REPORT OF THE GFCM-SAC TRANSVERSAL WORKSHOP ON THE COMPILATION OF GFCM TASK 1 DATA

CASABLANCA, MOROCCO 19–22 JUNE 2007

OPENING AND ARRANGEMENT OF THE WORKSHOP

1. The GFCM-SAC Transversal Workshop on the compilation of GFCM Task 1 data was held in Casablanca, Morocco, from 19 to 22 June 2007. The meeting was attended by 36 participants from Albania, Algeria, Cyprus, Egypt, European Commission, France, Greece, Italy, Libya, Malta, Montenegro, Morocco, Spain, Syria, Tunisia and Turkey as well as by FAO. The list of participants is provided in Appendix 2.

2. Mr Youssef Ouati, representative of the "Ministère de l'Agriculture, de la Réforme Agraire et de la Pêche" and Mr Salah Benchriffi, representative of the Director General of the "Institut National de Recherche Halieutique" (INRH), opened the workshop and welcomed the participants. They stressed in particular the important role played by the General Fisheries Commission for the Mediterranean (GFCM) in promoting research activities and managing the Mediterranean fisheries.

3. Mr Abdellah Srour, Deputy Executive Secretary of the GFCM thanked the INRH for hosting this meeting, and FAO and its regional projects for supporting the GFCM activities.

4. Ms Karlou-Riga, coordinator of the Sub-Committee on Stock Assessment (SCSA) recalled the context and the main objectives of the workshop and made reference to GFCM resolution GFCM/31/2007/1 adopted by the Commission during its last session held in Rome (January 2007).

5. Ms Karlou-Riga chaired the workshop. Mr Matthew Camilleri was designated facilitator of the workshop and Mr Federico De Rossi, Mr Jordi Lleonart and Ms Monica Barone were designated rapporteurs.

ADOPTION OF THE AGENDA

6. The draft agenda was introduced by Ms Karlou-Riga and it was unanimously approved (Appendix 1).

RECALLING THE DEVELOPMENT OF GFCM TASK 1 AND THE RELATED GFCM RESOLUTION (GFCM/31/2007/1) (BY M. CAMILLERI)

Abstract: The background and the purpose for developing the GFCM Task 1 multidisciplinary statistical matrix was presented. Through this matrix, data is to be compiled and submitted to the GFCM by GSA in a standard format according to a defined fleet segmentation and predetermined parameters and measurement units. It was added that the Resolution essentially lays the foundation for the development of one core

component of the GFCM database which would assist the Commission in implementing its strategy to manage the fisheries through effort control by Operational Units.

THE CURRENT INFORMATION TECHNOLOGY (IT) STATUS OF THE GFCM TASK 1 DATABASE AND INFORMATION SYSTEM (BY M. CAMILLERI AND F. DE ROSSI)

Abstract: The authors delivered a brief presentation on the overall framework and design of the GFCM database and information system was delivered by the GFCM Secretariat (Appendix 3). This was followed by a detailed presentation on the updated electronic tool (Appendix 4) developed for compiling and submitting data according to the GFCM Task 1 statistical matrix and tables, together with an overview on the envisaged future development. The link, through an automatic codification system, between the stock assessment forms electronic tool and the Task 1 tool was also explained; it was suggested that the stock assessment forms could essentially constitute Task 1.5.
The participants were informed that the Task 1 database is one of the various components of the GFCM data base.

It was noted that one of the main problems arises when there are several target species, or, the fishing target is an assemblage of species. After some more technical discussion it was agreed that the workshop must develop practical work, using the Task 1 electronic tool, in order to identify the real problems.

REVIEW OF EXPERIENCES IN IMPLEMENTING GFCM TASK 1

7. On the basis of trials in compiling data using the Task 1 electronic tool, prior to the workshop, participants were invited to give feedback on their experience, including on the use of the guidelines. The issue related to the utility of data originating from the fleet register and catch assessment surveys, particularly for Task 1.1 and 1.2, was extensively discussed.

Presentations:

- MedStat: its role in the implementation of Task 1 (by S. Coppola)

Abstract: The status of the development of MedStat, an adaptive approach for the development of fishery statistical systems, and its functioning in the various countries was reviewed (Appendix 5). In addition, the “add-on tool” developed to broaden MedStat (starting with the Fleet Register) to the Task 1 exercise was presented in detail (Appendix 6). It was explained that, once the data model concerning Task 1 is completed, the “add-on-tool” would be integrated in the working system for both Fleet Register and the Catch Assessment Survey. It was highlighted that any further achievement in this regard depends on the availability of support from FAO sub-regional projects; nevertheless, in certain cases, at national level some actions were supported for immediate execution with the support of the GFCM. It was also noted that no major problems are envisaged in the Adriatic Region whereas, the importance of the statistical component within the Copemed project will be addressed with priority as soon as the project is operational.

- The new EU DCR with special emphasis on the fishery/métier based collection of fishstats and biological data (by F. Redant)

Abstract: The EU Data Collection Regulation (DCR) has been a major step forward with regards to fishery-related data collection in support of the Common Fisheries Policy, by:
– Consolidating existing data collection schemes.
– Creating the framework for the establishment of new data collection schemes (e.g. on discards).
However, the DCR falls short in providing the general framework for the new, fishery-based approach to fisheries management and hence, a thorough revision of the DCR is required.
Following the general principles defined by the European Commission, the aim of the new DCR should be to:
– Support new approaches to fisheries management, such as the move from stock-based to fishery- and area-based management.
– Support the ecosystem approach to fisheries management.
– Promote a regional dimension to fisheries management and hence, its supporting data collection framework.
– Increase the quality and validation of the data used.
– Improve access to and exchange of data.
– Improve the use of the data.
– Integrate the entire chain from data collection to stock evaluation in a single framework.
– Promote simplification of the data collection framework.

The planned move from an essentially stock-based to a fishery-based data collection system, requires a major overhaul of the DCR. SGRN 06-03 did not try to modify the existing DCR. Instead, it took a top-down approach, by addressing:
– The current and expected data needs by Regional Fisheries Organisation (RFO)*.
– The sampling population and its stratification (the métiers)*.
– The distinction between métier-specific and stock-specific data *.
– How to organise métier-based data collection "in the field" *.
– Aspects of data quality (precision levels).
– Required changes to other fishery-related EU Regulations.

Sampling population and its stratification
The approach proposed by the SGRN 06-03 is *to group fishing operations into strata with identical features in terms of gear type, target assemblage and selective properties of the gear used*, i.e. stratification by métier. Métiers attempt to harmonise the clustering of fishing operations (i.e. voyages, hauls, etc.) at the regional level.

The SGRN proposal advocates a common hierarchical classification of the regional métiers matrices with the following structure:
– Level 1: Distinction between active fishing vessels, fishing vessels involved in other activities than fishing, and inactive vessels.
– Level 2: Gear class.
– Level 3: Gear group.
– Level 4: Gear type (FAO classification).
– Level 5: Target assemblage (e.g. Crustaceans, small pelagics, etc., but also mixed assemblages, e.g. mixed Crustaceans and demersal fish, mixed pelagic and demersal fish, etc.).
– Level 6: Mesh size and other selective devices.

* In the presentation, only the items shown with an asterisk were covered, as these are the ones that are most relevant to the discussion on how to converge the métier matrices defined in the new DCR and by the GFCM

In addition, the métier matrices also have strata defined by overall length class of vessel (LOA class), viz. < 6, 6-10, 10-12, 12-15, 15-18, 18-24, 24-40 and > 40 m. The proposed métier matrix for the Mediterranean is shown in Appendix 10. It is important to note that the métier matrices should *not be seen as a means to produce data sets that can directly be fed into the evaluation and management process, but as a means to harmonise data collection according to internationally agreed strata*.

Details of data needs, data typology and field sampling strategies in connection with the DCR were also presented (see Appendix 10).

8. The workshop noted that the Data Collection Regulation (DCR) of the EU STECF, proposal SGRN-06-03 moves from the traditional stock-basis to fishery-based data collection. More meetings are foreseen to incorporate and manage economic data.

9. The issue of compatibility between the GFCM (already adopted by the Commission) and European Commission system (not yet officially adopted) was discussed at length. According to some participants, the matrices do not seem to be very different from each other. One is a transposition of the other, however there still appears to be some clear differences that should be analysed in depth and a common set of definitions should be agreed upon.

