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GENERAL FISHERIES COMMISSION
FOR THE MEDITERRANEAN

COMMISSION GÉNÉRALE DES PÊCHES
POUR LA MÉDITERRANÉE

GENERAL FISHERIES COMMISSION FOR THE MEDITERRANEAN

SCIENTIFIC ADVISORY COMMITTEE

Eighth Session

Tirana, Albania, 25-28 October 2005

REPORT OF THE SIXTH SESSION OF THE SUB-COMMITTEE ON STATISTICS AND INFORMATION (SCSI)* ROME, ITALY, 26-30 SEPTEMBER 2005

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GENERAL FISHERIES COMMISSION FOR THE MEDITERRANEAN

(GFCM)

SCIENTIFIC ADVISORY COMMITTEE

Report of the meeting of the 7th Session of the Sub-Committee

on Statistics and Information (SCSI)

Rome, Italy, 27-30 September 2005

Opening and approval of the agenda

1. The Coordinator of the SCSI opened the meeting, and gave a summary of the discussions during the transversal workshop. As most of the participants to the SCSI participated at the transversal workshop, it was decided to regard points 2, 3 and 10 on the agenda as being discussed. Mr Felix Marttin was elected as rapporteur.

2. The Sub Committee had two joint sessions, one with the Sub Committee on Economics and Social Sciences (SCESS), with respect to the Tangiers meeting dealing with the Operational Unit issue. The other joint session was with the Sub Committee on Stock Assessment (SCSA), where the Operational Unit work done on Coryphaena fisheries was discussed, and a proposal for a regulation was made and adopted (see annex 2).

3. The SCSI hold the Transversal workshop on GFCM Statistical Framework and Databases (including IUU white list) on 26th September 2005. The Report of the Workshop which constitutes an integral part of this Report of the Sub-committee is attached as Annex 4.

Development of national fishery statistical systems – country presentations

Morocco

4. Conscients par l'intérêt de l'information, vivement manifesté par les opérateurs économiques et les décideurs, les principaux acteurs du système statistique du secteur des pêches maritimes au Maroc (MPM, ONP, INRH, Office des Changes, …) ont déployé des efforts pour développer les circuits d'information et les rendre capables de fournir des informations fiables et en temps réel.

5. Les types de données recueillies concernent les outils de production, la production et commercialisation, les activités littorales, la valorisation, le social et certains agrégats.

6. La majorité de ces activités sont pris en charge par les systèmes d'information du MPM, celui du l'ONP (MAYA) ainsi que les enquêtes effectués par l'INRH.

7. Cependant, Le manque de coordination entre ces acteurs a pour conséquences la divergence au niveau de la classification et la codification des espèces adoptée par chaque acteur.

8. L'amélioration du système statistique du secteur des pêches maritimes s'articule sur les axes suivants :
   - Améliorer le degré de couverture statistique de l'activité pêche
   - Mettre en place des outils d'analyse adéquats

- Renforcer la coordination entre les principaux acteurs
- Développer la coopération internationale

France

9. The French fishery statistical system is managed by the Ministry of Agriculture and Fisheries. It is based on a national Fisheries Fleet register, a declarative flow coming from logbooks for the more than 10 meters long vessels, <10 m fishing forms managed by the Centre National de Traitement Statistique (CNTS, Lorient) which combines in the system sales notes coming from the auction markets network managed by OFIMER. Additionally, the information coming from the fishing activity calendar, produced by the Ifremer Fisheries Observatory (SIH) are included in the process of the national fishery statistical system since 2000.

10. IFREMER has initiated an integrated monitoring network on fisheries resources, practices and economics (named "Système d'Informations Halieutiques" or SIH) for the French fisheries (Atlantic sea, Mediterranean sea and overseas). The aim is to build an operational and multidisciplinary network for scientific purposes, allowing to give indicators on activities and economic performances of the whole French fleet, to elaborate synthesis useful for the administrative bodies, fishermen and the society, to elaborate bio-economic assessments, and to evaluate short and long term impacts of alternative management scenarios or technical measures. The implementation of the SIH has supposed to standardize and harmonize the collection, storage and processing of fisheries data, to improve of single data management system (ensure storage in data bases and validation of fisheries data, improve access to centralized data bases) to elaborate indicators and products including GIS.

11. The integrated approach of the SIH is based on an exhaustive knowledge of the fishing activities practised by each boat of the French fleet register. A complete census (based on interviews of fishermen and exploitation of the log books) is made annually to establish their Annual Activity Calendar. The concept of "métier" (combination of gear, target species and fishing areas) is used to qualify the activities of each fishing boat. During a year, and sometimes during a fishing trip, a vessel may practice one or several métiers, in which it allocates a certain level of its fishing effort. The information on these métiers is collected per month by the SIH observers, according to regional reference lists of métiers. Up to 5 métiers can describe the fishing activity of a boat per month. Time of inactivity and the main two fishing areas per métier are also registered.

12. Using the Fishing Fleet Register and Fishing Calendar data set, and by segmentation and classification analysis, it is possible to split the whole fleet and identify sub-fleets as groups of vessels which have homogeneous technical characteristics and fishing operating strategies during a reference period (the year for example). A vessel can practice one or several métiers but belongs to one unique fleet. The fishing fleet of a region or country can be divided in sub-fleets according to the objectives and the scale of the studies.

