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Organización
de las
Naciones
Unidas
para la
Agricultura
y la
Alimentación

Technical workshop on global harmonization of Tuna fisheries statistics

Coordinating Working Parties

ad-hoc Task Group on Reference harmonization for capture
fisheries and aquaculture

Progress and review of CWP standards

Aymen CHAREF (FAO)

Scene setting and task group objectives

Terminology and conceptual global DSD

Feedback and progress

Points of discussion

Scope and structure

Concepts and definition

Classifications

Conclusions for approval

- The CWP is a forum and mechanism, functional since 1960, to **streamline statistical activities** among the relevant RFBs and **create standard** concepts, definitions, classifications and methodologies for the collection and collation of fishery statistics.
- The incessant increase of diversification of information systems among fisheries institutions produced multiplicity of dissemination structures, definitions and formats.
- It has been always shown the need to structure and **exchange the reference data** together with statistical datasets to enable their identification and **interoperability** across different databases of statistical institutions.
- In the CWP 25th plenary meeting held in 2016 in Rome, the ad-hoc Task Group on “**Reference harmonization for capture fisheries and aquaculture statistics**” was established.

- Main objectives of the ad-hoc Task Group are:
 - improve the multilateral exchange between CWP parties and reduce the burden of multiple reporting from the data producers
 - build a CWP standard for global Data Structure Definition (DSD) that compiles minimum data requirements of the aquaculture production and capture datasets,
 - disseminate Standard for global DSD and related metadata, based on common set of statistical concepts and a standard terminology.

- **CWP members** that expressed their interest are: **CCSBT, EUROSTAT, FAO, GFCM, IATTC, ICCAT ICES, IOTC, NACA, OECD, SEAFO and SPC-WCPFC.**
- **Activities**
 - 23rd March 2017: Teleconference for kick-off .
 - 20th June 2017: First proposal of global DSD presented in CWP-IS meeting.
 - 2nd November 2017: Second draft of working document and global DSDs
 - 19th March 2018: Sub-group of tuna RFMOs to thoroughly review the global DSDs and their components.

This sub-group is cluster of Tuna bodies aiming to **reflect and boost** the CWP Task Group activities

Objectives

- Review the proposals of CWP standard for global DSD and terminology used to define its structural elements and related codification.
- Scrutinize and review the mapping between the codes of Tuna RFMOs and CWP standards.

Outputs

- Outputs will be presented to other CWP parties in the coming session towards endorsement.
- Validation of CWP standard for the global DSD for Tuna data (catch, catch and effort, logbook) and related metadata.
- Validation of the mapping between codes of Tuna RFMOs and CWP standards.

- **Data Structure Definition** describes how information in a specific dataset is structured in terms of their dimensionality and coding schemes.

The structure is composed of a selection of measures, associated dimensions that gather lists of codes.

- **Reference data** are sets of values or classification schemas that are widely re-used and referenced by systems, applications, data stores, processes, and reports.

In our context, reference data of the global DSD represents the authoritative information to be adopted whenever possible. When the DSD's reference data cannot meet the requirements of CWP Parties, they use concepts for their specific purpose to characterize or standardize their own information.