10. Mr Nicos Hadjistephanou informed the participants about the 4th European Union Regional Coordination Meeting for Mediterranean Sea (RCM Med), held in Nicosia, Cyprus, 23-27 April 2007, related to the implementation of EU Data Collection Regulation (DCR). In that meeting the GFCM Operational Unit Task 1 was presented and discussed. That meeting highlighted the fact that differences exists between GFCM Task 1 matrix and DCR Fleet-Fishery matrix. The RCM Med meeting expressed its concern on the possibility of the EU Mediterranean member states having to comply and fill two different matrices. He added that the EU Mediterranean countries expressed their willingness to make the two matrices compatible. Mr Hadjistephanou stressed that he was talking on behalf of the EU Mediterranean countries in his capacity as the Chairman of the 4th RCM Med and quoted the relevant part of the Regional Coordination Meeting report.

11. The participants at the workshop agreed that the issue of compatibility of the EC Matrix and Task 1 is to be discussed during the forthcoming meeting of Sub-Committee on Statistics and Information (SCSI) (Kavala, September 2007) under a specific agenda item.

- <u>The French Mediterranean fleet. Relevant segmentation of vessels for economic indicators (presented by J. Vigneau)</u>

Abstract: The economic parameters of the French fleet are collected on a routine basis, by random sampling of 15% of the vessel population. The population is stratified according to the dominance criterion (DCR segmentation) as a first step and an optimal sample is defined within a stratum to achieve a precision level of at least 25% for the gross earnings. In a second step, the optimal sample is increased in order to be in line with a national segmentation, based on gear combinations along the year. This way of doing is usually more precise than international segmentation and allows to "replay" the stratification on demand, provided non discrepancy of the final allocation. For the GFCM workshop, the 2005 Mediterranean economic data has been reallocated considering the

GFCM Task 1 Operational Units rules. The result showed that a non marginal number of vessels fell beside the authorised segments, as is especially the case for tuna seiners, for example. A number of vessels fell in totally unauthorised segments resulting probably from confusion in the allocation rules, thus showing the necessity to establish clear and unambiguous segments and allocation rules. The second important information concerns the inflation of the segments 'Minor gear with engine' <6 m and 6 – 12 m. accounting for 77% of the French Mediterranean fleet. An analysis of variance has been carried out on 5 economic parameters, showed that the segments of small vessels less than 12 meters should be further disaggregated by length classes. In a second step, splitting the segment of vessels less than 12 m. in two segments of less and more than 9 m. proved to be the optimal solution. Two cuts at 7 m. and 10 m. explained the same variance as one cut at 9 m. As a conclusion, France would welcome a redefinition of the segmentation used in the Mediterranean with the aim of increasing the precision of the economic estimates, and asks for harmonisation with the European definitions so that the collection and analysis of the economic data be done with the same standards.

An overview of the French national data collection programme in place for the Mediterranean was also delivered and a summary is included in Appendix 9.

12. Following on the subject of economic indicators and fleet segmentation, the Chairman of the EU RCM, Mr Nicos Hadjistephanou, informed the participants about the results of a statistical analysis conducted during the 4th Regional Coordination Meeting. The statistical analysis was conducted as a separate session of the meeting by the Economists, following the recommendation of the EU STECF – SGECA Salerno meeting (January 2007) on the necessity for more detailed stratification of the length classes to be discussed on a regional level. The aim of the statistical analysis carried out was for the EU RCM Med to decide which split is preferable, in order to increase the homogeneity of the segments and, therefore, the reliability of final estimates. Particularly, following the recommendations of the Nantes and Salerno meetings (REF) the Economists of the EU RCM Med investigated the possibilities of including a length split within the group 0-12 meters (6 or 10m) and another split in the group of 12-24 meters (15 or 18). The choices of the split was based on the existing EU Regulation, in particular the logbook Regulation (vessels above 10 m) VMS (vessels above 15 m) etc. However, a further split would only be useful if the cost structure is different, or if estimates could be improved.

13. The dataset was composed of individual anonymous data provided by some EU Member States attending the EU RCM Med. Data from Italy, Cyprus, France and Malta were suitable to build the common template. The Mediterranean coverage was not complete, but it has considerably increased with respect to the Nantes meeting (June 2006).

14. According to the results of the statistical analysis, presented to the EU RCM Med, a further split at 6m is justified, while no preference was shown between a split at 15m and a split at 18m.

- A test of the Task 1 tool by using the AdriaMed OUs for the Italian part of the GSA 17 (by P. Accadia)

  Abstract: In 2004 the FAO AdriaMed project set up an ad hoc Working Group on the Operational Units (OU) to test the possible application of this concept in the Adriatic Sea. The analysis of the fishery sector in the Adriatic Sea and the discussion inside the Working Group produced a first document presented at 7th Session of the GFCM

Scientific Advisory Committee (Rome, 19- 22 October 2004)[1]. A preliminary list of the identified OUs in the GSAs 17 and 18 is provided in the same document.

For the GFCM-SAC Transversal Workshop on the compilation of the GFCM Task 1 data, the AdriaMed WG tested the possibility to obtain the list of AdriaMed OUs for the GSA 17 by using the Task 1 tool. The main problems encountered in the compilation of task 1.1 follow:

- Despite the 9 AdriaMed OUs for the fleet segment L (dredgers) based on the different costal zones where this activity is practised within the GSA 17, Task 1 tool produces just 1 fleet segment for the entire area. As economic data are collected at fleet segment level in Task 1, the economic description of the 9 OUs produced by the AdriaMed project are aggregated in task 1 losing relevant information.
- The same problem has been encountered for other fleet segments like pelagic trawlers (J) and purse seiners (G and H), which according to AdriaMed's OUs table were sub-divided into a Northern and a Central Adriatic fleet. Task 1 tool produces only 1 fleet segment for pelagic trawlers and 1 for purse seiners.

The problems highlighted for the fleet segmentation in the above Task 1.1 and the difficulties to obtain the some OUs defined by the AdriaMed project have been encountered also in the step of OUs identification. In this case, the main problems can be resumed as follow:

- The fleet segment L cannot be split into 9 OUs, and the fleet segments J, G and H cannot be split into 2 OUs each based on the fleet location in the GSA 17. The identification of different OUs based on the fleet location within a GSA is not allowed in the Task 1 tool as geographical differentiations are not considered at a level lower than the GSA.
- The use of a progressive number in the OU code could be associated to the box "Areas where this activity is practised" to obtain different OUs in different areas. Anyway, also adopting this arrangement, the economic data cannot be input into the tool as they are collected by fleet segment in the Task 1.1.

- The Moroccan experience (by D. Essekelli)

Abstract: Malgré certaines difficultés rencontrées dans la collecte des données nécessaires pour l'identification des unités opérationnelles, ces derniers constituent un moyen important pour la gestion de l'effort de pêche, notamment en Méditerranée où la pêche devient plus complexe. La tâche 1, constitue alors un outil important pour rassembler toutes les données qui permettent l'identification des différentes unités opérationnelles existantes, et gérer ainsi et convenablement l'effort de pêche.

La présentation décrit d'une part les principales données disponibles en Méditerranée marocaine et étudie leur compatibilité avec l'application CGPM Task 1 sollicitée au niveau de la CGPM, et d'autre part expose certaines remarques sur les données exigées dans cette base de données Task 1, ainsi que les difficultés et les contraintes de leur collecte.

15. The Moroccan experts raised the problem of Atlantic-Mediterranean fleet migrations, and how to manage it. This problem does not exist in the other two countries with two coasts (France and Spain).

[1] AdriaMed. 2004. Adriatic Sea Operational Units: First Identification and Listing. Paper prepared in occasion of the 7th Session of the GFCM Scientific Advisory Committee (Rome, 19-22 October 2004). FAO-MiPAF Scientific Cooperation to Support Responsible Fisheries in the Adriatic Sea. GCP/RER/010/ITA.

- Case study, Tunisian coastal shrimp coastal fisheries in GSA 14 (by O. Jarboui)

Abstract: Depuis quelques années le SAC, particulièrement le Sous Comité des Statistiques et de l'Information a déployé d'importants efforts pour définir, identifier et mettre en fonctionnement les unités opérationnelles des plus importantes pêcheries méditerranéennes. Cette démarche contribuera énormément à la bonne gestion de ces pêcheries et à leur conservation.

Au niveau des pêcheries tunisiennes, de nombreuses unités opérationnelles pourraient être identifiées. A l'occasion de cet atelier, nous présentons une étude de cas des unités opérationnelles relatives à la pêcherie des crevettes côtières par les filets trémail dans la région du golfe de Gabès. Cette pêcherie débute chaque année vers le mois de mai pour s'achever vers le mois de juillet. Une centaine de barques côtières participent aux opérations de la pêche et ciblent les deux espèces de crevettes à savoir la crevette *royale Penaeus kerathurus* et la crevette mouchetée *Metapenaeus monoceros*. Les espèces accessoires sont essentiellement la seiche *Sepia officinalis*, le sparaillon *Diplodus vulgaris*, la sole *Solea aegyptiaca*, le rouget rouge *Mullus surmuletus*, le marbré *Lithognathus mormyrus* et la bogue *Boops boops*.

