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## COMMITTEE ON FISHERIES

### SUB-COMMITTEE ON FISH TRADE

#### Fourteenth Session

Bergen, Norway, 24–28 February 2014

### BEST PRACTICE GUIDELINES ON TRACEABILITY

#### Executive Summary

This paper presents a report on current traceability systems, analysis of common traceability practices, and a first draft of best practice guidelines for traceability resulting from an FAO consultancy, as requested by the thirteenth session of the Sub-Committee on Fish Trade (COFI:FT).

#### Suggested action by the Sub-Committee:

- Provide comments on the findings of the consultant's report, namely the review of common practices in seafood traceability, analysis of the different traceability systems, and the first draft of best practice guidelines for traceability.
- Provide guidance on how the Secretariat should proceed with work on developing best practice guidelines for traceability.

## INTRODUCTION

1. The thirtieth session of the Committee on Fisheries (COFI) provided guidance on the content of draft best practice guidelines to be developed by FAO. *“The Committee emphasized that this work should include the compilation and analysis of best practices and existing standards for different purposes of traceability, including a thorough analysis. The Committee emphasized that this work should include a gap analysis and stressed that the following principles should provide the framework of the analysis: (a) not create unnecessary barriers to trade, (b) equivalence, (c) risk based, and (d) reliable, simple, clear and transparent.”*<sup>1</sup>

## BACKGROUND

2. Traceability systems have the potential to impact international trade in seafood products, and the existence of those systems is in compliance with the multi-lateral rules-based trading system of the World Trade Organization (WTO), namely the WTO Sanitary and Phytosanitary Agreement (SPS) and the Technical Barriers to Trade (TBT) Agreement. However, better global harmonization of current traceability practices could improve transparency, simplicity and coherence of traceability regulations and standards, thus reducing the likelihood that legitimate traceability measures would create unnecessary barriers to trade.

3. Discussion during the tenth session of COFI:FT gave rise to the statement that: *“Not all traceability systems are equivalent and/or interchangeable. Nor can they necessarily be consolidated. Different purposes and systems also trigger different expectations in producers and consumers that do not always correspond to the traceability system in use (regulatory, contractual or voluntary). This partially explains the current uncertainty related to “traceability” requirements and to the possible implications of traceability regulations”* (FAO, 2006)<sup>2</sup>.

4. Traceability systems are well-established tools for verifying the integrity of the product supply chain and for remedying failures when the supply chain’s integrity is broken. Extensive regulatory frameworks and mandatory requirements for traceability currently exist to make sure of food safety in the major fish importing markets of the world. Voluntary certification schemes, such as ecolabels, have also emerged, requiring assurance that the ecolabelled product has been sourced from sustainably managed resources and traceability is required to ensure the integrity of chain of custody. There is an ongoing debate about the impact of traceability on ecolabelling schemes: whether they unnecessarily increase traceability requirements or duplicate existing systems, as well as concerns about possibly limiting market access for non-certified products.

5. Traceability systems have broadened over time, in order to include new criteria and emerging issues such as labour conditions, ways of sourcing raw material, distance the product has travelled, responsible use of primary resources, environmentally sound practices and production of food products according to evolving consumer requirements (e.g. organic, fair trade). In addition, new traceability technology is continually under development to improve the accuracy of traceability data and reduce the time required to collect or transmit the information. While not all of these issues can or should be dealt with under traceability best practices guidelines, analysis of existing schemes and common practices will improve the understanding of the different requirements of seafood traceability and possibly identify common frameworks that can be used to harmonize seafood traceability.

6. More recently, interest in traceability schemes has revolved around efforts to combat illegal, unreported and unregulated (IUU) fishing activities, which threaten sustainable resource management and are especially difficult to control in Areas Beyond National Jurisdictions (ABNJ). For example, Regional Fisheries Management Organizations (RFMOs) have worked independently to implement documentation systems that enable contracting parties and cooperating states to verify that fish products have been caught in compliance with the requirements of inter-governmental agreements, and therefore can be legally traded in international markets.

