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GENERAL FISHERIES COMMISSION
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GENERAL FISHERIES COMMISSION FOR THE MEDITERRANEAN

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REPORT OF THE EIGHTH SESSION OF THE SUB-COMMITTEE ON STATISTICS AND INFORMATION (SCSI)* ROME, ITALY, 11–14 SEPTEMBER 2006

*Available only in English

Opening of the meeting and adoption of the Agenda

1. The Sub-Committee on Statistics and Information (SCSI) of the GFCM was held in Rome, Italy, from 11 to 14 September 2006. It was attended by 13 participants from 8 countries. The list of participants is provided in Annex B of this report.
2. The Coordinator of the SCSI, Mr Camilleri, opened the meeting, recalling that the SCSI serves different disciplines, and can also be considered as serving the other three Sub-Committees. Several issues could be considered transversal, like the standardization of fishing effort, and operational units. These subjects were discussed during two separate transversal workshops, held during the intersessional period. It is the task of the current Sub-Committee meeting to review the outcomes of these workshops, and to develop a strategy to move these (and other issues) forward.

3. The Executive Secretary of the GFCM, Mr Bonzon, welcomed the participants, and stressed the importance of the work of SCSI, notably as most current decisions of the GFCM touch upon fisheries statistics. The last session of the GFCM expressed its appreciation of the work of the SAC, which would not have been possible without the support of the Sub-Committees. He recalled that the operational unit concept has been accepted by the GFCM, and the GFCM is looking forward for this concept to be implemented. The Executive Secretary informed the meeting that funds have been allocated for the post of fisheries statistician in the GFCM, which will be advertised soon.
4. The provisional agenda was reviewed and adopted with minor amendments (the FEIS was to be discussed during the transversal session) and adding to point 7 (Revision of the GFCM fleet segmentation) will be the issue of the relation between GSAs and FAO statistical areas.
5. Mr F. Marttin (FAO - MedFisis) was the selected rapporteur for the meeting.

Review of the outcome of the intersessional activities

Workshop on measurement and standardisation of fishing effort (Malaga, 30–31 May 2006)

6. The SCSI, reviewed the report of the workshop which were categorized in three types:
    - Management, effort control, and strategies for implementation
    - Data collection methods standardization
    - Pilot studies to test proposed methods

7. The conclusions of the workshop were discussed, and endorsed by SCSI. Emphasis was put on the measurement of effort for demersal sources as fishing intensity (fishing effort/unit area of grounds) for which the meeting called upon the GFCM Secretariat to assist countries with the measurement of fishing intensity through, for instance, GIS expertise.

Workshop on stock assessment and operational units (Rome, Italy, 26-28 June 2006)

8. The outcome of the Workshop on stock assessment and operational units were reviewed. It was emphasized that the workshop expressed the view that the Operational Unit concept could be clarified through practical testing. SCSI suggested two exercises for these tests:
    - Identification of OUs in the Mediterranean area.
    - Collection of data per OU
9. It was noted that once data is collected per Operational Unit, the GFCM will have a powerful tool to make assessments of the stocks and investigate impacts of management measures on OUs.
10. The SCSI endorsed the conclusion and recommendation of the workshop.

Progress in the fisheries statistical and information systems

Adriamed

11. The Information System developed by the AdriaMed Project was introduced to the Sub-Committee.

    - The AdriaMed Information System (AIS), operating and used since 2000, provides knowledge services focusing on fisheries to the Adriatic countries, allowing open access to the regional databases (most of them on-line). The AdriaMed Web pages as well as the ten databases available on-line were briefly introduced. In particular the last published three databases were illustrated: the Adriatic Fisheries Legislation, which includes, organized by topic and country the regulations and legislation of the Adriatic countries, with full text available; the Adriatic Shared Fisheries Demersal Stocks database which includes bio-ecology, life-history parameters, fishery exploitation and fishing gear selectivity data on 13 species; the Adriatic Abstracts, which replicates over 4500 bibliographic records and abstracts included into the worldwide known ASFA (Aquatic Sciences and Fisheries Abstracts) database.
    - Moreover AdriaMed provides support tools to the scientific research activities carried out in its framework. One example is the creation of the ATrIS (AdriaMed Trawl Information System) application. ATrIS was created to store, organize and perform basic statistical analysis on the AdriaMed trawl survey data, and currently represents the common database application for all the countries participating in AdriaMed. It is used to store and manage data from the AdriaMed trawl surveys as well data from the MEDIT survey, the Italian GRUND survey and the SOLEMON project, by ten Adriatic research institutes. AdriaMed continues to receive requests to adopt ATrIS. Due to its GIS tools, ATrIS improved the capacity building for data analysis and GIS application in the AdriaMed countries. In addition, the Project is providing, at basin level, a basic digital cartography of the Adriatic Sea (1.250.000), realized in collaboration with the Hydrographic Institutes of Italy and Croatia. Finally a database to store socio-economic data, coming from the Social Survey carried out in Albania in 2001 was created.