13. These stratifications allow the implementation of *ad hoc* sampling plans for specific purposes as more accurate fishing effort estimates (such as fishing days), gear characteristics, landings and discards estimates, biological sampling, economic data. This allows the extrapolation of data over the whole fleet by fishing activity or by subfleet.

Serbia and Montenegro

14. In Montenegro a fishing vessel registry was established with the assistance of the MedFisis project. The Montenegran fleet consists of 215 vessels (17 trawlers, 2 purse seiners, the rest

multipurpose smaller than 12 meters). The Government of Montenegro is currently exploring possibilities for the design and implementation of a Catch and Effort survey. For this activity the assistance of MedFisis would be greatly appreciated.

15. Echo, trawl, and acoustic surveys are done routinely every year. Data from these surveys are presented at Adriamed meetings, and are used for fisheries management. The Cooperation with other participating countries thourgh the Adriamed project is appreciated, and Montenegro looks forward to a continuation of this. Montenegro has supported the work on Operational Units and will continue with this.

Italy

16. Following the provisions of EU Regulation no. 1543/2000, Italy established a permanent statistical system for the collection of fishery data. Within this system, the integration between economic and biological data was realised through the adoption of common levels of aggregation of elementary data and through the use of homogenous statistical approaches.

17. The Italian national programme is divided into three modules: (A) module of evaluation of inputs: fishing capacities and fishing effort; (B) module of evaluation and of sampling of catches and landings; (C) module of evaluation of the economic situation of the sector. Data are collected by several research institutes but all the process is co-ordinated at central level by a specific technical unit composed by economist and biologists.

18. Over the last two years the development of a centralised database has been finalised. The data base has been implemented with Oracle technology as part of S.I.A.N. (Agricultural Information National System). It can be interrogated through a web application which can be accessed by authorized users and is located at the Portal of Agriculture www.sian.it http://www.sian.it/. Reports can also be made using the Business Objects tool. Both pre-defined reports and instant user-made queries and reports can thus be run over available data. The database moreover contains code tables for Species, Fishing areas, Fishing techniques, Maturity stages and so on. Retrievable information can be briefly described as follows: fishing capacity, fishing effort, economics, biological data (composition of landings by length and age, maturity parameters, surveys data, discards).

Malta

19. Data collection programmes have been further reinforced in Malta since January 2005 due to the country's commitments in connection with the EC fisheries data collection programme (Regulations EC1639/2001, EC1581/2004). In this respect, an annual national programme has been drawn up to routinely collect fleet, catch, effort, economic, biological, resource abundance and processing industry data. The fleet register and catch assessment components of the information system MALTASTAT, developed with the support of COPEMED and MedFiSIS, have also been enhanced and the MALTASTAT "control centre" to integrate the current and future components of the system has been developed. In addition, the development of biological and economic databases are currently under construction, whilst the creation of a database (SEATRIM) on trawl survey data has been completed in collaboration with the Istituto Ambiente Marine e Costiere (IAMC)-CNR (Mazara del Vallo, Italy). Malta has also significantly contributed to FEIS, an information system developed within the framework of the MedSudMed project.

Eastern Mediterranean (Medfisis)

20. No representatives from Eastern Mediterranean countries were present at the SCSI meeting. However, the MedFisis project has been active in the Eastern Mediterranean, and therefore presented its activities and achievements in the area.

21. Lebanon and Syria were supported with the establishment of a fishing vessel registry. In collaboration with national staff, fishing vessel registry systems were designed, developed and established. Twenty supervisors from the two countries were trained to conduct a fishing vessel census and to train their colleagues. Complete fishing vessel censuses were carried out, resulting in the first ever fishing vessel registry in Lebanon, while in Syria the fishing vessel registry is being finalized.

22. A quality check survey of the fleet record was performed together with the Ministry Agriculture and Rural Affairs of Turkey. This allowed the identification of some relevant issues on data quality and of the necessary actions to be taken. Twenty recorders and other government officials were trained in the design and implementation of a fishing vessel registry.

23. A training workshop on species identification, gear and vessel classification for the needs of marine capture fisheries monitoring was organized in Lattakia, Syria, conducted by two experts from the region (Lebanon and Turkey) together with the Project staff. In total thirty-five people from five Eastern Mediterranean countries took part in the course. This training workshop constituted a first basic step in addressing the objective of designing and implementing a catch and effort assessment survey.

24. After the presentations it was noted that there is still a need for the GFCM to identify regional data collection needs, leading to the drawing up of a GFCM manual. It was therefore recommended that a GFCM manual on minimum data collection requirements needs to be prepared, taking into account available literature.

Report of the workshop on Operational Units and measurement of fishing effort

25. The results of the workshop on Operational Units and measurement of fishing effort were presented. Participants were reminded of the experiences on the applicability of the Operational Unit concept in the Adriamed and Copemed area. During the Tangiers meeting it was decided to prepare a document describing the OU concept, its history, and experiences in its application. The issue of effort measurement is dealt with later on in the report.

Presentation of a document on the state of affairs of Operational Units (to be presented to all sub-committees)

26. Two documents on the Operational Unit (OU) concept were presented. These documents, once merged and reviewed by the SCSI, would serve as a basis for the final document on OU's planned during the transversal workshop on Operational Units and fishing effort management held in Tangiers, Marocco, on 4-6 July, 2005. The document could form the starting point for the development of a manual on the implementation of the OU concept throughout the Mediterranean.

