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COORDINATING WORKING PARTY ON FISHERY STATISTICS

Intersessional Meetings of Aquaculture and Fisheries Subject Groups

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FAO Activities

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Document Summary

This document provides an overview of the FAO work of relevance to CWP carried out since CWP Intersessional Meetings in November 2021 and other relevant activities since CWP 26 in May 2021. It is structured in a summary overview of selected relevant activities and a comprehensive Annex including more detailed information about those activities and others as well.

1. Global and regional statistics

The year 2022 is a major milestone for FAO, as it celebrates the coverage of its fisheries and aquaculture statistics for more than seven decades (1950-2020) for the majority of its datasets – the longest time-series of any statistical dataset published by FAO. Fisheries and aquaculture production statistics up to 2020 were the first data released in March 2022 and work is in progress to finalize the update and release of the other data (trade, processed production of aquatic products, fleet, employment and food balance sheets) during the year, starting with trade data of aquatic products in June. The FAO fisheries and aquaculture statistics are disseminated through different tools including the [online query panel](#) (with a new version released in late 2021), [FishStatJ](#) and the [FAO Yearbook of Fishery and Aquaculture Statistics](#) (new issue to be disseminated in Autumn 2022). In addition FAO is expected to release three regional capture databases for CECAF (Eastern Central Atlantic), RECOFI (Regional Commission for Fisheries, - covering part of Western Indian Ocean), and the Southeast Atlantic during summer 2022.

Work continued to further improve the quality of the FAO statistics through revision and improvement of questionnaires used to collect data from member countries; ad hoc collection of value of capture fisheries; support to selected member countries to facilitate their reporting of data; revision of historical time series in the light of new information; new estimation methodologies on employment carried out together with OECD; the migration of the quite totality of the fisheries and aquaculture statistical databases to the FAO Corporate Statistical Working System with an improvement of the estimation methodologies for processed production, trade and Food Balance Sheets. Thanks to this migration, this year will be the second year in which FAO will disseminate for trade statistics of aquatic products by partners, in addition to trade data by countries, flows and products.

2. Inter-agency collaboration in statistics reporting

On the sharing of statistics FAO continued to have a good collaboration with many CWP Member organizations including Eurostat, SEAFDEC, GFCM, IWC and OECD. FAO and OECD are actively working together to streamline the collection of fisheries and aquaculture employment statistics with an harmonization of the employment data and a joint collection for 47 countries. In addition, work has been carried by the two organizations to improve the quality of the employment statistics also through the development of standard imputation methodologies. Furthermore, OECD has decided to stop collecting data on inland fisheries and aquaculture and source them directly from FAO disseminated databases. OECD is also extracting trade data directly from FAO and not anymore from Comtrade, which is in any case the main source of FAO trade statistics, with the exception of European Union countries for which FAO extracts trade data from Eurostat.

In mid-June 2022, Eurostat stopped the sharing of capture fisheries statistics, as already done for aquaculture data, due to an increasing number of countries providing confidential data that Eurostat cannot share. Discussions are currently on-going between the two organizations to find a solution that will benefit both organizations and reduce the burden on the reporting countries. Fleet and trade data are directly taken by FAO from the Eurostat website.

3. Collaboration in the revision of international classifications and manuals

FAO is currently involved in different international tasks groups for the revision of selected international classifications including the Central Product Classification (CPC), the International Standard Classification of Occupations (ISCO), the Harmonized System Nomenclature (HS). In the recent meeting of the Harmonized System Review Sub-Committee (HSRSC) of the World Customs Organization it was recommended the retention of all subheadings in relation to fisheries and aquaculture, i.e. all subheadings under Chapter 03 as well as of heading 16.05. These codes were at risk of deletion due to low value of trade and FAO was asked to provide its feedback about this deletion. The position of FAO was to keep all fisheries related codes in Chapter 03 and heading 1605, position accepted by the HSRSC. In addition FAO is part of the Task Team on International Trade Statistics recently created that has the main role to revise the Manual on the International Merchandise Trade Statistics: Concepts and Definitions 2010 (IMTS 2010) and the Manual on Statistics of International Trade in Services 2010 (MSITS 2010), Work on all these revisions has just started and FAO is evaluating the possibility of doing specific proposals to further improve the fisheries and aquaculture related codes of the classifications and components of the manuals. FAO can collaborate with other CWP Members interested in the improvement of those classifications and manuals.

4. Capacity building in fisheries and aquaculture statistics

Despite the impossibility of carrying out duty travels since March 2020 until recently, FAO has continued to be active in providing capacity building activities in support to fisheries and aquaculture statistics and related information systems to several countries, with the main focus in the Caribbean, Asia and Africa. Initiatives to support and strengthen capacities in data collection include the utilization of Open ARTFISH, which has been regularly used by many countries since 2011, while FAO has more recently developed Calipseo, a new web-based platform for simple and easy deployment and rolling-out of National Fisheries Statistics and Management Information System in requesting Member Countries. The objective of the platform is to provide technical solutions to manage administrative data (vessel registries, fishers licences), exploitation data (landing, catch, effort), biological and socio-economic data. The platform is a FAO corporate tool and long-term maintenance will be secured to ensure support after the end of implementation projects. Calipseo has now been successfully deployed in Trinidad and Tobago, Suriname and Grenada. Activities have also started for Lebanon, Bangladesh, Dominica, St Lucia and other FAO Member countries have expressed their interest in it. The Calipseo infrastructure will also be enriched with the integration mobile application such as Kobotoolbox or “SmartForms: Support to data collection programs”, a mobile App to collect and review fishery and observer data.

In collaboration with the Western Central Atlantic Fishery Commission (WECAFC), FAO has also developed the WECAFC Data Collection Reference Framework (DCRF), with the aim to provide WECAFC members a data collection and reporting framework with the definition of minimum data requirements to support countries to effectively monitor fishing activities.

In addition, FAO has carried out three training courses in fisheries statistics: in January 2020 in Trinidad and Tobago in collaboration with the University of West Indies for different countries in the Caribbean; an online global training in November 2020 done in collaboration with the International Centre for Advanced Mediterranean Agronomic Studies (CIHEAM) of Zaragoza; and an online training for the United Arab Emirates and other Arab countries in September 2021, in collaboration with the Ministry of Climate Change and Environment as well as the Federal Competitiveness and Statistics Center of the United Arab Emirates. All of these training sessions provided an overview on the why, what and how to collect fisheries and aquaculture statistics, including an overview of sampling methodologies. New training activities are planned for Panama at the end of June and WIOMSA countries (on data management) later in 2022. In addition new activities are envisaged to take place with RECOFI.

As custodian agency of four SDGs indicator under SDG 14, FAO has been active to provide a framework for consistent and comparable national reporting as well as to estimate regional and global indicators. In particular on SDG 14.4.1 FAO has developed an e-learning course aimed at providing guidelines to stakeholders for the monitoring and reporting of the indicator as well as organizing a series of workshops to further support countries in different regions of the world. In addition, a global series of online courses in three different languages (English, Spanish, French) were carried out during the period November 2021 to February 2022.

5. The Global Atlas of Tuna and Tuna-like species

During the intersessional period work continued on the development of the Global Tuna Atlas (GTA) that was recently released at <https://www.fao.org/fishery/en/collection/firms-tuna-atlas?lang=en>. The Atlas collates and harmonizes public domain datasets from Tuna Regional Fisheries Management Organizations (t-RFMOs) and it is under the Fisheries and Resources Monitoring System (FIRMS) governance umbrella (as per FIRMS FSC11). A FIRMS TWG on Tuna Atlas has been set up including a core group and the 5t-RFMOs. Its achievements and recommendations were presented and endorsed at FIRMS FSC12 (October 2021). Of relevant to CWP, these recommendations include the contributions (as a pilot case) to the CWP Reference Harmonization, in particular regarding the structure of the data exchange format implementation guidelines, and the proposed “fishing fleet” concept (potentially relevant also to other CWP domains). The Atlas currently includes the most recent statistical datasets available from the 5 t-RFMOs, which are processed into GTA *level 0* datasets and made available as harmonized nominal catches and geo-referenced catches by 1x1 and 5x5 squares (and a combination of the two). The Atlas offers online access to these datasets through different tools including its map viewer, a metadata catalogue and DOIs. The FIRMS GTA has been publicly released and officially launched with promotional support on the 1st May 2022 on the occasion of the World Tuna day.

