



JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX COMMITTEE ON FOOD IMPORT AND EXPORT INSPECTION AND CERTIFICATION SYSTEMS

Twenty-Sixth Session

DISCUSSION PAPER ON THE STANDARDIZATION OF SANITARY REQUIREMENTS

(Prepared by Brazil)

Introduction

1. The United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) publishes and constantly updates a Business Requirement Specification (BRS) and a Data Requirement Specification (RSM) that standardizes the syntax of electronic information exchanged between importing and exporting governments. The standard is known by the name e-CERT.
2. Adopters of electronic certification usually transpose information from paper to electronic format, and keep the existing wording of the sanitary requirements.
3. The existing wording for sanitary certificates was conceived to be humanly readable and is agreed upon between two sanitary authorities. In many sanitary certificates analyzed, the following issues were identified:
 - a lot of work is required by the authorities to semantically agree on a certificate and create the related wording;
 - Requirements are not unique and does not carry a unique identification (the same requirement repeats two or more times throughout the certificate);
 - Several requirements are presented in one sentence;
 - To inform that a requirement has not been met, countries use to strikethrough the related paragraph;
 - Some countries must manage hundreds of different certificate models due to the wording of the sanitary requirements.
4. Digitally meaning, the issues presented above do not allow to create of a fully electronic SPS certificate, that can be verified and automatically processed during the issuance, exchange, and validation procedures by electronic platforms like a single window or risk analysis systems.
5. The issues can be minimized, or even solved, with a global standard of sanitary requirements, from a semantic point of view. A unique ID and possible attributes must be defined for each requirement, creating a menu of requirements that countries will rely on during the agreement negotiation.
6. Also, the unique ID will allow countries to manage only one certificate model, which can carry several sets of requirements depending on what was agreed.
7. The Harmonized System Codes (HS Codes), administrated by World Customs Organization (WCO), and ICD-11, administrated by World Health Organization (WHO), are examples of a successful implementation of a harmonization and semantic definition that leverage their related operations.

Discussion

8. This discussion paper recognizes that an importing country should be able to define not only the requirements that must presented in the certificate, but also related metadata and the languages to be used.
9. On the other side, the freely definition of requirements can lead countries into a long negotiation process and guide the agreed certificate far from the best practices presented by Codex Guidelines for Design, Production, Issuance and use of Generic Official Certificates (CAC/GL 38-2001).
10. Also, the freely definition of requirements turns the implementation and use of e-CERT harder, making countries to build complex systems to manage all the possibilities agreed.

11. The following example represents two paragraphs of the requirements agreed between Brazil and a third country. The same issues can be observed throughout the 600 certificate models that Brazil manage:

Paragraph #1: *“The meat or meat product(s) herein described come from animals born and raised, slaughtered and packed in BRAZIL; the slaughterhouses where the animals slaughtered and/or processing plants where the meat packed are approved and under regular veterinary-sanitary supervision of the Brazilian Ministry of Agriculture, Livestock and Food Supply (MAPA)”.*

Paragraph #2: *“The meat or meat product(s) herein described has/have been dressed, prepared and packed under hygienic conditions in officially approved establishments which are subject to constant supervision by the official veterinarian. The meat or meat product(s) is/are fit for human consumption and eligible for export without restriction in accordance with the legislation of BRAZIL”.*

12. In the sentences above, the following requirements are stated:

- In Paragraph #1:
 - i. animals born in Brazil;
 - ii. animals raised in Brazil;
 - iii. animals slaughtered in Brazil;
 - iv. products packed in Brazil;
 - v. Slaughterhouses are approved and under regular veterinary-sanitary supervision of the Brazilian Ministry of Agriculture, Livestock and Food Supply (MAPA);
 - vi. Processing plants are approved and under regular veterinary-sanitary supervision of the Brazilian Ministry of Agriculture, Livestock and Food Supply (MAPA).
- In Paragraph #2:
 - i. has/have been dressed under hygienic conditions;
 - ii. has/have been prepared under hygienic conditions;
 - iii. has/have been packed under hygienic conditions;
 - iv. preparation and packing occurred in officially approved establishments which are subject to constant supervision by the official veterinarian;
 - v. product(s) is/are fit for human consumption;
 - vi. product(s) is/are eligible for export without restriction in accordance with the legislation of BRAZIL.

13. If it is not easy for a human to split this information into objective items, a computer is not able to verify if all the requirements are presented, even with advanced artificial intelligence models.