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<sup>1</sup> Paragraph 30, Final Report of the thirtieth session of COFI, Rome, 2012.

<sup>2</sup> Traceability. Tenth session of COFI:FT, Santiago de Compostela, 2006.

## REVIEW AND ANALYSIS OF TRACEABILITY PRACTICES

7. In order to address the issues outlined in paragraph 1, FAO contracted a consultant to prepare a paper, which is, entitled “*Review and Analysis of Current Traceability Practices,*” and is available as COFI:FT/XIV/2014/Inf.6. This report provides an overview of current seafood traceability practices and then compares these traceability systems to identify similarities and gaps that could lead to best practices. The following is a list of the standards and regulations that were reviewed: Codex Alimentarius; Office International des Epizooties (OIE); RFMO catch/trade documentation schemes; European Union (EU) regulations on food safety; EU regulations on Illegal, Unreported and Unregulated fishing (IUU); United States of America various Acts; Japan various Standards and Acts; International Standard Organization (ISO); Global traceability standards (GS1); Traceability of Fish Products (Tracefish); Trace Register; China Trace; MSC environmental standard for sustainable fishing; National Marine Fisheries Service Dolphin Safe Certification (NMFS); AIPCE-CEP Expectations of Seafood Environmental Standards; World Wildlife Fund (WWF) Smart Fishing Initiative (SFI); GLOBAL Good Agricultural Practice (GAP); Global Aquaculture Alliance (GAA) Best Aquaculture Practices (BAP); Global Food Safety Initiative (GFSI); British Retail Consortium (BRC); and International Featured Standard (IFS).

8. As illustrated in the previous paragraph, there is an abundance of international standards and guidelines, regulations, voluntary standards and sustainable seafood certification schemes that require traceability and that are applicable to fishery products. Aspects of traceability in these schemes were briefly described and already presented to the eleventh and twelfth sessions of COFI:FT. As these items are not all directly comparable or equivalent, they were organized under three main headings: International standards and guidelines, Regulatory standards, and Industry and NGO non-regulatory standards (table 3, COFI:FT/XIV/2014/Inf.6 ). A comparison was made of the coverage of traceability among the various standards and regulations under each heading using the well-established traceability principles:

- Unique identification: any unit and any actor in the supply chain that modifies the product or may have an impact on the product shall be uniquely identified;
- Data capture and management: quality data have to be captured and recorded along the supply chain; and
- Data communication: the information between various actors in the supply chain has to be exchanged in a standardized format.

9. Regarding the development of FAO best practices guidelines, the Secretariat presented three proposals to the thirteenth session of COFI:FT. At that time, COFI:FT expressed preference for option 2, “*the FAO Secretariat will develop a first draft of the best practice guidelines for traceability and submit them to the next session of COFI:FT for further guidance*”<sup>3</sup>. Thus, FAO prepared the *First Draft Best Practices Guidelines for Traceability* (attached as an Annex). This was accomplished by using the information collated from a review of common frameworks with respect to implementation of seafood traceability, combined with an analysis of the schemes.

10. The Secretariat invites members to provide comments on these draft guidelines. The Secretariat further invites suggestions from members on how to proceed with this area of work. One possibility is for FAO to convene an expert consultation, which would benefit from international experts on traceability from all geographical regions, as well as representatives of the various stakeholders along the seafood supply chain. However, funding for an expert consultation would need to be identified from extra-budgetary sources.

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<sup>3</sup> Traceability Best Practice Guidelines, COFI:FT/XIII/2012/5.

## ANNEX

### FIRST DRAFT BEST PRACTICE GUIDELINES FOR TRACEABILITY

11. The application of traceability shall be seen and understood as a contribution to the common responsibility of all food business operators to ensure and document that all food placed on the market is compliant with the safety or quality requirements agreed with the customers. Traceability shall also be seen and understood as a system to determine the source of any fishery product. The following sections provide some best practices of traceability.