6. Global Record of Stocks and Fisheries (GRSF)

Work also continued on the Global Record of Stocks and Fisheries (GRSF) that represents a global repository of uniquely identified stocks and fisheries resulting from collation and merging of records across multiple data sources: FIRMS, RAM Legacy Stock Assessment Database and FishSource (program of Sustainable Fisheries Partnership). To address the problem of the harmonization of the different existing standards (international, regional and national) from different data sources, the GRSF proposes a global standard for Unique Identifiers of stocks and fisheries, which was developed to distinguish/aggregate stocks and fisheries records extracted from the three source databases. Two type of identifiers were conceived: the Universally Unique Identifier (UUID) a machine-readable code for the unique identification of GRSF records; and the GRSF Semantic Identifier, a human-readable code and label for the GRSF records metadata. A pilot release of the GRSF is available through the iMarine e-infrastructure.

Following FIRMS FSC12, efforts in 2022 focus on improving georeferencing of national stock units through the mapping of national GIS layers with the stock records. It is expected that upon completion of this work before the end of 2022, GRSF will disseminate more than 2000 records. Also during 2022, GRSF will assign unique identifiers to the new stock units submitted by countries through the SDG14.4.1 questionnaire and validated by FAO through its Quality Assurance review process.

7. FAO Fishing Vessel Design Database (FVDD)

The FAO Fishing Vessel Design Database (FVDD) provides fishing vessel designs prepared by FAO and associated naval architects. The FVDD provides access to over 200 fishing vessel designs with more than

1 500 detailed drawings from 1960 to 2005. In the coming years, more recent fishing vessel drawings will be added to the database. In addition to drawings, each vessel design is accompanied with a brief description and technical details including ISSCFV (International Standard Statistical Classification of Fishery Vessels) and other international standard codes. The FVDD was published in the new FAO fisheries and aquaculture website in late 2021.

8. Revised CWP Handbook and CWP webpages

Extensive work has been carried out to continue to improve the content and coverage of the [CWP webpages](#) with the main focus on the CWP Handbook. Most of these revisions were published in October 2021 prior to the CWP-IS/2021 meeting and further revisions were published immediately prior to CWP-27 in June 2022. These revisions had been discussed and endorsed at CWP-26 and included the following:

- New sections on date and time, spatial reference systems, geographic coordinates, geographic systems, and socio-economic dimension, development of existing sections and restructuring of the contents
- New versioning and reformatting of the international standard classifications referenced in the Handbook such as the International Standard Statistical Classification of Fishery Vessels (ISSCFV) and International Standard Statistical Classification of Fishing Gear (ISSCFG)
- New webpages on [sharing practices](#) and [regional references](#) which contain/will contain recommendations and best practices related to the CWP and the topics covered in the Handbook including guidance on data exchange formats and data transmission matters relevant to the CWP, members, statistical agencies and other users. The content of these pages will continue to be developed in line with the requirements of CWP and contributions of CWP parties.
- Implementing recommendations and improvements discussed at CWP-IS/2021.

Further revisions are anticipated during the forthcoming intersessional period and the work of the *ad-hoc* task groups including:

- Publication of the revised section on aquaculture
- Revision of the sections on capture fisheries catch and fishing effort
- Further development of the sharing practices for reference harmonization
- Improvements to the Handbook's search engine

CWP parties are encouraged to use and review the revised Handbook and contribute to the new webpages on sharing practices and regional references, including developing reference material for capture fisheries and aquaculture statistics. CWP parties may also contribute short news items and updates of interest to the CWP community at any time for publication in the 'Highlights' and 'Did you know' sections of the [CWP homepage](#).

9. Additional information and activities

Annex 1 to this report contains more details on all the above mentioned activities, but it also includes a detailed overview of many other relevant activities covering aspects such as international cooperation, socio-economic statistics, Small-Scale Fisheries statistics, SDGs, etc. carried out by FAO relevant to CWP.

1. Global and regional fishery and aquaculture statistics and inter-agency collaboration

1.1. *FAO global fisheries and aquaculture statistics*

FAO global fisheries and aquaculture statistics are available through the online query panel¹, workspaces in FishStatJ² and the FAO Yearbook Fishery and Aquaculture Statistics (Yearbook)³. The new version of the Yearbook is expected to be disseminated in Autumn 2022. The collection covers statistics on primary production (capture and aquaculture), preserved and processed production, trade of fish and fishery products, Food Balance Sheets of fish and fishery products, fleet and employment.

1.1.1. *Production: global, aquaculture, capture (global and regional)*

Global FAO statistics on aquaculture and capture production have continued to be updated annually. In March 2022, updated data up to 2020 were released through the online query tool and a workspace in FishStatJ, covering the years 1950-2020. Data are published through a global dataset, which includes aquaculture and capture data, composed of three separate datasets (aquaculture quantities, aquaculture values and capture fisheries quantities). The number of species items included in the global production database reached 3 200 in the version released in March 2022.

The annual series of aquaculture production cover the years starting from 1950 for the quantities and from 1984 for the values. Statistics cover production of fish, crustaceans, molluscs and other aquatic invertebrates, animals and plants. The number of species items included in the version released in March 2022 reached 652.

Global capture fisheries production statistics currently cover the period 1950-2020. Data relate to nominal catch of fish, crustaceans and molluscs, the production of other aquatic animals, residues and plants and catches of aquatic mammals, taken for commercial, industrial, recreational and subsistence purposes from inland, brackish and marine waters. The number of species items included in the capture production database almost doubled during the last few decades increasing from 1 035 species items in 1996 to 3 000 in 2022.

At present capture fisheries production statistics only cover quantities. Yet, due to the importance of better understanding the value of the sector and its evolution, since 2019 FAO has collected data on capture fisheries also by value with the initial scope to evaluate the typology and quality of the available data at country level. The results will provide a basis to decide on the approach to be followed to regularly collect this kind of data. Suggestions from CWP members on the best approach to be followed is encouraged. For example on how to structure the level of collection for species (by each single species vs major groups of species), typology of price (ex-vessel, at landing site, wholesale, retail prices).

The three regional capture databases for CECAF (Eastern Central Atlantic), RECOFI (Regional Commission for Fisheries, covering part of Western Indian Ocean), and the Southeast Atlantic fishing area have continued to be updated annually by FAO. The latest versions include data up to 2019 and data up to 2020 are expected to be released through FishstatJ and online query panel in July 2022. The release also included the database for GFCM (Mediterranean and Black Sea) directly prepared by GFCM.

1.1.2. *Fisheries and aquaculture trade*

This annual database contains statistics on the annual trade (imports, exports and re-exports) (in quantity and value) of fisheries and aquaculture products from 1976. Data are currently available up to 2019, but work is nearly finalized for data up to 2020. Data are available through FishStatJ and online query panel. Since last year, data for 2019 are also disseminated by partners. This is an important improvement to better understand the direction of trade flows by product and countries of origin and destination. In addition, work is in progress to improve the historical coverage for years before 1976.

¹ <https://www.fao.org/fishery/statistics-query/en/home>

² <https://www.fao.org/fishery/en/topic/166235>

³ <http://www.fao.org/fishery/statistics/yearbook/en>

1.1.3. Fisheries and aquaculture processed production

This annual database contains statistics on the annual production of fisheries and aquaculture processed and preserved commodities (in quantity) from 1976. Data are currently available up to 2019 through FishStatJ and data up to 2020 will be disseminated during Summer 2022. Work is also in progress to improve the historical coverage for years before 1976.