14. The existing systematic is not designed to scale and to be digitally processed by computers in the e-CERT era. Also, an objective and harmonized requirement list can lead countries into a safer negotiation for both sides.

15. Other benefits that the standardization of requirements can enable are:

- collection, comparison and analysis of statistics
- reduce the expense incurred by redescribing in the course of international trade
- facilitate the standardization of trade documentation
- facilitate the data transmission and processing.

16. During the e-CERT implementation, Brazil had the opportunity to analyze several certificates and realized that it is possible to define a global standard of sanitary requirements. Each requirement will receive a unique ID and can carry attributes organized with a defined syntax. For example:

- **ID#1:** animals born in:
 - Attribute 1- country: based on to ISO-3166-1.
- **ID#2:** animals raised:
 - Attribute 1- country: based on to ISO-3166-1.
- **ID#3:** animals slaughtered in;

- Attribute 1- country: based on to ISO-3166-1.
- **ID#4**: products packed in;
 - Attribute 1- country: based on to ISO-3166-1.
- **ID#5**: Establishments approved and under regular veterinary-sanitary supervision:
 - Attribute 1 – country: based on to ISO-3166-1.
 - Attribute 2 – Types of Establishments: Slaughterhouses / Processing plants
 - **ID#6**: Production process executed under hygienic conditions:
 - Attribute 1 – Processes based on to UN/CEFACT 7187 Process type description code: 12 / 13.
- **ID#7**:_product(s) is/are fit for human consumption.
 - No attributes.
- **ID#8**: product(s) is/are eligible for export without restriction in accordance with the legislation
 - Attribute 1 – country: based on to ISO-3166-1.

17. Requirements can also be grouped to facilitate the management, like “foot and mouth disease” group and so on.

18. If a requirement is not met, the related ID and description will not be presented into the document, in paper or electronic formats. Computers and humans can easily check the information and countries will be able to implement real digital systems, able to track and trace requirements.

19. This new structure can be linked with species classification, the Harmonized System, ISO codes, EDIFACT definitions, and several other standards to leverage the capability of cross-check data, contributing to safety at borders.

Recommendations

20. The Committee is invited to support the proposal for the new work on the standardization of sanitary requirements as set out in the attached project document.

21. The Committee is invited to establish an electronic Working Group to define the criteria and method to evaluate the existing requirements in order to propose the taxonomy and ontology.

PROJECT DOCUMENT

DISCUSSION PAPER ON THE STANDARDIZATION OF SANITARY REQUIREMENTS

1. Purpose of proposed Standard

The purpose of the work is to develop a global standard for sanitary requirements, based on what countries will agree the sanitary certificates. Harmonized syntax and semantics would turn the negotiation for a new certificate, and the update of an existing one, into a very objective activity. Also, it will turn the e-CERT implementation easier, because digital verifications can be implemented and automatized into processes. The standard would not be mandatory and are not specific for electronic documents.

The following activities are expected:

- Define the scope: Determine the specific domain and scope of the sanitary requirements.
- Gather information: Collect all relevant documents, guidelines, and regulations related to sanitary requirements, including any existing standards or best practices.
- Identify key concepts: Analyze the gathered information to extract the most important concepts, entities, and relationships.
- Create a taxonomy: Organize the sanitary requirements into a hierarchical classification system based on their characteristics, such as the type of requirement, the hazard it addresses, or the level of risk it represents.
- Develop an ontology: Define the attributes and relationships between the concepts within the sanitary requirements domain. This might include specifying the conditions under which a requirement applies, how different requirements are related, or any constraints or rules that govern their implementation.
- Validate and refine: Evaluate the taxonomy and ontology for accuracy, consistency, and completeness. Refine when necessary.
- Implement and maintain: Help to integrate the taxonomy and ontology into the relevant systems, processes, or tools.

2. Relevance and Timeliness

Countries are facing challenges to implement electronic certification systems. The OECD paper entitled *Electronic Sanitary Certificates for Trade in Animal Products (2023)* identified that “*At present, there is no “one” international standardised sanitary certificate schema for all countries that can facilitate the standardised exchange and processing of e-sanitary certificates*”.

Create an XML file for electronic certification embedded with information that is presented on paper is not difficult. The challenge, and the real watershed, is to create digital and automated processes that will improve safety at the same time that reduces bureaucracy at borders.

Digital transformation seems a buzzword nowadays, but the truth is that it can only be achieved with new processes and new tools, designed with a digital mindset, reusing data throughout the supply chain, integrating public and private institutions.