12. On the basis of the presentation given, the SCSI considered that the AdriaMed Applications and Information System, should be taken as an example of service tools for the countries and to demonstrate the feasibility to collect and store data at country/regional level when considering the development of a Mediterranean information system.

MedFisis

13. Progress made by the project were presented as follows:

Fishing vessel registry: the MedStat Vessel Register (MVR) developed within the MedFisis framework is the fleet register database software developed to provide several advanced tools for fleet data management purpose. The MVR is an integral component of MedStat, a ‘Working

System conceived for the establishment, improvement or consolidation of a comprehensive national statistical and information system, targeting the Mediterranean fishery'.

GFCM priority species: a simple information tool for the visualization of the open-access capture fisheries data. This presentation focused on the species listed as of priority interest by the GFCM (also referred to as 'GFCM priority species') and examples were given of time series of landing data from the Mediterranean FAO statistical sub-areas and divisions, and from the individual countries. For each species: elementary statistical analysis (change relative to mean, trend of relative rate of increase, linear trend analysis over the last ten year period) has been performed and the percentage of missing values of the series in countries and statistical divisions have been evaluated. Furthermore a simple tool for easy and quick visualization and preliminary analysis of priority species landings series was presented. This information tool could provide additional information for stock assessment and fisheries appraisal, performed within the framework of the Scientific Advisory Committee of the GFCM. The most commonly reported species in Mediterranean Sea were *Boops boops*, *Merluccius merluccius, Mullus spp and Sardina pilchardus*. *Boops boops* was the species with the least percentage of missing value, but, as far as missing series concerned, the species mostly represented was *M. merluccius.*

In 2004, the GFCM priority species represented about 52% of total recorded species in the Mediterranean, but the 50% of the nominal catch depends on only 17 out of 36 priority species.

14. The meeting expressed its appreciation for the development of the tool, and considered it valuable. It also noted that this tool/method could be used for the presentation of data in other databases, like the ICES, or ICCAT database. The SCSI recommended the tool to be integrated into the future GFCM Website, to facilitate access to GFCM data. It was noted that there might be a need for coordination of initiatives with respect to data presentation.

Eastern Mediterranean overview

15. The results of an overview study on the Eastern Mediterranean fisheries sector, based on national reports, were presented. The work was initiated by the MedFisis project, and supported by the EastMed formulation and preparatory phase project (GCP/INT/989/ITA). A comprehensive document covering the study is available through the MedFisis project (Brief introduction to the Eastern Mediterranean fisheries sector, MedFisis Technical Document No. 6).

    - The Mediterranean Sea is considered by many ichthyologists as one of the less productive seas of the world. Due to geophysical and arid climatic conditions, the Eastern Mediterranean is the most oligotrophic part of the sea (Azov, 1991). Garibaldi and Caddy (1998) noted that species richness shows the same negative gradient eastwards as has been observed for nutrients. In this respect, Azov (1991) describes the Eastern Mediterranean as a marine desert.
    - The total marine capture production (GFCM area, except the Black Sea) of the Republic of Cyprus, Egypt, Lebanon, Syria, and Turkey was estimated at 182 311 tonne in 2003. Seven species (-groups) account for more than 50 percent of the Mediterranean catch that year. European anchovy (*Engraulis encrasicolus*) represented 28 931 tonne, or 15.9 percent of the catch from the five countries,

Mullets (Mugilidae), 12 159 tonne, or 6.7 percent, European pilchard (*Sardina pilchardus*), 11 942 tonne, or 6.6 percent, Mediterranean horse mackerel (*Trachurus mediterraneus*), 10 681 tonne, or 5.9 percent, sardinellas (*Sardinella spp*), 10 575, or 5.8 percent bluefish (*Pomatomus saltatrix*), 10 111 tonne, or 5.5 percent and Natantian decapods not elsewhere indicated (Natantia) 8 455 tonne, or 4.6 percent.

- The biggest part of the fisheries production was realised by Turkey with 126 866 tonne, or 69.6 percent. Egypt produced 46 031 tonne, 25.8 percent followed by Lebanon (3 613 tonne, 2.0 percent), Syria (3 060, 1.7 percent), and the Republic of Cyprus (1 741, 1.0 percent).

16. The SCSI expressed the need for a timely start of the EastMed project, resulting in coverage of the whole Mediterranean area by fisheries projects.

MedSudMed

17. A presentation of the Fishery and Ecosystem Information System (FEIS) was delivered to the Sub-Committee members extended to a group from the SCSA and SCMEE.

