



## **FISHERIES AND RESOURCES MONITORING SYSTEM (FIRMS)**

### **REPORT OF THE FISHERIES AND RESOURCES MONITORING SYSTEM (FIRMS) AND FISHERIES STATISTICS TRAINING FAO headquarters, 17–19 February 2020**

#### **1. Introduction**

Following the Letter of Agreement (LoA) between the Food and Agriculture Organization of the United Nations (FAO) and Fisheries Committee for the West Central Gulf of Guinea (FCWC) for provision of “Training on fishery statistical data, and fisheries status data for the FCWC region and its member countries”, a three-day training was organized by FAO/FIRMS to train two FCWC personnel and the Scientific Committee Chairperson of the Fishery Committee for the Eastern Central Atlantic (CECAF) on FIRMS and fisheries statistical data in Rome from 17 to 19 February 2020. Mr Marc Taconet opened the meeting. The list of participants is attached as Annex 2.

#### **2. General objectives:**

The general objectives of the training were to:

- review the FCWC-FIRMS fisheries inventories, their consistency with the fishery statistics, and the publication workflow;
- introduce trainees to the Coordinating Working Party on Fishery Statistics (CWP) standards and best practices, and to brainstorm on possible future development of FIRMS dashboard of indicators and regional summaries for stocks and fisheries, and
- plan for the three-day capacity development Data Workshop for member countries.

Specific objectives:

- review FIRMS fisheries inventories, and assess their consistency/mapping with FCWC’s regional database;
- review CECAF FIRMS fisheries inventories, and understand possible synergies with the FCWC’s regional database, in line with CECAF-FIRMS policy;
- train participants on FIRMS tools and systems;
- introduce to trainees CWP standard for reference harmonization and streamlining principles and best practices;
- prepare a preliminary agenda of the planned FCWC-FIRMS workshop, and
- introduce other relevant FAO tools (e.g. SDG14.4.1 Virtual Research Environment and Global Record on Stocks and Fisheries- GRSF).

### 3. Agenda

The agenda was introduced and adopted and is attached to this report as Annex 1.

### 4. Presentations

Presentations were made on the following topics:

- status of FIRMS inventories for the FCWC region, status of the FCWC Data Centre;
- FIRMS stocks and fisheries inventory templates – Workflow – Dissemination;
- CWP standard for reference harmonization;
- CWP streamlining principles and best practices;
- publishing protocol for the FCWC fisheries inventories;
- potential future developments of FIRMS web based synoptic products for stocks and fisheries;
- virtual Research Environment and Global Record on Stocks and Fisheries- GRSF; and
- WECAFC Regional Database (RDB), introduction to SmartForms and Calipseo.

The presentations can be found at FAO Sharepoint.

#### 4.1 Status of the FCWC data centre

The FCWC database currently contains only marine artisanal fish catch and effort, structural data as well as data on GDP contribution from the artisanal sector. FCWC is also aiming to collect data from the marine industrial and semi-industrial sectors as well as the inland fisheries.

#### 4.2 Status of FIRMS inventories for the FCWC area

FIRMS manages and provides global fisheries resources information and it is open access. The FCWC-FIRMS LoA aims at reporting and sharing information on fisheries resources in the sub-region through the development and promotion of agreed standards and optimized workflows. The data, broken down into fishing units (gear-type), is expected to be consistent with that from other sources that directly feed the FAO fisheries statistics.

Data at the country level is managed by:

- **Focal Point:** Country Data Manager (Statistician)
- **Data manager:** Head of Statistics Division
- **Report manager:** Director of Fisheries

#### 4.3 FIRMS stocks and fisheries inventory templates – Workflow – Dissemination

The workflow and dissemination shall be implemented using an Excel format for initial data input; with inventory templates used to capture status and trends of marine resources and fisheries. Once harmonized according to FIRMS standards and validated by data owners, information is stored in the FIRMS database and published as fact sheets.

Through their data inputs in FIRMS, FCWC will actively contribute to the global inventory of marine resources and fisheries.