The standardization proposed will enable the digital mindset for the sanitary requirements, making the journey to the electronic certification easier and faster. The lack of schema highlighted by OECD can be at least minimize, or even solved.

3. The main aspects to be covered

As already implemented in other areas, like the Harmonized System and International Code of Diseases, a structured taxonomy must be defined to represent the categories and subcategories of requirements. The requirements must be analyzed based on three principles:

- What will be the requirement;
- In which category it belongs;
- Which are the related attributes (Ontology).

Attributes must be defined when requirements vary based on a place, procedure or any kind of variation. In addition, attributes can be used to carry specific data, like a fixed value or a range of temperature. The syntax and semantics of the attributes must follow other data standards already published.

4. Assessment against the Criteria for the Establishment of Work Priorities

The proposal is consistent with the criteria as follows:

General Criterion: Consumer protection from the point of view of health, food safety, ensuring fair practices in the food trade and taking into account the identified needs of developing countries.

The proposed new work will enable a more organized and systematized approach to sanitary requirements, that can be applied from production to certification of plant and animal products. This holistic structure will leverage controls allowing automated checks to be performed by autonomous systems. Better processes lead to better results, and in this case, deliver a safer product for consumption.

Criteria applicable to General Subjects

a) Diversification of national legislations and apparent resultant or potential impediments to international trade

The development of the proposed standard would assist in achieving harmonization at global level, facilitate the agreement of requirements and also the control of their compliance by the national authority.

b) Scope of work and establishment of priorities between the various sections of the work

Refer to scope of work above.

c) Work already undertaken by other international organizations in this field and/or suggested by the relevant international intergovernmental body(ies)

Similar work was performed for other areas, like WCO and WHO as explained in the Introduction above.

d) Amenability of the subject of the proposal to standardisation

The deliverables of the working group will be proposed as a new standard.

e) Consideration of the global magnitude of the problem or issue

Manage hundreds of certificate models may lead to errors and inefficient processes and controls. Countries are having difficulties to implement electronic certification systems mainly related to the incorporation of the e-CERT document into the existing processes. The standardization will enable that new processes may be designed and implemented based on data collection and reuse, private-public interoperability and track and trace strategies.

5. Relevance to Codex strategic objectives

The project proposal outlined above relates to the Codex Alimentarius Commission's Strategic Plan for 2020-2025 in several ways:

- i. Establish international food standards that address current and emerging food safety and quality issues: The proposal aims to standardize sanitary requirements and develop a global standard for requirements that can be digitally processed, which would contribute to international food safety standards and facilitate trade.
- ii. Ensure the application of risk analysis principles in the development of Codex standards: By creating a standardized, digitally processable set of sanitary requirements, the proposal would allow for improved risk analysis and data-driven decision-making.
- iii. Facilitate the effective participation of all Codex members, particularly developing countries, in the standard-setting process: The proposed standardization of sanitary requirements would simplify the process for all countries, making it easier for developing countries to participate in trade negotiations and comply with international food safety standards.
- iv. Implement effective and efficient work management systems and practices: The proposal focuses on creating a harmonized and semantic standard for sanitary requirements, which would lead to more efficient work management systems and practices in the context of sanitary certificates and e-CERT implementation.
- v. Strengthen communication and promote the use and understanding of Codex standards and related texts: By standardizing the sanitary requirements, the proposal would make it easier for countries to communicate, understand, and implement Codex standards in their trade agreements and certification processes.

6. Information on the relation between the proposal and other Codex documents

The proposed standard creation will help to address the objectives presented by the documents below.

- i. Codex Guidelines for Design, Production, Issuance and use of Generic Official certificates (CAC/GL 38-2001)
- ii. Principles for Traceability/Product Tracing as a Tool within a Food Inspection and Certification System (CAC/GL 60-2006)

7. Identification of any requirement for and availability of expert scientific advice

Taxonomy and ontology experts may be needed to establish the base on what the project will be implemented.

8. Identification of any need for technical input to the standard from external bodies so that this can be planned for

Technical input will be necessary from several countries, in order to have access to certificate models in place and to enable a discussion that will attend most of the needs.

9. Proposed timeline for completion of the new work, including the start date, the proposed date for adoption at Step 5, and the proposed date for adoption by the Commission; the timeframe for developing a standard should normally not exceed five years

Subject to the Codex Alimentarius Commission approval, it is expected that the new work can be completed within two or three sessions of CCFICS.