12. This document presents the current requirements on traceability from the main regulatory and non-regulatory standards applicable to fishery products. Although there are different drivers for food traceability e.g. food safety, sustainable fisheries, ecolabelling to combat illegal, unreported and unregulated (IUU) fishing, the analysis of these requirements has revealed some common principles:

- Unique identification;
- Data capture and management; and
- Data communication

13. These principles have been used to compare the various standards. The result of this comparison shows that traceability is usually a tool to support the standards and demonstrate the product compliance with the requirements.

14. The draft best practices provide general recommendations to establish a traceability system based on the same common principles. These recommendations may assist the operators in the creation of reliable, simple, clear and transparent traceability systems.

#### A. Unique identification

##### *Lot definition*

15. The lot size is defined depending on the practical situation and may vary from one product to another. Some criteria in the definition of the lot may be linked to risk analysis related to a particular product:

- Food Safety: A “lot” may identify a group of products that is often from the same origin and that underwent the same treatment;
- Economical: the smaller the lot size, the more economical it is to destroy non-conforming products in case of withdrawal.

16. The lot identification format shall be clearly defined and accompany the product at all times e.g. on the label in the case of pre-packaged food, or on the packaging, on the container, or the accompanying documents in other cases.

##### *Who is involved in ensuring traceability of fishery products?*

17. The identification of the operators in the system should be unique and meaningful. Possible integration of existing geographic information systems (GIS) into registration or licensing procedures may be envisaged to facilitate technological developments.

##### *i. Fishermen and operators*

18. The fish that a vessel may land might include a mixture of catch from many fishing vessels. Each actor in the supply chain shall keep in the logbook the information that relates to the catch area and the assurance of quality and food safety of the product as long as it is on the vessel, as well as after being transferred to the middleman or processing industry.

19. If the information is to be used for ecolabelling schemes, then quantity, gear used and catch area would become important.
20. The method and time of cooling is recorded in the logbook with reference to a unique lot number, which could be for example the date+container no./hatch no. This unique lot number shall follow the fish physically when it is transferred from the vessel. Thus, it would be recorded or kept on file by the next operator in the value chain.
21. The buyer of the fish may have very specific requirements of the technical details of the records, but as a minimum the identification of the vessels (e.g. registration number), the FAO catch area, and the date(s) of catching shall always be kept on file and provided together with the fish and information about the buyer (e.g. the middle man) shall be kept on file related to the vessel.

#### **ii. Fish farmers and their operators**

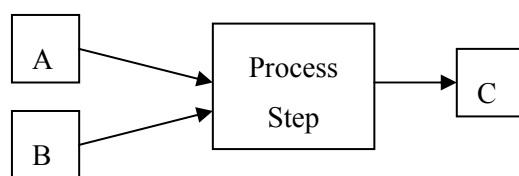
22. The fish farmers shall be required to keep information in farm logbooks or other records at least about nature and origin of all ingoing materials, in particular fish larvae/seed, feed, veterinary medicines and different chemicals used, for example, for pond preparation and water treatment.
23. The farmer shall also be required to document in logbooks or other records all activities that may have an impact on food safety – this means periodical records of pond preparation, daily records of the type of feed administered to each pond, records of details of use of any medicines in each pond i.e. date, type, method of administering and the number of days during which the fish is not allowed to be harvested for placing on the market (withdrawal period).
24. When the fish is harvested, it shall be required as a minimum that the farm shall keep a record of the date of harvesting by pond/cage number and this information together with the farm registration number shall be transferred together with the fish to the buyer.

#### **iii. Middlemen**

25. Middlemen, auction halls, carrier vessels, etc. responsible for forwarding raw materials or prepared products further along the supply chain as a minimum shall be required to keep records on who supplied which kind of fish species and to whom the species was sold.
26. Optimally the middleman/auction should maintain the identification (vessel names, farm names, lot numbers, pond information, etc.) with each lot that is received and further distributed. However, this is not always possible (e.g. from many small-scale fishing vessels or farmers) and in such cases, the middleman shall keep in his file information about what was mixed and how the new mixed lot is now identified. In case of fish from extensive farming, for example, it may be a code including information about the harvest area, harvest date, size and quality of the raw materials.
27. If the middlemen, auction halls, carrier vessels, etc. carry out any preparations or storage that may influence the quality of the product, they shall be required to keep records on the nature of such activities for each of the codes they provide to their customers.