#### **4.4 FIRMS fishery inventories mapping with FCWC fishing units and catch and effort**

Information to be contributed by FCWC to FIRMS is as agreed in Annex 2 of the FCWC-FIRMS Partnership Arrangement<sup>1</sup>. Essentially, catch and effort data from FCWC member countries in the regional database, structured in fishing units, will be submitted to FIRMS. The structure and contents of the data is designed to be consistent with the national data submitted directly to FAO and other organisations and harmonized to suit FIRMS inventory structure, will be submitted to FIRMS. Data need to be consistent with the national data submitted directly to FAO and other organisations and harmonized to suit FIRMS inventory structure.

#### **4.5 FIRMS publishing protocol**

Ownership and responsibilities, and workflow for publishing FCWC member states (MS) data in FIRMS are summarized in the Annex 2 of the FCWC-FIRMS Partnership Arrangement. Member states retain primary ownership for the content of their fisheries inventory, in line with the protocol for fisheries inventories adopted by CECAF. The national inventories will be incorporated at sub-regional level according to the FCWC template and harmonized with the CECAF framework. FCWC-FIRMS focal point has the sign-off responsibility.

Standards, methods of collection and processing of data were discussed, with emphasis of the alignment of FCWC fishing units with FCWC-FIRMS inventory. Where possible, efforts will be made towards automatically feeding the FCWC-FIRMS fisheries inventory with updated statistical indicators. FCWC will generate Excel reports to FIRMS where the data will be processed into Web format. Annual data calls will be launched each year (with the timing to be proposed by FCWC) by the FIRMS Secretariat in close consultation with the FCWC-FIRMS focal point. Workflow: the FCWC-FIRMS focal point will coordinate these activities. Inventories should be submitted in both French and English.

#### **Recommendations**

1. FCWC is to liaise with the member countries and send data to FIRMS within agreed timelines.
2. There should be consistency in concepts, standards and definitions across the agencies i.e. FIRMS, CECAF and FCWC.
3. FCWC should decide on what information to share publicly.
4. FCWC should verify and map fishing units in its database for consistency with FIRMS fisheries inventories. A regional classification of gear may be required.
5. For data sharing, calendars for reporting should be aligned.

The publishing protocol was proposed as follows:

- FCWC Member Countries provide updates for the FCWC-FIRMS national fisheries inventory.
- The FCWC-FIRMS inventory is built with the assistance of the FIRMS Secretariat and in collaboration with the CECAF-FIRMS focal point.
- The FCWC focal point submits the updates to the FIRMS Secretariat.
- The FIRMS Secretariat converts the Excel inventory into fact sheets available in the FIRMS website through authorized access (login required).
- The FCWC focal point reviews the work, liaise with CECAF-FIRMS focal point for any relevant matters, provides feedback, and finally signs off for public release.
- The FIRMS Secretariat publishes the fact sheets in the FIRMS website and related interfaces (map viewer, web services, etc.).

---

<sup>1</sup> [http://www.fao.org/fi/static-media/MeetingDocuments/FIRMS/FIRMS\\_FSC11/2pe.pdf](http://www.fao.org/fi/static-media/MeetingDocuments/FIRMS/FIRMS_FSC11/2pe.pdf)

- FCWC and FIRMS advertise the new products through their social channels (Websites, Newsletter, Twitter, etc.).

#### **4.6 FCWC data and FAO fisheries statistics -Review of the consistency of the FCWC database with the CECAF and Global capture databases**

The list of fishing units is based on a consultant standardized the gear type classification and then creating the fields for the FIRMS database. In this context, a matrix was built to map national fishing units, FCWC fishing units, the International Standard Statistical Classification of Fishing Gear (ISSCFG) for gear classification, FCWC-FIRMS fishery records, and CECAF-FIRMS fishery records.

FCWC confirmed the FCWC database currently compiles information on the total catch and fishing effort for (artisanal) marine captures only. Nevertheless a number of inconsistencies were discussed between the nominal catches reported to FAO (NS-1 questionnaire) and FCWC database – in terms of the list of species and total catches at country level:

- In the case of Benin, the total artisanal marine captures in the FCWC database exceeded the total marine captures (i.e., industrial and artisanal fisheries) reported to FAO.
- FCWC database catches for Nigeria were also significantly lower than the catches reported to FAO. FCWC subsequently confirmed catches only include data from Lagos State.

In addition, FAO provided feedback on the FCWC database fields and coherence with CWP reporting standards for catch and effort. A recommendation was made to include information on country code, fishing area and data source, (e.g.: 'q' questionnaire/official data submissions; 'E' estimate, 'p' publication) in the FCWC database to ensure harmonization with the NS1 form and CWP standards (e.g., headers, concepts, reference terms, etc.)