Conceptual Proposal for the Standard for Data Structure Definition

Modularity

Concept	COUNTRY	FISHING AREA	AQUATIC SPECIES	TIME UNIT	QUANTITY	OBS_STATUS	UNIT	FISHING GEAR	FISHERY VESSEL	VALUE	OBS_STATUS
Concept_Type	Dimension	Geographic Dimension	Dimension	Time Dimension	Primary measure/observation	Attribute	Attribute	Dimension	Dimension	Primary measure/observation	Attribute
Classification system	UN Standard country or area codes for statistical use (M49)	FAO Major Fishing Areas for statistical purpose; Areal grid coding system	ASFIS List of Species for Fishery Statistics Purposes	Calendar year		FAO statistical standard for Observation status flags	UCUM Unified Code for Units of Measure	ISSCFG International Standard Classification of Fishing Gears	ISSCFV International Standard Statistical Classification of Fishery Vessels by Categories		FAO statistical standard for Observation status flags
Aggregation/ granularity level (Sub_classification)	Aggregated codes (e.g. Aggregated member states of EU)	Breakdowns: Subarea, Division (e.g. ICES subareas, GFCM GSAs); Areal grid coding system (e.g. IOTC 5 degree grid system)	ISSCAAP; Aggregated species (e.g. IOTC Group species list)	e.g. yearly; monthly; bi-annual				Detailed list of gears; or Aggregated gears (e.g. IOTC Fishing gear group)	Detailed list of vessels; or Aggregated vessels (e.g. GFCM Vessel Group, OECD Fleet segments)		FAO standard symbols
Code List	UN code	FAO Fishing Areas; ICES subareas;	Inter-agency 3-alpha code	Calendar Year	Quantity	Observation Status Flag	Units of measure	Gear Category	Fishery Vessel Type	Value	Observation Status Flag
Codelist_id	UN_CODE	FAO_AREAS; GRID_SYSTEM	3ALPHA_CODE	YEAR	QUANTITY	STATUS_FLAG	UNIT	GEAR_CATEGORY	VESSEL_TYPE	VALUE	STATUS_FLAG
Description	List of countries or areas (three digits code)	FAO major fishing areas; codes for Statistical quadrangles, and for quadrants	Species reference	Reference year	Quantity of production	FAO Observation status codes (e.g. "E" Estimate value, "R" Revised)	Unit of measure (e.g. tonnes or number of animals)			Value of production	FAO Observation status codes (e.g. "O" Missing value)

Modules building block composed of classification systems are primarily used in (e.g. ASFIS, ISSCFG, Areal Grid System, etc.). A classification system is created, owned and maintained by an institution, including the coding, set of aggregations, hierarchies.

1. Concepts and definitions
2. Classification systems
3. Codelists and description
4. Mapping of codes



Main Comments

- ✓ To broaden the scope/data domain of the global DSD by compiling essential dimensions/concepts for data collection in use broadly by the CWP parties (catch and effort).
- ✓ To use the catch defined in the CWP annex B1, and also landings, catch and effort.
- ✓ To elaborate the global DSD that could accommodate other domains of data collection (e.g. logbooks) to address the requirements of CWP Members.
- ✓ To create Building Block (module within the DSD) to collate observed or measured variables such as Catch or Effort
- ✓ The group recommended that FAO proceed with CWP registry/catalog development to be accessed through the CWP website.

Three DSDs corresponding to different data domains:

DSD of Global capture production: is designed to cover the capture production in volume and value for **economic purpose**. Volume and value of nominal catch are compiled according to dimensions represented by concepts Country, Fishing area, Aquatic Species, and Time unit;

DSD of Catch: covers continuum of concepts (gross catch, discards, nominal catch, etc...) for **management purpose** to which are added Fishing gear and/or Fishery vessel concepts. The concept “value of catch” could also be included;

DSD of Catch and effort (Logbook): covers data for **management purpose** and the **collection scheme**. It contains vessel information, catch and effort for each operation (i.e haul). Information on start and end of time and location of fishing information are also included.

DSD of Global Capture Production

covers the capture production in volume and value for **economic purpose**.

Module				CATCH						
Concept	COUNTRY / FLAG STATE	FISHING AREA	TIME UNIT	AQUATIC SPECIES	CATCH_TYPE	OBS_MEASURE	UNIT	OBS_STATUS	OBS_VALUE	UNIT
Concept_Type	Dimension	Geographic Dimension	Time Dimension	Dimension	Dimension	Measure	Attribute	Attribute	Measure	Attribute
Classification system	JN Standard country or area codes for statistical use (M49)	FAO Major Fishing Areas for statistical purpose Areal grid coding system	Calendar year	ASFIS List of species for fishery Statistics purposes	CWP definition of concepts (for Catch types)		UCUM Unified Code for Units of Measure	FAO statistical standard for Observation status flags		UCUM Unified Code for Units of Measure
Code List	JN code	FAO Fishing Areas; GRID System	Calendar Year	Inter-agency 3-alpha code	Catch type		Units of measure	Observation Status Flag		Units of measure
Codelist_id	JN_CODE	FAO_AREAS GRID_SYSTEM	YEAR	3ALPHA_CODE	CATCH_TYPE		UNIT	STATUS_FLAG		UNIT
Description	List of countries or areas (three digits code)	FAO_AREAS GRID_SYSTEM	Reference year (e.g 2017)	Species reference	In this DSD, Catch type corresponds to the Nominal Catch defined as the live weight equivalent of the landings (NOMINAL CATCHES = LANDINGS * CONVERSION FACTORS) ftp://ftp.fao.org/FI/DOCUMENT/cwp/handbook/annex/AnnexB1CatchConcepts.pdf	Amount or quantity of the observation measure (a positive integer number)	Unit of measure (e.g tonnes or number of animals, 1000 US\$)	FAO Observation status codes (e.g "E"Estimate value, "R"Revised)	Monetary Value	Unit of measure (e.g tonnes or number of animals, 1000 US\$)