1.1.4. Food Balance Sheets (FBS) of fish and fishery products

Data on FBS are updated on a regular basis and are published through the FBS section of the Yearbook, in a workspace in FishStatJ and in FAOSTAT. At present 2017 is the latest year for which data for all countries are updated. However, work is in progress to update them up to 2019. The complete set of statistics up to 2019 should be disseminated in autumn 2022.

1.1.5. Fleet

Fleet data are available for the years 1970-2019. At present these data are not publically disseminated, but only shared as summary tables in the Yearbook and SOFIA. Data up to 2020 will be disseminated in the FAO Yearbook Fishery and Aquaculture Statistics 2020 by Septemebr 2022. During the intersessional period work has continued on improving the quality and coverage of the data. An extensive gap-filling exercise was first undertaken where primary and secondary data sources were searched and follow up requests with countries, particularly for missing years in the time series, were conducted. Although the time series for the data starts in 1970, when the search for novel data sources was exhausted, the focus of the work was conducted on the dataset starting from 1995 in order to focus more intensively on the more current data. However, work is planned to continue at a later stage for the period 1970-1995. Future work is also anticipated to bring the vessel types used in the questionnaire used to collect fleet data (FF) directly in correspondence with the updated ISSCFV classification, which was endorsed in May 2019 at CWP 26.

1.1.6. Employment

Employment data are available for the years 1950-2019. At present these data are not publically disseminated, but only shared as summary tables in the Yearbook and SOFIA. Data up to 2020 will be disseminated in the FAO Yearbook Fishery and Aquaculture Statistics 2020 in autumn 202f. During the intersessional period work has continued on improving the quality and coverage of the data. In the past year the work has been focused on developing improved imputation methodologies to increase the reliabililty of imputed data. This improvement has been done in collaboration with OECD in tandem with the join data collection that has been implemented to streamline the FAO and OECD collection of fisheries and aquaculture employment statistics. This has been done by using a common FAO-OECD questionnaire (for OECD member countries and other selected countries for a total of 47 countries). This exercise was aimed to reduce the reporting burden on countries through a single questionnaire, but also involved the construction of a dataset common with the complete harmonization of their data and processes. This dataset harmonization will lend significant improvements to the employment data for aquaculture and fisheries.

Work has been ongoing towards dissemination of the dataset on gendered employment and these data will be highlighted as part of the employment data release. Member countries have been encouraged to support reporting on gender in addition to subsistence and occasional engagement for both sectors in support of the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries requirement for improved data reporting.

1.2. Inter-agency collaboration in statistics

Good collaboration continued with many CWP Members including Eurostat, ICES, OECD, SEAFDEC and GFCM. With Eurostat and OECD work is carried out in order to try to strengthen the collaboration among the organizations, reduce the burden on the countries and keep harmonizing statistics disseminated among three organizations. Confidentiality was recognized of becoming the key issue in recent years. With Eurostat, there is a discussion, to have an overall FAO-Eurostat Memorandum of Understanding between the two organizations with the main goal to reduce the burden to the countries. At present this started with agriculture statistics, also taking into consideration the future results of the evaluation exercise on fisheries and aquaculture statistics carried out by Eurostat. At present, the sharing of capture fisheries statistics between Eurostat and FAO is active and effective (countries provide data to Eurostat, which then share them to FAO). For aquaculture data, this does not occur mainly due to the increasing number of confidential data, which cannot

be shared by Eurostat. In addition, for aquaculture data, there is a problem of different deadlines in data collection (end of August for FAO and end of December for Eurostat). Fleet data are taken by FAO directly from the Eurostat website.

As indicated in the employment section, with OECD, work was carried out to produce one common questionnaire to collect data on employment for the countries of common interest and the possibility to expand the exercise to fleet data is also being examined. Furthermore, OECD has decided to stop collecting data on inland fisheries and aquaculture and source them directly from FAO disseminated databases. In addition OECD will extract trade data directly from FAO and not anymore from Comtrade, which is in any case the main source of FAO trade statistics, with the exception of European Union countries, with Eurostat as source of statistics.

In 2019, FAO and GFCM met to coordinate programs regarding the exchange of fisheries and aquaculture statistics. A first area of joint interest concern the exchange of Aquaculture, Capture and Fleet statistics with the goal to improve the quality and consistency among the two sources of datasets. Of interest as well, capacity building through the review of existing national data collection systems in both capture fisheries and aquaculture, the development of methodologies regarding aquaculture data collection, including consideration of both ground-based systems and innovating remote sensing technologies, and the characterization of small-scale fisheries through the matrix approach developed by FAO fisheries and aquaculture division. More work needs to be carried out to implement some of the above mentioned activities.

2. Other global and regional fisheries related data activities

2.1. *The Global Atlas of Tuna and Tuna-like species*

During the intersessional period work continued on the development of the Global Tuna Atlas (GTA) that was delivered by IRD-FAO-CNR in the H2020 BlueBRIDGE project. The Atlas collates and harmonizes public domain datasets from Tuna Regional Fisheries Management Organizations (t-RFMOs). At the FIRMS FSC11 meeting (May 2019) decision was made to bring the GTA under the FIRMS governance umbrella. A FIRMS TWG on Tuna Atlas has been set up including a core group and the 5t-RFMOs. Its achievements and recommendations were presented and endorsed at FIRMS FSC12 (October 2021). In terms of aspects relevant to the CWP, These recommendations include the contributions (as a pilot case) to the CWP Reference Harmonization, in particular regarding the structure of the data exchange format implementation guidelines, and the proposed “fishing fleet” concept (of initial relevance to the GTA, but potentially also to other CWP domains). The FIRMS GTA has been updated with the most recent statistical data available from the 5 t-RFMOs, which are processed into GTA *level 0* datasets and made available as harmonized nominal catches and geo-referenced catches by 1x1 and 5x5 squares (and a combination of the two). The Atlas offers online access to these datasets-through different tools including its map viewer, a metadata catalogue and DOIs. The FIRMS GTA has been publicly released and officially launched with promotional support on the 1st May 2022 on the occasion of the World Tuna day.

2.2. *Global Record of Stocks and Fisheries (GRSF)*

The Global Record of Stocks and Fisheries (GRSF) is a global repository of uniquely identified stocks and fisheries resulting from collation and merging of records across multiple data sources:

- Fisheries and Resource Monitoring System (FIRMS)
- RAM Legacy Stock Assessment Database
- FishSource (program of Sustainable Fisheries Partnership)

The GRFS is a collaborative instrument to collectively support the global monitoring of fish stocks and fisheries status. It can be tailored for use by countries / regional organizations / fishery-related institutions etc. to enable/facilitate the dissemination and monitoring of their information.

Likewise, the Tuna Atlas, the Global Record of Stocks and Fisheries (GRSF) stems from a FAO initiative funded by the European Union Horizon 2020 BlueBRIDGE project (2016-2018).

The GRSF was already presented to CWP in the 2017 at the CWP Inter-sessional Aquaculture and Fishery Subject Groups Meetings (Copenhagen, Denmark 19-22 June 2017), particularly the standard for the unique identification of stocks and fisheries.

As that report reads <http://www.fao.org/3/a-i7805e.pdf>: the main technical challenge in the setting up of the GRSF is the harmonization of the different existing standards (international, regional and national) from different data sources, with the aim to build unique identifiers for stocks and fisheries.

To address this, the GRSF proposes a global standard for Unique Identifiers of stocks and fisheries, which was developed to distinguish/aggregate stocks and fisheries records extracted from the three source databases. Two type of identifiers were conceived: the Universally Unique Identifier (UUID), a machine-readable code for the unique identification of GRSF records; and the GRSF Semantic Identifier, a human-readable code and label for the GRSF records metadata.