Cependant, il est important de noter que cet outil ne pourrait donner d'intéressants résultats que si les opérations de collecte des données se fait correctement et que les informations relatives aux activités de pêche soient fiables. Par ailleurs, nous avons énuméré quelques recommandations et suggestions qui pourraient améliorer la qualité des données collectées, à savoir:

- Il faut tenir compte de la complexité des pêcheries en Méditerranée (plusieurs espèces, plusieurs engins, utilisation de deux engins dans la même sortie.
- Il faut signaler l'effort considérable fournie par le SAC, particulièrement le SC Statistiques et Information sur cet aspect. Il faut continuer même à petite échelle.
- Effort important à déployer par les pays au niveau de la collecte des données fiables (un réseau d'enquêteurs permanent pourrait être une solution valable.
- Il est important d'associer la recherche scientifique dans cet aspect
- Intérêt des enquêtes ; essayer de simplifier au maximum le type d'information demandée.
- Si la collecte des données se fait à travers un protocole d'échantillonnage bien spécifique, il est important de tester statistiquement la validité des données estimées.
- Envisager l'approche écosystémique et donner beaucoup plus de l'importance à la totalité de l'écosystème marin et non uniquement à l'activité de pêche

- Summary of the outcomes of the workshop on disaggregated data and the implications for Task 1 (by Constantina Karlou-Riga)

Abstract: Thirteen data bases presented were elaborated on various issues by descriptive and by temporal analysis. By descriptive analysis the issues of zero catch, the means estimation, the identification of clusters of vessels and target species were addressed. By temporal analysis the variability of landings at different time scales for seasonality and trends description along with price dynamics were also addressed. Several exercises were performed to identify fishing strategy and tactics. Problems were discussed such as the effort unit (day, trips), while the multivariate analyses by ANOVA, GLM, ARIMA were considered as useful tools. Disaggregated data of catch/landings and prices although not adequate for using age-structured assessment models, were considered as useful for tuning VPA. The requirements/constraints for applying production models by the use of disaggregated data were analytically presented and discussed. The general conclusions of the workshop were a) the usefulness of actual working with computers during the WS, b) the existence of several data bases in the Mediterranean, c) the importance of specialists,

like economists, contribution, d) the preparation of a methodological guidelines document to analyse disaggregated data and e) the publication within the GFCM Studies and Reviews series on the guidelines to analyse disaggregated data.

- Development of fisheries statistics in Syria

16. Mr Issam Krouma (Syria) gave an overview of the status of fishery statistics and information systems in Syria, including on the efforts made in Syria to establish equipped fisheries monitoring sites and to reinforce capacity building in fisheries statistics. He expressed Syria's great satisfaction and gratitude for the supporting role played by the FAO/MedFisis project in this regard particularly in training, in supporting technical missions of Syrian experts and in providing continuous technical advice. The testing exercise undertaken to compile Task 1 data made use of updated Syrian fleet register data together with additional data derived from a pilot activity, supported and designed by MedFisis, aiming to monitor landings and fishing vessels' activity as well as to sample catches. Through the latter activity Syrian fisheries officers are also receiving on-the-job training practice, including on statistical analysis of data to fine-tune the data collection scheme.

PRACTICAL SESSION USING DISAGGREGATED DATA TO COMPLETE GFCM TASK 1

17. In light of the discussions which took place under agenda item 5 participants worked in three separate groups to test the "fitting" of their national datasets with GFCM Task 1 using the revised electronic tool.

18. Three groups were composed by experts from the following countries:

- Group 1: Albania, Malta, Syria, Libya and Montenegro (coordinated by M. Darmanin)
- Group 2: Tunisia, Morocco, Egypt, Algeria and Turkey (coordinated by D. Essekelli)
- Group 3: European Commission, Cyprus, Spain, France, Italy, Greece and Malta (coordinated by P. Accadia)

19. The reports of each group are given in Appendix 7.

REVIEW OF PRACTICAL SESSION

20. A summary of the trials carried out during the practical session is given in Appendix 8.

21. The three groups provided suggestions related to the improvement of the Task 1 electronic tool, actions to be taken to review concepts and definitions, regional / sub-regional cooperation initiatives related to the development of statistical systems, together with general recommendations for the immediate and effective implementation of Resolution GFCM 31/2007/1. The combined and agreed suggestions are summarised below:

Actions to be taken for the improvement of the Task 1 data entry electronic tool

- A map of the GSA areas should be included in the software (link to the website).
- Put the code-letter of the fleet segmentation (in the scroll down menu).
- In addition to "fishing gear class" it would be useful to add another field for the specific gear in the sections reporting the fishing period.
- The fishing period should be more flexible (start period, end period).
- Guidelines on how to treat the case of more than one target species should be included.
- The list of species should be more user-friendly, it should be reduced to the main commercial species in the Mediterranea, and some grouping at the genus level.
- A section for general comment on type of data used (census, actual, logbook), methodology used, and problems with availability of data (unreported vessels, missing values) etc. should be added.
- Include the unit of all the parameters.
- Include the reference year.
- Indicate clearly that discards and bycatch are to be reported by gear.

Actions to be taken to review / analyse concepts and definitions

- ***Sub-Committee on Statistics and Information***
    - Discuss the best way to enter landing data (total catch or by-species) of OUs targeting several species.
    - Review the list and definitions of parameters in Task 1.
    - Address problems related to the non-compatibility between the FAO area coding system and the GFCM GSA stratification.
    - Reconsider the fishing effort parameters to be reported. The choice between days or hours in the Excel template is likely to lead to incompatibilities when merging data sets from different countries. A choice should be made between the two. Fishing days and days at sea are both important to report. The units should unambiguously be defined.

- Reconsider the need to distinguish between "Miscellaneous gear" and "Other gear" in the fishing gear class codification

- Consider the need to report the port(s) of landing, in addition to the base port(s).

- In order to improve compatibility between the GFCM and the DCR matrices, and consistency of criteria and parameter definitions in the two systems, DCR experts are encouraged to attend the SAC Sub-Committee on Statistics and Information in Kavala (This issue will be included as an agenda item under "compatibility with other regional initiatives" in the Sub-Committee's agenda).

➢ ***Sub-Committee on Economics and Social Sciences***

- Review of the fleet segmentation.

  ✓ Reconsider fleet segments for clarity and internal consistency. The same allocation criteria should be applied to all length classes. Avoid large number of vessels being allocated to neighbouring cells. Revise the naming of "minor gear" categories.

  ✓ Reconsider groupings of vessels in the vessel matrix. Groupings of wide ranges of vessels in a single stratum (e.g. all pelagic trawlers from 6 to >24 m now end up in the fleet segment "12-24 m") may lead to mergers of fleet segments with completely different exploitation patterns, and thus, to a mis-match between the economic and the biological characteristics of a fleet segment.

- Review the list and definitions of parameters in Task 1.

- Address the issue of migrations of vessels between GSA's and between the Mediterranean and Atlantic and the implications for Task 1.

➢ ***Sub-Committee on Stock Assessment***

- Re-address the definition of target assemblages, especially the distinction between inshore and offshore inside the demersal species group. If the distinction is supposed to be between continental shelf and continental slope assemblages, then change the wording accordingly.

- Review the list and definitions of parameters in Task 1.

Suggestions for regional / sub-regional cooperation initiatives related to the development of statistical systems

- In the framework of MedStat, the workshop agreed to give immediate regional priority to the development of the Fleet Register system and related data collection.

GENERAL DISCUSSIONS AND CONCLUSIONS

22. The following recommendation was drawn up by the workshop, in connection with the way forward in implementing GFCM task 1 and data submissions according to GFCM/31/2007/1:

General recommendations for the immediate and effective implementation of Resolution GFCM 31/2007/1 (Task 1)

- The GFCM Task 1 electronic tool has been found to be very useful in compiling multidisciplinary data, identifying Operational Units and describing the operations of the fleet in accordance with Task 1 Resolution GFCM 31/2007/1. It is therefore recommended to proceed with the development of the tool whilst continuing to work and test the revised version (according to the outcomes of this workshop) at national level until reconvening for the SAC Sub-Committee meetings (September 2007).