DSD of Catch

covers concepts for **management purpose**. The concept “value of catch” could also be included

Module	FLAG STATE	VESSEL INFORMATION	GEAR INFORMATION	EFFORT			CATCH					
Concept	VESSEL FLAG	FISHERY VESSEL	FISHING GEAR	OBS_MEASURE	EFFORT DESCRIPTOR (Cat A)	EFFORT DESCRIPTOR (Cat B)	EFFORT DESCRIPTOR (Cat C)	AQUATIC SPECIES	CATCH TYPE	OBS_MEASURE	UNIT	OBS_STATUS
Concept_Type	Dimension	Dimension	Dimension	Measure	Attribute	Attribute	Attribute	Dimension	Dimension	Measure	Attribute	Attribute
Classification system	UN Standard country or area codes for statistical use (M49)	The International Standard Statistical Classification of Fishery Vessels by Categories (ISSCFV)	The International Standard Statistical Classification of Fishing Gear (ISSCFG)		CWP definition of concepts (for Fishing effort measure)	CWP definition of concepts (for Fishing effort measure)	CWP definition of concepts (for Fishing effort measure)	ASFIS List of Species for Fishery Statistics Purposes	CWP definition of concepts (for catch type)		UCUM Unified Code for Units of Measure	FAO statistical standard for Observation status flags
Code List	UN code	Fishery Vessel Type	Gear Category		EFFORT descriptor	EFFORT descriptor	EFFORT descriptor	Inter-agency 3-alpha code	Catch type		Units of measure	Observation Status Flag
Codelist_id	UN_CODE	VESSEL_TYPE	ISSCFG_CODE		EFFORT_DESCRIPTOR	EFFORT_DESCRIPTOR	EFFORT_DESCRIPTOR	BALPHA_CODE	CATCH_TYPE		UNIT	STATUS_FLAG
Description	Flag State of vessel	ISSCFV code corresponding to Vessel type and its standard abbreviation	ISSCFG code corresponding to gear category and its standard abbreviation ftp://ftp.fao.org/FI/DOCUMENT/cwp/handbook/annex/AnnexM2fishinggear.pdf	The amount of fishing gear of a specific type used on the fishing grounds over a given unit of time	Selected combinations of gear and effort ftp://ftp.fao.org/FI/DOCUMENT/cwp/handbook/annex/AnnexN1.pdf	Total number of days fishing. Level Category B of fishing effort precision http://www.fao.org/fishery/cwp/handbook/N/en	Total number of days on the ground. Level Category C of fishing effort precision http://www.fao.org/fishery/cwp/handbook/N/en	Species reference	Catch types* (gross catch, retained catch, landings, discards)		Unit of measure (weight kg tonnes, or number)	FAO Observation status codes (e.g "E" Estimate value, "R" Revised)

DSD Catch and Effort (Logbook)

covers data for **management purpose** and **collection scheme**.