27. Both documents describe the concept and the origin of OU, the evolution of this concept, the increasing consensus about the possible use of OU as a practical management tool and the approaches adopted in the practical application of this concept by the AdriaMed and Copemed Projects.

28. One document highlighted the difficulty to identify homogeneous groups of vessels from biological, economic and technical point of view. This difficulty is particularly present within the Mediterranean fisheries, where most vessels operate by means of several fishing gears and most fishing gears can catch a variety of species. The main objective of the OU concept is to

support the management of the Mediterranean fishery's complexity, by identifying and describing homogeneous groups of vessels. The document focused mainly on the applicability of the OU concept based on the experience of the AdriaMed Project. In this respect, problems in collecting economic data at the OU level, determined the identification of OU by using a fleet segmentation perspective. By using this approach, some results have been obtained in terms of listing the OU for all Adriatic countries and collecting some technical, biological and economic data for the OU identified.

29. The other document describes in its first part the work developed from 1999 until present, to define and apply the Operational Units category to collect data useful for management purposes. Four meetings and five studies, supported by COPEMED and ADRIAMED, have addressed the demand of the GFCM to develop the concept of OU's and its data collection.

30. In the following part of the document, some difficulties are analysed, in particular the way to define the fishing effort and the fact that from an economic perspective the data are only available by fleet segments in feasible way at general level. From these considerations, a final proposal is made in the conclusions.(see Annex 3 for these).

31. The Workshop was also informed on the IFREMER proposal suggested during the EU Workshop in Kavala and in Nantes (23-27 May 2005) on Fleet Fishery based sampling. The proposal consists of an integrated strategy of the EU Fisheries based on an annual individual fishing activity calendar as a base for typology, sampling plans, <10 m fishing forms, observers and fishers volunteers approaches and extrapolation of data. The aim was to contribute to the discussion presenting an EU fleet segmentation matrix with various levels of desegregation of the fleet definition and fishing activity categories at regional, national or local levels. This proposal could be a strong contribution to link biological and economical approaches and organise sampling data collection. The matrix consists of: 1) fleet gear combination; 2) Subfleet size stratification; 3) Regional sub-fleet multicriteria; 4) Metiers.

32. In addition, the interpretation by IFREMER of the Operational Unit concept was introduced. It was proposed as a third dimension of the matrix for management purpose, and the concept could be used as the basis for sampling both biological and economic data in the Mediterranean. An applied example based on fishing vessels operating in an Atlantic port was then presented.

33. In the discussion that followed, the importance of the OU concept was underlined but it was remarked that a practical application of the concept should be adopted to make the OU method real. Appreciation was made on applied examples like the one presented by IFREMER: together with other applications of the OU concept (AdriaMed and CopeMed pilot studies) they are a positive contribution to enhance the OU discussion at Mediterranean level. However it was also noted that the GFCM should be coordinating the discussion on the Operational Unit. The application of the concept should first be done nationally followed by a regional effort. These efforts should result in a GFCM database model concerning Operational Units. It was noted that for the application of Operational Units as a tool for effort management monthly data in a dynamic system on Operational Units will be needed. For this endeavour resources need to be allocated.
34. It was recommended that for the GFCM to continue to work with the Operational Unit concept, it is of paramount importance that all regional efforts and initiatives on this subject need to be carried out jointly and coordinated by the GFCM

The way forward and implementation of the Operational Units approach

35. With reference to the conclusion presented in annex 3, it is suggested that data is collected by Geographically Sub Area (GSA) and fleet segment under the SAC classification in a first table. This table would include the number of different activities developed by this fleet.

36. A second table is suggested to collect data on each activity to define Operational Units within Fleet segments.

37. A third table is suggested to collect data on catch and effort parameters by Operational Unit.

38. Finally, with the fourth table economic data of each fleet segment will be collected, this information could allow disaggregation by OU in proportion to the activity or in basis on particular samplings studies.

39. The work on the Adriamed Operational Units identification and the Copemed Coryphaena fishery Operational Unit study was commended as a very useful exercise with respect to progress on the Operational Units issue in the Mediterranean. The SCSI felt that at this point in time member states should be asked to supply data on the fishing fleet and its activities, so that a start can be made with the identification of all Operational Units in the Mediterranean area. With respect to this, the data collection should be done according to the formulated proposal presented in Annex 3.

The feasibility of developing the GFCM inventory of Operational Units – MedFISIS assistance

40. The SCSI requested the MedFisis project to prepare the framework (including codification), following the outline in the document on OU's in which 4 tables for OU identification are given, before the next Scientific Advisory Committee meeting (Tirana, Albania, 25 – 28 October 2005).

41. In this context these tables will be designed electronically and forwarded to the GFCM Secretariat for circulation amongst its members. Returned forms will be used to develop a database for the storage and management of OU data on a regional basis in order to provide an efficient management tool to the GFCM. All this could be developed subject to resources, funds, etc.

Standardisation of the measurement of fishing effort by Operational Unit

42. Reference was made of the work done at the Tangiers workshop and the recommendations made there:
    The measurement of parameters related to fishing effort should follow a standardized scheme consisting of four levels of priority (first level is the most important) as follows:

    Level 1: Capacity and fishing activity[1]
    Gross Tonnage (GT) or Gross Registered Tonnage (GRT)
    Days at sea or hours fishing
    Level 2: Other vessel parameters
    Power (KW)
    Fuel consumption

[1] This level constitutes the minimum standard measure of fishing effort i.e. the product of capacity (GT or KW) and fishing activity (days at sea or hours fishing).