The UUID aims to respond to the required global IT standards: it is made of two URL components, the resolver, and the UUID per se. The Semantic Identifier is made of codes and labels designed to uniquely identify stocks and fisheries through specific information, as components of such types of identifiers.

<Species> + <Assessment Area(s)> are the two key pieces of information needed to identify a stock; for fishery the following information is required: <Species> + <Fishing Area(s)> + <Jurisdiction area(s)> + <Management Entity(ies)> + <Geartype> + <Flag State>.

Unique stocks or fisheries are therefore validated against the above fields. It should be noted that fishery records are identified from the point of view of fishing activity (1 species, 1 gear, 1 flag state). In terms of geographical information, this could raise some issues, in the event of inadequate geospatial codes which are unable to identify the proper assessment/fishing areas as a result of a lack of proper granularity. Each field is based on global standards (e.g. ASFIS, WoRMS, ISSCFG, ISO3 country), but “local” standards can be adopted if they are maintained.

During the intersessional period, the development of the GRSF application has continued after the end of the BlueBRIDGE project into the Blue-Cloud project as well as under the FAO-FIRMS Governance umbrella agreed in May 2019. The recent FIRMS Steering Committee meeting (18-21 Oct 2021) reaffirmed i) the will to proceed with the further development of the GRSF application, ii) the inclusion of stocks data stemming from the SDG 14.4.1. questionnaire as fourth source of data provider, iii) the need to further progress on traceability aspects including the formalization of the newly proposed concept of Traceability Unit, and iv) the increased and timeliness contribution of data adapted to the different regional contexts. A pilot release of the GRSF is available through the iMarine e-infrastructure.

Following FIRMS FSC12 and through a collaboration with the University of Washington, current efforts in 2022 focus on the validation of unique identifiers for the stock records which could not yet be declared as unique, mostly because of insufficiently accurate geo-referencing. For this objective, national GIS layers used for the definition of stock assessment units are being identified, mapped with the GRSF stock records, and uploaded in the GRSF infrastructure. It is expected that upon completion of this work before the end of 2022, GRSF will disseminate more than 2000 records

During 2022, GRSF will also assign unique identifiers to the new stock units submitted by countries through the SDG14.4.1 questionnaire and validated by FAO through its Quality Assurance review process.

2.3. Western Central Atlantic Fishery Commission (WECAFC) Data Collection Reference Framework

During WECAFC 16 in Guadeloupe, May 2016, the WECAFC joint Fisheries Data and Statistics Working Group was established. WECAFC-FIRMS phase 2 project developed and financially supported by DG MARE operationalized the FDS-WG by drafting its ToR and organizing its first meeting in May 2018. As major output, the Meeting produced the first version of the WECAFC Data Collection Reference Framework (DCRF) that was submitted for endorsement to WECAFC 17 in July 2019. It was endorsed as interim by WECAFC 17. DCRF is an instrument at regional level for harmonization of data to be reported by Members defining minimum data requirements for national and regional fisheries management. It encompasses definition of structure of data for common indicators (e.g. catch, effort) with associated standard classifications.

Initially planned for March 2020 in Panama, FDS-WG second meeting (FDS-WG2) was convened virtually in October 2020 with financial support of DG MARE under WECAFC-FIRMS phase 3 project, followed by an Extended Session in May 2021, and the Conclusion Session in March 2022. In preparation for the FDS-WG2,

five preparatory sessions were also convened, in order to address comments by the Commission and prepare standard classifications such as list of priority species, as well as proposals for the WECAFC sub-areas and fleet segments.

Data preparatory workshop has been convened in three sessions between November 2021 and March 2022 to support WECAFC Members to prepare data according to DCRF Tasks for catch and effort and according to FIRMS template for stocks and fisheries inventories for population of WECAFIS, the data, statistics and information hub, accessible through WECAFC data viewer..

WECAFC DCRF has contributed to hands-on implementation of CWP reference harmonization principle by providing standard data exchange format for Catch (task II.1) and effort (task II.2) harmonized with FIRMS and tuna atlas.

2.4. Activities related to the CWP ad-hoc Task Group on reference harmonization standard (RH2)

The CWP standard for reference harmonization aims to form the basis of data sharing agreements and to ensure data interoperability. This minimizes time and costs of mapping data elements to standard terminology and improve multilateral exchanges.

The CWP 26 endorsed three data structures of the CWP standard for Reference Harmonization ([Appendix 5 – Annex 1](#) of the session report) and established TG-RH2 for the work's on extension on reference harmonization through a second phase.

Implementation guidelines were established and put forward core rules and best practices to apply the CWP standard in various contexts.

There were pilot implementations of the standard for data exchange in regional and global contexts, namely:

- Regional database of the Fisheries Committee for the West Central Gulf of Guinea ([FCWC](#)), which is recently developed to collate and maintain catch and effort statistics at fishing units level of 6 countries in the region.
- Global Atlas of Tuna and Tuna-like species ([FIRMS Tuna Atlas](#)), that compiles catch and effort statistics from five CWP members responsible of tuna fisheries namely: CCSBT, IATTC, ICCAT, IOTC and WCPFC (and SPC).
- Regional Commission for Fisheries ([RECOFI](#)) database, which is being designed to collate catch and effort statistics of 8 countries members of the commission.

The results of the hands-on implementation were compiled and will be presented to the CWP community at CWP inter-sessional meeting. The implementation guidelines are updated accordingly and will include further requirements of the CWP members for approval to be published.

As second part of the TG activities, FAO developed and piloted the CWP catalogue⁴ which will be the collaborative platform to disseminate the global data structures, CWP classifications and code lists used by CWP parties. Proof of concept of the CWP catalogue was developed under the BlueBRIDGE project. The catalogue is developed based on dynamic fetch from FAO Master Data Management (MDM) tool (EBX5). This tool offers the capability of maintaining a central repository of master data within FAO (including standard terms, statistical concepts and CWP classifications). Currently EBX5 coordinates, curates and manages the lifecycle of master data. It provides a single source of truth of CWP and FAO maintained classifications and code lists to be used by countries and RFBs for data exchange and reporting. The MDM will facilitate the dissemination and use CWP catalogue contents according to FAIR principles.

2.5. HSVAR revision of questionnaire

Since previous reporting, regular work on the High Seas Vessels Authorization Record (HSVAR) has continued. In total 39 countries have provided authorized vessel data and of those countries presently part of the Compliance Agreement, two have been updating information on a continuous basis. Belize has been regularly sending monthly reports of the whole authorized high seas fleet indicating any additions or deletions

⁴ <https://data.apps.fao.org/catalog/dataset/cwp-isscfg>

of vessels to the registry. In addition, Seychelles has been constantly informing about the change of status (additions or deletions) of vessels in their registry. Work needs to be initiated to develop a new user interface.

2.6. FAO Fishing Vessel Design Database (FVDD)

The FAO Fishing Vessel Design Database (FVDD) provides fishing vessel designs prepared by FAO and associated naval architects. The FVDD provides access to over 200 fishing vessel designs with more than 1500 detailed drawings from 1960 to 2005. In the coming years, more recent fishing vessel drawings will be added to the database. In addition to drawings, each vessel design is accompanied with a brief description and technical details including ISSCFV (International Standard Statistical Classification of Fishery Vessels) and other international standard codes.

3. Other related activities with main focus on socio-economic and small-scale fisheries statistics

3.1. Handbook for fisheries socio-economic sample survey

In 2017 the document, ‘Handbook for fisheries socio-economic sample survey – principles and practice’⁵ was published. The handbook consists of three parts: an introduction to the theory behind setting up a survey; a comprehensive explanation of the data collection process, including a section on operational steps; and an explanation of how to use indicators to interpret and present the results of a sample survey to stakeholders, and monitor the fishery.

