



Food and Agriculture
Organization of the
United Nations



"Information Management in Agri-food chains for Trade Facilitation

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Coverage

- Introduction – importance and challenges in food trade
- Information in agri food chains – need, types, functions and benefits of information and information management
- Agrifood chain Information Management
- Single Window for Agrifood trade – its implementation
- Introducing the Publication - Information Management in Agrifood Chains: Towards an Integrated Paperless Framework for Agrifood Trade Facilitation



Introduction

- **Globalization** - increasing consumers demand for variety in food
- Creation of **global market** – food trade across countries – food consumed in a country may have ingredients from almost any country
- Food trade important
 - Economic advantages – creates jobs, promotes growth, benefits to consumers: greater variety at lower prices, boosts competition
 - Social advantages - alleviation of poverty
 - Cultural – religious (halal), preferences - vegan
 - Political advantages – free flow of trade (no tensions)



Challenges in food trade

- Long and complicated food chain – not visible to consumer
- Food safety – can be a cause of food-borne diseases – need to locate cause and address it
- Sensitive - perishable in nature, religious beliefs
- Governed by regulations/ standards – multiple agencies, actions of each needed to build a comprehensive system
- Accurate information required on source (GI), processing (halal), GAP - traceability
- Many players – actions of each player determine actions of next in chain