    - The FEIS is the information component of the FAO regional Project MedSudMed. It was designed to store and analyze standardized data and information, in support of research activities that are conducted in cooperation with the four participating countries (Italy, Libya, Malta and Tunisia). Through its implementation the FEIS offers the possibility of exchanging and sharing data concerning survey results of five fishery and environmental domains. The FEIS was developed in two versions: national and regional. The national version was designed for the manual or automatic input of data related to different topics such as demersal fishery resources, small pelagic fishery resources, ichtyoplankton, oceanography, and fleet operations by time, fishing zone and by fleet typology. It is destined for the input and management of data collected by the national institutions. Its special application is targeted to countries that do not have resources to develop their own data management tools for the same applications. The regional version provides information at metadata level on the content of the national versions and includes a global data query that can provide summary information of data available in the Project area.
    - Further development of the FEIS foresees a Web interface as well as the on-line access to the system. The key information concerns biological aspects of the resources, environmental parameters and fishery statistics (thematic data) in the Project area.

18. Mr Coppola, advisor to the Medfisis project, who presented the FEIS, underlined a few more functionalities that could make FEIS more valuable. He mentioned the Clearing House Functions through which institutes, departments and even projects can use FEIS as the repository of all data compiled during various surveys in a structured way; the Data Mining Functions that will enable researchers (at any level) to find, access and extract summary data concerning the work done in this field at national and regional level (data

availability and ways and means to consult them); and, finally, the Gap Finding Aid that should help researchers to individuate areas and domains where data are lacking. Finally, the possibility of using FEIS as support to the Operational Unit issue was also highlighted.

Progress made by the countries in the fisheries statistical and information systems

Albania

The design, implementation and performance of the Albanian Fisheries Information System, developed in coherence with the MedStat approach, including results of two years of monitoring the Albanian commercial fishing fleet (from January 2003 till December 2004) was described. The work was done in full cooperation between the staff of the Albanian Fishery Directorate, AdriaMed and MedFisis. Landing data were analyzed, some relevant issues related to data handling, processing and analysis were identified and discussed. Lastly, considerations were formulated for the further improvement of the Albanian Fishery Information System.

The Albanian registered fishing fleet consists of 245 boats located in four ports: Durres, Vlora, Shengjin and Saranda. The Albanian fishing fleet concentrates mainly on trawl fishing for which 168 or 70% of the total fishing vessels are used. The estimated average landing of the Albanian industrial fishing fleet is 135 000 kg per month. Fishing effort estimates as total number of hours spent in fishing as a function of month of the Albanian trawlers is 10 000 hours. The most abundant species landed in Albanian waters is the European hake (*Merluccius merluccius*), with about 28% of total landings, followed by the Deepwater rose shrimp (*Parapenaeus longirostris*), 17.4%, and by the Red mullet (*Mullus barbatus*), 8.9%.

The results of the catch and effort assessment survey are encouraging, although there is a need for further capacity building with regard to species identification and fishing gear classification. Moreover, a better knowledge of the geo-spatial pattern of the fishery exploitation, in particular of how the effort is distributed in different areas and depths relating to the seasons, is recommended.

Egypt

Egypt has a comprehensive system dealing with fisheries statistics. It has incorporated international standards (including FAO/GFCM standards) into its system, to be able to respond to requests from international partners. Two important parts of the fishery information system are the fishing fleet census and the catch statistics collection system.

Fishing fleet census

- The motorized fishing fleet logbook consists of: GAFRD office serial number, vessel ID number, vessel name, date and port of issue, owners, and each owner share, LOA, width, body material, GT, net tonnage, engine HP, manufacture name, cooperative name, fishing area, gear and number of fishermen.
- GAFRD uses two different systems simultaneously in almost every landing site to estimate fisheries production with a special questionnaire:

1. Fisheries officers estimate the landings of every boat per species, when the vessels offload their landings.

2. The simple random sampling approach involves two sampled vessels for each gear category twice per week. Effort is estimated by determining the number of active boats also twice a week.

- These data are compiled, aggregated, and summarized, then sent to GAFRD head office in Cairo, to check data quality.
- The fisheries statistical committee, directly under GAFRD chairman supervision, (established in 2005), has its own team to re-check data quality by separate missions to the landing sites.
- Estimates are usually expressed in terms of catch and effort sub-totals over a survey period, with each sub-total derived within the logical context of a geographical stratum and a specific boat-gear category.
- All related statistical diagnostics and indicators are also expressed within the same logical context.

Italy

The Italian situation is characterized by the multi-specificity of the fleet and the absence of complete official information on fleet activity.

Most fishing-vessel licences allow the use of more than one fishing system. Moreover, the prevalence of small scale fisheries in the Italian fleet is coupled to a high degree of versatility, so that more than 80% of the vessels are authorized to use several fishing gears. Multigeared vessels are generally small sized ones, characterized by limited ability in transferring between fishing areas, and dependence on seasonal availability of resources. This, together with the geographical dispersion of the fleet, spread evenly across the national coastline, determines the presence of countless technical and productive microcosms, strongly correlated to the spatial/temporal distribution of the resources. At the same time, the logbook is compulsory only for a minority of fleet (vessels of overall length exceeding 10 metres) and will contain information only where vessels retain on board quantities exceeding 50 kg live-weight equivalent of the species included in a specific list (Annex VII of Regulation (EC) No 2737/1999).