ADOPTION OF THE REPORT

23. The suggestions, actions to be taken and general recommendations as detailed were adopted on 22 June 2007. The whole report was adopted by E-mail on 13 July 2007.

Appendix 1

AGENDA

1. Opening and arrangements for the workshop.

2. Adoption of the agenda.

3. Recalling the purpose and development of GFCM Task 1 and the related GFCM resolution (GFCM/31/2007/1).

4. The current Information Technology (IT) status of the GFCM Task 1 database and information system.

5. Review of experiences in implementing GFCM Task 1.

6. Practical session using disaggregated data to complete GFCM Task 1.

7. Review of practical session.

8. General discussions and conclusions.

9. Adoption of the report.

Appendix 2

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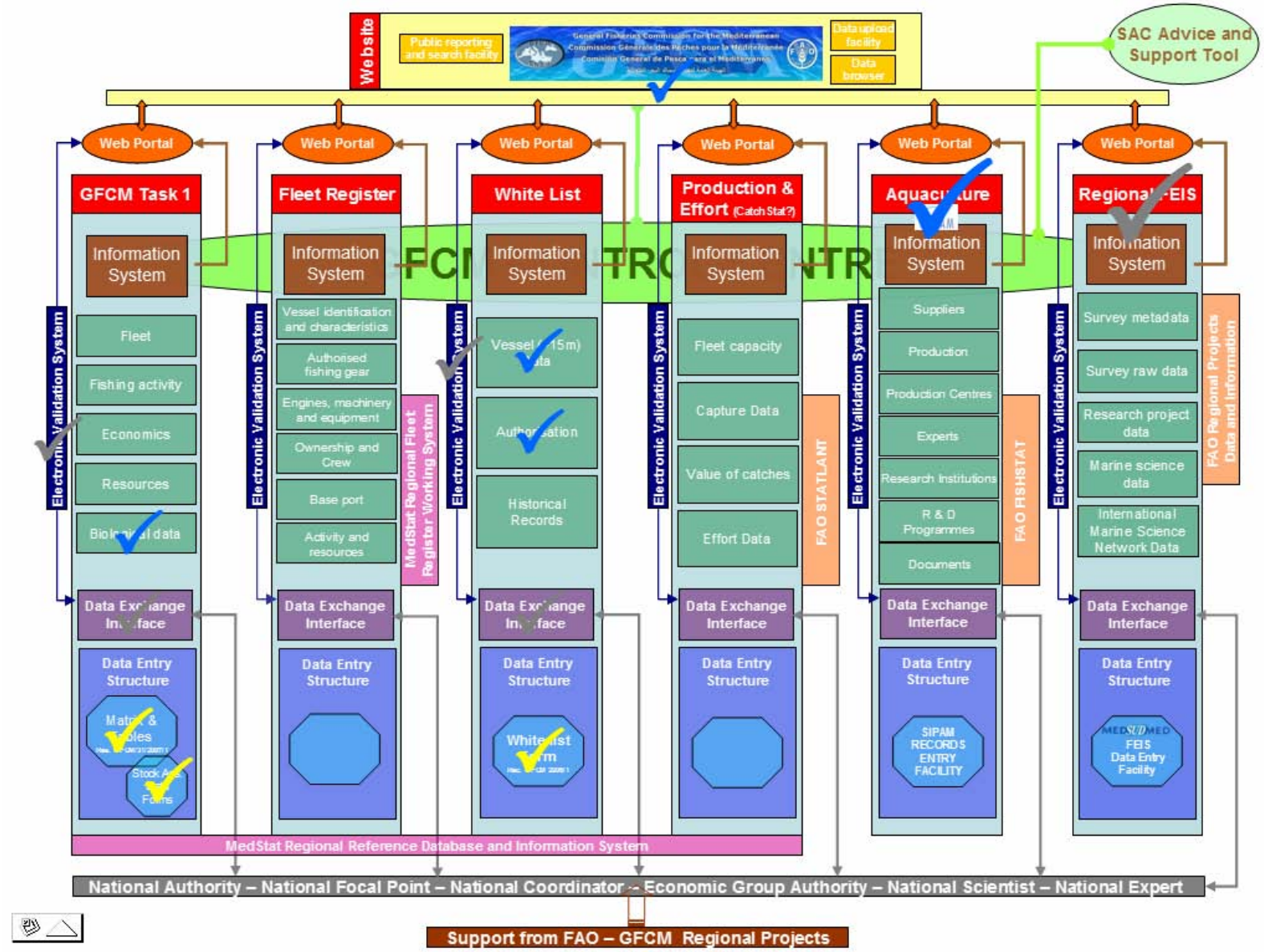
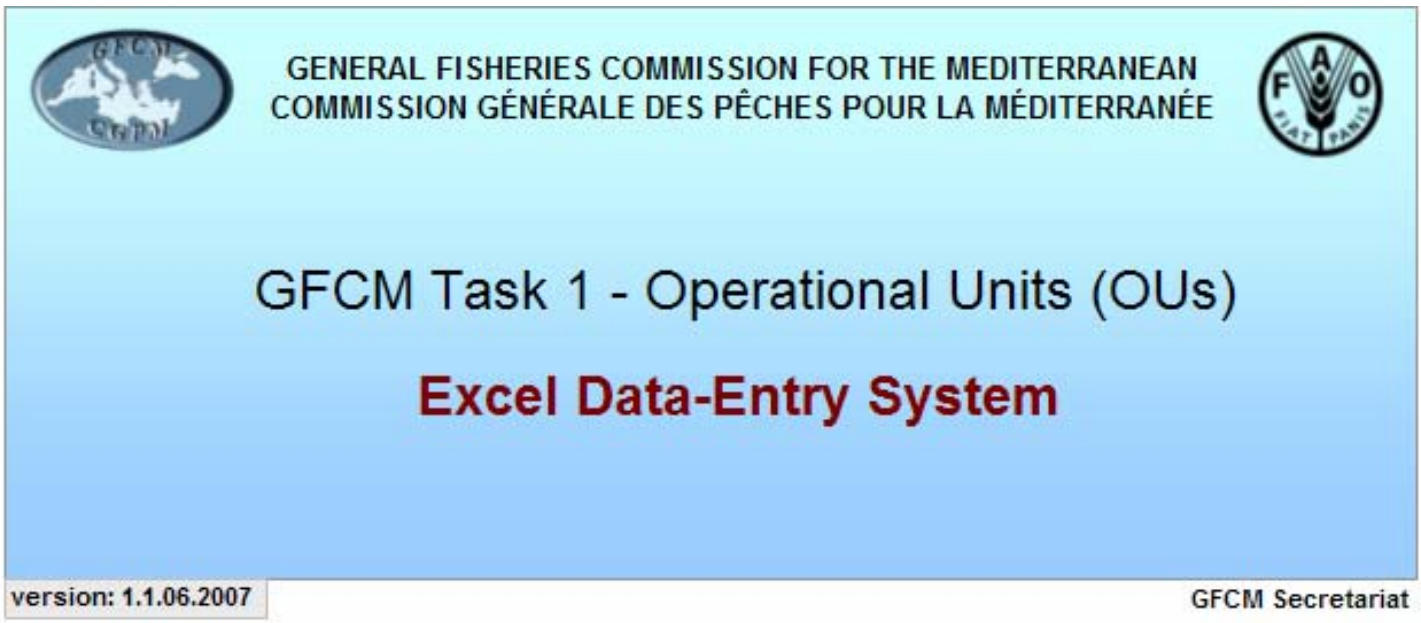
Appendix 3 : Schematic diagram of the planned GFCM Database and Information System Structure[2]



[2] ✓ indicates that some level of achievement has been accomplished (yellow – high level; blue – intermediate level; grey – low level)

