ A globally unique identifier for CITES permits is suggested to allow consolidation of permits and volumes

➢ It is also suggested to create a global repository of CITES permits (ideally updated with actual exported quantities) for consolidation

CITES definition of traceability

Traceability is the ability to access information on specimens and events in a CITES supply chain to substantiate a legal acquisition finding
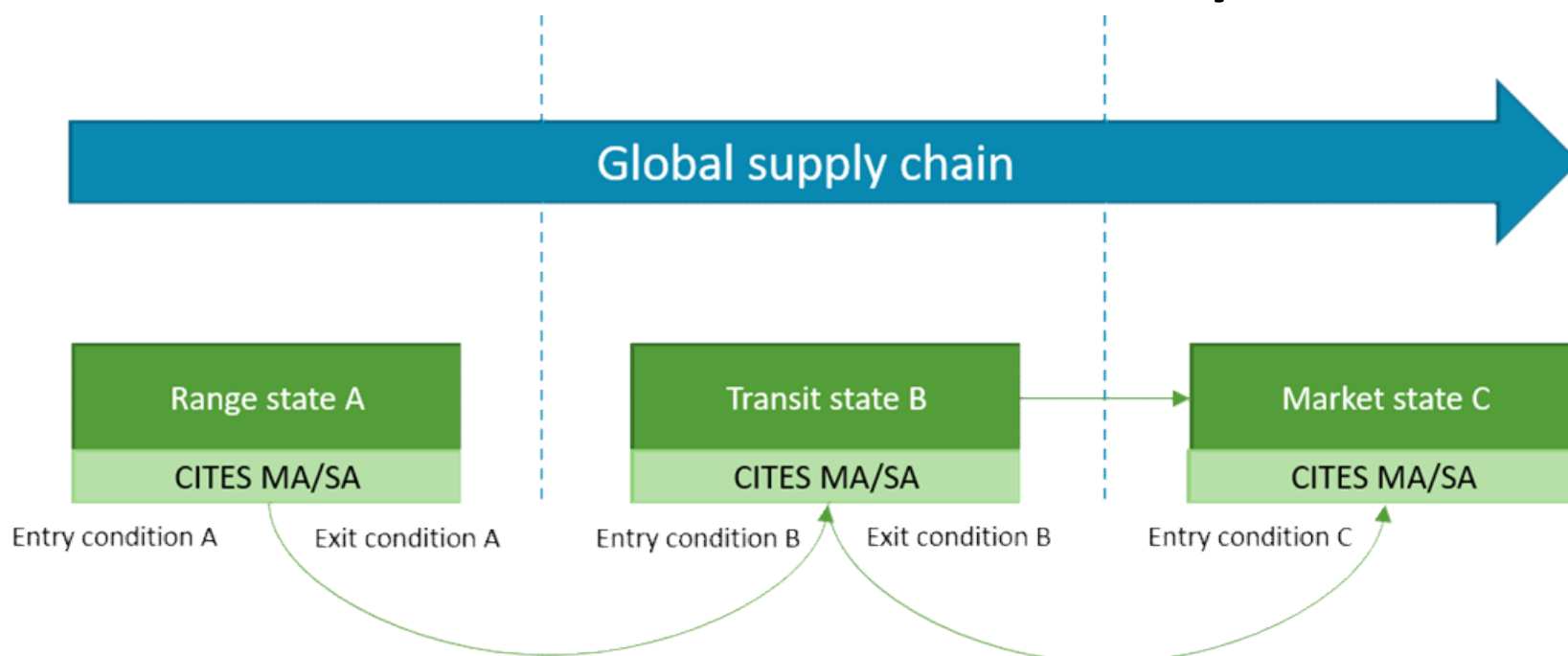
CITES definition of traceability

❑ **For States of export**

➢ Adherence requires showing that materials were obtained in accordance to CITES rules and regulations and in a way that allows to judge whether the trade process substantiates a legal acquisition finding

❑ **For States of re-export**

➢ Adherence requires being able to link export specimens to evidence of legal import which could include a certified copy of the original CITES permit or other official documentation demonstrating the legality of the import

Full chain traceability

Global supply chain

| Range state A | Transit state B | Market state C |
| CITES MA/SA | CITES MA/SA | CITES MA/SA |

Entry condition A   Exit condition A   Entry condition B   Exit condition B   Entry condition C

- Entry point: origination process with respect to the Policy Claim
- Exit point: a Traceable Asset leaves the realm of the Policy Claim
- Each entry/exit point has an entry/exit condition
- Between entry and exit points there are **transformation rules**

Examples – Python skins

➢ Value chain for a python skin leather jacket

- ❖ State A: where a python is farmed
- ❖ State B: Where skin is tanned before being exported
- ❖ State C: Further processing & consumption

➢ When the exporter in State A requests a CITES permit for the export of the skin, it will have to demonstrate adherence to CITES rules and regulations

➢ The MA in State A will require the exporter to have a valid license for farming and extracting the crocodile species

➢ The MA will require each skin to be uniquely identified (via biometric identification or a tag). The identifier of the skin will be recorded in conjunction with the export permit.