Level 3: Gear related parameters[2]
Number of hooks, sets of nets, number of pots, etc.
Effective fishing time (eg. soaking time, searching time, number of hauls etc.)
Level 4: Detailed standardisation parameters
If necessary, a standardization coefficient could be applied for each OU to obtain a measure of equivalence between the fishing effort of one OU and another. For example, the fishing mortality factor of each OU (estimated by biologists) could be used to standardize the effort measured in Level 1 (eg. 1 unit of fishing effort of a vessel in OU1 is equivalent to x units of fishing effort of a vessel in OU2 targeting the same species or group of species in a particular sub-area).

43. It was noted that for instance GT and power measurements could form a problem in many Mediterranean countries. However, as the GFCM has decided to manage its fisheries through effort management, there should be a clear understanding of effort measurement. At the moment there are still many issues concerning effort measurement, ranging from unavailability of data to lack of standardization. It was recommended that the GFCM addresses the issue of effort measurement and effort standardization with priority.

44. The SCSI recommends that priority (by the GFCM Secretariat and FAO regional projects in the Mediterranean) should be put on fishing effort standardization, and on effort measurement. Note should be taken of the work done by other entities (EC, ICCAT, etc)

45. The SCSI proposes that during the 2006 intersessional period emphasis is put on fishing effort measurements.

Review and appraisal of the work carried by the SCSI during the intersessional period

46. The mandate of the SCSI for this year was to focus on Operational Unit and on effort measurement. The Coordinator of the SCSI noted that considerable progress was made with respect to these two subjects.

Recommendations to the SAC

47. The SCSI supports the recommendations done by the transversal working group on GFCM Statistical framework and databases (including IUU white list) (Rome, 26 September 2005).

48. The SCSI recommends the preparation of a GFCM manual on minimum data collection requirements for fishery management purposes, using available information, including literature.

49. The SCSI recommends that Member States should be requested by the GFCM to supply data on the fishing fleet and its activities, to enable the identification of all Operational Units in the Mediterranean area. With respect to this, the data collection should be done according to the formulated proposal presented in Annex 3

50. The SCSI requests the MedFisis project to prepare the framework (including codification), following the outline in the document on OU's in which 4 tables for OU identification are given (see annex 3), before the next Scientific Advisory Committee meeting (Tirana, Albania, 25 – 28 October 2005)

[2] An expert working group to identify the standard unit measures of each gear and to address Level 4 needs to be convened.

51. It was recommended that for the GFCM to continue to work with the Operational Unit concept, it is of paramount importance that all regional efforts and initiatives on this subject need to be carried out jointly and coordinated by the GFCM.

52. The SCSI recommends that priority (by the GFCM Secretariat and FAO regional projects in the Mediterranean) should be put on fishing effort measurement standardization, and on effort measurement. Note should be taken of the work done by other entities (EC, ICCAT, etc).

Adoption of the report

53. The report (including the report on the transversal workshop on the GFCM statistical framework and databases) was adopted on Friday 30th October 2005.

Annex 1

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Annex 2

A PROPOSAL FOR THE REGULATION OF THE CORYPHAENA HIPPURUS (L.) FISHERY IN THE MEDITERRANEAN

Whereas *Coryphaena hippurus* has been listed as a GFCM priority species for which regular stock assessment and co-management of the Mediterranean stock is encouraged.

Whereas the GFCM has adopted a policy to manage Mediterranean fisheries through an effort control regime by Operational Units.

Whereas efforts to assess the Mediterranean *Coryphaena hippurus* stock and to study the associated fisheries have taken place through the FAO-COPEMED sub-regional project since 2000.

Whereas the Code of Conduct for Responsible Fisheries encourages a Precautionary Approach in the absence of sufficient scientific information.

AND

Considering that there is a single stock of the migratory species *Coryphaena hippurus* in the Mediterranean.

Considering that the regulations and management of the *Coryphaena hippurus* fishery varies between countries and a regional management regime is not in place.

Considering that there is an increasing interest in the capture of *Coryphaena hippurus* throughout the Mediterranean.

Considering that the fishing operation targeting *Coryphaena hippurus*, involving the use of Fish Aggregating Devices (FADs) and a surrounding net, is conducted in a similar manner in all sub-regions of the Mediterranean.

Considering that certain regions of the Mediterranean are socially, traditionally and culturally dependant on the *Coryphaena hippurus* fishery.

Considering that important parameters in the measurement of fishing effort for the *Coryphaena hippurus* fishery is the number of FADs deployed and the number of fishing trips.

Considering that no robust stock assessment exercise has been carried out to date due to the particular biological and behavioral dynamics of the species and lack of essential data.

Considering that the *Coryphaena hippurus* fishery mostly targets age 0 fish (2 and 8 months old), thus depending on the annual recruitment which is very variable.

Considering that fishing operations in July capture very small fish under 15cm in length which could give a better yield in later months.

Considering that the relationship between maturity and size is not regular for this species.

A Total Allowable Effort (TAE) regional management regime is hereby being established in accordance with the following regulations:

1. FAD fisheries targeting *Coryphaena hippurus* in the Mediterranean can only operate between 15th August to 31st December.