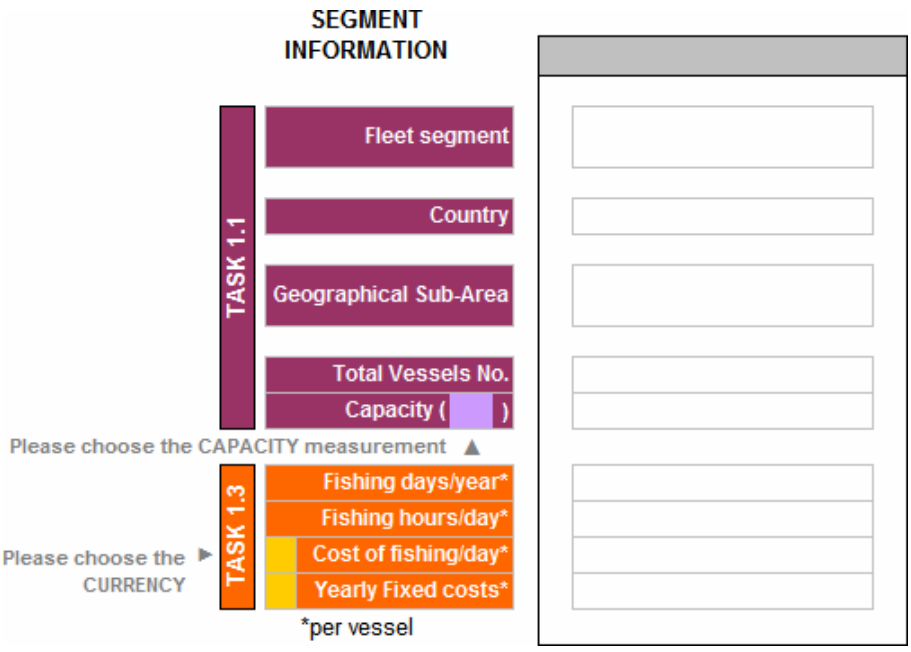
Appendix 4


GENERAL FISHERIES COMMISSION FOR THE MEDITERRANEAN
COMMISSION GÉNÉRALE DES PÊCHES POUR LA MÉDITERRANÉE
GFCM Task 1 - Operational Units (OUs)
Excel Data-Entry System
version: 1.1.06.2007
GFCM Secretariat
Data-entry
Start the OUs data entry (step 1, 2 and 3).
Guidelines
Consult the guidelines to compile OUs data.
References
Consult the references system: Countries, Fishing gears, Fleet segments, Geographical Sub-Areas, Species, Group of target species, Fishing effort measurement.
Contacts
GFCM - Viale delle Terme di Caracalla - 00153 Rome, Italy - Tel:+390657056441 - Fax:+390657056500

STEP 1 – Country and GSA

COUNTRY		GEOGRAPHICAL SUB-AREA
Albania	ALB	01 - Northern Alboran Sea
Algeria	DZA	02 - Alboran Island
Bulgaria	BGR	03 - Southern Alboran Sea
Croatia	HRV	04 - Algeria
Cyprus	CYP	05 - Balearic Island
Egypt	EGY	06 - Northern Spain
France	FRA	07 - Gulf of Lions
Greece	GRC	08 - Corsica Island
Israel	ISR	09 - Ligurian and North Tirrenian Sea
Italy	ITA	10 - South and Central Tirrenian Sea
Japan	JPN	11 - Sardinia
Lebanon	LBN	12 - Northern Tunisia
Libyan Arab Jamahiriya	LBY	13 - Gulf of Hammamet
Malta	MLT	14 - Gulf of Gabes
Monaco	MCO	15 - Malta Island
Montenegro	MNE	16 - South of Sicily
Morocco	MAR	17 - Northern Adriatic
Romania	ROM	18 - Southern Adriatic Sea
Slovenia	SVN	19 - Western Ionian Sea
Spain	ESP	20 - Eastern Ionian Sea
Syrian Arab Republic	SYR	21 - Southern Ionian Sea
Tunisia	TUN	22 - Aegean Sea
Turkey	TUR	23 - Crete Island
		24 - North Levant
		25 - Cyprus Island
		26 - South Levant
		27 - Levant
		28 - Marmara Sea
		29 - Black Sea
		30 - Azov Sea

STEP 2 – Fleet Segment



STEP 3 – Operational Unit

Operational Unit Code ►

TASK 1.2

- ! Fishing Gear Class
- ! Group of target species
- ! Number of Vessels
- ! Base ports

PERIOD 1

- ! Fishing period — Vessels No.
- ! Activity (days or hours) — unit (D or H) — number
- ! Main target species
- ! Main associated species — 1, 2
- ! Areas where this activity is practiced

PERIOD 2

- ! Fishing period — Vessels No.
- ! Activity (days or hours) — unit (D or H) — number
- ! Main target species
- ! Main associated species — 1, 2
- ! Areas where this activity is practiced

PERIOD 3

- ! Fishing period — Vessels No.
- ! Activity (days or hours) — unit (D or H) — number
- ! Main target species
- ! Main associated species — 1, 2
- ! Areas where this activity is practiced

PERIOD 4

- ! Fishing period — Vessels No.
- ! Activity (days or hours) — unit (D or H) — number
- ! Main target species
- ! Main associated species — 1, 2
- ! Areas where this activity is practiced

Species/Period (automatic code) ► | --- | --- | --- | ---

TASK 1.4

- ! Catch or Landing
- ! Effort measure
- ! CPUE or LPUE
- ! Discard
- ! Bycatch

TASK 1.5

- Length range of captured species
- Length average
- Sex
- Maturity

ADDITIONAL INFORMATION

Appendix 5

Localization and status of MedStat applications in the Mediterranean

Country	Application	Release[3]	Present Status	Latest software Update
Albania	Commercial Vessel Register	Second Generation	Completed/Ongoing	2007
	Commercial CAS Logbook	First Generation	Completed/Ongoing	2007
	Small Scale Vessel Register	Second Generation	Ongoing	2007
	M&M Control Centre	Second Generation	Prototype	2005
Algeria	Fishing Vessel Register	Second Generation	No activity	2004
Croatia	Industrial Vessel Register	First Generation Prototype	Interrupted/ No activity	2003
	Industrial CAS	Assessment	Interrupted/ No activity	2003
Egypt	Fishing Vessel Database	Second Generation (??)	Beta Version/ No activity	2005
Lebanon	Fishing Vessel Register	Second Generation	Completed	2005
Libya	Fishing Vessel Register	Second Generation	Completed	2004

3

MedStat "First generation" software is developed entirely in:
Operating System MS Windows 97/2000.
Development environment: Visual Basic with the powerful MS Access 97/2000 engine, which is a real Relational Data Base Management System (RDBMS. Specifically all prototypes were developed in Visual Basic – Access 97/2000 as stand-alone configuration .

MedStat "Second generation" software is developed in:
Operating System: MS Windows 2000/XP.
Development environments:
Visual Studio 2003.net (Framework 1.1 - Programming Language: C# 2003 and MS Visual Basic .NET)
Add-ons to Visual Studio: DataDynamics Active Reports and Dundas Charts
Microsoft SQL Server - SQL programming language or Access 2002 as database engine

Malta	Fishing Vessel Register	First Generation	Completed/Ongoing	2006
	CAS Logbook	First Generation	Completed/Ongoing	2006
	CAS Artisanal Fishery	First Generation	Completed/Ongoing	2006
	M&M Control Centre	Second Generation	Prototype	2005
Montenegro	Fishing Vessel Register	Second Generation	Completed/Ongoing	2005
Morocco	Fishing Vessel Database	First Generation	Completed/Limited area coverage	2004
	CAS - QCSS	First Generation	One occasion task. Completed	2003
Syria	Fishing Vessel Register	Second Generation	Completed/Ongoing	2005
Slovenia	Fishing Vessel Registry	First Generation	Completed/Interrupted	2003
	CAS	First Generation	Beta Version/ Interrupted	2003
Tunisia	Fishing Vessel Database	Second Generation	Interrupted	2005
	CAS -Logbook	Second Generation	Planned	2008
Turkey	Fishing Vessel Database	MedStat-QCS	One occasion task. Completed	2004
GFCM-HQ	Operational Unit-Task 1	Second Generation	Add-on tool	2007
FAO-HQ	Regional-Nation Reference System	First Generation	On going development	2007