Significant concerns about food in trade

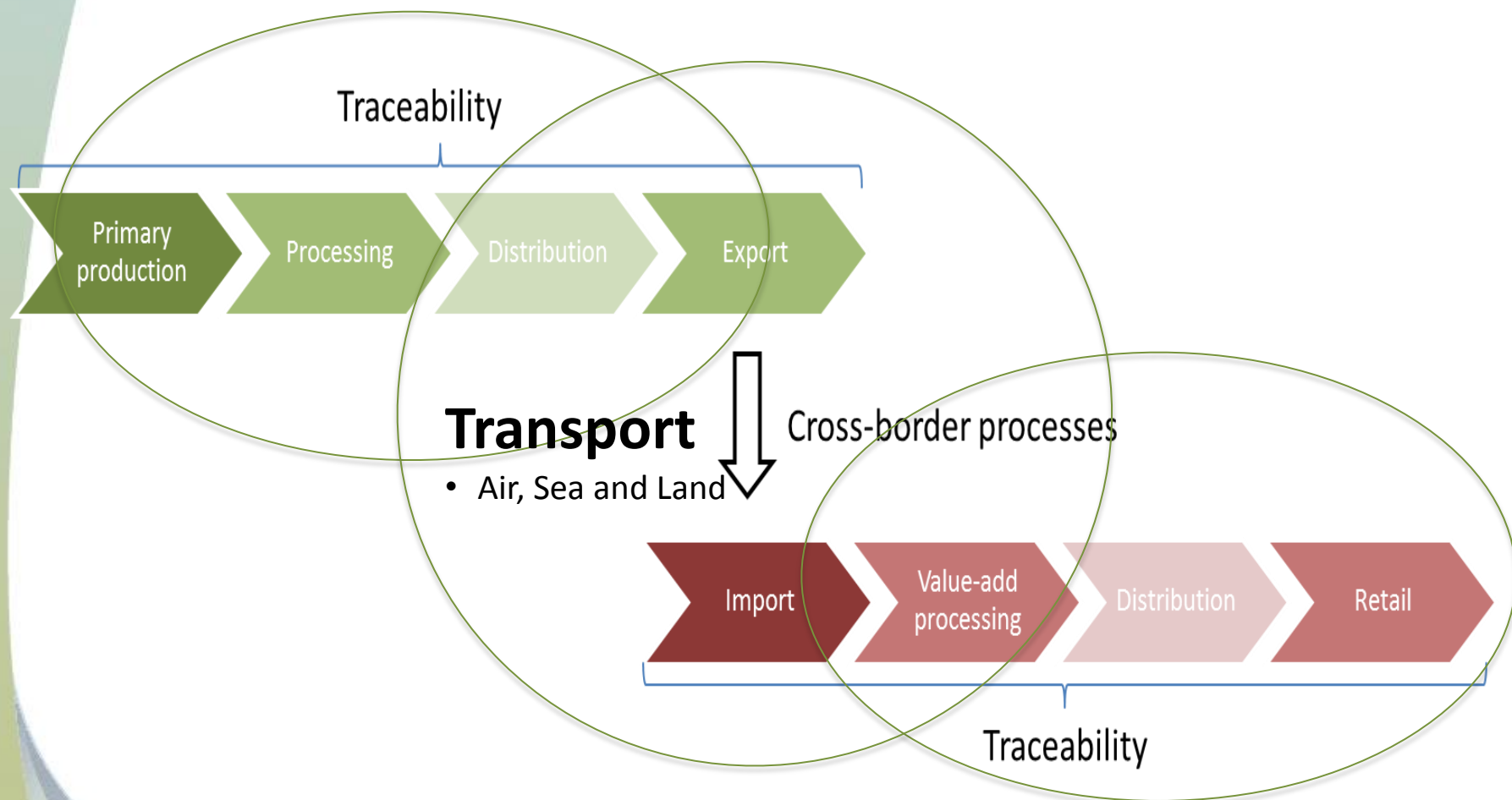


To Facilitate food trade

-and address concerns
 - ✓ Information needed and managed
 - ✓ Structured across food chain (producer – consumer)
 - ✓ Move across food chain – adding to it/ building up as it moves
 - ✓ Information to be accessible to consumers



Typical Agrifood Supply Chain





Information Needs

Sanitary and phytosanitary information

- Hygiene, food safety and related export procedures
- Disease control
- Food safety information for recall purposes

Food nature and history

- Origin (linked to compliance, consumer health and choice, food Safety)
- Certification and practices (e.g., Halal, fair trade, labour conditions)
- Consumer information, in particular related to correct labelling

Customs and regulatory agencies

- Information for efficient trade
- Avoidance of illegal activities
- Exporter blacklists

Food security

- Production prediction models based on history information
- Avoidance of waste

Control of illegal activity

- Importers/ exporters
- Lack of trade permits

Information may be paper-based or paperless



Comparison between paper and electronic information records

Paper-based systems

- Easy to implement
- Time resilient
- Not scalable; limited by capacity of personnel and physical transportation
- Cannot be re-used
- Usually not accessible; filed in a physical location
- Information chains impossible to construct

Electronic Records

- Require technical capacity
- Subject to data format compatibility issues
- More scalable; can be (semi)automated
- Easy to copy and exchange; no transportation time
- Easily accessible – tracking easier
- An information chain can be established - robustness
- Reduces risk of errors
- Reduce chance of tampering & fraud
- Can rapidly respond to changes



Agrifood chain Information Management

- Is the collection, storage and distribution of information about food and food trade along the whole food supply chain from farm to fork - used for any type of purpose that helps in making agrifood trade inclusive, safe and accessible
- Concept covers 2 main aspects
 - Traceability
 - Cross border trade facilitation systems (single window, customs systems, others)
- Uses technology to enable smarter food systems.



Functions of Information Management in Agrifood chains

- ePermit systems
- eSPS systems
- IUU fishing
- Export/import licenses
- Legal compliance, also with social and labour laws

Regulatory systems



- Food safety oriented systems
- Animal and carcass tracking
- Sustainability tracking
- Fair trade
- Religious
- Compliance with specific food standards

Standard compliance



- Transparency systems
- Fraud avoidance
- Consumer-oriented systems

Marketing-oriented systems





Benefits of Information Management in Agrifood chains

To Governments

- Industry statistics;
- Decreased poverty through smallholder access;
- Reduced food safety problems - better public health, less incidences of export rejections, more effective recalls;
- Assistance in the fulfilment of mandates, such as keeping food safe and its production legal;
- Improved trade security

To Private Sector

- Compliance to regulations & standards
- Trade & efficiency
- Marketing & brand assurance – authenticity
- Better business models – supply chain management, shelf life



Main Elements

- An **information system** for agrifood chains, which transports information between business partners;
- A **monitoring system**, allowing governments & industry to analyse the information they need to ensure compliance;
- **Business systems of FBOs**;
- Certifiers (governmental) to **verify the information** contained in the chain information management system