Making use of one of the most straightforward sampling schemes available, the handbook guarantees that, if the methodology is correctly applied, statistically sound and robust fisheries data will be produced. Its simple statistical methodology does not require a great deal of resources, allowing adequate resources to be applied to other crucial elements of establishing a robust data collection process, such as selecting the right people; conducting proper training; and developing the capacity of people so as to ensure good data quality.

3.2. Analysis of micro-data relevant to the fisheries sector

In the past three years FAO has worked on the evaluation of the role of micro-level data for the analysis of fisheries' socio-economic status. The starting idea has been that, contrary to other agricultural sectors, the use of micro-level datasets has been limited in the fishery sector. Thus, FAO carried out an assessment of the current status of available microdata and then analyzed the data on fishing households for 18 different developing countries around the world. The analysis included indicators of income, consumption, living standards, vulnerability and incidence of poverty among fishing households and looked at the comparison with the rest of the population in order to gain a better understanding of the relative welfare conditions of fishing households. The review of existing fishery modules showed an excessive degree of variation in the way key information has been collected. The collection of micro-level data at the household level on fisheries has been rather erratic limiting the available evidence on the importance of fishing activities for households in developing countries and on the living conditions of fishing households. Better statistics on fishing households and their living conditions are a fundamental step to build up better policies to address the needs of the fishing sector and help in the fight against poverty. Even when available, data is often difficult to compare across countries because fishery modules incorporated into multi-purpose household surveys have different formats and ask different questions. Work should be carried out in the direction to improve the coverage, coherence and comparability of fisheries related questions in household surveys.

3.3. Illuminating Hidden Harvests (IHH): use of case study approach

Survey data have been also used, but not only, in the context of the forthcoming publication *Illuminating Hidden Harvests (IHH)* expected to be officially launched during 2022. It represents a global study into the contributions and impacts of small-scale fisheries in the context of sustainable development. The study has been led by FAO, Duke University and the CGIAR Research Program on Fish Agri-Food Systems led by WorldFish. The Norwegian Agency for Development Cooperation, Swedish International Development Cooperation Agency, Oak Foundation and CGIAR Trust Fund have provided funding for the study. The IHH study represents one of the most extensive efforts to compile available data and information on small-scale

⁵ <http://www.fao.org/3/a-i6970e.pdf>

fisheries around the world. It aims to contribute evidence to inform global dialogues and policy-making processes to enable fishers, civil society organizations and NGOs to advocate for productive, sustainable and equitable small-scale fisheries.

The IHH study is using a case study approach to engage with local expertise in priority countries that have substantial small-scale fisheries sectors or notable nutritional dependence on small-scale fisheries, both from marine and inland systems. A global synthesis will be built from country case study data, available global and regional datasets and responses to a FAO ad-hoc questionnaire to all countries. In addition, a series of thematic studies will highlight available information on important themes, for example: gender, indigenous peoples and cultural identity.

3.4. Towards statistical definition of Small Scale Fisheries

Among the objectives of the FAO Small Scale Fisheries (SSF) guidelines⁶ is to enhance public awareness and promote the advancement of knowledge on the culture, role, contribution and potential of SSF. In this context, data and information play a particularly important role. There is in fact a specific chapter (11) dedicated to Information, research and communication included in the SSF Guidelines.

In para 2.4 the SSF Guidelines recognize the great diversity of SSF and that there is no single, agreed definition. They call for such an identification at regional, sub-regional or national level.

In addition, the SSF Guidelines call for the recognition of the importance of monitoring systems that allow to assess progress towards the implementation of the objectives and recommendations of the SSF Guidelines (para 13.4). Complementary to the policy oriented SDG Indicator 14.b.1, better statistical monitoring of SSFs will contribute to such objective.

There is potential for partners to support these efforts, including for example through CWP. While recognizing that it will not be possible to agree on a global definition of small-scale fisheries that relies on simple cut-off definition, CWP could be instrumental to the development of standards or guidelines for statistical purposes, for example the identification and publication under the CWP-handbook of guidelines applicable for the estimation of indicators relevant to SSF, the identification of common elements that can identify small-scale fisheries (e.g. boat size, number of crew, vessel ownership, duration of fishing trips) in regional, sub-regional and national contexts, and which could support the development of a standard for SSF statistics, etc.

4. Tools for data dissemination

4.1. FishStatJ dissemination, and administration console

FishStatJ is a desktop application (Windows and Mac) that is the best option for use by advanced users to access FAO's Fisheries and Aquaculture Statistics. Through it, data can be extracted and aggregated according to different level of details and international standard classifications. It consists of a main application and several workspaces that include the datasets. In June 2022, an enhanced version of FishStatJ (version 4.02.06)⁷ was released, which features minor improvements. The Aquaculture timeseries now allows to visualize detailed notes for each country.

4.2. New Query Panel for FAO fisheries and aquaculture statistics

In 2021 FAO has been working on a new query panel for the dissemination of its fisheries and aquaculture statistics. A first version was released in late 2021. The metadata for the new query panel is based on the FishStatJ data model, thus providing the same functionality for filtering and aggregation as FishStatJ in a modern web-based user interface.

5. Tools for data collection

5.1. Open ARTFISH

⁶Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries <https://www.fao.org/3/i4356en/I4356EN.pdf>

⁷<http://www.fao.org/fishery/statistics/software/fishstatj/en>

Open ARTFISH is based on statistical sampling methodologies for small scale fisheries developed by Stamatopoulos (2002) and de Graaf et al. (2014). The overall approach is described in the “*International training course in fisheries statistics and data collection*⁸” which has been published (in English and in French)..

The first version of OpenARTFISH⁹ was developed in 2011 for artisanal fisheries in Burundi, during the Lake Tanganyika Integrated Regional Development Programme. The main objective is to facilitate the implementation of cost-effective and sustainable routine data collection, storage and analysis of data, using the appropriate statistical procedures. In 2016, FAO made available Open ARTFISH, a software based on an MsAccess database. The software was consolidated with the combined efforts of staff and consultants currently and previously involved in sample based survey for small scale fisheries.

In 2017, FAO published an installation guide for the OpenARTFISH¹⁰ software and for a mobile phone application based on the Open Data Kit (ODK). The application aims to transfer data from remote regions to the centralized database.

A tailored installation of OpenARTFISH linked to the application was carried out in several countries, mainly under a project in the Fishery Committee of the West Central Gulf of Guinea (FCWC) i.e. Benin, Côte d'Ivoire, Ghana, Nigeria, Togo, and in the South Western Indian Ocean (Comoros, Madagascar, United Rep. of Tanzania) and other countries e.g. Djibouti, Malawi and Zimbabwe.

5.2. Calipseo and SmartForms

Calipseo is an FAO initiative to create a new platform for simple and easy deployment and rolling-out of National Fisheries Statistics and Management Information System in requesting Member Countries. The deployment of Calipseo in countries will support the integration and harmonization of scattered sources of fishery data including censuses, administrative records and sample based statistics survey systems. Calipseo also intends to facilitate harmonization in the multiple reporting obligations to international organizations which countries are facing. This activity is financially supported by Japan through two Trust Funds projects, with co-funding from WECAFC regional projects.

The objective of the platform is to provide technical solutions to manage administrative data (vessel registries, fishers licences), exploitation data (landing, catch, effort), biological and socio-economic data. The platform is a FAO corporate tool and long-term maintenance will be secured to ensure support after the end of implementation projects.

The platform is built on independent components based on standards (UN/CEFACT, Global Vessel Record; standard classifications such as ASFIS) to collect, store, process and disseminate fisheries data (vessel census, landing data, logbook, observer data and more to come with processing plants data, export/import from The Automated System for Customs Data (Asycuda) etc...). A statistical engine based on R with RShiny application offers the capacity to process collected data (simple aggregation or more complex algorithms such as the ARTFISH methodology developed by Constantine Stamatopoulos for sample-based surveys) and to produce reports; and a reporting facility provides lists or reports to the country, including standard reports to RFMOs and FAO.