MODULE	FLAG STATE	VESSEL INFORMATION				GEAR INFORMATION	EFFORT				TIME			POSITION DETAILS				CATCH					
		VESSEL FLAG	VESSEL IDENTIFIER	VESSEL NAME	VESSEL Gross TONNAGE (GT)		VESSEL LENGTH (LOA)	FISHING GEAR	OBS_MEASURE	Measure descriptors (Cat A)	Total number of days fishing (Cat B)	Total number of days of the ground (Cat C)	START TIME	END TIME	REPORTING PERIOD	START LATITUDE	START LONGITUDE	END LATITUDE	END LONGITUDE	AQUATIC SPECIES	CATCH_TYPE	OBS_MEASURE	UNIT
Concept														Degrees (DD) in minutes (MM:mm)	Degrees (DD) in minutes (MM:mm)	Degrees (DD) in minutes (MM:mm)	Degrees (DD) in minutes (MM:mm)						
Concept_Type	Dimension	Measure	Measure	Measure	Measure	Dimension	Measure	Attribute	Attribute	Attribute	Time Dimension	Time Dimension	Time Dimension	Observation	Observation	Observation	Observation	Observation	Observation	Observation	Observation	Observation	
Classification system	JN Standard country or area codes for statistics based on IMO use (M49)	The Unique Vessel Identifier (UVID) based on IMO number	Convention on Name Measurement of Ships, 1969	The International Standard Statistical Classification of Fishing Gear (ISSCFG)			CWP definition of concepts (Fishing effort measure)	CWP definition of concepts (Fishing effort measure)	CWP definition of concepts (Fishing effort measure)	Date Time (UTC date time according to ISO 8601 format)	Date Time (UTC date time according to ISO 8601 format)		ISO 6709	ISO 6709	ISO 6709	ISO 6709	ISO 6709	ISO 6709	ISO 6709	IFIS List of Species or Fishery Statistics groups	CWP definition of Concepts (for catch type)	UCUM Unified Code for Units of Measure	FAD statistical standard for Observation status flag
Code List	JN code				Gear Category		EFFORT_descriptor	EFFORT_descriptor	EFFORT_descriptor											Inter-agency 3-alpha code	Catch type	Units of measure	Observation Status Flag
CodeList_id	JN_CODE				ISSCFG_CODE		EFFORT_DESCRIPTOR	EFFORT_DESCRIPTOR	EFFORT_DESCRIPTOR											ALPHA_CODE	CATCH_TYPE	UNIT	STATUS_FLAG
Description	Flag State of vessel	The Unique Vessel Identifier (UVID) is established by the Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels.	Registered Vessel Name: Mandatory concept for Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels.	Gross Tonnage of vessel (Gross Tonn): It is a Mandatory concept for Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels.	Length overall (meters). It is a Mandatory concept for Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels.	ISSCFG code corresponding to gear category and its standard abbreviation (http://ftp.fao.org/IFDC/INT/cwp/handbook/annex1/annex2/fishinggear.pdf)	The amount of fishing gear and effort used on the fishing grounds over a given unit of time	Selected combinations of gear and effort	Level Category B of fishing effort precision (http://www.fao.org/ftp/INT/cwp/handbook/annex1/annex2/fishinggear.pdf)	Level Category C of fishing effort precision (http://www.fao.org/ftp/INT/cwp/handbook/annex1/annex2/fishinggear.pdf)	Time_start / Starting time - first date of availability of the measure. The Date Time (UTC date time according to ISO 8601 format) when the position was obtained by the vessel's navigation equipment (e.g. 2008-10-31T15:07:38Z milliseconds) can be provided optionally).	Time_end / Ending time - last date of availability of the measure	Reporting period of time over which the measure is defined	Coordinate expressed in WGS84, Decimal Degree notation, using a precision of at least 3 decimal positions. Positive coordinate refers to North of equator. Negative coordinate refers to South.	Coordinate expressed in WGS84, Decimal Degree notation, using a precision of at least 3 decimal positions.	Coordinate expressed in WGS84, Decimal Degree notation, using a precision of at least 3 decimal positions.	Coordinate expressed in WGS84, Decimal Degree notation, using a precision of at least 3 decimal positions.	Coordinate expressed in WGS84, Decimal Degree notation, using a precision of at least 3 decimal positions.	Species reference	Catch types* (gross catch, retained catch, landings, nominal catch, discards)	Unit of measure (weight kg, tonnes, or number)	FAD Observation status codes (e.g. R* (estimate value), R* (revised))	

DSD Catch and Effort (Logbook)

covers data for **management purpose** and **collection scheme**.