2. The number of FADs deployed within a given sub-regional fishery management zone should not exceed an average of 10 FADs per square nautical mile.

3. The total number of fishing trips for each vessel operating within a given fishery management zone during a given fishing season should not exceed 72 one-day fishing trips or equivalent.

Annex 3

Proposal on data collection concerning operational unit identification

Table A - Fleet and area variable

- **GSA**: GFCM Geographical Sub-Area
- **Country**
- **SAC Fleet segment**:
- **Vessel Number**: Number of fishing vessels belonging to the fleet segment.
- **Capacity** Gross Tonnage (GT) or Gross Registered Tonnage (GRT)
- **Operational Activity:** Open a code for each activity developed around the year. Code composed as follows:
  - First three characters indicate the United Nations country abbreviation
  - Followed by two-digit number identifying the GSA
  - Followed by the letter of the SAC fleet segment
  - Last 2-digit number indicates the specific Operational Unit number
- **Base ports**: port/s of operation of the given Operational Unit.

Table B - Main resource and activity components variables

- **Operational activity code**: as above. For each the following data on the fishing activity practiced around the year must be obtained
  - **Activity:** Days at sea or hours fishing
  - **Fishing gear:** abbreviated (two or three characters) according to the International Standard Classification of Fishing Gear (ISSCFG).
  - **Target species** (FAO Code): scientific name of the bio-economically most important target species (up to a maximum of five species).
  - **FAO species code**: The FAO three-letter code based on the English common name as from the International Standard Statistical Classification of Aquatic Animals and Plants (ISSCAAP).
  - **Main associated exploited resources**: the species, species group or assemblage exploited in association with the target species previously indicated.
  - **Fishing period**: self-explanatory (e.g. annual, June to September)
  - **Relative Weight**: Percentage of total vessels included in the fleet segment that practiced this activity
  - **Areas where this activity is practiced:** expressed in descriptive way

Table C specific catch and effort component variables

Operational activity code: as above. For each the following data must be obtained.
Catch: Weight of the catch
Effort measure: to be discussed
CPUE: catch divided by effort

Table D - Economic components variables (by SAC fleet segment)

- **Gross Tonnage**: Total gross tonnage of fishing vessels belonging to the given Fleet Segment.
- **Horse Power**: Total engine power of fishing vessels belonging to the given Fleet Segment.
- **Employment**: Total number of people employed on fishing vessels belonging to the given Fleet Segment. The number of crew members can be estimated on a full time equivalent (FTE) basis.
- **Salary Share %:** Percentage of the revenues after discounting commercial costs, daily costs and fuel costs that pertain to the crew. It will be distributed among the crew as salary.
- **Landing weight**: Total landings in weight.
- **Landing value**: The volume of landed fish valued against actual market prices. It equals to quantities landed multiplied by the landing average price.
- **Vessel value of total Fleet**: This is defined as total invested capital – value of hull, engine, gear and equipment. The replacement-value method can be used to estimate this parameter.
- **Fishing days/y**ear per vessel: Number of fishing days per year.
- **Fishing hours/day per vessel**: Number of fishing hours per day.
- **Cost of fishing/day per vessel**: These include daily expenses incurred in fishing activity, such as fuel, lubricants, etc. They are variable costs that depend on the time spent in fishing.
- **Yearly Fixed costs per vessel**: These comprise costs not directly connected with operational activity, such as non-routine maintenance, vessel insurance, taxes and dues, etc. The fixed costs are all the costs that are inevitable to pay yearly, independently from the time spent to fish.

Notes:

1. **The General Effort** measure is expressed as a product of the Capacity by Activity for each Operational Unit even if the landing data are available at level of fleet segments. This information allows the estimate for the **CPUE**: Catch Per Unit of Effort. Specific CPUE by OU could be estimated if data is available in table C (specific catch and effort component variables).
2. In order to obtain specific catch and effort data, routine fleet and catch-effort data collection schemes must be in place at national level in order to obtain the OU related data. Sampling schemes do not necessarily need to be designed according to OU stratification, as long as data compilation could be made by OU.
3. A codification scheme to identify OU based on geographical sub-area, country, fleet segment, activity, gear type, resource, and spatial location should be established.
4. Data available by Operational Units would allow for the analysis of socio-economic and biological impacts of potential effort reduction strategies affecting selected OU in particular sub-areas of the Mediterranean.
5. Continued support from FAO sub-regional projects along with national commitments to maintain sustainable data collection schemes is essential in GFCM countries. In the case of EU members a specific attention to the Mediterranean collection of data is required to assure that the collection of data programs are coherent with the needs of GFCM.
6. All Sub Committees of SAC should work in the same categories. In particular the SCSA should address the issue as to whether or not biological data could be compiled and assessments be carried out by Fleets Segments and OU.

EXAMPLE TO FILL THE TABLES (CASES AND CODES ARE FICTITIOUS):

Table A - Fleet and area variable

- **GSA**: 3 GFCM Geographical Sub-Area
- **Country:** Spain
- **SAC Fleet segment**: M (Polivalent)
- **Vessel Number**: 156.
- **Capacity:** 75.000 GT
- **Operational Activity: ESP-3-M-01 / ESP-3-M-02 / ESP-3-M-03 / ESP-3-M-04 / ESP-3-M-05 / ESP-3-M-06 / ESP-3-M-07**
- **Base ports**: Valencia, Barcelona, Tarragona, Vilanova, Palamos, Blanes, Mataro, S.Carles, Vinaroz, Cullera.

