

**Economic Commission for Europe**  
**UNECE Executive Committee**  
**Centre for Trade Facilitation and Electronic Business**

**Team of Specialists on Sustainable Fisheries**

**Third session**

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Item 3 of the provisional agenda

**Implementation and documentation**

**UN/FLUX Policy Brief: an open and global standard to  
exchange fisheries information for sustainable fisheries  
management**

*Summary*

UN/FLUX in a flash:

- Effective, transparent and efficient data exchange on fisheries
- Timely acquisition of fishery data, allowing both prompt action on illegal fishery activities and well-based decision making for sustainable fisheries
- Providing a practical and cost-effective solution
- Supporting traceability of fishery value chains
- Offering global and standardised single electronic approach for fisheries data
- Compatible with other UN/CEFACT standards for the electronic exchange of information along value chains
- Helping to achieve Sustainable Development Goal 14 on “Life below water”, of the 2030 Agenda for Sustainable Development

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## I. Fisheries information management and sustainability

1. Sustainable fisheries and aquaculture can provide important environmental, social and economic benefits: marine habitats protect coastal areas, prevent land erosion and provide recreation and cultural services. Fisheries make an important contribution to food and nutrition security, providing over 153 million tons of fisheries and aquaculture products for human consumption. Global fish production in 2017 was estimated at 172.6 million tons supplying around 21 kg/capita per year. Fish and seafood consumption accounts for 20% of animal protein intake for 3.2 billion people, of which about 26% in Least Developed Countries (LDCs), 19% in other developing countries, and about 16% in Low Income Food Deficit countries (LIFDCs).
2. Since the 1960s the share of fish production for human consumption increased to 88% and currently more than 200 countries report exports and imports of fish or fishery products. In 2016 already 59.6 million people were employed in fisheries and aquaculture, which makes fish and seafood among the most traded commodities. 35% to 38% of the production is exchanged through international supply chains, generating USD 152 billion. For LDCs as a group, fish and seafood is the seventh largest export group overall and the largest food item exported. Over 50% of trade in fisheries and aquaculture originates in developing countries whose net trade income is valued at USD 37 billion, greater than net trade income of most other agricultural commodities combined.
3. The global demand for fish has led to increasing pressure on the existing fish stocks and some areas have seen significant drops in capture. The share of fish stocks within biologically sustainable levels decreased from 90% in 1974 to 66.9% in 2015 and most of the most-productive species are fully fished with no potential for increases in volume.
4. One of the critical issues intensifying overfishing is Illegal, Unreported and Unregulated (IUU) fishing which has seen rapid increases and has a detrimental effect on global fisheries. Rough calculations indicate that global IUU fishing accounts for 11 to 26 million tons of fish every year with a value of USD 26 to 35 billion annually. IUU fishing can lead to the collapse of valuable fisheries, exploits the resources of developing countries, prevents assessment of existing stock and the development of science-based quotas for sustainable exploitation, and leads to criminal activities conducted by highly organized and international networks.
5. To fight IUU and to prevent the subsidizing of IUU and overfishing, fishing authorities need reliable data about fishing equipment, fishing activities, catches, fish sales and fisheries inspections. To help address such growing concerns about the grave problem of overfishing by today's modern fishing fleets UNECE through its UN Centre for Trade Facilitation and e-Business (UN/CEFACT) has developed a global data exchange standard, which helps to improve fisheries information management, and plays a key role in preventing overfishing and the collapse of global fish stocks. This standard, the UN Fisheries Language for Universal eXchange (UN/FLUX), allows Fishery Management Organizations (FMOs), as well as any fisheries authority, to automatically collect fishery data in electronic format from fishing vessels, including a vessel identification, catch area, species, quantity, catch date and time and many other data.
6. With UN/FLUX, FMOs around the world have for the first time a single communication standard to automate the collection, exchange and dissemination of the fishery data needed for sustainable fishery management and for detecting and combatting IUU fishing. Availability of fisheries data will improve research on science-based fishery management and help address the issue of IUU subsidies. UN/FLUX is now being used in all EU Member States involved in fishing, in addition to other countries across the globe. In 2016, the FAO adopted UN/FLUX as the automated transmission mechanism for its Global Record. In 2018, the North-East Atlantic Fisheries Organisation has decided to use UN/FLUX standard in exchanging data amongst its contracting Parties. A UNECE Team of Specialists

on Sustainable Fisheries has been established to promote and support the implementation of the UN/FLUX standard. It is a platform to promote partnership with experts from governments, private sector, civil society, consumer associations and international organisations.