GFCM Countries where MedStat applications are the working Systems

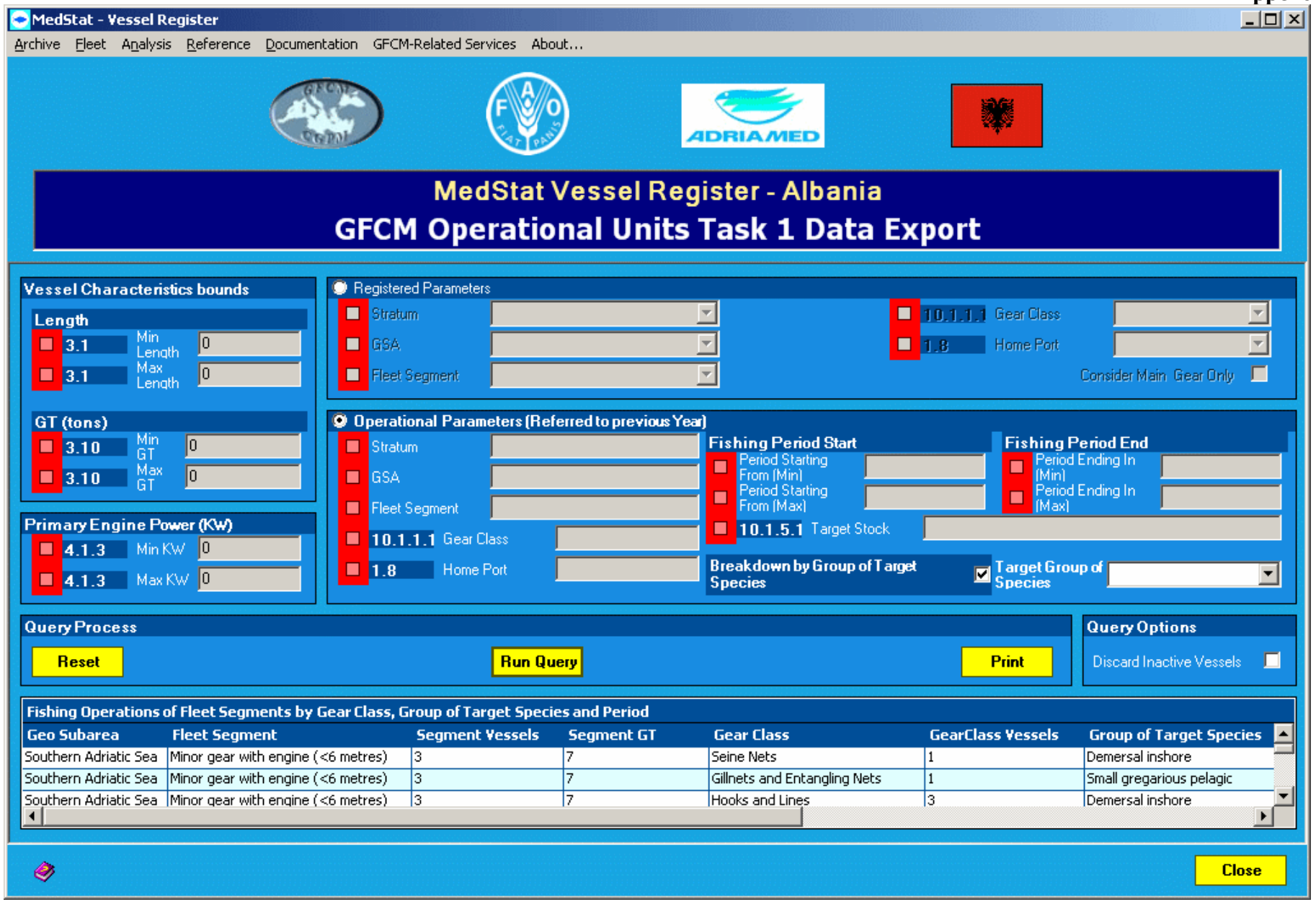
Fishing Vessel Register

Albania	**Commercial Fishing Vessel Register**
>>	**Small Scale Fishing Vessel Register**
Lebanon	**Fishing Vessel Register**
Malta	**Fishing Vessel Register**
Montenegro	**Fishing Vessel Register**
Syria	**Fishing Vessel Register**

Catch and Effort Data Collection System

Albania	**Commercial Fishery Logbook**
Malta	**Industrial Fishery Logbook**
>>	**Artisanal Fishery CAS Sampling**
Morocco	**QCSS Industrial Fishery* One occasion - Completed**

Appendix 6


MedStat - Vessel Register
Archive Fleet Analysis Reference Documentation GFCM-Related Services About...
ADRIAMED
MedStat Vessel Register - Albania
GFCM Operational Units Task 1 Data Export
Vessel Characteristics bounds
Length
3.1 Min Length 0
3.1 Max Length 0
GT (tons)
3.10 Min GT 0
3.10 Max GT 0
Primary Engine Power (KW)
4.1.3 Min KW 0
4.1.3 Max KW 0
Registered Parameters
Stratum
GSA
Fleet Segment
10.1.1.1 Gear Class
1.8 Home Port
Consider Main Gear Only
Operational Parameters (Referred to previous Year)
Stratum
GSA
Fleet Segment
10.1.1.1 Gear Class
1.8 Home Port
Fishing Period Start
Period Starting From (Min)
Period Starting From (Max)
10.1.5.1 Target Stock
Fishing Period End
Period Ending In (Min)
Period Ending In (Max)
Breakdown by Group of Target Species
Target Group of Species
Query Process
Reset
Run Query
Print
Query Options
Discard Inactive Vessels
Fishing Operations of Fleet Segments by Gear Class, Group of Target Species and Period
Geo Subarea | Fleet Segment | Segment Vessels | Segment GT | Gear Class | GearClass Vessels | Group of Target Species
Southern Adriatic Sea | Minor gear with engine (<6 metres) | 3 | 7 | Seine Nets | 1 | Demersal inshore
Southern Adriatic Sea | Minor gear with engine (<6 metres) | 3 | 7 | Gillnets and Entangling Nets | 1 | Small gregarious pelagic
Southern Adriatic Sea | Minor gear with engine (<6 metres) | 3 | 7 | Hooks and Lines | 3 | Demersal inshore
Close

Appendix 7

Sub-group: Albania, Libya, Malta, Montenegro and Syria

Proposals for the improvements of the Task 1 data entry electronic tool:

Step 1:
A map of the GSA areas should be included in the software

Step 2:

- Put the code-letter of the fleet segmentation (in the scroll down menu)

- It should be possible to change the GT, GRT option for each fleet segment as in some cases raw data might exist in different units for different sections of the fleet

Step 3:

- The base port is very impractical to collect, and to input data as a very large number of ports may correspond to one operational unit. The base port is useful when a particular métier is associated with a specific port.

- In addition to "fishing gear class" it would be useful if another field for the specific gear is added as an aid to the compiler.

- The fishing period should be more flexible and it is better if we revert to the previous version (start period, end period)

- With reference to main target species, it would be better if the possibility to enter more than one target species, where appropriate is available.

- The list of species should be more user-friendly, it should be reduced to the main commercial species in the Med., and some grouping at the genus level.

- A section for general comment on type of data used (census, actual, logbook,), methodology used, and problems with availability of data (unreported vessels, missing values) etc. should be added.

Proposals to review/analyse concepts and definitions

- If the number of vessels in one operation unit is very small (1 or 2 vessels), and their activity is very similar to the adjacent operational unit, can we group them with that operational unit?

  Task 1.4
- "Catch-weight \ Landing-weight" The reference should be changed, as the definition "total catches" is misleading if the weight of only the target species is intended.

- The best way to enter landing data for multi-species directed OUs needs to be addressed

Proposals to undertake regional/ sub-regional cooperation initiatives related to the developments of statistical systems

- If for "Areas where this activity is practiced" this information is required at more detail than GSA, further sub-areas should be identified at a regional level, especially for fishing on the high seas

Sub-group: Morocco, Tunisia, Algeria, Turkey and Egypt

After the exercise on the electronic tool (Task1.1 and 1.2) All the experts for the countries concluded that Task 1, is very important materiel for identify the OUs, specify the characteristic of the fleet in each OU and management of fisheries effort.

This tool allow to aggregate different type of data (economic, biologic, technic...), and the compilation of data is easier.

Therefore, some recommendations should be taken:

1. Proposals for the improvement of the task 1cdata entry electronic tool:

- Scientific names: difficult to check the species from the list.
- List of species should be reviewed.
- Period should be two fields (start, end).
- The unit in some parameters, like kilo, price units.
- The reference year, and the person in charge.
- Compleet the list fishing gear.
- Use of other easy and preferment software (acces)

2. Proposals to review/ analyse concepts and definitions
Sub committee on Statistics and information

- Same definitions should be reviewed in guidelines (Total capacity).
- Bycatch and discards should be written by gear and not by species.
- Analyse the segmentation fleet segmentation at national and sub regional areas.

Sub committee on economics and social sciences

- Add other data like opportunity cost and other revenues (tourism and fishing activities in areas out of Mediterranean Sea).
- Salary share should be clarified, because some time it depends on the total vessel catch.

3. Review of the current national capacity to implement, in particular, task 1.1 and 1.2
Morocco: fleet migration fleet between Atlantic and Mediterranean Sea.

4. General suggestions for the immediate and effective implementation of the resolution 31/2007/1
Let the time to analyse "task 1" for having one tool applicable and durable.