Considering these observations, the only possibility to collect data is by sampling the whole fleet. The fleet is stratified according the geographical areas, the *prevalent fishing techniques* (Fleet Segmentation) and the vessel size (measured by the LOA). In each of these strata the optimum sample size is defined to ensure accurate precision levels, the sample is carried out and information on activity, on landings (quantity and price) and on costs is collected by the IREPA Observatory.

In such a situation, difficulties in completing the Operational Units Matrix are foreseen, specifically in providing information at the *fishing gear class,* as requested by the matrix. Therefore, to avoid the possibility of predefining a data matrix comprising data that potentially will never be available, a solution could be to agree upon a “road-map” defining a step by step programme that would allow the collaboration of each Mediterranean country to test the matrix

before its formal submission for adoption. This approach would allow for the evaluation of *data collection feasibility* according to the Operational Units concept.

Lebanon

Lebanon has made considerable progress with respect to its statistics and information system concerning the fisheries sector. The first ever fishing vessel register was established, and a fishing port survey was done. This was achieved through the MedFisis TCP component "Enabling Participation in the Fishery Statistics and Information System in the Mediterranean" for five Eastern Mediterranean countries; Turkey, Cyprus, Syria, Egypt and Lebanon. The objective of the MedFisis TCP component was to prepare participating countries in the Eastern part of the Mediterranean to set-up and harmonize their fishery statistics systems, and participate in full in the MedFisis regional activities. Fieldwork for the Fishing vessel census began in August 2004 and lasted for two months. The collected data were entered into a special program developed in cooperation with the MedFisis project.

The fishing port survey included 44 ports, of which 30 ports were recognized by the Lebanese Ministry of Transport and Public Works. Many Lebanese ports have limited facilities.

The marine fishing fleet was composed of 2 662 vessels at the time of the census (August – September 2004). The Lebanese fleet can be considered an artisanal fleet, with 98% of the vessel smaller than 12 meter. Major gears are trammel nets, hand lines and pole lines, and long lines.

Lebanon intended after completion of the fishing vessel register to start, in close cooperation with MedFisis staff, designing and implementing a Catch and Effort Assessment scheme. Unfortunately, recent events have shifted priorities with regards to fisheries towards rehabilitation of the Lebanese fishing fleet and the fisheries sector in general.

Malta

The integrated electronic database system for fisheries data MALTASTAT continued to be developed by the Malta Centre for Fisheries Sciences through the support of local and external expertise. MALTASTAT is not limited to a series of databases referring to the Fishing Vessel Register and Catch and Effort Statistics, but also includes other applications that are needed for monitoring and management of fisheries and fisheries resources. It also addresses all commitments related to data submission which Malta has as an EU Member State and as a member of FAO, GFCM and ICCAT. Currently, the MALTASTAT set of databases cover the domains listed below, some of which were specifically created to answer to the needs of the EC Data Collection Regulation (DCR). All other existing databases have been also adapted to process and aggregate data according to DCR requirements.

- National Management and Monitoring System with I/O interfacing protocols
- National Reference and Codification System with regional association
- Register of fishing vessels
- Operational Units Management Systems

- Catch and Effort database; logbook (vessels >10m)
- Catch and Effort database; sampling scheme (vessels <10m)
- Fisheries Economics database
- Recreational Fisheries database (to be further developed)
- Fish market sales voucher database (to be further developed)
- Biological survey database (to be further developed)
- Malta Centre for Fisheries Sciences Portal (to be further developed)
- MALTASTAT LAN Management and Control System (to be further developed)

Other databases developed outside the framework of MALTASTAT but which have been integrated into the system are:

- SEATRIM; database for trawl survey data (MEDITS)
- National Fisheries and Ecosystem Information System (FEIS)

Morocco

Collecting data on catch and fishing effort is strongly indispensable to take management decisions. In Moroccan Mediterranean Sea, the Institut National de Recherche Halieutique (INRH) collects this type of data on the basis of official statistics from "Office National des Pêche", public organism responsible for the fish commercialization in the fish market.

These information are often incomplete for scientific use, INRH with the technical and financial support of FAO-COPEMED project, decided to establish an adequate statistical system through two pilot studies.

The first study was carried out in 2001/2002 to develop the statistical system. It was underlined that this system provides more information: total catch by species/ports/gear/ size commercial category; and fishing effort by gear, considering the variability in trip duration. This statistical system is able to estimate the species catch, known under "Divers". This category of species often represents a large percentage of the total catch. This pilot study didn't cover all the fisheries because of the seasonal character of many fisheries.

The second study "Quality Check Survey" carried out in 2004/2005, comes to complete the first study. Its main objective is to understand whether the official system responds to all the statistical requirements of research. This study should also measure if the statistics can be considered fully exhaustive and/or whether they need some adjustment to be reliable for use by researchers. This study hasn't been finalized because of a technical problem, which consist in difficulty to export the official data to the FAO application data base.