#### **Recommendations**

1. improve accessibility through harmonized published formats;
2. FAO/FCWC/member countries to actively collaborate to resolve inconsistencies in reported catches (e.g., Benin) and data gaps (e.g., Nigeria);
3. ensure transparency through systematic processing and documentation of data sources.
4. implement recommendations for inclusion of missing data fields in the FCWC database to ensure coherence with FAO and international reporting standards;
5. discuss data sharing during the upcoming data workshop (e.g., what should stay in FCWC database, what can be shared among countries, what can go public in FIRMS), and
6. develop a framework to streamline the workflow for harmonization of fishery statistics based on CWP standards

#### **4.7 Coordinating Working Party (CWP) standards, principles and best practices**

Trainees were introduced to the CWP, a forum and mechanism to streamline statistical activities among RFBs and create standard concepts, definitions, classifications and methodologies for the collection and collation of fisheries statistics in view of data reporting and exchange between national, regional and global organizations. The CWP Standard for reference harmonization was presented with data structures relevant to capture fishery statistics<sup>2</sup>. Data structures consist of CWP statistical concepts, classifications as well as international classifications. Data structures provide a conceptual framework, which need to be implemented at regional level to accommodate local requirements (e.g.

---

<sup>2</sup> Appendix 5 of the report on 26<sup>th</sup> session of the Coordinating Working Party on Fisheries Statistics  
<http://www.fao.org/3/ca6684en/CA6684EN.pdf>

code lists, values constraints, questionnaire). For instance, the implementation in this region mapping of the FCWC catch and effort data with the CWP standard for reference harmonization taking into account the CECAF regional database.

FCWC catch and effort data should be mapped according to CWP standards.

## 5. Upcoming data training workshop

5.1 Dates: The month of May 2020 till first week of June 2020 or in September 2020, were proposed, to be discussed more in detail (ideally before the CECAF Scientific Committee Meeting) as well as the length of the meeting (3 days as per the LoA with or without inclusion of CECAF experts, pending funding availability from CECAF- Programme for Improved Regional Fisheries Governance in Western Africa [PESCAO] project).

## 5.2 Proposed invitees

The Focal Point of the TCP project (Country Data Manager) and the Data Manager (Head of statistics Division) for FCWC member countries and a Fisheries Researcher from CECAF were identified as participants for the meeting.

## 6. Follow-up activities from the FIRMS and fishery statistics training

| Activity   | Action by                       | Focal Point                  | Deadline |
|--|---------------------------------|------------------------------|----------|
| <b>For FIRMS</b>   |                                 |                              |          |
| Compile matrix fishing units/fishery inventory                                     | FIRMS Secretariat               | A.Gentile/<br>B. van Niekerk | 15 April |
| Fishing units harmonization  | FCWC-CECAF-FIRMS Secretariat    | A. Asante                    | 15 April |
| Compile draft fisheries inventory  | FIRMS Secretariat               | A.Gentile/<br>B. van Niekerk | 15 April |
| Validate draft inventory (national level)  | FCWC                            | A. Asante                    | 1 May    |
| Draft first version of the workshop prospectus                                     | FIRMS Secretariat to CECAF-FCWC | A. Gentile                   | 31 March |
| Identify suitable date for the workshop  | FCWC-CECAF-FIRMS                | M. Taconet                   | 31 March |
| Workshop arrangements and related activities as per LoA including preparatory work | FCWC                            | A. Asante                    | 31 April |
| Report of the FIRMS – fishery statistics training                                  | FCWC                            | A. Asante                    | 31 March |
| <b>For Fisheries Statistics</b>  |                                 |                              |          |
| <b>Short term:</b> Follow up on data inconsistencies MS                            | FAO                             | J. Geehan/<br>S. Savoré      | 15 April |