MODULE	FLAG STATE	VESSEL IDENTIFIER		TIME			UNITS			
	VESSEL FLAG	VESSEL IDENTIFIER	START TIME	END TIME	REPORTING PERIOD	END LATITUDE		END LONGITUDE		CATCH
Concept	Dimension	Measure	Time Dimension	Time Dimension	Time Dimension	degrees (-DD)	minutes (MM.mm)	degrees (DD)	minutes (MM.mm)	CATCH_TYPE
Concept_Type						Observation	Observation	Observation	Observation	Dimension
Classification system	UN Standard country or area codes for statistical use (M49)	The Unique Vessel Identifier (UVI) based on IMO number	Date Time (UTC date time according to ISO 8601 format)	Date Time (UTC date time according to ISO 8601 format)		ISO 6709	ISO 6709	ISO 6709	ISO 6709	CWP definition of Concepts (for catch type)
Code List										Catch type
Codelist_id										CATCH_TYPE
	UN code									
	UN_CODE		time_start / Starting time - first date of availability of the measure. The Date Time (UTC date time according to ISO 8601 format) when the position was obtained by the vessel navigation equipment. e.g. 2008-10-31T15:07:38Z (milliseconds can be provided optionally).	time_end / Ending time - last date of availability of the measure	Interval of time over which the measure is defined					Catch types* (gross catch, retained catch, landings, nominal catch, discards)
Description	Flag State of vessel	The Unique Vessel Identifier (UVI) is established by the Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels.								

List of concepts used in each DSD

	DSD Global capture production	DSD Catch data	DSD Catch and Effort data (Logbook)			
				Catch module	Effort module	Vessel Information module
Aquatic species	X	X		X		
Catch type				X		
Country/Flag state	X	X	X			X
Effort descriptor		X			X	
Fishery vessel		X				X
Fishing area	X	X				
Fishing gear		X			X	
Obs_Measure	X	X	X	X	X	
Obs_Status	X	X	X	X		
Obs_Value	X	X				
Position details (geographic)			X			
Unit	X	X	X	X		
Vessel Gross Tonnage						X
Vessel Length						X
Vessel Name						X
Vessel Identifier						X

- **Specifications**

- A unified and collaborative catalog that compiles public **reference data** made available by all CWP parties
- A centralized repository, as a hub, of public contents to be harvested by users to facilitate data usage and exchange.
- FAO MDM services would facilitate management of CWP catalog contents and dissemination of these interoperable items

- **Contents**

- global DSD, after endorsement by CWP
- reference data used in the global DSD including the CWP standards
- reference data used by each CWP party
- mappings of codes between the CWP standards and CWP parties

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CWP - ISSCFC

International Standard Statistical Classification of Fishery Commodities (ISSCFC)

Tags

Coordinating Working Party on Fish

- Background
- CWP Handbook

- History
- Achievements

Publish Item

Insert Item Profile Information * is required

Selected Type is Codelist

- * Owner: CCAMLR - Commission for the Conservation of Antarctic Marine Living Resources i
- * OwnerContact: CCAMLR - Commission for the Conservation of Antarctic Marine Living Resources i
- * OwnerContact: CCSBT - Commission for the Conservation of Southern Bluefin Tuna i
- * OwnerContact: CWP - Coordinating Working Party on Fishery Statistics i
- * DomainSpecificTag: FAO - Food and Agriculture Organization of the United Nations i
- * DomainSpecificTag: GFCM - General Fisheries Commission for the Mediterranean i
- * DomainSpecificTag: IOTC - Indian Ocean Tuna Commission i
- * DomainSpecificTag: IATTC - Inter-American Tropical Tuna Commission i
- * DomainSpecificTag: ICCAT - International Commission for the Conservation of Atlantic Tuna i
- * DomainSpecificTag: ICES - International Council for the Exploration of the Sea i
- * DomainSpecificTag: IWC - International Whaling Commission i
- Notes: NASCO - North Atlantic Salmon Conservation Organization i
- Notes: NEAFC - North-East Atlantic Fisheries Commission i
- Notes: NACA - Network of Aquaculture Centres in Asia-Pacific i
- Notes: NAFO - Northwest Atlantic Fisheries Organization i
- * Periodicity: OECD - Organization for Economic Cooperation and Development i
- * Periodicity: SEAFO - South East Atlantic Fisheries Organisation i
- * LastRevisionDate: SPC - Pacific Community (SPC) i
- * LastRevisionDate: SEAFDEC - Southeast Asian Fisheries Development Center i
- * LastRevisionDate: EC/Eurostat - Statistical Office of the European Commission i
- * Citation: WCPFC - Western and Central Pacific Fisheries Commission i

CWP_Secretariat

This Virtual Research Environment is conceived to support the development and maintenance of the Catalog of the Coordinating Working Parties on Fisheries Statistics, a catalog...