Slovenia

The Slovenian fisheries sector and fleet are small compared to other Mediterranean countries. The national fishing area is around 180 km^2. This small size enables Slovenian authorities to

have close inspection and control over its fleet and allows for better enforcement of regulations, including adequate repercussions for offenders. The fisheries sector accounts for 0.014 % of the Slovenian gross domestic product (GDP). The national fishing fleet consists of 178 vessels. 85% of these have a Length Overall (LOA) smaller than 12 meters, using mainly gillnets (GNS, 83% of the vessels), and demersal trawl (OTB, 12%). Other gears are purse seine (PS, 4%) and pelagic trawl (PTM, 1%).

Slovenia is currently establishing an integrated information system (InfoRib) for data collection on the basis of the relevant Regulations by the European Commission. The system includes the following modules: Master Data (MD), Fishing Vessel Register (FVR), Fishing and special fishing permits (PR), Logbooks and landing declarations (LB), First sale (SN), Biological sampling and monitoring (BioSS) and Economic and Social Data (E). In the near future a vessel monitoring system (VMS) will be included into InfoRib. InfoRib is developed as a Web portal where all relevant and required data will be collected and transformed into efficient fisheries information databases. These will provide integrated business solutions for effective information management and sharing.

The Fishing Vessels Registry Module (FVR) will enable different methods of data input (from prescribed paper forms, through Web browser interface). After syntax and consistency check, documents will be further processed according to national legislation. To define the fishing capacity of the Slovenian fishing fleet, the following parameters are evaluated in the FVR Module: total number of fishing vessels, gross tonnage, maximum continuous engine power of main engine in kW, age of the vessel calculated on the basis of the age of the hull.

The InfoRib system is developed with Data Warehouse tool / Oracle Discoverer technology and is developed for reporting, analyses, statistics collection and crosschecking. It is expected that InfoRib will be finished by the end of the October 2006. The system will be able to track changes (changes are written in the database) and to interface with other systems (VMS – vessel monitoring system, RZP - local companies and CRP - register of inhabitants of Slovenia).

The Slovenian data collection system is based on the logbook approach. Every vessel must use logbooks in Slovenia, however, it might be possible that some vessels will have problems filling the logbooks. A routine in the InfoRib system was developed to estimate missing data. For calculations data from the same logbook is used. Either from the logsheet with missing data (e.g. hour of arrival), from previous or next logbook sheet (e.g. year), or from average values for (e.g. fishing time). There are many possible combinations and some are still under evaluation by national experts. Calculated data are stored in separate fields in the database.

Slovenia has started in August 2006 collecting monthly biological data regarding two species (Sardine and Anchovy). Data collection with respect to socio-economics of the Slovenian fishery sector will be done through a yearly vessel census. New legislation with regards to fishing sales and landing data is being prepared.

Syria

Syrian marine fisheries management witnessed a remarkable turning point with the FAO MedFisis project. Having had the project document endorsed, the Syrian Fisheries Department

(DOF), devoted a considerable amount of their resources to support the infrastructure needed for successful implementation of the project.

The census of the Syrian fishing fleet, known as being artisanal, showed a total of 1212 operational fishing vessels. Almost 75 percent (906) of these are classified as multipurpose vessels (trammel netters, hook and liners and lamparas), while long liners (111), hooks and liners (73), gill netters (50), trap setters (16), trawlers (14), seiners (5) and others unknown (37) all represent a minority.

As to length categories, the cluster <6m makes for 5.7% of the fleet, 6-<12m 91%, 12-<18m 2.6% and 18-<24m 0.7%. Vessels' powers range from 3.7-<10kw for 29% of the vessels, 10-<15kw for 29%, 15-<20kw for 22%, 20-<25kw for 3%, 25-<50kw 13% and 50-746kw 4%. Over one half of the fleet (53%) reveals to have been built during the nineties, 28% during the eighties, 7% during the seventies, 5% in between the forties and sixties and the rest (7%) in the new millennium. Twelve major fishing harbours with few hundreds of fishing vessels, or minor ones with few tens have been identified. With the exception of 21 vessels licensed to fish outside territorial waters (>12 n. miles), the majority of the fishing fleet seems to fish in the zone 0-6 n. miles from the national coast.

The recognized interest and commitment of the Syrian government, which became apparent through for instance investments in ten statistics units (comprising of pre-fab offices, and office equipment, including computers), done along the Syrian coast, and assigning/training 36 technicians, encouraged the FAO MedFisis to continue supporting the Syrian Authorities with the implementation of a pilot phase on catch-effort assessment in Syria. This exercise started end of May 2006 with two 24 hour monitoring exercises in two ports. While data on the activity of all fishing vessels present in the sampled port were collected, a random sample of 15-20 percent of the operational fishing vessels was taken, and from these vessels operational and biological indicator data were collected. The results of this first 24 hour exercise showed with regards to the vessel activity that there were two peak return hours for fishing vessels; from 17:00 till 21:00 when net-setters return, after having set their nets, and from 5:00 till 8:00, when vessels land their catches.