The system is web based, can be deployed on the Cloud or national servers, and can be interfaced to mobile applications (developed through smartForms). It embeds strict data access and sharing policies (access to the system by roles). A long term business model to ensure long term maintenance is being finalized for implementation.

Calipseo instances are now deployed in Trinidad and Tobago, Suriname and Grenada. Activities have started for Lebanon, Bangladesh, Dominica and St Lucia. Other FAO Members have expressed their interest in reinforcing their capacities in producing their statistics for which Calipseo is being explored as a potential solution.

⁸ <http://www.fao.org/3/a-i3639e/index.html>

⁹ <http://www.fao.org/fishery/statistics/software/open-artfish/en>

¹⁰ <http://www.fao.org/3/a-i7680e.pdf>

The Calipseo infrastructure is also going to be enriched with the integration of mobile application such as kobotoolbox and possibly FAO SmartForms. “SmartForms: Support to data collection programs” is a mobile App to collect and review fishery and observer data. This FAO App was developed within the context of the mobile data collection initiative. The objective is to release a system for the dynamic collection of fishery observers’ data on-board fishing vessels or at landing sites by establishing a robust infrastructure to collect, validate, amend, archive and share data. SmartForms is a platform that combines: A mobile App to collect and review fishery data, a Forms builder for mobile App customization, and a Hub for data management. The Forms are: i) Harmonized - based on CWP and other FAO endorsed standards, ii) Autonomous - every organization securely collects fishery data, iii) Replicable - builds on specialized data elements, and iv) Mobile-first - for field, landing sites and on-deck data collection. An open source version is also expected to serve a community of interest. The deliverables include data input forms suitable for use on a tablet or mobile phone that satisfies the requirements of the regional fisheries organizations and other partner organizations in initiatives on sustainable fisheries management and biodiversity conservation.

6. Capacity building in statistics and information systems

FAO has been active since the 1970s in supporting efforts by national institutions to improve national data collection systems, through the development of projects, training activities, publications and software. Whenever possible, collaboration with Regional Fishery Bodies (RFBs) has been always sought to develop such activities. Different countries have received capacity building support from FAO the majority of which on methodologies for data collection in small scale marine fisheries and supporting information system.

6.1. Capture fisheries - WECAFC region

The Bahamas project was closed in December 2016 with the delivery of FiSMIS, a national integrated fishery statistics and management information system.

Three phases of the WECAFC-FIRMS projects have been financially supported by EC DG MARE. Phase 3 has been extended towards August 2022 given delays and changes in project implementation mode with the COVID situation. Phase 2 supported the operationalization of the Fisheries Data and Statistics Working Group (FDS-WG), created during WECAFC 16 with the organization of the first meeting of the FDS-WG in May 2018 with major outputs related to WECAFC Data Collection Reference Framework (DCRF). WECAFC 17 in July 2019 endorsed it as interim. Phase 3 has supported the organization of FDS-WG second meeting to address Commission comments on DCRF as well as the operationalization of the Regional Database with collation and publication of WECAFC statistics, as well as FIRMS inventories for the Species. One of DCRF goals is to provide WECAFC members capacity building framework with definition of minimum data requirements to support countries to monitor fishing activities.

Three instances of the Calipseo platform to streamline management of fisheries data and produce fisheries statistics (see section 2.5) have been deployed for Trinidad and Tobago, Suriname and Grenada.

The Billfish Caribbean Project closed in 2019 supported Grenada to improve their reporting to ICCAT with technical support from improved reporting (using SmartForms).

Climate Change project supported the organization of a regional training on fisheries statistics in January 2020 in Trinidad and Tobago for the 7 countries of the project (Antigua and Barbuda, Dominica, Grenada, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Trinidad and Tobago, and Suriname (support by the REBYC II LAC project). In February 2021, under the same project and in collaboration with the GCP/INT/228/JPN team, FAO provided a workshop for Trinidad and Tobago for the setup of new data collection system for small scale fisheries as part of the statistical setup for the development of the fisheries statistics and management information system (Calipseo). Several projects supported assessment missions in the WECAFC region for St Lucia, St. Kitts and Nevis, Guyana and Panama. Some have been offered support (Dominica and Panama) and activities started in 2022 to migrate Dominica Fisheries Statistical System to Calipseo and to deliver a training in basic fisheries statistics for Panama. Side discussions are on-going for Grenada and St. Kitts and Nevis to explore best options to initial or continue support.

The Readiness Green Climate fund project for St Lucia was kicked-off early 2022 with review of SSF monitoring system, migration of data to Calipseo and reinforcement of capacity of the Department of Fisheries in statistics.

6.2. Capture fisheries - CECAF region

Under the general “*pan-African Strategy on the improvement of fisheries and aquaculture data collection, analysis and dissemination*”⁶, a number of projects funded by FAO’s Technical Cooperation Programme (TCP) were held between mid-2015 and end-2018, including in collaboration with the Regional Fisheries Committee for the Gulf of Guinea (COREP) and the Fishery Committee of the West Central Gulf of Guinea (FCWC), with particular focus on the statistical data collection for small scale fisheries. As a result, several countries (Gabon, Equatorial Guinea, Nigeria’s Lagos Province, Togo, Benin, Ghana, Côte d’Ivoire, and Liberia) are producing statistics following the OpenARTFISH methodology, which now implements collection, transmission and storage using mobile phones or small tablets based on the free Open Data Kit (ODK) software. Thanks to these efforts, the FCWC has set-up a Regional database which has been populated with 2017-2019 data.

Since 2020, FAO has continued to collaborate with FCWC to support the Secretariat and countries to align the regional database to the CWP reference harmonization standard, in addition to ensuring consistency and comparability with the FAO capture production database.

The European Union funded PESCAO project, which was kicked-off in April 2019 for 3 years, is aiming at improved regional governance for the generation and sharing of data and information, across national, sub-regional, regional and global levels. Specific activities will aim at strengthening data harmonization capacities.

Following the signature by FCWC of the FIRMS Partnership (FSC11, May 2019), capacity building activities were organized in order to enable FIRMS and its member countries to initiate their fisheries inventory contributions to FIRMS.

An initial FIRMS and fishery statistics training for FCWC staff was held at FAO Headquarters in Rome in early February 2020, followed – due to the pandemic - by further engagement through online sessions for data harmonization of the national FIRMS fisheries inventories with the FCWC Regional Database of catch and effort of small-scale fisheries. The exercise concluded with the FIRMS and fishery statistics capacity development data workshop held virtually in October 2020. In May-June 2021, six capacity building Data Collection and Management Workshops were organised virtually for each FCWC Member State with the goal to finalize the pending inventories and to expand the FCWC regional database to industrial fisheries, under a Technical Cooperation Project (TCP/RAF/3709) funded by FAO Regional Office for Africa for FCWC. The outcome of these activities is a continued collaboration expected to strengthen the knowledge and expertise within FCWC member states in terms of fisheries data collection systems required for successful data reporting at national, regional and global level. Moreover, it is aimed to achieve a streamlined workflow for the FCWC regional fisheries database, and to provide support to CECAF – Fishery Committee for the Eastern Central Atlantic and its working groups.

As a result of these capacity building activities, an inventory of 38 fisheries for the six FCWC Member States were built and information publicly disseminated in form of FIRMS Fishery fact sheets (reporting year 2020-2022). The FCWC Regional Database on small scale fisheries is operational and currently hosts time series of data for the recent year (2020, 2019, 2018) while the collection and submission of data for the year of reference 2021 is in progress. Moreover, the structure of the FCWC Regional Database has been recently configured to host industrial fisheries statistics on catch and effort. A template to collate industrial fisheries data has been circulated among the Member States.

6.3. Capture fisheries - Indian Ocean region

In the SWIOFC under the South West Indian Ocean Fisheries (SWIOFISH) World Bank funding, capacity building projects are on-going to improve national statistics following the *pan-African Strategy* guidelines to improve national statistics in Comoros, Madagascar, Mozambique and Tanzania.