Sub-group: EC, Greece, Spain, Italy, France, Cyprus, Malta

1. Task 1.1. - Segmentation of the fleet

1.1. Concerns raised by all countries

- Define data policy. (Priority 1)
- In order to avoid confusion between the fleet segments and the fishing activities in the GFCM matrix, the naming of the segments should clearly relate to the vessel type, e.g. trawlers, purse seiners, etc., instead of trawl, seine, etc. (Priority 1).
- Clear definition of segments is needed: Which are the criteria used to define to which segment a vessel belongs ? E.g., with the present exclusivity criterion, a vessel of 12-24 m that uses long lines for 99 % of the year and minor gear (pots) for 1 % of the year, would belong to the polyvalent fleet segment. In the same fleet segment, vessels that have used trawling for 99 % of the year will be included. This means that this group will contain a vast number of vessels not necessarily showing the same cost structure. (Priority 1).
- Minor gear is a confusing definition for a fleet segment.
- Clear rules should be defined in relation to "nomadism" of vessels: "Insiders" fishing other GSA's, or even in another region (Atlantic) and "outsiders" fishing in the GSA. (Priority 2).

1.2. National issues

1.2.1. Cyprus

- Segment of Polyvalent vessels contains a variety of combinations of fishing activities, and would deserve to be further disaggregated.

1.2.2. France

FR_MED: Active vessels in 2005	< 6 metres	6-12 metres	12-24 metres	More than 24 metres
Minor Gear without engine	17			
Minor Gear with engine	297	594	23	
Trawl		0	55	39
Purse Seine		16		11
Long line	7	28	2	
Pelagic Trawl		10	9	21
Tuna Seine				29
Dredge	4	15	0	
Polyvalent	9	24	3	
	334	687	92	100

- The table above corresponds to the actual segmentation of the French Mediterranean fleet, as derived from an annual census of individual vessel activities. It appears that vessels pertaining to certain segments (light blue) need to be allocated to the neighbouring segments, but their numbers are far from being marginal. In the case of Tuna seiners, e.g., the entire number of vessels needs to be allocated to the neighbouring segment, leading to a misperception of the reality. Moreover, there are vessels (see yellow cells) that neither fit into the OU matrix, nor can be allocated to a neighbouring cell, although they represent non-marginal numbers of vessels.
- A stability analysis carried out on data for the period 2002-2005 showed that more than 50% of the vessels remain in the same segment when using the dominance criterion (a vessel is attributed to a segment if more than 50% of its annual activity is with the corresponding gear). The dominance criterion thus proved to properly reflect the behaviour of the French Mediterranean fleet.
- Although for the French Mediterranean fleet, the difference between dominance and exclusivity criteria appears to be minor, **the major concern is about having the same definition adopted in the Mediterranean and in the other regions**.
- Minor gear with engine, which represents approx. 75 % of the total fleet in numbers, is a segment mixing active and passive gears. From an economic perspective, the distinction between active and passive gears is highly relevant. Therefore, this segment should be re-defined. For France, a study based on the analysis of variance on 5 different economic parameters showed that an additional split of the 6-12 m vessel class at 9 or 10 m would improve variance.
- Following the same study, a split of the 12-24 m segment at 18 m gives a strong increase in precision of the economic parameters.

1.2.3. Greece

See general comments.

1.2.4. Italy

- The FAO AdriaMed project meeting endorsed the concept of Operational Units (OU) and set up an ad hoc Working Group. The analysis of the fishery sector in the Adriatic Sea and the discussion inside the Working Group produced a first document presented at 7th Session of the GFCM Scientific Advisory Committee (Rome, 19- 22 October 2004)[4]. The preliminary list of the identified OUs in the GSAs 17 and 18 is provided in the same document. In the GSA 17, the AdriaMed WG identified 9 OUs for the fleet segment L (dredge) based on the different costal zones where this activity is practiced within the GSA. For each of them, economic data were collected. By using the Task 1 tool, just one fleet segment can be identified and the economic data can be input into the tool only at the aggregated level.
- The same problem was encountered for other fleet segments, like pelagic trawlers (J) and purse seiners (G and H), which according to AdriaMed's OUs table, were sub-divided into a Northern and a Central Adriatic fleet.

1.2.5. Malta

See general comments.

1.2.6. Spain

Ensure that the compatibility between FAO coding (used for official reporting of the data) and the GFCM GSA stratifications.

2. Task 1.2. - Defining the Operational Units

2.1. Concerns raised by all countries

- Clear parameter definitions are required, especially for the following :
    - Distinction between inshore and offshore demersal species. There was a common agreement that the distinction between inshore and offshore should be made at the level of the fishing operation, and not at the level of the target assemblage.
    - Fishing period: In a number of cases, the limited choice does not allow to correctly represent the real situation. The best option would be to report the starting and the ending month.
    - Fishing effort: The choice between Days or Hours in the Excel template is likely to lead to incompatibilities when merging different countries. A choice should be made between the two. Fishing days and days at sea are both important to report. The units should unambiguously be defined.

[4] AdriaMed. 2004. Adriatic Sea Operational Units: First Identification and Listing. Paper prepared in occasion of the 7th Session of the GFCM Scientific Advisory Committee (Rome, 19-22 October 2004). FAO-MiPAF Scientific Cooperation to Support Responsible Fisheries in the Adriatic Sea. GCP/RER/010/ITA.

- The limited number of possible entries for target and associated species is a problem.
    - The reality of fishing shows that vessels very often target more than one species during the same fishing operation. The specification of groupings of targets species or several species should be allowable for the purpose of reporting to GFCM.
    - The range target species should be much more limited that it is now. In its current form, the list has virtually all species that occur in the Mediterranean, the vast majority of which cannot be considered as being target species.
    - The Mediterranean Sea is known to have a high biodiversity and the restriction of the number of possible entries for associated species is an over-simplification of the reality.

- Confusion between Miscellaneous gear and Other gear. Do we need both?
- There is a need to also report the Port(s) of landing, in addition to the Base port(s).

2.2. National issues

2.2.1. Cyprus

- Some groups of vessels have a fishing closure. The annual reporting must then be split into two parts, before and after the closure.

2.2.2. France

- Excel template was not working well, as a lot of message boxes were not visible.
- The reporting of all the OU's was found to be a very lengthy operation.

2.2.3. Greece

- Some groups of vessels have a fishing closure in summer. The annual reporting must then be split into two parts, before and after the closure.

2.2.4. Italy

- The problems with regards to the Adriatic fleets, encountered when entering the fleet segmentation data under Task 1.1., also occurred when entering the Task 1.2 data (see above). The fleet segment L cannot be split into 9 OUs, and the fleet segments J, G and H cannot be split into 2 OUs each based on the fleet location in the GSA 17. The identification of different OUs based on the fleet location within a GSA, is not allowed in the Task 1 tool, as geographical differentiations are not considered at a level lower than the GSA.
- The use of a progressive number in the OU code could be associated to the box "Areas where this activity is practiced" to obtain different OUs in different areas. Anyway, also adopting this arrangement, the economic data cannot be entered into the tool as they are reported by fleet segment in the Task 1.1.

2.2.5. Malta

See general comments.

2.2.6. Spain

See general comments.

3. General concerns

3.1. General considerations on the scope of the GFCM data reporting tool

The group understands that the data reporting tool developed by the GFCM is set up primarily to facilitate fisheries management advice aiming at effort regulation. There are, however, several areas of concern here.

The first is related to the geographical scale of the management advice that is envisaged, regional only or both regional and local.

If the type of advice envisaged is mostly at the regional level, i.e. for widely distributed stocks or, in general, for all stocks that are exploited by more than one country, then:

a) data entry into the system could, at least in the first place, be restricted to the fleets that actually take part in such fisheries, and

b) it is of utmost importance that all entries comply to the same standards and definitions, to ensure full compatibility between the different national data sets.

If, on the other hand, the idea is to also be able to provide advice on a local scale, then it may be required to refine the system, so that it can take data sets with much higher levels of spatial, temporal and fleet-wise resolution, that better reflect the differences in exploitation pattern and economic situation of the fleet-segments involved. This includes the possibility of entering data at a finer geographical scale than the GSA or for fleet segments with other size boundaries (e.g. 12-18 and 18-24 m) than the ones foreseen now (< 12, 12-24 and > 24 m).

The second concern is related to the type of fisheries advice that is envisaged.

The current focus of the data reporting tool on effort regulation, and hence, on data types that support such an approach, bears the risk that the system may be too rigid to also allow for other types of management advice. In its present format, the data reporting tool does not seem to be capable of holding the necessary information to underpin advice on, e.g., closed areas or seasons aiming at the protection of juvenile fish, or management measures based on ecosystem considerations.