The results of the two 24 hour monitoring exercises were encouraging, and the Syrian authorities have decided to continue the programme for three months in the ports where a well-equipped monitoring station was established. Preliminary conclusions of this pilot catch and effort assessment survey will be used to design and implement a full catch and effort assessment study, planned to be implemented after the three month period.

19. The SCSI noted that the Syrian authorities have made great progress with their fishery statistics and information system, with the assistance of the FAO-MedFisis project. Through the substantial investments made, and assigning considerable qualified human resources, the Syrian Authorities have shown their commitment to implementing a sustainable fisheries information and statistics system.
20. The aforementioned commitment could be considered an example for other similar countries struggling with establishing a fisheries information and statistics system. The SCSI encourages the FAO MedFisis project to continue supporting the Syrian Fisheries

Department in the way it has supported it, which will lead to a sustainable fisheries information and statistics system in Syria.

Other initiatives

Eurostat

21. Eurostat's interest in the work of the GFCM in general and that of the SCSI in particular is increasing as the number of EU Member States in the area increases: the current Member States (France, Italy, Spain, Greece, Slovenia, Cyprus and Malta) will be joined shortly by Bulgaria and Romania and negotiations towards membership are proceeding with Croatia and Turkey. Eurostat's programme of fishery statistics has remained largely unchanged though discussions will be commencing soon in the European Council and Parliament towards the adoption of a revised Regulation on aquaculture statistics. The major change of interest to the GFCM will be an obligation for EU Member States to report data on the input to capture-based aquaculture. This requirement mirrors those of the ICCAT recommendations on this topic.

FAO Developments (FIDI – FIGIS)

22. The GFCM capture production database has been updated by FIDI with 2004 data, and it now covers a 35 year period (1970-2004). It is used for trend studies on catches in the Mediterranean and, together with the Mediterranean data included in the FAO aquaculture database, its figures are used to calculate the catch component of the countries' scale of contribution to GFCM.

23. FIGIS as a Website and brand name will be dismantled at the end of 2006. FIGIS will instead become a framework: by framework, one means a pool of expertise, relying on a set of information standards, tools and methods (including marked ability for interoperability with other systems), and the adherence to FAO's information management and IT policy. FIGIS now powers various Web sites, the three flagship examples being:
    - the new FI Website under development will be released at the end of 2006 and integrate within this unique identity all content currently spread across the current FI home page and FIGIS;
    - the Fishery Resources Monitoring System (FIRMS) released in May 2006 at the occasion of a side event of the UN review conference on the fish stock agreement (New York) (more at http://firms.fao.org)
    - the FI Statistical Working System (FIStatWS), a Web-based tool for the maintenance of statistical time series.

24. FIRMS is an information network of international organizations established under a formal Partnerships Arrangement. At present, FIRMS draws together a unified partnership of 10 international organizations, including 9 RFBs and FAO. FAO has two roles in FIRMS:

    1) data contributor with its Global reviews, and through its 5 Regional Statutory Fishery Bodies (GFCM, CECAF, WECAFC, SWIOFC, RECOFI)

2) FAO provides the Secretariat and maintenance of the system. This is assured under the FAO Regular Programme, and this aspect strongly contributes to FIRMS sustainability.

25. The FIRMS stock module was demonstrated to the meeting focusing on the Mediterranean data: FIRMS contains the inventory of 36 GFCM shared stocks, 6 of which have status and trends information. At present, GFCM information contributions in FIRMS are minimal, but it is expected that more content (from GFCM sources) can be added in the fact sheets as the FIRMS content management system tool becomes more accessible to data owners (version 2 of FIRMS content management system expected by the end of 2006).

26. The FIRMS fisheries module is under development and a first version should be ready around the end of 2006. With regard Mediterranean, it will host and disseminate the inventory of Adriatic fisheries done in close collaboration with Adriamed and enable links to the corresponding Operational Units.

27. The FIStatWS now includes 2 regional data sets: GFCM and CECAF regional capture statistics. It should be noted that in the next few weeks, the FIGIS statistical dissemination system will be fully integrated with the statistical working system, and thus these 2 regional data sets will be disseminated through the FIGIS statistics gateway page.

The proposed Operational Units matrix and tables (GFCM Task 1)

28. The GFCM Task 1 (Annex was explained with the use of the Excel file provided to the participants). Comments were made on requested information, and on fields which were discussed and agreed upon. It was agreed that the Operational Unit provides an excellent tool for the management of fisheries. During the discussion the issue of applicability was raised, and after some discussion a 'Dynamic workshop on the compilation of GFCM Task 1' was proposed to start as soon as possible, where several experts will bring data, and try to enter these data into the GFCM Task 1. During this exercise the feasibility of the exercise will become clear, and issues which might form problems will be identified, addressed and resolved. The GFCM Task 1 as amended and adopted by SCSI is given in Annex D

29. The SCSI noted the work being done by the European Commission on a revision to the data collection Regulations, and suggested coordination between the GFCM and EC on this subject.