Tables B - Main resource and activity components variables

- **Operational activity code**: **ESP-3-M-01**
- **Activity:** 3000 days
- **Fishing gear:** DRN
- **Target species**: Hake, Squid, Sole,
- **FAO species code**: XXX, CCC, GGG.
- **Main associated exploited resources**: Octopus.
- **Fishing period**: January-March
- **Percentage of segment**: 20%
- **Areas where this activity is practiced:** GSA 3

Table C specific catch and effort component variables

Operational activity code: ESP-3-M-05
Catch: 1500 kg
Effort measure: (300 hooks in 50 days =) 15000 hook days
CPUE: (1500/15000 =) 0.1 kg/hook day

Table D - Economic components variables (for fleet segment)

- **Gross Tonnage**: 75.000
- **Horse Power**: 200.000
- **Employment**: 845
- **Salary Share %:** 50%.
- **Landing weight**: 10.000 Tn
- **Landing value**: 25.000.000 Euro
- **Vessel value of Total Fleet**: 250.000.000 Euro
- **Fishing days/y**ear per vessel: 170
- **Fishing hours/day per vessel**: 9
- **Cost of fishing/day per vessel**: 1100 Euro
- **Yearly Fixed costs per vessel**: 100.000 Euro

Note: Tables B and C must be completed for each Operational Activity identified in table A.

Annex 4

Report of the Transversal workshop on GFCM Statistical Framework and Databases (including IUU white list)

Rome, 26th September 2005

Opening and approval of the agenda

1. The Transversal workshop on GFCM Statistical Framework and Databases (including IUU white list) organised by the Sub Committee on Statistics and Information (SCSI) was opened by Mr Matthew Camilleri, Coordinator of the SCSI. Ms Nicoletta Milone and Mr Felix Marttin were nominated as rapporteurs.

2. The Secretary of the GFCM welcomed participants. Emphasis was put on the importance for the GFCM to review databases and information systems developed at regional level and the need to define the requirement for drawing up a GFCM IUU white list.

3. The Coordinator gave an overview of the agenda and drew attention to the GFCM request for proposals to improve information systems and to create a GFCM Information System, including the IUU white list. The Coordinator requested if any comments or alterations were considered necessary.

4. The importance to have a transversal meeting was promptly stressed by the Coordinator and the Workshop was informed that the outputs of the meeting would be reported to the other GFCM SAC Sub Committees.

Introduction – state of affairs

5. The Workshop was informed on the state of affairs of the regional projects in the Mediterranean area: the western, central and Adriatic areas of the Mediterranean are covered by FAO Projects (CopeMed, MedSudMed and AdriaMed) which are in a bridging phase toward a second phase; the eastern part of the Mediterranean will be covered by a new project which should start no later than the first months of 2006 (EastMed). The important contribution of these projects, the FAO-FIDI programmes, the European Union programmes and other sub-regional initiatives (including those of individual groups or experts) to the development of databases, information systems and website of the GFCM was highlighted.

Statistical schemes developed by FAO regional projects

6. The Coordinator briefly introduced the MEDSTAT Programme highlighting the relevance of the codification system used for the classification of fishing vessels.

7. Then an overview of the MEDSTAT programme (Mr Coppola) was given, underlining that the implementation of this programme has been achieved in a growing number of countries, including the eastern Mediterranean countries, through the MedFsis project.

8. The MEDSTAT programme has been structured into four modules: 1) Regional codification reference system; 2) Fishing vessel register; 3) Catch and Effort Assessment Survey; 4) Central Control System. The national data collection structure was then illustrated. Attention was given to the Central Control System which is, at the present, a prototype being developed to work both at national and regional level.

9. MEDSTAT is not an imposed regional structure but the model/approach has been designed and proposed to the countries, the suggestions of which made the development of the system possible. The system will have a web-interface, which will allow countries to easily maintain and manage the structure. The programme followed a 'top-down' approach when taking into consideration the development of the system and a 'bottom–up' approach when considering the direct involvement of the countries during the design phase.

10. The ensuing discussion led to a wide debate on the framework of the regional system to be used to build up the GFCM statistical system and eventually the approach (top-down or bottom-up) to be used. The concern of the Secretary of the GFCM with regard this issues was put forward to the Workshop. The importance to have a regional framework as the starting point for the creation of the GFCM statistical data collection system was underlined.

11. The importance of standard procedures and protocols, when dealing with the creation of a new system was stressed. In this respect, the representatives of Eurostat and FIGIS reported on the schemes adopted by their programmes. It was stressed that protocols do not only cover standards, but also need to cover communication, ownership of data, the use of data, and how estimations will be made. It was noted that the GFCM cannot enforce protocols.

Databases developed by FAO regional projects

12. The application developed by the AdriaMed Project "AdriaMed Trawl Information System" was introduced to the Workshop. This system has been developed on a MS Access platform for the AdriaMed Adriatic countries (Albania, Croatia, Italy, Serbia-Montenegro and Slovenia), in collaboration with Adriatic experts, to prove a flexible common environment to standardize the trawl survey data collected during the AdriaMed demersal trawl surveys. ATrIS was conceived as a simple tool to store and perform basic processing of the data collected, to facilitate and to standardize the data entry and retrieval of data. The application offers some basic utilities to interface data with the Geographical Information System (GIS). ATrIS ver. 1.1 is now the common database application used in all countries participating in the AdriaMed Project; it is used to store not only AdriaMed trawl surveys data but also those from any other national or international surveys carried out in the Adriatic Sea. The creation of the data bank allowed for: 1) Effective survey data sharing among the participating countries; 2) Implementation of common data collection protocol; 3) Standardization of the data entry procedures; 4) Standardization of primary data compilation and reporting. A paper entitled *'Developing a regional trawl information system: ATRIS'* illustrating the application was also circulated.