Macro factors driving agrifood chain information management

What

- Connection "one up, one down"
- Transport of critical parameters (e.g., additives, shelf-life, temperature, etc.)
- Interconnection with eHACCP

Experiences

- e-Sporing (Norway)
- M-FIT (Malaysia)
- Smallholder traceability for aquaculture (Viet Nam and Indonesia)
- ESIT (Greece)

Food safety

Benefits

- Institutional: Disaster management, accountability of FBOs, statistics
- Industry: Brand risk management, reduced recalls, shelf-life optimization, compliance
- Consumers/Citizens: Reduced health risk, improved decisions

Challenges

- Industry buy-in
- Consumer/citizen interest
- Smallholder integration
- Standardization
- Governance

What

- Calculation of key environmental sustainability parameters along the supply chain, such as CO₂eq, water usage,
- Transport of key social sustainability parameters, such as legal compliance, worker/aboriginal rights, child labour

Experiences

- (Social only) UTZ Certified
- (Legal compliance) IUU fishing
- (In preparation) Roundtable for Sustainable Palm Oil and some retailers/manufacturers
- (For biofuels) ISCC

Sustainability

Benefits

- Institutional: Enforcement aid, accountability of FBOs, monitoring of management goals
- Industry: Brand risk management, legality of supply chain, monitoring of goals and claims
- Consumers/Citizens: Informed decisions, peace of mind

Challenges

- Technical complexity; in some case unclear science
- Industry commitment
- Consumer/citizen push
- Standardization, in particular of calculation methods

What

- Geographical indications
- Certification of Origin
- Other certifications, like Halal
- Species differentiation

Experiences

- Kampot Black Pepper (Cambodia)
- Thung Kula Rong-Hai Hom Mali Rice (Thailand)
- Basmati Rice, Darjeeling Tea (India)

Food Quality

Benefits

- Brand equity
- Higher prices
- Customer confidence

Challenges

- Certifications
- Costs
- Internal and external controls
- Document and records
- Marketing

What

- Exchange of electronic information for trade relevant purposes (trade permissions, customs, goods shipped notices)
- Single window for traders
- Legality, security, safety of shipments
- Electronic handling of incidences
- Electronic handling of fees

Experiences

- ASYCUDA (World)
- eCustoms (Europe)
- Animal passports (Europe)
- ePermit and ePermit1 (Malaysia)