Fishing effort measurement

Implications arising from the workshop

30. The SCSI meeting took note of the report of the SCSI/SCSA/SCESS transversal workshop on measurement and standardization of fishing effort, held in Fuengirola (Malaga), 30-31 May 2006. It endorsed the table concerning the measurement of fishing effort, attached as Annex C to this report.

31. The Sub-Committee also endorsed the proposal from the transversal workshop to hold a workshop on methodology to analyse disaggregated fishery data, on the basis of the

revised terms of reference which are attached as Annex D to this report. The changes proposed in the revised terms of reference reflected the fact that the SCSI did not see the need to include a reference to (second para): '... in the framework of the existing Permanent Working Group on Stock Assessment Methodology...' and therefore proposes to delete this text. Another issue was that problems were expected if the bullet point 'Identify and describe trends' would include stock abundance, and therefore the Sub-Committee proposed to have the following text at the indicated bullet point: 'Identify and describe trends of fishing activity'.

Further work to be carried out

32. The Sub-Committee noted the reference in the report of the SCSI/SCSA/SCESS transversal workshop on measurement and standardization of fishing effort to calibration/allocation of effort units. This exercise was considered too complex to be dealt with by the SCSI. The SCSI therefore recommended that the issue of calibration/allocation of effort units be taken up by one, or more, (future) Sub-regional projects (Copemed, AdriaMed, EastMed).

Revision of the GFCM fleet segmentation and GSA versus FAO statistical areas

Fleet segmentation

33. The SCSI noted that the GFCM fleet segmentation has not been adopted formally by the GFCM, which poses problems for some member states. It therefore recommended to the SAC to suggest to the Commission the adoption of the fleet segmentation by means of a formal Resolution to be presented at the next GFCM session.

Geographical Sub-Areas (GSAs) versus FAO statistical areas

34. It was noted that not all boundaries of the GFCM GSAs coincided with the boundaries of the FAO - FIDI statistical sub-areas of the Mediterranean Sea. EU legislation has included the boundaries of the FAO – FIDI Mediterranean sub-areas, meaning that EU member states are requested to submit fisheries data following this statistical scheme. This issue was discussed, and the importance of the continuity of the historical datasets according to the FAO – FIDI sub-areas was stressed.
35. The SCSI recommended harmonizing the GSA boundaries with the FAO – FIDI divisional boundaries used in the submission of official national nominal catch statistics. This would ensure the continuity of the FAO – FIDI nominal catch statistics time series. Furthermore, the Sub-Committee requested the SAC to recommend the GFCM to start collecting fisheries data per GSAs.
36. The SCSI also noted that the nomenclature of and titles for GSAs are not harmonized or consistent. It proposed two options to resolve the matter: Option 1: assign only a number to each GSA, or, Option 2, to assign each GSA with a number and a neutral geographical name (for example: GSA 26: South Levantine Sea; GSA 24: North Levantine Sea; etc...).

Any other matter

37. Attention was drawn on the Coordinating Working Party on Fishery Statistics (CWP) of which currently 13 organisations[1] are member. The CWP has served since 1960 as the premier international and inter-organization forum for agreeing common definitions, classifications and standards for the collection of fishery statistics. It has developed common procedures for statistics collation which have streamlined the collation process and reduced the burden on national fisheries statistical offices.

38. The membership of the CWP would be of benefit both to the GFCM and to the other CWP member agencies. It was suggested that the GFCM, having an autonomous budget, could apply for membership to the CWP. The SCSI endorsed this suggestion.

Conclusions and recommendations

39. The SCSI concluded and recommended that:

- The (Sub)-regional projects, on behalf of the SCSI, should assist countries with the measurement of effort for demersal sources as fishing intensity (fishing effort/unit area of grounds), through, for instance, GIS tools and expertise.
- The presented tool on GFCM priority species was recommended to be included into the new GFCM Website, to facilitate access to GFCM nominal catch data.
- A 'dynamic workshop on the compilation of GFCM Task 1' should be organized as soon as possible.
- The table on fishing effort measurement (see Annex C).
- A workshop on the methodology to analyse disaggregated fishery data (see Annex D) should be organized.
- The issue of calibration/allocation of effort units should be taken up by one, or more Sub-regional projects (i.e. CopeMed, AdriaMed, EastMed).
- There is an urgent need to formally adopt the SAC fleet segmentation as a GFCM Resolution.
- The GSAs should be harmonized with the FAO – FIDI statistical subdivisions used for the submission of official national nominal catch statistics, after careful study of all implications which may arise.
- Currently the nomenclature of GSAs is not harmonized and titles are not always consisten, suggests SAC to consider the following two options: a) assigning only a number to each GSA; or b) assigning each GSA with a number and a neutral