Three FAO TCPs are likewise supporting strengthening of fishery statistics in Myanmar, Djibouti and Eritrea.

In January 2021, FAO concluded the three years activity of support to Djibouti for the setup of system for fisheries statistics based on Open ARTFISH (see section 2.4). A workshop was organized to assess the progress in implementation of the data collection system and the production of statistics.

FAO contributed to project documents for Bangladesh including development of Catch and Effort database and on-line licensing system. Both projects are now operational and activities have started to deploy Calipseo

as supporting platform to manage registries and licenses, and C/E data starting with industrial trawlers for which data are already collected on paper.

FAO entered into a collaboration with the Western Indian Ocean Marine Science Association (WIOMSA) to develop training material aimed at improving the capacities of FAO members in fisheries data management and data quality control procedures, with the ultimate objective to produce better documented and controlled data and statistics before their use in e.g. stock assessment. The initiative is part of the general training efforts in support of national indicator SDG14.4.1

6.4 Capture fisheries – Middle East region

A training on fisheries statistics for the United Arab Emirates has been organized in September 2021. Other RECOFI members representatives attended the training.

Support to upgrade Lebanon catch and effort database was initiated in January 2021 with the assessment of the current FLOUCA system. Ministry of Agriculture validated its replacement by Calipseo C/E module with reporting to GFCM. Calipseo C/E for Lebanon has been prepared and deployed in a temporary cloud instance with data from 2104 to 2022. Activities will continue with direct support from GFCM with pilot and roll out to the whole country, including reporting to GFCM. Extension of Calipseo to include registration and licensing system (FLS) has been requested by Lebanon.

6.5. Aquaculture - activities in Africa

FAO has collaborated during the last few years with Zambia to strengthen their aquaculture statistical data collection system. A new questionnaire has been developed for the collection of data .

6.6. Trainings in fisheries and aquaculture statistics

During the last two years FAO has organized three training in fisheries and aquaculture statistics. In January 2020 in Trinidad and Tobago in collaboration with the University of West Indies for different countries in the Caribbean. In November 2020, an online global training done in collaboration with the International Centre for Advanced Mediterranean Agronomic Studies (CIHEAM) in Zaragoza. In September 2021 an online training for the United Arab Emirates and other Arab countries done in collaboration with the Ministry of Climate Change and Environment as well as the Federal Competitiveness and Statistics Center of the United Arab Emirates. All these training provided an overview on the why, what and how collect fisheries and aquaculture statistics, including sampling methodologies. New trainings are planned in 2022, in particular for Panama (end of June) and WIOMSA countries.

7. Classifications and collaboration in the revision of international classifications and manuals

7.1. ASFIS list of species

The ASFIS list of species was created in 2000 to: a) revise and update the taxonomic classification of the species items represented in the FAO statistics; b) streamline the inclusion of new species, for which statistics were reported, in the FAO databases; and c) provide fishery commissions and national institutions with a common coding system for species related to fishery activities. The ASFIS list is annually updated and new records are assigned for newly reported species or according to requests by CWP Members. In its last update (released in July 2021), the ASFIS list included 13 060 species items. The next release of the ASFIS list is planned for end of June/early July 2022 and the updated list will be made available promptly in the webpage¹¹ and the users will be informed through an e-mail message.

7.2. ISSCFG/fishing gear fact sheets

The new International Standard Statistical Classification of Fishing Gear (ISSCFG) was implemented within the FAO fisheries and aquaculture reference data repository and all fishing gear fact sheets <http://www.fao.org/fishery/geartype/search/en> have been updated with the new ISSCFG codes and acronyms.

¹¹<http://www.fao.org/fishery/collection/asfis/en>

In collaboration with the FAO Fishing Technology and Operations Team (NFIFO) of FAO fisheries and aquaculture division, a content review was also completed for 12 fishing gears fact sheets and will be published in the new NFI website.

7.3. International Standard Statistical Classification of Fishery Commodities classification (ISSCFC)

FAO continues to collate the national data in the FAO fishery commodities production and trade database through the International Standard Statistical Classification of Fishery Commodities classification (ISSCFC). The ISSCFC covers products derived from fish, crustaceans, molluscs and other aquatic animals, plants and residues. ISSCFC is being periodically updated in the light of new emerging commodities/species in international trade and of changes in international/national commodity classifications. In its 2021 version, it includes 1 735 items, of which 1 306 items representing the effective codes, while 429 are at level of Chapter/Division/Group.

The ISSCFC is an expansion of the United Nations Standard International Trade Classification, Revision 3 (SITC Rev.3) developed by the United Nations' Statistical Office with additional positions to include links to FAO ISSCAAP and breakdown by additional species and product forms. At the moment of the creation of ISSCFC in the 1960's, it was decided to adopt SITC as a basis for the classification as being the main statistical classification used by countries in collecting trade statistics. However, this is not valid anymore, with the bulk of the countries having replaced SITC with HS.

7.4. Harmonized system (HS) - FAO Collaboration with World Customs Organization (WCO)

The Harmonized Commodity Description and Coding System, commonly referred to as HS, is used as a basis for the collection of customs duties and international trade statistics by more than 200 countries, with over 98 percent of the merchandise trade classified in terms of the HS. This classification has been developed, introduced and maintained by WCO. Since its introduction and general adoption in 1988, the HS classification has undergone regular reviews.

During the past decade FAO has been collaborating with WCO to improve the quality of fish trade coverage through an improved specification for species and product forms in the HS. The present version, HS2017, and the previous one, HS 2012, both reflect the modifications proposed by FAO. The HS versions prior to HS 2012 presented an insufficient coverage in the classification of fishery species, in particular of those originating in developing countries. This deficiency was also reported to FAO by several countries and in 2003, the twenty-fifth session of the Committee on Fisheries (COFI) instructed FAO to work towards an improvement of the HS classification for fish and fishery products. This request was re-emphasized by different sessions of COFI:FT.

The HS 2017, entered into force on 1 January 2017 for all Contracting Parties to the Harmonized System Convention, included amendments related to fish and fishery products for species and/or product forms that need to be monitored for food security purposes and/or for better management of resources, in particular for potentially endangered species, including sharks, skates and rays. In total, 36 new subheadings were created and 36 subheadings were amended. In developing the proposal, FAO also took into account some of the suggested amendments for HS 2017 received during the thirteenth session of FAO COFI-FT. Due to the limitation of available free codes, it was not possible to revise the HS (HS2012 and HS2017) including all the species and or product forms [TM(1)] relevant for trade or in need to be monitored.

The revision of the HS is done on a regular basis, with five year intervals. On 1 January 2022 a new HS (HS 2022) will be released, with minor modifications for fisheries codes. In addition, the process leading to an updated HS 2027 has just started and FAO will evaluate if to submit any additional proposal for revision of the fisheries codes. Parties interested in further improving the HS classification and do some proposals can contact FAO Secretariat for advice on the process to be followed, including a potential joint proposal/

7.5. Central Product Classification (CPC) - collaboration with the United Nations Statistics Division (UNSD):

In past years FAO actively collaborated with UNSD to modify the CPC, to integrate wild and farmed origins in primary fish products as well as to introduce improved biological aggregations in consistent with HS. On 11 August 2015, the new version 2.1 has been released after the approval of the UN Statistical Commission (UNCSC) in March 2013. The 2013 version includes the modifications proposed by FAO to improve the breakdown for fish and fishery products including the separation of primary commodities by wild and farmed

origin. During more recent years, collaboration with UNSD on CPC was mainly linked to reply to technical questions received from UNSD on fish and fishery products. FAO data on global production (capture and aquaculture) and trade and production of fisheries commodities have now a link to CPC in the datasets disseminated through FishStatJ since March 2016.

Now a new process for the revision of the CPC has started and FAO is developing a new proposal to further improve the classification of fisheries and aquaculture products.