7. UN/FLUX standard and related activities help achieving the trade related targets of SDG Target 14.4, which focuses on ending IUU fishing and overfishing, and destructive fishing practices and implementing science-based management plans by 2030. UN/FLUX also contributes to achieve sustainable production patterns (SDG 12.6) in the fishing industry, through fisheries management based on reliable database of fishing data, which will help efforts to preserve biodiversity and support sustainable use of fish stocks and overall fishing practices.

## II. Why we need a global fisheries data standard for sustainable fisheries management

8. The world needs sustainable fisheries and a tool to assess sustainable fishing. An essential step to attain effective and sustainable management of fishery resources is timely acquisition and exchange of information on fishing activities. Until now, fishing vessels have mainly used paper-based logbooks to record and exchange such information.

9. There have been also attempts to automate acquisition and exchange of fisheries information which has led to the development of proprietary and incompatible data exchange formats. As fisheries industries increasingly act on a supra-regional and global level, the incompatibility of data formats prevents effective implementation of regulations for sustainable management of fish stocks and the fight against IUU fishing.

10. For this reason, the FAO identified the use of a unique and global standard for the exchange of fisheries information as an essential instrument for the implementation of the Agreement on Port State Measures (PSMA), which is the first binding international agreement specifically on IUU fishing.

Key challenges in implementing electronic fisheries information exchange:

The key **challenges** in implementing electronic information exchange to achieve sustainable fisheries are the following:

- Fishing and fishery data requirements are controlled by many authorities and organisations at local, national and international level.
- Monitoring is largely based on logbook data, very often still on paper format.
- Paper logbooks are gradually being replaced by Electronic Reporting Systems (ERS).
- Internationally there are different and incompatible ERS systems in place.
- Fishing vessels can fish all over the world and may call port in different countries, which use different reporting schemes.
- Incompatible data formats prevent efficient regulation and control which favour overfishing and IUU.
- Every new ERS version requires high costs for fishermen and flag state to maintain.

### III. How UN/FLUX addresses these challenges

11. The UN/FLUX was developed to define a universal and efficient data exchange language that is compatible with (but not limited by) fisheries regulations and international requirements. This e-Business standard has been developed so that it can be used by all organisations associated to fishery management. UN/FLUX is now enacted by law in the European Union (Commission Implementing Regulation (EU) 2015/1962), and in other countries around the world (e.g. Thailand, Royal Ordinances 2015 and 2017).

12. For developing countries, who do not have the political weight to force foreign vessels to adopt their national software standards, a solution based on a global standard is preferable. Without such a solution, coastal States would not be able to perform their role as a flag state. One such example is Thailand which is currently implementing the UN/FLUX standard.

UN/FLUX provides a harmonised way to exchange fisheries information effectively, transparently and efficiently. It is interoperable and compatible with IT solutions on the market. A practical alternative to diversified and efficient data management – long-term cost reduction for stakeholders.

UN/FLUX supports end-to-end traceability in the fishing industry – which helps prevent IUU and promotes sustainable fisheries management. It gives FMOs access to a free, open and global standard to automate fisheries data. Being a UN standard, UN/FLUX can be connected to other standards such as Tracking and Tracing.

UN/FLUX is global and can be used with any fishing industry and fishing operation.

13. To facilitate the adoption of UN/FLUX, the Team of Specialists on Sustainable Fisheries has been developing an UN/FLUX Implementation Document Template<sup>1</sup> and collected case stories of individual countries' experience implementing UN/FLUX, to share experiences and lessons learned<sup>2</sup> and provide relevant implementation guidance.