|   |                  |                         |          |
|---|------------------|-------------------------|----------|
| <b>Long term:</b> Collect data from all fisheries sub-sectors: marine, industrial and inland fisheries data<br>Provide information on Fishing Area, country code, data source | FCWC             | A. Asante               | NA       |
| <b>Medium term</b> (for the workshop)<br>Collect semi-industrial, industrial data, (inland fisheries*)<br>Follow up on data inconsistencies MS                                | FCWC             | A. Asante               | 31 April |
| Matrix with vessel type mapping with draft regional classification  | FCWC – countries | A. Asante               | 31 April |
| Mapping FCWC Catch & Effort dataset, CECAF regional dataset, Statbase structure, and OpenArtFish with CWP standard for reference harmonization                                | FCWC-FAO-CECAF   | A. Charef/<br>S. Savoré | 31 April |
| Data needs for CECAF working groups   | FAO-CECAF        | C. Monteiro             | 31 April |
| Preparing instructions for the workshop material to be sent to national focal points attending the workshop   | FCWC             | A. Asante               | 31 April |
| Attendance to the meeting in Ghana- Head of Fisheries Statistics and TCP Focal Person and Fisheries Researcher  | CECAF            | C. Monteiro             | 31 April |

## ANNEX 1 - AGENDA

| AGENDA<br>FIRMS-FCWC Training |   |   |
|-------------------------------|---|---|
| Day 1 (February 17)           |   |   |
| <b>Morning Session</b>        |   |   |
| 09.00-09.15                   | Welcome and presentation of participants  | FAO (Marc Taconet, Merete Tandstad, Tarub Bahri)            |
| 09.15-09.30                   | Presentation of Agenda and training objectives  | FAO (Taconet)   |
| 09.30-09.45                   | Status of the CECAF stocks and fisheries for the FCWC region  | CECAF (Carlos Monteiro)                                     |
| 09.45-10.15                   | Status of the FCWC Data Centre (e.g. Types of data: fisheries (SSF, industrial, recreational, scientific surveys...), census, socio-economic, household, frequency of data submission (month, trimester), any data quality checks, etc. Update on the use of openartfish. | FCWC (Abena Asante, Isaac Gatorwu)                          |
| 10.15-10.30                   | Status of FIRMS inventories for the FCWC region   | FAO (Aureliano Gentile)                                     |
| 10.30-11.00                   | Tea Break and DSA   |   |
| 11.00-11.30                   | Presentation of FIRMS stocks and fisheries inventory templates – Workflow – Dissemination   | FAO (Aureliano Gentile, Bracken van Niekerk)                |
| 12.30-14.00                   | Lunch Break   |   |
| <b>Afternoon Session</b>      |   |   |
| 14.00-15.00                   | FIRMS fisheries inventories, and confirming their consistency/mapping with FCWC's regional database (starting from the report of the Liberia Workshop - TCP)  | FAO-FCWC and CECAF (Aureliano Gentile, Bracken van Niekerk) |
| 15.00-15.30                   | Hands-on sessions filling the FIRMS Fishery template with real statistical data provided by FCWC  | FAO-FCWC and CECAF (Aureliano Gentile, Bracken van Niekerk) |
| 15.30-15.45                   | Tea Break   |   |
| 15.45-17.30                   | Cont.   | FAO-FCWC and CECAF  |
| Day 2 (February 18)           |   |   |
| <b>Morning Session</b>        |   |   |
| 09.00-10.30                   | FCWC data and FAO fisheries statistics<br>Review of the consistency of the FCWC database with the CECAF and Global capture databases, FishStatJ   | FAO-FCWC and CECAF (James Geehan, Stefania Savoré)          |
| 10.30-10.50                   | Tea Break   |   |
| 10.50-11.30                   | CWP standard for Reference harmonization<br>CWP Streamlining principles and best practices  | FAO (Aymen Charef, Stefania Savoré, M. Taconet)             |
| 11.30-12.30                   | Hands-on session CWP-FCWC – describe the FCWC dataset according to the CWP Ref. harmonization standard; feedback on streamlining principles   | FAO-FCWC and CECAF  |