ASFIS List

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Additional Info

Field	Value
Citation	ASFIS
DataNotes	This version includes ASFIS species names in Arabic, Chinese and Russian names
DomainSpecificTag	Catch

LastRevisionDate 2017-12-10

Periodicity Annual

Governance – Maintenance

The **governance** covers practices to ensure CWP parties own the process, to maintain and disseminate the global DSD, the international classifications and the codes' mappings.

FAO as CWP secretariat is setting best practices for **maintenance** of the CWP catalog contents and the dissemination workflow across the organizations (to be finalized if endorsed).

The **maintenance** encompasses:

- i. changes in the reference data and metadata already registered (e.g updates of the CWP standards available in the catalog)
- ii. mappings of classifications between CWP standards and any CWP party.

The role of maintaining the mapping (is not frequent) should reside at the level of the CWP party.

In the case of any change in the mapping codelists, updates (copies and notifications) should be made available to the CWP catalog.

Thank you for your attention, so FAR



For each DSD

1. Scope and structure
2. Concepts and definitions
3. Classification and codelists



DSD of Global Capture Production

covers the capture production in volume and value for **economic purpose**.

Module				CATCH						
Concept	COUNTRY / FLAG / STATE	FISHING AREA	TIME UNIT	AQUATIC SPECIES	CATCH_TYPE	OBS_MEASURE	UNIT	OBS_STATUS	OBS_VALUE	UNIT
Concept_Type	Dimension	Geographic Dimension	Time Dimension	Dimension	Dimension	Measure	Attribute	Attribute	Measure	Attribute
Classification system	UN Standard country or area codes for statistical use (M49)	FAO Major Fishing Areas for statistical purpose Areal grid coding system	Calendar year	ASFIS List of Species for Fishery Statistics Purposes	CWP definition of concepts (for Catch types)		UCUM Unified Code for Units of Measure	FAO statistical standard for Observation status flags		UCUM Unified Code for Units of Measure
Code List	UN code	FAO Fishing Areas; GRID System	Calendar Year	Inter-agency 3-alpha code	Catch type		Units of measure	Observation Status Flag		Units of measure
Codelist_id	UN_CODE	FAO_AREAS GRID_SYSTEM	YEAR	BALPHA_CODE	CATCH_TYPE		UNIT	STATUS_FLAG		UNIT
Description	List of countries or areas (three digits code)	FAO_AREAS GRID_SYSTEM	Reference year (e.g 2017)	Species reference	In this DSD, Catch type corresponds to the Nominal Catch defined as the live weigh equivalent of the landings (NOMINAL CATCHES = LANDINGS * CONVERSION FACTORS) http://ftp.fao.org/FI/DOCUMENT/cwp/handbook/annex/AnnexB1CatchConcepts.pdf	Amount or quantity of the observation measure (a positive integer number)	Unit of measure (e.g tonnes or number of animals, 1000 US\$)	FAO Observation status codes (e. "E" Estimate value, "R" Revised)	Monetary Value	Unit of measure (e.g tonnes or number of animals, 1000 US\$)

DSD of Catch

covers concepts for **management purpose**. The concept “value of catch” could also be included

Module	FLAG STATE	VESSEL INFORMATION	GEAR INFORMATION	EFFORT			CATCH					
Concept	VESSEL FLAG	FISHERY VESSEL	FISHING GEAR	OBS_MEASURE	EFFORT DESCRIPTOR (Cat A)	EFFORT DESCRIPTOR (Cat B)	EFFORT DESCRIPTOR (Cat C)	AQUATIC SPECIES	CATCH TYPE	OBS_MEASURE	UNIT	OBS_STATUS
Concept_Type	Dimension	Dimension	Dimension	Measure	Attribute	Attribute	Attribute	Dimension	Dimension	Measure	Attribute	Attribute
Classification system	UN Standard country or area codes for statistical use (M49)	The International Standard Statistical Classification of Fishery Vessels by Categories (ISSCFV)	The International Standard Statistical Classification of Fishing Gear (ISSCFG)		CWP definition of concepts (for Fishing effort measure)	CWP definition of concepts (for Fishing effort measure)	CWP definition of concepts (for Fishing effort measure)	ASFIS List of Species for Fishery Statistics Purposes	CWP definition of concepts (for catch type)		UCUM Unified Code for Units of Measure	FAO statistical standard for Observation status flags
Code List	UN code	Fishery Vessel Type	Gear Category		EFFORT descriptor	EFFORT descriptor	EFFORT descriptor	Inter-agency 3-alpha code	Catch type		Units of measure	Observation Status Flag
Codelist_id	UN_CODE	VESSEL_TYPE	ISSCFG_CODE		EFFORT_DESCRIPTOR	EFFORT_DESCRIPTOR	EFFORT_DESCRIPTOR	BALPHA_CODE	CATCH_TYPE		UNIT	STATUS_FLAG
Description	Flag State of vessel	ISSCFV code corresponding to Vessel type and its standard abbreviation	ISSCFG code corresponding to gear category and its standard abbreviation ftp://ftp.fao.org/FI/DOCUMENT/cwp/handbook/annex/AnnexM2fishinggear.pdf	The amount of fishing gear of a specific type used on the fishing grounds over a given unit of time	Selected combinations of gear and effort ftp://ftp.fao.org/FI/DOCUMENT/cwp/handbook/annex/AnnexN1.pdf	Total number of days fishing. Level Category B of fishing effort precision http://www.fao.org/fishery/cwp/handbook/N/en	Total number of days on the ground. Level Category C of fishing effort precision http://www.fao.org/fishery/cwp/handbook/N/en	Species reference	Catch types* (gross catch, retained catch, landings, discards)		Unit of measure (weight kg tonnes, or number)	FAO Observation status codes (e.g "E" Estimate value, "R" Revised)