Trade

Benefits

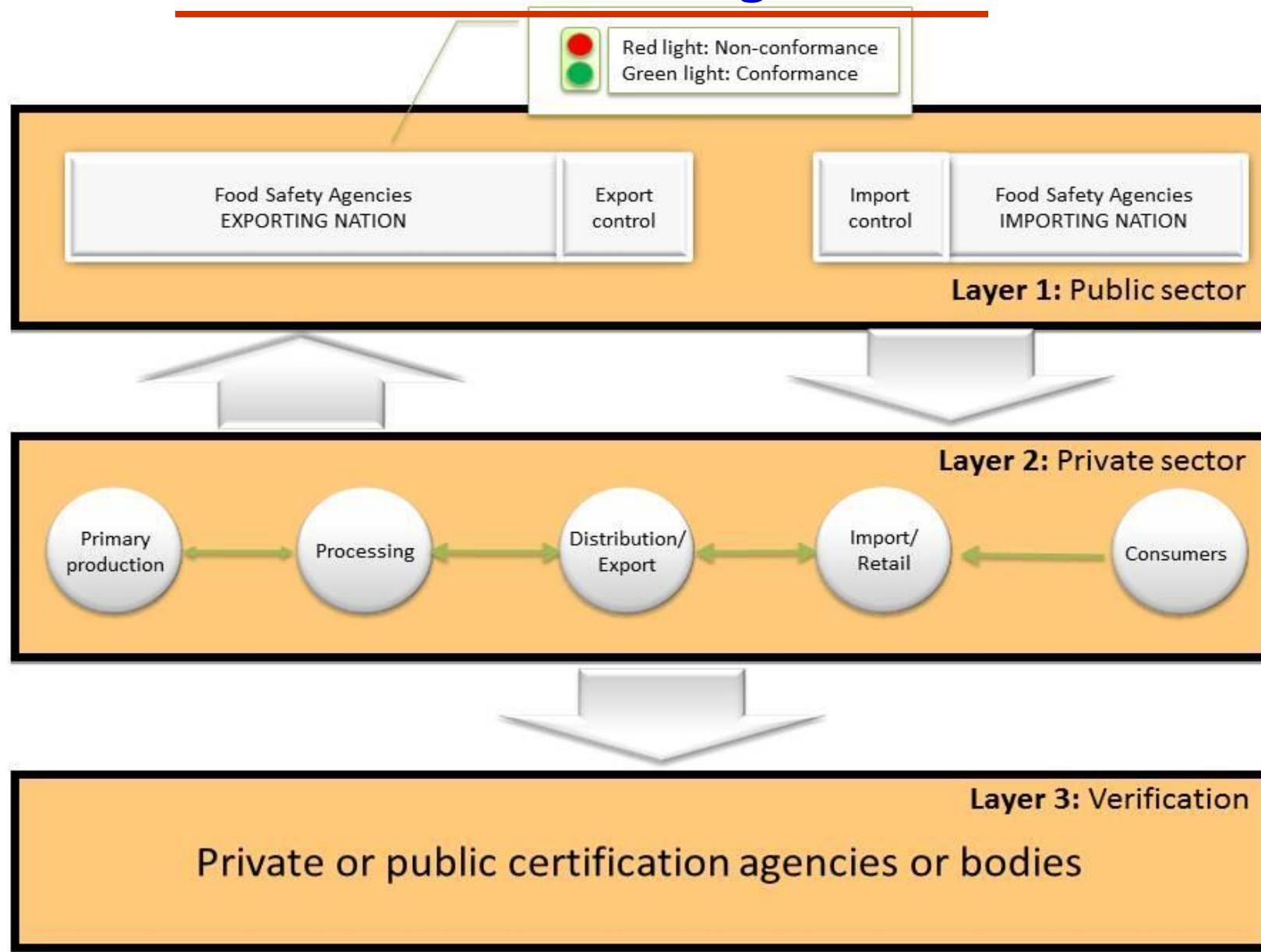
- Institutional: More robust trade processes, accountability of institutions, increased visibility of trade bottlenecks; statistics
- Industry: Reduction of trade-related bureaucracy; Streamlined processes
- Consumers/Citizens: Fresher products

Challenges

- International standardization
- Interdepartmental collaboration
- Economic sustainability of systems



Governance Structure for Agrifood chain Information Management





Single Window for Agrifood Trade (SWAT)



SWAT – What is it

- An inter-organization information system aimed specifically at increasing the security and efficiency of agrifood cross-border trade through collaboration, electronic information exchange and efficient regulation.