[1] Commission for the Conservation of Antarctic Marine Living Resources – CCAMLR, Commission for the Conservation of Southern Bluefin Tuna – CCSBT, Eurostat, Inter-American Tropical Tuna Commission – IATTC, International Commission for the Conservation of Atlantic Tunas – ICCAT, International Council for the Exploration of the Sea – ICES, Indian Ocean Tuna Commission – IOTC, North Atlantic Salmon Conservation Organization – NASCO, North East Atlantic Fisheries Commission – NEAFC, Northwest Atlantic Fisheries Organization – NAFO, Organisation for Economic Cooperation and Development – OECD, Secretariat of the Pacific Community – SPC, International Whaling Commission – IWC, Southeast Asian Fisheries Development Centre – SEAFDEC, Food and Agriculture Organization of the United Nations - FAO

geographical name for example: GSA 26: South Levantine Sea; GSA 24: North Levantine Sea; GSA 21: South Ionian, etc.).

- The GFCM should consider applying for membership to the Coordinating Working Party on Fishery Statistics (CWP).
- Coordination between the GFCM and European Commission Regulations of the data collection is needed, in relation to Operational Units GFCM Task 1.

Adoption of the report

40. The SCSI adopted the report on 14 September 2006.

October 2006

ANNEX A

Agenda

1. Opening and arrangement of the meeting

2. Adoption of the agenda

3. Review and analysis of the outcome of the intersessional activities
   - 3.1. Workshop on standardisation of measurement of fishing effort (Malaga, May, 2006)
   - 3.2. Workshop on Stock assessment and Operational Units (Rome, June, 2006)

4. Progress in the regional fisheries statistical and information systems
   - 4.1. FAO projects (Medfisis, Adriamed, MedSudMed, FEIS etc...)
   - 4.2. Progress made by the Countries in fisheries statistical and information systems
   - 4.3. Other initiatives (eg FAO, FIDI, Figis, Eurostat)

5. The proposed Operational Units matrix and tables (GFCM task 1).

6. Fishing effort measurement
   - 6.1. Implications arising from the workshop
   - 6.2. Further work to be carried out including
     - calibration exercises
     - pilot studies / workshop on the use of market sales documents

7. Revision of the GFCM fleet segmentation

8. Conclusion and recommendations including the 2007 work program, addressed by SCSI:

- To the SCSI
- To the SAC

9. Other matters

10. Adoption of the report

ANNEX B

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ANNEX C Table on fishing effort measurement from the report of the workshop in Fuengirola, Malaga, 30-31 May 2006

Gear	Number and dimension	Capacity	Activity	Nominal Effort[2]
Dredge	Open mouth			Dredged bottom surface[3]
Trawl	Type of trawl (pelagic, bottom) GT and/or GRT Engine power Mesh size Size of the net (opening) Speed	GT	Time fishing	GT*days GT*hours
Purse seine	Length of the net GT Light power Number of small boats	GT Length of the net	Search time Set	GT * Fishing sets[2] Length of the net * fishing sets
Nets	Type of net (trammel net, driftnet, bottom) Net length (used in regulations) GT	Net length	Time fishing	Net length * days

[2] Should be referred to a particular area (indicating the surface) to estimate fishing intensity (effort · km^{-2}) and to relate the effort to exploited communities

[3] The effort measures that do not include a time activity should be referred to a period of time (i.e. by year)

Gear	Number and dimension	Capacity	Activity	Nominal Effort[2]
	Net surface Mesh size			
Long lines	Number of hooks GT Number of longline units Characteristics of hooks Bait	Number of hooks Number of longline units	Time fishing	Number of hooks * hours Number of hooks * days Number of longline units * days/hours
Traps	GT	Number of traps	Time fishing	Number of traps * days
Purse seine/FADs	Number of FADs	Number of FADs	Number of trips	Number of FADs * Number of trips

October 2006

ANNEX D

Terms of Reference for a Workshop on methodology

to analyse disaggregated fishery data

There exist, for some Mediterranean areas, data series on landings and prices/revenues, disaggregated by day, vessel and species. The purpose of the workshop is to develop a common methodology to analyse and compare results from these different series.

Taking into account the progress made on operational units characterization and effort by SAC/GFCM, the Workshop will develop standard methods to:

- Filter data and detect errors and biases.
- Analyse variability of landings at different time scales.
- Identify clusters of vessels (potential OUs)
- Identify target species
- Identify species composition
- Identify and describe seasonality
- Identify and describe trends of fishing activity
- Identify fishing strategy and tactics4 (*métiers*)
- Define nominal effort and propose a method to obtain effective effort for each vessel/OU
- Analyse prices
- Explore methods to calibrate official landing statistics from sampling on board and field surveys.

A description of each data series, including: years covered, vessels and species, number of registers (vessel-day-species-catch-price/revenue) will be provided before the workshop.

The workshop will consist of a practical work of analysis of data series (several years) on landings and prices/revenues, disaggregated by day, vessel and species. It will take place on the condition that at least two relevant sets of data will be guaranteed before the workshop.

ANNEX D. GFCM Task 1 – Operational Units