DSD Catch and Effort (Logbook)

covers data for **management purpose** and **collection scheme**.

MODULE	FLAG STATE	VESSEL INFORMATION				GEAR INFORMATION	EFFORT				TIME			POSITION DETAILS				CATCH				
		VESSEL FLAG	VESSEL IDENTIFIER	VESSEL NAME	VESSEL Gross TONNAGE (GT)		VESSEL LENGTH (LOA)	FISHING GEAR	OBS_MEASURE	Measure descriptors (Cat A)	Total number of days fishing (Cat B)	Total number of days of the ground (Cat C)	START TIME	END TIME	REPORTING PERIOD	START LATITUDE	START LONGITUDE	END LATITUDE	END LONGITUDE	AQUATIC SPECIES	CATCH_TYPE	OBS_MEASURE
Concept														Degrees (DD) in minutes (MM:mm)	Degrees (DD) in minutes (MM:mm)	Degrees (DD) in minutes (MM:mm)	Degrees (DD) in minutes (MM:mm)					
Concept_Type	Dimension	Measure	Measure	Measure	Measure	Dimension	Measure	Attribute	Attribute	Attribute	Time Dimension	Time Dimension	Time Dimension	Observation	Observation	Observation	Observation	Observation	Observation	Observation	Observation	Observation
Classification system	JN Standard country or area codes for statistics based on IMO use (M49)	The Unique Vessel Identifier (UVID) codes based on IMO number		Convention on Tonnage Measurement of Ships, 1969		The International Standard Statistical Classification of Fishing Gear (ISSCFG)		CWP definition of concepts (Fishing effort measure)	CWP definition of concepts (Fishing effort measure)	CWP definition of concepts (Fishing effort measure)	Date Time (UTC date time according to ISO 8601 format)	Date Time (UTC date time according to ISO 8601 format)		ISO 6709	ISO 6709	ISO 6709	ISO 6709	ISO 6709	ISO 6709	ISO 6709	ISO 6709	ISO 6709
Code List	JN code					Gear Category		EFFORT_descriptor	EFFORT_descriptor	EFFORT_descriptor												
CodeList_id	JN_CODE					ISSCFG_CODE		EFFORT_DESCRIPTOR	EFFORT_DESCRIPTOR	EFFORT_DESCRIPTOR												
Description	Flag State of vessel	The Unique Vessel Identifier (UVID) is established by the Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels.	Registered Vessel Name: Mandatory concept for Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels.	Gross Tonnage of vessel (Gross Tonn): It is a Mandatory concept for Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels.	Length overall (meters): It is a Mandatory concept for Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels.	ISSCFG code corresponding to gear category and its standard abbreviation (http://ftp.fao.org/FI/DOCS/INT/ISSCFG/ISSCFG.pdf)	The amount of fishing gear of a specific type used on the fishing grounds over a given unit of time	Selected combinations of gear and effort	Level Category B of fishing effort precision (http://www.fao.org/fishery/cwp/handbook/N/en)	Level Category C of fishing effort precision (http://www.fao.org/fishery/cwp/handbook/N/en)	Time_start / Starting time - first date of availability of the measure. The Date Time (UTC date time according to ISO 8601 format) when the position was obtained by the vessel's navigation equipment (e.g. 2008-10-31T15:07:38Z) can be provided optionally).	Time_end / Ending time - last date of availability of the measure	Reporting period of time over which the measure is defined	Coordinate expressed in WGS84, Decimal Degree notation, using a precision of at least 3 decimal positions. Positive coordinate refers to North of equator. Negative coordinate refers to South.	Coordinate expressed in WGS84, Decimal Degree notation, using a precision of at least 3 decimal positions.	Coordinate expressed in WGS84, Decimal Degree notation, using a precision of at least 3 decimal positions.	Coordinate expressed in WGS84, Decimal Degree notation, using a precision of at least 3 decimal positions.	Species reference	Catch types* (gross catch, retained catch, landings, nominal catch, discards)	Unit of measure (weight kg, tonnes, or number)	FAD Observation status codes (e.g. R* Revisited)	