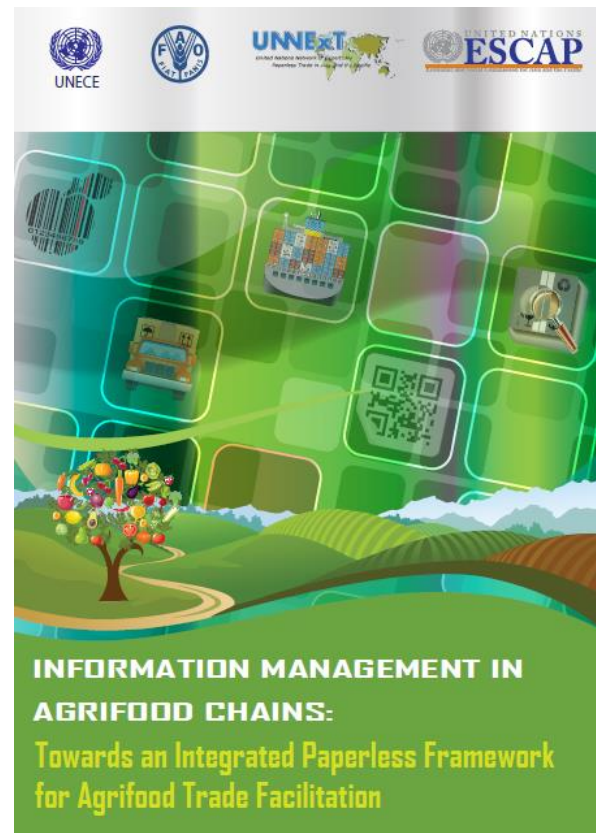


Recommended Steps towards implementation of SWAT

1. Establish a roundtable for agrifood chain IM - national vision, stakeholder buy in, attitude change on T
2. Prioritise areas for paperless systems for agrifood trade, incentivize and implement
3. Establish normative databases - locations, products and land use
4. Establish a standard framework for identification & information exchange – unique numbering system, international compatibility
5. Establish authorised economic operators – reliable exporter/ importers
6. Establish of risk-based inspection systems for issuance of licenses and certificates – export/ import
7. Establish a food safety emergency system – recall/ RASFF
8. Address legal implications of information management systems for agrifood chains – mandatory/ voluntary data
9. Funding for development of core components



- Chapter I: Introducing information management in agrifood chains
- Chapter II: Structuring agrifood chain information management
- Chapter III: Practical recommendations for enhancing information management for agrifood trade facilitation
- Chapter IV: Selected case studies
 - **Export:** India GrapeNet; Malaysia Food and Traceability; Vietnam TraceVerified for Fish Exports; New Zealand eCert for Meat Products
 - **Import:** China Tianjin eCert, GPS-RFID



<http://www.unescap.org/resources/information-management-agrifood-chains-towards-integrated-paperless-framework-agrifood>

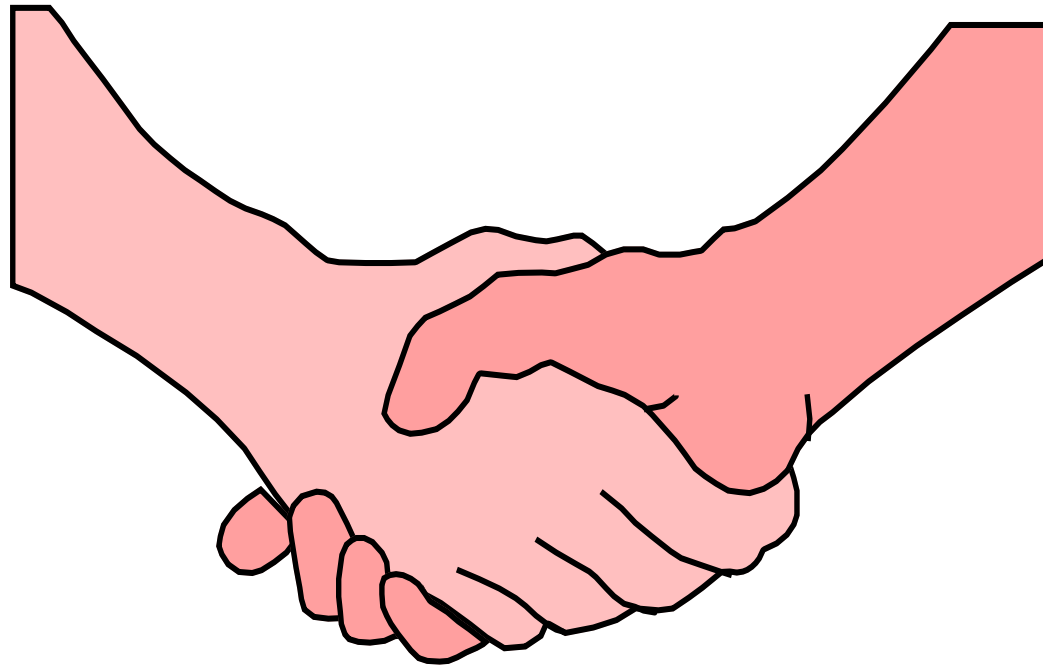


Recommendations/ Way forward

- **Start with priority actions** – automated risk-based inspection system – acceptance of export country certification, Food safety emergency management & RASFF systems, cooperation on inter-agency information systems, issue electronic certificates....
- **Workshop** on risk-based import controls, e-certification, etc with representatives from different organizations including those dealing with food safety, animal health, plant health and customs.
- **Pilot in countries** – government buy-in and support, cost effective technical solutions, exp/imp country collaboration (possible SS cooperation)



THANK YOU



Any Questions?

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