7.6. The International Standard Classification of Occupations (ISCO) collaboration with the International Labour Organization (ILO)

FAO is part of the Technical Working Group for the revision of the International Standard Classification of Occupations ISCO-08. ISCO-08 is the current version of the International Standard Classification of Occupations for which the ILO is custodian. It is used in the classification of occupations in statistical and non-statistical operations, in official and non-official statistics at the global level. The revision is expected to cover different aspects including the need to revise the skill model and its application as a classification criterion, along with revising skill levels and skill specializations; revise the boundaries of skill levels 1-2 and 2-3 and the breadth of skill level 2 and move occupational groups within the classification to assign them to a more appropriate skill level.

7.7. Revision of manuals of the international statistics on merchandise trade and in trade in fisheries service

FAO is part of the Task Team on International Trade Statistics (TT on ITS) recently created under the UN Committee of Experts on Business and Trade Statistics (UNCEBTS). The Team is tasked with identifying and dealing with joint research agenda between business and international trade statistics for the revision of the trade-related standards. The task team has the main role to revise the Manual on the International Merchandise Trade Statistics: Concepts and Definitions 2010 (IMTS 2010) and the Manual on Statistics of International Trade in Services 2010 (MSITS 2010), while will also contribute to the development and implementation of data programmes and capacity building activities.

8. Revision of the CWP website and CWP Handbook

8.1. Updates and new section in the revised CWP website

New revisions were implemented on the Handbook and will be presented at the CWP meeting taking into account the feedback received during the CWP Intersessional meeting in November 2021. Data exchange formats

In addition, the work of CWP Tasks Groups is expected to result in further revision of sections dealing with catch, effort, data, aquaculture, data harmonization, confidentiality and workflow.

Regarding the CWP website as a whole more effort is needed by the CWP community to raise the awareness of the CWP by providing updates from time to time to the 'Highlights' and 'Did you know' sections of the homepage (<https://www.fao.org/cwp-on-fishery-statistics/en/>). The homepage is in all languages, and CWP Members are encouraged to submit short, focused news items and updates of interest to the CWP community to the Secretariat for publications in these sections.

9. SDGs and related methodologies, tools and activities

Main focus of this section is on SDG 14 for the four indicators for which FAO is custodian. All four indicators are in the Tier I category.

FAO is continuously conducting workshops at national, regional and global levels to support countries in collecting, analyzing and using the SDG indicators in decision-making. These activities are reported in SOFIA 2022. A current example is FAO coordinating a working group for Latin American countries to develop monitoring capacity on the 4 SDG 14 indicators under FAO custodianship .

9.1. SDG 14.4.1

9.1.1. Global monitoring and reporting strategy, e-learning

SDG 14.4.1 ‘Proportion of fish stocks within biological levels’ is a Tier I indicator currently based on FAO’s SOFIA stock status indicator which covers a time series starting in the 1970s and relies on regional estimates. SDG 14.4.1 requires countries to report on their national indicator and FAO, as custodian agency for the indicator, to provide a framework for consistent and comparable national reporting as well as to estimate regional and global indicators. An e-learning course aimed at providing guidelines to stakeholders for the monitoring and reporting on SDG 14.4.1 was published and made also available in French, Spanish¹², Russian and Chinese. The course addresses various audiences and explains the practical significance of the indicator, reviews the existing assessment methodologies, teaches new methods applicable in data limited context, and explains how to calculate the indicator and meet the reporting requirements. The driving principles to the guidelines include transparency, consistency, communication and collaboration with RFBs, and timeliness and adherence to international standards in their data and statistical production. Reporting occurs through a specific questionnaire, and monitoring will benefit from the issuing of unique identifiers for stocks through FIRMS/GRSF, which are built upon CWP standards. SDG 14.4.1 is an opportunity for FAO to improve the granularity of reference stocks upon which the SOFIA regional and global indicator is based. The results of the first 2019 questionnaire call were reported to UNSD in February 2022 and published, and a second questionnaire call is planned during second part of 2022.

Regional capacity development trainings are a major part of the outreach to countries towards improving monitoring and reporting of their coastal fisheries. Since 2019, SDG 14.4.1 trainings have taken place in Bangkok for countries in South and South-East Asia, in Zanzibar for countries in the Western Indian Ocean, and a training in the Pacific was planned for 2020, but was commuted to an online course that was recently completed. In addition, a global series of online courses in three different languages (English, Spanish, French) were carried out during November 2021 to February 2022. The workshops were regional, with an English workshop for West Africa, the Mediterranean, and English-speaking Caribbean, Southern and Southeast Asia and East Africa; a workshop for the Mediterranean, Western and Northern Africa, and French-speaking Caribbean has been given in French; and a workshop for Latin America and Spanish-speaking Caribbean has been given in Spanish. Additionally, a specific workshop was delivered to RECOFI members in August 2022 upon request of RECOFI Secretariat. In each region-language case, any additional countries sharing the same language but outside the focus region were invited to participate also taking into account time lags among regions. The general objectives of the workshop and training series were to raise awareness and understanding of the tools and methodologies developed on SDG Indicator 14.4.1; discuss challenges related to data collection, data availability and sources, analysis and reporting, to identify solutions and priority capacity development needs at the national level; provide hands-on training towards reporting the Indicator; and engage in dialogues between national fisheries agencies, national statistics offices and national SDG focal points to facilitate SDG 14.4.1 monitoring and reporting.

9.2. SDG 14.6.1

This indicator is dedicated to monitor the Progress by countries in the degree of implementation of international instruments aiming to combat illegal, unreported and unregulated (IUU) fishing¹³.

A framework of international instruments have been developed addressing different aspects of fisheries management which together provide a powerful suite of tools to combat IUU fishing. The FAO Agreement on Port State Measures, the first international binding Agreement developed expressly to combat IUU fishing, since its coming into force in June 2016.

The indicator is based upon responses by States to a certain sections of the questionnaire for monitoring the implementation of the Code of Conduct for Responsible Fisheries and related instruments (CCRF).

9.3. SDG indicator 14.b.1

9.3.1. Status of SDG indicator 14.b.1

¹² <https://www.fao.org/sustainable-development-goals/indicators/1441/en/>

¹³ <https://www.fao.org/sustainable-development-goals/indicators/1461/en/>

The FAO Committee on Fisheries endorsed the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines) in June 2014. These guidelines represent a global consensus on SSF governance and development and are the result of a long and participatory development process. Grounded in the human rights based approach, they provide a tool for various stakeholders to improve the conditions of the sector.

The SDG Indicator 14.b.1 measures policy progress of SSFs towards access to resources and markets. The indicator is built on the responses from countries, regional organizations and observers to a dedicated section of the Questionnaire of the Code of Conduct for Responsible Fisheries, which is collected on a biennial basis by FAO. The Indicator has been upgraded as a Tier I indicator. It is expected to provide an improved understanding of the SSF sector and to support the monitoring of the implementation of the SSF Guidelines. An e-learning course on the Indicator has been developed in six languages and can be accessed from the SDG14.b.1 webpage¹⁴.

9.4. SDG indicator 14.7.1

SDG indicator 14.7.1 (Sustainable fisheries as a percentage of GDP in Small Island Developing States, least developed countries and all countries). This indicator, under FAO custodianship, expresses the value added of sustainable marine capture fisheries as a proportion of GDP. In the present methodology¹⁵, the quantity of marine capture fisheries as a proportion of total production is used as a proxy for the proportion of value added. Efforts of FAO and CWP Parties to collect the monetary value of capture fisheries, starting with publishing this socio-economic dimension as a global standard in the CWP handbook, will contribute to improvements in national GDP estimates.

¹⁴ <https://www.fao.org/sustainable-development-goals/indicators/14b1/en/>

¹⁵ <https://www.fao.org/sustainable-development-goals/indicators/1471/en/>