DSD Catch and Effort (Logbook)

covers data for **management purpose** and **collection scheme**.

MODULE	FLAG STATE	VESSEL IDENTIFIER		TIME			UNITS			
	VESSEL FLAG	VESSEL IDENTIFIER	START TIME	END TIME	REPORTING PERIOD	END LATITUDE		END LONGITUDE		CATCH
Concept	Dimension	Measure	Time Dimension	Time Dimension	Time Dimension	degrees (-DD)	minutes (MM.mm)	degrees (DD)	minutes (MM.mm)	CATCH_TYPE
Concept_Typ						Observation	Observation	Observation	Observation	Dimension
Classification system	UN Standard country or area codes for statistical use (M49)	The Unique Vessel Identifier (UVI) based on IMO number	Date Time (UTC date time according to ISO 8601 format)	Date Time (UTC date time according to ISO 8601 format)		ISO 6709	ISO 6709	ISO 6709	ISO 6709	CWP definition of Concepts (for catch type)
Code List										Catch type
Codelist_id										CATCH_TYPE
	UN code									
	UN_CODE		time_start / Starting time - first date of availability of the measure. The Date Time (UTC date time according to ISO 8601 format) when the position was obtained by the vessel navigation equipment. e.g. 2008-10-31T15:07:38Z (milliseconds can be provided optionally).	time_end / Ending time - last date of availability of the measure	Interval of time over which the measure is defined					Catch types* (gross catch, retained catch, landings, nominal catch, discards)
Description	Flag State of vessel	The Unique Vessel Identifier (UVI) is established by the Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels.								

List of concepts used in each DSD

	DSD Global capture production	DSD Catch data	DSD Catch and Effort data (Logbook)		
				Catch module	Effort module
Aquatic species	X	X		X	
Catch type				X	
Country/Flag state	X	X	X		X
Effort descriptor		X			X
Fishery vessel		X			X
Fishing area	X	X			
Fishing gear		X			X
Obs_Measure	X	X	X	X	X
Obs_Status	X	X	X	X	
Obs_Value	X	X			
Position details (geographic)			X		
Unit	X	X	X	X	
Vessel Gross Tonnage					X
Vessel Length					X
Vessel Name					X
Vessel Identifier					X



Structure

Catch Module

Effort Module

Concepts

Country/Flag/chartered

Statistical area/Fishing area

Observation measure

Flag (restricted data access, partially restricted, publicly available)



Harmonization at semantic level

- Codelist mapping is defining semantic relationships between codes of different databases. The relationships can be one to one or more complex to be mapped when it is many to one.
- The inventory revealed that CWP parties are using CWP standards coding system to a certain extent.
 - Some members adopted different classification system (e.g EU DCF for EUROSTAT) which make the mapping challenging to impossible.
 - Others (e.g, t-RFMOs) adopted extra codes within the same classification system for their purposes.

- In general, the extra codes can be grouped in two main situations:
 - i. built on the codes of CWP standards by aggregating a group of codes (e.g. group of species built upon the ASFIS codelist),
 - ii. by extending the CWP standards with more details resulting in lower level of aggregation (e.g. gear codes that fall within one class/code of the ISSCFG codelist).
- The discussion should focus on solving the common issues as highest priority.
- The output is to provide codelists' mappings to be disseminated in the CWP catalog.



Thank you