➢ When the tanned skins are exported to State C, the MA of State B will require that the original identifier is reported for every specimen by providing evidence of legal import.

Examples – Ornamental plants

➢ Value chain for artificially propagated plants
  ❖ Nursery in state A which artificially propagates a parent stock and exports live plants
  ❖ A wholesaler may import orchids into state B and re-export them to a state C
  ❖ State C where the orchids are consumed

➢ When the exporting nursery requests a CITES permit for the export, it will have to demonstrate adherence to CITES rules and regulations

➢ The MA in State A requires the nursery to have a valid operating license (the nursery will have to identify and document the source of its parent stock)

➢ The MA requires that a batch of artificially propagated plants is identified uniquely with the parent plant recorded

➢ The MA will perform random checks to identify specimens extracted from the wild

➢ When conditions are met, he MA will record the amount of artificially propagated plant per parent plant and issue a permit.

➢ Exporting to State C, the MA of State B will require that the original identifier is reported for every specimen by providing evidence of legal import

Examples – Medicinal plants

➢ The supply chain of oil from CITES-listed medicinal plants

❖ A collector in State A that sells dried specimens from the wild on a local market to a trader

❖ The trader sells material purchased from a series of collectors to a processor purchasing from a series of traders.

❖ The processor extracts the oil and exports it to State B

➢ The MA of State A will require the exporter to provide evidence of which raw material lots were used to produce the batch(es) of specimen(s) to be exported

➢ The MA of State A will also require the exporter to provide evidence that its suppliers have been audited and their legal status assessed

➢ The MA of State A will also require the exporter to provide evidence that in the supplier audit it was determined that the trader knows for a given month of product traded which collectors that materials was purchased from. It will not require that the trader operates a batch traceability system

Which implementation/system?

❑ **Systems**

> ➢ CITES has no mandate over country-internal consumption; therefore targeting a specific form of internal traceability system is complicated
> ➢ The best choice of an implementation methodology depends on capacity, trade term, value chain complexity and motivation of the private sector
> ➢ Not a single solution will fit all
> ➢ Where available, international open standards helps with interoperability

❑ **Recommendations**

> ➢ Recommendations should be elaborated by the Traceability Working Group what type of traceability systems are advisable for different trade terms closely linked to the recommendations for Legal Acquisition Findings

Best practices for implementation

❖An overarching architecture must be identified that supports the required use cases and a feasibility study conducted

Clear rules and processes need to be defined on how such a system will be built

Key stakeholders from both public and private sector need to be identified

Collaboration is key to stakeholder buy-in; it should be nurtured through regular roundtable discussions

The identified stakeholders need to fully understand their responsibilities and commitments and commit to the implementation of the traceability system

Before committing to a traceability system, proposed solutions need to be piloted and an impact study conducted

Where feasible, traceability systems should be based on open, international standard

RECOMMENDATIONS

Key Recommendations

❑ **Traceability**

➢ Subject to availability of funds, guidance material shall be elaborated on how to identify those events in a supply chain that support a legal acquisition finding.

❑ **Best Practice**

➢ Apply best practice in planning traceability systems already identified by the private sector

➢ Follow the *Managerial Best Practice Guidelines for planning and implementing CITES traceability systems*

➢ Review and continue to develop Best Practice Guidelines taking into account experiences made by Parties in implementing CITES traceability systems as well as relevant progress made in domains outside of CITES

➢ Collaborate with the United Nations Centre for Trade Facilitation and electronic Business (UN/CEFACT) and other relevant organizations on the further development of managerial best practice for planning and implementation of traceability systems which are relevant to CITES parties

Key Recommendations

❑ **Technical standards**

> ➤ The parties are invited to consider global open standards as a basis for any CITES traceability system.

> ➤ Consideration should be given to the continuation of work with UN/CEFACT on a standard for animal and plant traceability with special consideration of the needs of CITES to substantiate legal acquisition

Thank you for your attention

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