|                          |   |   |
|--------------------------|---|---|
|                          |   | (Aymen Charef, Stefania Savoré, Marc Taconet)   |
| 12.30-13.30              | Lunch Break   |   |
| <b>Afternoon Session</b> |   |   |
| 13.30-15.30              | Disseminating CECAF-FCWC-FIRMS data and fact sheets.<br>What is available today.<br>Potential future developments of FIRMS web based synoptic products for stocks and fisheries.  | FAO-CECAF-FCWC<br>(Marc Taconet, Aureliano Gentile, Bracken van Niekerk)                  |
| 15.30-15.45              | Tea Break   |   |
| 15.45-17.15              | <ol style="list-style-type: none"> <li>1.</li> <li>2. Publishing protocol for the FCWC fisheries inventories</li> <li>3. Brainstorm on possible future development of FIRMS dashboard of indicators and regional summaries for stocks</li> <li>4. Hands-on sessions filling the FIRMS Fishery template with real statistical data provided by FCWC</li> </ol> | FAO-CECAF-FCWC<br>(Marc Taconet, Aureliano Gentile, Merete Tandstad, Bracken van Niekerk) |
| Day 3 (February 19)      |   |   |
| <b>Morning Session</b>   |   |   |
| 09.00-10.30              | Elaborate the content of the second training event, the three-day capacity development Data Workshop, including agenda and prospectus   | FAO-CECAF-FCWC<br>(Marc Taconet, Aureliano Gentile, Bracken van Niekerk)                  |
| 10.30-10.50              | Tea Break   |   |
| 10.50-11.30              | Cont.   | FAO-CECAF-FCWC  |
| 11.30-12.45              | Defining roadmap and expected activities for the arrangement of the three-day capacity development Data Workshop as defined in the LoA  | FAO-CECAF-FCWC  |
| 12.45-14.00              | Lunch Break   |   |
| <b>Afternoon Session</b> |   |   |
| 14.00-14.30              | Gaining understanding of other relevant FAO tools, e.g. SDG14.4.1 Virtual Research Environment and Global Record on Stocks and Fisheries- GRSF, WECAFC Regional Database (RDB), Introduction on SmartForms, Calipseo  | FAO-CECAF-FCWC  |
| 14.30-15.30              | Following the hands-on session, required actions and procedures to populate FIRMS inventories   | FAO<br>(Aureliano Gentile, Bracken van Niekerk)   |
| 15.30-15.50              | Tea break   |   |
| 15.50-17.00              | Review of agreed decisions and key points, any outstanding questions  | FAO-CECAF-FCWC  |
| 17.00-17.15              | Meeting closure   | FAO (Marc Taconet, Merete Tandstad, Tarub Bahri)  |



**ANNEX 2 - List of participants****FISHERIES COMMITTEE FOR THE WEST CENTRAL GULF OF GUINEA (FCWC)**

Abena ASANTE  
Fisheries Technical Advisor  
PO Box bt 62 Community II  
Tema, Ghana

Mr Isaac GATORWU  
IT Officer  
PO Box bt 62 Community II  
Tema, Ghana

**FISHERY COMMITTEE FOR THE EASTERN CENTRAL ATLANTIC (CECAF)**

Carlos Alberto MONTEIRO  
Chair of the Scientific Sub-Committee (CECAF SSC)  
Biologiste de pêche  
Institut national de développement de la pêche  
Cabo Verde

**FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS (FAO)**

Tarub BAHRI  
Fisheries Resources Officer  
Marine and Inland Fisheries Branch (FIAF), FAO  
Via delle Terme di Caracalla  
00153 Rome, Italy

Aymen CHAREF  
Consultant - Fishery statistician  
Statistics and Information Branch (FIAS), FAO  
Via delle Terme di Caracalla  
00153 Rome, Italy

James GEEHAN  
Statistics and Information Branch (FIAS), FAO  
Fishery Statistician (Capture Statistics)  
Via delle Terme di Caracalla  
00153 Rome, Italy

Stefania SAVORÉ  
Fishery Officer  
Statistics and Information Branch (FIAS), FAO  
Via delle Terme di Caracalla  
00153 Rome, Italy

Merete TANDSTAD  
Coordinator EAF-Nansen Programme  
Marine and Inland Fisheries Branch (FIAF), FAO  
Via delle Terme di Caracalla  
00153 Rome, Italy

Marc TACONET  
FIRMS Secretary  
Head, Statistics and Information Branch (FIAS), FAO  
Via delle Terme di Caracalla  
00153 Rome, Italy

Aureliano GENTILE  
Information Manager  
Statistics and Information Branch (FIAS), FAO  
Via delle Terme di Caracalla  
00153 Rome, Italy

Bracken VAN NIEKERK  
Information Manager  
Statistics and Information Branch (FIAS), FAO  
Via delle Terme di Caracalla  
00153 Rome, Italy