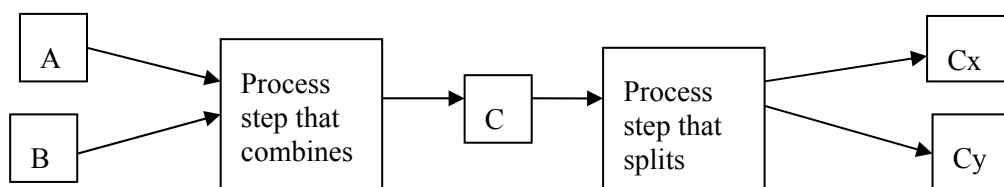
#### **iv. Fish Processors**

28. Operators responsible for processing and sale of fishery products as a minimum shall be required to keep records on who supplied which kind of fish species, which products were produced from which raw materials and to whom the resulting products were sold.
29. If the processing establishment produces products that were handled prior to entering the establishment and that have influenced quality, then the establishment may want to receive detailed information about these handling parameters. For example, if the product is fresh tuna, it is important to receive specific information about the cooling conditions of the raw materials (time and temperature) because this will have an impact on the product quality and storage life of the product.
30. Most processing establishments receive raw material every day from several suppliers or they receive from the same supplier different lots of raw material that they may want to mix in the final products. In such cases it is important to keep records on what is mixed at which step, and that a new unique lot number is given to the mix.



2 Lot numbers      New production lot/code

31. Many processing establishments also split batches of raw materials during the processing, for example as a result of size grading or because of process steps being carried out in smaller batches, e.g. sterilization of cans in which each cook in a retort may be considered a batch. In such cases it is important to establish new codes so the “sub-lots” are linked with the “mother lot”



2 Lot Numbers

New  
Production

New  
Production

32. Different establishments may apply different systems of combining and splitting lots and production codes depending on the type of products, the food safety hazards linked with them and eventually specific customer requirements.

33. The minimum information regarding traceability, which a fish processing establishment shall provide with the product, is the information about the FAO catch area (if wild caught fish), the type of fish species, the date of production and the information about place of processing and packaging, which all shall be on the label of the product. If the fish originates from aquaculture, this should be informed on the label instead of the FAO catch area together with the country of production. The information provided on the label shall also be transferred with related sales documents e.g. invoices and health certificates and these documents may then contain further information about the history of the product if so required by the buyer or by law. The sales documents or other records shall be filed as documentation on who received the fishery products for further distribution to the market.

## B. Data capture and management

### ***Where and when traceability is required for fisheries products?***

34. Regulations and international standards typically require that all operators shall be able to trace “one step” before and “one step after” their own operation. This means that each operator shall keep documentation on all inputs used for the formulation of the product and on the distribution of the final product from that operation. If each operator in the supply chain can identify one step before and one step after, then it is possible to trace a product in the full value chain, if it is necessary.

35. In the fisheries sector traceability starts with the fishing vessel or the aquaculture farm. These operators shall identify all lots and the inputs/processes taken to produce them. Of most importance

shall be the inputs and processes that may influence the safety of the product, for example the cooling process of tuna or the use of feed and medicines on the farm.

36. Another element in wild caught fish is traceability to the catch area, which is required by law if the product is to be sold on the EU market. The label on the final product shall have information at least about the FAO area where the fish was caught. This information, therefore, shall follow the raw material/products in any transfer so the operator responsible for the label of the final product can identify the source.

#### ***ii. Traceability solutions: from paper based to IT based***

37. The choice of the traceability solution will vary depending on the level of requirements: the more extended are the requirements, the more traceability is needed and therefore the more technology may be needed. The traceability solution will provide the precision (degree of assurance) with which the tracing system can “pin-point” the product movement or product characteristics.