13. Appraisal was made on the application and it was suggested to circulate this information among the other Sub Committees during the relevant sessions. The importance to have systems like ATrIS was highlighted as an example to be taken into account when GFCM database system are concerned.

14. An overview of the current status of FEIS was presented. The Fisheries and Ecosystems Information System (FEIS) is the information component of the FAO regional Project MedSudMed. The FEIS is designed to support scientific communities and countries in the development of a system for monitoring fisheries resources and ecosystems through the organization and standardization of the data collected in the MedSudMed Project area complemented by accessory data and information obtainable from the web and duly structured to enable joint processing. The aim of this system is to act as a support tool to study marine ecosystems, natural phenomena and fisheries, by providing a framework within which the project participants can share information and data. The key information concerns

biological aspects of resources, environmental parameters, fishery statistics and accessory data. The primary motivation is to standardize, aggregate and analyze the data, and enable them to be exported on a Geographical Information System (GIS). The system structure is constituted by i) a corporate database which contains data and basic information, maps, documents and other from both participating institutes and public sources, ii) database applications. The FEIS was developed at two levels: 1) National databases which allow the national users to store and manage their own data and a selective export to, 2) a Regional (corporate) database that contains all data coming from the participating countries and from other external Institutions. The Regional database contains information that institutes wish to share, with different levels of accessibility according to the confidentiality of the data.

15. On the basis of the presentation given, the multi-disciplinary approach of FEIS should be taken as an example when considering the development of the GFCM information system. Moreover considering all the systems present at the moment at Mediterranean level, the possibility to combine or merge these databases should be investigated thus effectively contributing to the creation of a unique GFCM information system. It was noted that two types of data need to be collected for fisheries management: fishery dependent data, like Operational Units, Catch, Fleet, economic data, etc, and fishery independent data, like scientific surveys (for instance: FEIS, Atris, and Medits). It was suggested that these two types of data are to be collected and compiled separately.

16. The workshop also recalled the existence of other databases developed by the COPEMED project such as the one on artisanal fisheries.

Other Mediterranean databases

17. Eurostat reported on its databases on fishery statistics being available for consultation free-of-charge through its website at http://epp.eurostat.cec.eu.int/. Currently the data specifically for the GFCM region is limited largely to annual catch statistics by species and by GFCM division. However, likely developments in Eurostat's programme of fishery statistics of interest to the GFCM are statistics on employment in the fisheries sector by national regions and the establishing of a database on fishery economics. The latter, the details of which have yet to be discussed with the national authorities, will probably be derived from the national databases resulting from the Commission Regulation no.1639/2001 on the collection of data.
Eurostat stressed the importance it attached to the need for concepts, definitions and nomenclatures adopted by the GFCM to be compatible with those in use within the EU. It would follow closely the development of data collection processes within the GFCM and, where appropriate, would adapt its statistical programme accordingly.

18. The potential advantage which the GFCM countries, already a member of the EU, might have in relation to the technical infrastructure to be used for the management, production and dissemination of the requested statistics was discussed. In this respect, the Workshop was reminded that eleven countries are current or candidate member states, thus underlining the need to strengthen the collaboration between FAO, EU and its services (DG Fish and EUROSTAT).

19. The Mediterranean Large Elasmobranchs database (MEDLEM) and the standard data collection and reporting procedure was presented by the Coordinator, Fabrizio Serena. MEDLEM is being developed and maintained by a network of Mediterranean researchers. It was commented that some of the species are top predators and could be used as bio-indicators of the health of the Mediterranean marine ecosystem. The Sub-committee fully agreed on the convenience and suitability to locate MEDLEM within the information system of the GFCM

as to ensure its accessibility to a wider public, and to promote its use around the Mediterranean. It was recommended that the SAC looks into this and its possibilities. It was further recommended that the Elasmobranch database was to be taken up in the GFCM website. This could be GFCM's answer to the IPOA call on the incidental catch of sharks.

Requirements for drawing up the GFCM IUU white list and the MedFisis role

20. The GFCM Secretary pointed out that fields to be requested for the GFCM record of vessels over 15 metres authorized to operate in the GFCM area are mentioned in the GFCM recommendation GFCM/2005/2. After discussion it was proposed that the MedFisis project takes the lead in developing and distributing (in close collaboration with the GFCM Secretariat) a form for member states to be filled in with regards to recommendation GFCM/2005/2 concerning the establishment of a GFCM record of vessels over 15 metres authorized to operate in the GFCM area (fields to be requested should be: Name of vessel, Vessel register number, previous name (if any), previous flag (if any), previous details of deletion from other registries (if any), international radio call sign (if any), type of vessel, length, GRT/GT, name owner(s), address owner(s), name operator(s), address operator(s), gear used, time period authorized for fishing and/or trans-shipping).