<sup>1</sup> UN/FLUX Implementation Document Template:  
[http://www.unece.org/fileadmin/DAM/cefact/SustainableFisheriesTeamOfSpecialists/2019\\_SecondMtg/TOSSF\\_2019-INF-06-UNFLUX-ImplementationDocTemplate.pdf](http://www.unece.org/fileadmin/DAM/cefact/SustainableFisheriesTeamOfSpecialists/2019_SecondMtg/TOSSF_2019-INF-06-UNFLUX-ImplementationDocTemplate.pdf)

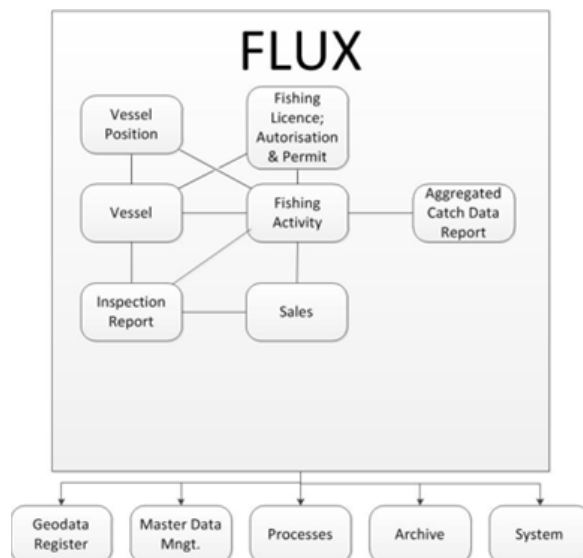
Some examples of already implemented UN/FLUX Implementation documents (and other relevant information) in the European Union context are available on the CIRCABC site: <https://circabc.europa.eu/w/browse/9f30b099-5d1b-4983-9983-6527fcc0905b> (folder CircaBC / MARE / IFDM DEL / Library / Business Layer / FLUX-P1000)

<sup>2</sup> UN/FLUX Case Stories: <http://www.unece.org/tradewelcome/un-centre-for-trade-facilitation-and-e-business-unecefact/about-us/team-of-specialists-on-sustainable-fisheries.html>

## IV. UN/FLUX implementation steps

14. UN/FLUX messages contain the detailed and standard description of each required data element, as well as the standardised grouping of those data elements in the messages required for exchanging data between parties.

**Figure 1** shows the UN/FLUX sub-domains and the way in which they would interact with the various parties once all phases of UN/FLUX implementation have been completed.



15. Not all parties are involved with all aspects of the fisheries business. Therefore, UN/FLUX is based on individual stand-alone business modules, allowing various parties to implement UN/FLUX in a stepwise approach and select only those modules they need. However, after implementing one module, it should be easier to incorporate extra modules.

16. For example, Spain implemented the UN/FLUX standards in the following sequence: (1) Aggregated Catch Data Report, (2) Vessel Position, (3) Vessels, (4) Fishing activities and (5) Sales.

17. The UNECE Team of Specialists on Sustainable Fisheries recommends the following **checklist** to implement the UN/FLUX standard:

- ✓ Include usage of UN/FLUX standards in the legal and policy frameworks and action plans governing the national fisheries;
- ✓ Define the legal basis on which the data exchange using UN/FLUX will be based;
- ✓ Determine the authorities in charge of putting in place UN/FLUX, managing, and controlling its implementation;
- ✓ Define the administrative procedures for the implementation of UN/FLUX, including the system for conformity assessment and sanctions in case of non-compliance;
- ✓ Define the document and technical information, which would be relevant and necessary for the correct implementation of the UN/FLUX standard, including:
  1. Information on the scope of the business case for UN/FLUX implementation;
  2. List and brief explanation of any other existing documents or technical information, which would be relevant and necessary for the correct implementation of the UN/FLUX standard;
  3. Provide all the necessary business and technical information on how the UN/FLUX standard is to be implemented and describe the expected content of the messages.
  4. Describe the validation process in more detail, if needed. That could contain the list of business rules (BR) applied by data sender, data receiver or any other party or system analysing the UN/FLUX messages exchanged.

5. Provide several examples of the UN/FLUX messages;
6. Provide the code lists to be used.

**Contacts**

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