38. The amount of verification that is required to build confidence in the traceability system will differ depending on the solution, i.e. a computerized system may be verified less often than a paper based system.

39. The data from the production necessary for traceability have to be defined based on the traceability requirements, e.g. food safety, IUU, ecolabelling. The simple approach usually used is to record three main types of data - input/process/output - to make implementation efficient for users in the supply chain.

40. Establishing traceability in compliance with the minimum requirements in legislation can be done by the individual operator by simple means such as manual record keeping, application of identification labels on all batches and sub-batches and maintaining of the document in a system of files for easy retrieval, if necessary.

41. If traceability is established by simple paper records at the individual operator level, the system may be solid and safe enough, but it may take quite a long time to search through the documents if a particular case has to be investigated by reviewing the related documents. Robustness of the system refers to the reliability of the information that will be received when tracing back – how big is the risk that the right information is available and how big is the risk that an error occurred at some point in the chain so that the information does not relate to the problem under investigation? The relative importance of the two situations shall be considered when designing the system.

42. Traceability can be established by the individual operators or by groups of uniform operators or by operators in a whole value chain. It may be established by more sophisticated systems involving electronic records, identification by international barcodes, etc.

43. The abovementioned elements should be considered and agreed on prior to designing the system.

### **C. Data communication**

#### ***i: Things to consider when exchanging information in the fisheries sector***

44. Primary producers:

- Establish records on place and conditions of catching (common name of the fish) or farming, and lot number (indicate mixing of catch of a particular fish species on different dates);
- Link the information on these records with identification labels or marks on the fish when they are moved from the operator to the next step in the value chain;
- Transfer the information on the records to the buyer of the raw materials as required and always keep the information on file for an agreed upon period.

45. Processing establishments:

- Obtain and keep details of raw materials and ingredients from the suppliers;
- Identify individual lots by product coding throughout the time period they are within the operator's control;
- Maintain lot separation throughout distribution, processing and storage;
- Link batch codes to production records (e.g. in thawing, cooking, freezing, etc.).

46. The details of the information that the individual operator wants, namely to: i) receive and keep from the supplier; ii) generate and keep in own operation; and iii) provide to the next step in the value chain. This information depends on the individual operation and shall typically be determined by the answer of some key questions, such as:

- 1) What risks pertaining to the products should be considered (i.e. the source of potential hazards/food safety risks), and what is the risk of non-compliant fish becoming mixed with compliant fish?
- 2) Which data are important for the customer (traceability breadth)?
- 3) How far back is it necessary or desirable to be able to trace? (traceability depth);
- 4) How fast does back tracing need to be?
- 5) How robust should the system be?

#### **ii. Traceability for labelling purpose**

47. Traceability is necessary to allow specific labelling to be accurate and must be supported by information on the products and the production chain. Traceability is necessary also because in the event of a food safety issue, it reduces impact and risk for the food sector and consumer safety. It also reduces costs in event of a withdrawal.

48. The information on the origin of the products is provided through the 'one step back' for all suppliers from whom ingredients are sourced and 'one step forward' information for all customers to whom their products are sold.

49. Traceability information needed for labelling purposes would simplify the process of product recall.

#### **D. Traceability system for small scale fisheries**

50. Within the context of small-scale fisheries operators, the most effective system can be chosen from some of the following:

- Documents based system;
- Enhanced document system (with data base for the reporting of production and faster product recall if needed);
- Total inter-operators computerized system for the supply chain.

51. Once the system is designed, the implementation in practice is about being able to work in a systematic way. Staff members shall be trained to understand that the registration they undertake is a part of the traceability of the products, and that ultimately this is linked with both the legal and commercial requirements of the product that is bought and consumed by the final consumer.

52. The way in which record keeping is organized is of major importance. It shall be organized in a way that it is practical and realistic for the operators to carry out without risk of errors and to prevent the records from being destroyed by water, weather or other harsh physical conditions.