21. It was suggested that two datasheets should be developed: one for vessels over 15 meters LOA (which countries are obliged to submit before 1 July 2006), and one for vessels equal to or smaller than 15 meters LOA. It was suggested to request countries to submit both forms before the end of the year 2005. The MedFisis project was requested to technically assist the GFCM Secretariat in designing the electronic datasheets to be circulated by and submitted to the GFCM Secretariat and to assist with the processing of this information.

GFCM resources (human and financial) to manage and maintain the statistical schemes, database and website

22. The Secretary of the GFCM explained which resources could be available to the GFCM with respect to statistics and information:
    - Support from FAO/FIDI/FIGIS in maintenance of the GFCM database regarding production statistics.
    - Support from FIGIS in updating the GFCM database
    - Support from the sub-regional projects, including the backstopping by FAO officers.
    - Participating countries have committed themselves to support national institutions and scientists participating in GFCM work
    - The Medfisis project has been identified as the entity taking care of the duties to be fulfilled by the GFCM fishery statistician, which post is frozen for the time being. The Medfisis project has an ambitious programme, and has currently a very limited budget compared to its growing tasks.
    - The GFCM secretariat has been strengthened by a Deputy Secretary, Mr Abdellah Srour, who will be closely collaborating with the MedFisis project and other projects. The Medfisis project will develop the GFCM database, advised and guided by the SCSI and the GFCM Secretariat. It was noted that the financial resources of the MedFisis project are limited and while the cooperation between MedFisis and the other FAO subregional project (AdriaMed, CopeMed and MedSudMed) was much appreciated. This cooperation has optimized the effective use of available resources. In the current transitional phase (when sub-regional projects are close to start their second phase/module) the MedFisis project has experienced some constraints.

23. The workshop recommends that the GFCM calls for support to the MedFisis project, through for instance, but not limited to, transfer of available resources of the GFCM fishery statistician post to MedFisis in order to employ a systems expert who could build a GFCM system framework.

24. The GFCM Secretary pointed out that at the moment the possibility the TCP facility nationally and regionally has been under-utilized in GFCM work, and member states should be made aware of this.

Integrating existing schemes and databases according to GFCM needs; drawing up a development plan – short, medium and long term

25. The Coordinator of the SCSI proposed to draw up a short, medium and long-term plan for the SCSI to work on. He proposed that, in the short term, MedFisis continues to work at national level, assisting countries with the development, improvement and implementation of their data collection system (keeping the regional context in mind), and that the GFCM website will be used to create links/shuttles to already existing databases. In this respect, the workshop recommended that a programmer is employed as soon as possible to undertake these tasks.

26. In the medium-long term, a statistician/system developer should be employed, who could develop, maintain and manage the GFCM system.

27. The president of the Scientific Advisory Committee to the GFCM (SAC) stressed that a list with available data needs to be made. It was recommended that the GFCM requests all member states to provide the GFCM Secretariat a list of major databases on fisheries available

Recommendations of the transversal workshop on GFCM Statistical framework and databases (including IUU white list) (Rome, 26 September 2005)

28. It was recommended that the SAC looks into the use of the Mediterranean Large Marine Elasmobranchs database (MEDLEM) which could be incorporated into the GFCM information system to ensure its accessibility to a wider public.

29. Noting the wealth of data on Mediterranean fisheries, developed by FAO regional projects and other programmes, it is recommended that these data be made available, beyond the life of the afore-mentioned projects, to the GFCM community in a central database in the GFCM Secretariat. It was further noted that the GFCM has the intention of establishing its own procedures for the submission of fisheries, biological, economic, and environmental data by member countries. The management of these data will require resources being made available within the Secretariat and it is therefore proposed to the Scientific Advisory Committee (SAC) to recommend to the GFCM to appoint within the Secretariat a programmer/database manager with the responsibility of establishing and managing the central database.

30. During the workshop it was noted that for the Medfisis project (with the guidance of the SCSI) to be able to submit an inventory of data available the project needs to also know what databases are available nationally. It is therefore recommended that GFCM member states provide the GFCM Secretariat with a list of available databases on fisheries.

31. The workshop recommended that the GFCM supports the MedFisis project, through for instance, but not limited to, transfer of available resources of the GFCM fishery statistician

post to MedFisis in order to employ a systems expert who could develop a GFCM system framework.

32. The participants of the workshop requested the MedFisis project to take the lead in developing and distributing (in close collaboration with the GFCM Secretariat) a form for member states to be filled in with regards to recommendation GFCM/2005/2 concerning the establishment of a GFCM record of vessels over 15 metres authorized to operate in the GFCM area (fields to be requested should be: Name of vessel, Vessel register number, previous name (if any), previous flag (if any), previous details of deletion from other registries (if any), international radio call sign (if any), type of vessel, length, GRT/GT, name owner(s), address owner(s), name operator(s), address operator(s), gear used, time period authorized for fishing and/or trans-shipping).

33. It is recommended that two forms with regards to vessels authorized to operated in the GFCM area, should be developed: one for vessels over 15 meters LOA (which countries are obliged to submit before 1 July 2006), and one for vessels equal to or smaller than 15 meters LOA. It is recommended to request countries to submit both forms before the end of the year 2005. The MedFisis project was requested to check the consistency of the data submitted, and compile the responses in an accessible way.

34. The workshop participants invited GFCM member states to join common efforts with regards to the vessel list, and discuss and agree upon the data which can be made publicly available.