The group acknowledges the merits of the proposed GFCM data reporting tool, as it constitutes a major step forward in compiling fisheries data on the Mediterranean in a standardised way. However, the group also recognises that, in its present form, the system may have its limitations. As the requests for fisheries advice, and hence, the need for supporting data, are likely to change over time, it may be worth considering the possibility

a) either to considerably expand the data reporting tool, so that it can cope with the data requirements for various types of management advice,

b) or to foresee a parallel system for the storage and communication of raw data, so that data can be retrieved at any level of aggregation that best meets the advisory needs.

3.2. Brief comparison between EU DCR métier/fishery based data collection framework and GFCM data reporting tool

	GFCM	**DCR**	**Comments**
Gear type	11 gear types, plus Miscellaneous and Others • One trawl group • One seines group • Lift net • Falling gears • Grappling and wounding	23 gear types, plus Miscellaneous • Trawls are split into 6 types • Seines are split into 4 types • No Lift net • No Falling gears • No Grappling and wounding	The DCR should include: Lift net, Falling gear, and Grapping and wounding
Target assemblage	6 target assemblages • No mixed target assemblages	9 target assemblages • Several mixed target assemblages	
Target species	Compulsory identification of target species	No compulsory identification of target species	The DCR is more detailed, since it is compulsory to report landings for all species, while the GFCM tool requires species-specific landings for the target species only.
Mesh size and presence of selective devices	No mesh sizes	Mesh sizes and selective devices are integral part of métier definitions	In the light of the new EU Regulation on mesh sizes in the Mediterranean, it is recommended that

			mesh size be included in the GFCM tool.
Fleet segmentation	8 vessel types	10 vessel types in current DCR. Number and definitions likely to remain the same in new DCR.	
Fleet segmentation	Exclusivity criterion (100 % of the fishing time has to be allocated to the same gear)	Dominance criterion (> 50 % of the fishing time)	If the criteria are different, the fleet segments will not be equally defined and this will result in different cost structures for the "same" segment in the two systems.
Length categories	< 6, 6-12, 12-24, > 24	< 6, 6-12, 12-18, 18-24, 24-40, > 40	12-24 is too large in the light of the differences in cost structure between vessels at the lower and the upper part of the size range

4. General suggestions

In order to level out the differences between the GFCM and the DCR matrixes, it is suggested that a mixed expert group, consisting of both GFCM and DCR experts, meets in parallel to the SAC sub-committee on statistics in Kavalla.

Appendix 8

Summary of trials to implement, in particular, Task 1.1 and 1.2 using the data entry electronic tool

Experts from	GFCM Task 1		
	Step 1	Step 2	Step 3
Albania	✓	✓	3 OU were recorded for small vessels (less then 12 meters) for Task 1.1 and Task 1.2. No problems were encountered generally.
Algeria	✓	✓	Data come from the inventory done in 2004. Only data for Ghazaouet port in Tlemcen districtorate were evaluated. 2 OUs were identified.
Cyprus	✓	✓	Data used were 2005 data, 4 OUs were identified, however the matrix was filled per test and on preliminary basis.
Egypt	✓	✓	Data from vessel census on 2005 in Mediterranean ports, the total of 2781 vessels counted, 28 OUs.
France	✓	✓	Data used was 2005 data. Vessels were found out of the predefined segments for task 1.1. Fictitious data were used for task 1.2 because the aggregated data available was not split by length classes.
Greece	✓	✓	Data from a sample of vessels (trawlers and beach seines) operating in the Saronikos Gulf (Greece) were used to identify OUs. Three fleet segments and three OUs were identified.
Italy	✓	✓	The Task 1 tool was tested by using data for Italian GSA 17 from AdriaMed OU table.
Libya	✓	✓	Only data coming from fleet segment B (minor gear with engine less than 6 meters) were analysedv. 6 OUs were recorded.
Malta	✓	✓	Approximately 12 main OUs were analysed including the Coryphaena fisheries, blufin tuna, and swordfish fisheries which together contribute to 75% of landings.
Montenegro	✓	✓	Montenegro from July start to pilot project monitoring socio-economic parameters under umbrella FAO AdriaMed project. All the vessels were considered and 12 main OU where defined.
Morocco	✓	✓	For testing this tool, we used only data base for east Mediterranean morocain sea. 9 OUs were identified from data reffering to 2006 for all fleets. Some problems were encountered during the inputing data and about segmentation of fleet" polyvalent fleet"

Spain	✓	✓	Data from vessel census of 2006 in Mediterranean ports. An example with 3 OUs was made (assuming that the FAO sub-divisions were compliant with GSAs – not the case!)
Syria	✓	✓	About 44 OUs were recorded based on the Vessel Register updated at 2006. Per each OU also the number of vessels on monthly base was evaluated.
Tunisia	✓	✓	The example presented (as OU) concerns the OU: coastal shrimp fishery in GSA 14 (gulf of Gabes). It comprehenda about 80 artisanal vessels operating with trammel net and targetingt Penaeus kerathurus and Metpenaeus monoceros. Data collected come from a direct observation of landings during May-July 2006.
Turkey	✓	✓	Data used are obtained from a Quality Check Survey carried out in 2004. It represents the vessel profile of a major fishing port in Aegean Sea coasts. After analysis done according to GFCM Task 1 matrix, 11 OUs in 4 segments were identified from the 46 vessels in total. There were also 4 gear classes used by the OUs.

Appendix 9

Collecte des données de pêche en Méditerranée – Actions mises en place par la France

Données disponibles

En routine, la France recueille exhaustivement pour l'ensemble des navires inscrits dans le fichier flotte de pêche communautaire (FP – R (CE) n°26/2004), les informations sur leurs caractéristiques techniques, la longueur, les jauges brute et GT, la puissance du moteur principal et l'âge du navire.

Les données concernant les captures, l'effort de pêche et l'effort spécifique sont estimées à partir des informations déclarées dans le journal de bord (ou tout autre document de pêche) et enregistrées lors des ventes réalisées en criées ou par les organisations de producteurs. Il est à noter que les VMS permettent d'obtenir des informations plus fines sur l'effort de pêche spatialisé pour les navires de plus de 15 mètres. Pour la façade méditerranéenne, les bateaux de moins de 10 mètres constituent la grande majorité des 1509 navires concernés du registre national 2006. Leur activité est connue en terme de métiers pratiqués grâce à un recensement annuel, mais les taux et résultats d'exploitation (nature et niveau des captures) sont mal connus, du fait d'une forte inactivité des petites unités et de la grande dispersion géographique de ces flottilles et des lieux de débarquement. Pour améliorer et compléter la collecte de ces données, de nouvelles actions sont engagées depuis 2007 (voir section suivante).

En matière de données biologiques, la France conduit des observations à la mer en routine depuis 2003, en alternant les métiers du chalutage ciblant les espèces démersales et du chalutage ciblant des espèces pélagiques (cf. tableau ci-dessous).

Métier DCR	Espèces cibles	2003	2004	2005	2006	2007	2008
Chalutage démersal	Merlu, rougets...	+	+			+	+
Chalutage GOV	Petits pélagiques			+	+		

Les principales espèces (hors thon rouge) font l'objet d'échantillonnage en taille et pour certaines en âge (depuis 2004). Les paramètres de croissance, la maturité et le sex-ratio font également partie des données collectées, mais sur un rythme pluri-annuel.

Les données économiques sont collectées, depuis 2001, par un processus d'échantillonnage aléatoire stratifié par métier sur 15% des navires métropolitains inscrits au fichier flotte de pêche communautaire. La connaissance préalable des métiers pratiqués est permise grâce aux enquêtes exhaustives conduites chaque année sur les calendriers d'activité des navires. L'échantillonnage des données économiques bénéficiera de l'amélioration de la couverture des navires de moins de 10 m. prévue dès 2007 (voir section suivante).

La France conduit, depuis 2006, un projet pilote sur les paramètres économiques de l'industrie de transformation. Ce projet pilote, d'une durée de 2 ans, est mis en œuvre par questionnaire téléphonique.

Nouvelles actions

Les recommandations des ateliers de Kavala (Small Scale Fisheries, septembre 2005) et de Nantes (Fleet Based Approach, mai 2005 ; mars et mai 2006) incitent les Etats membres à réaliser dans le cadre de leur programme 2007 des études visant à mieux

connaître les activités et les prélèvements sur les ressources des flottilles de moins de 12 mètres. L'analyse faite au cours de ces ateliers montre que l'obtention de données de qualité passe par un renforcement des enquêtes auprès des professionnels à terre, sur les quais mais aussi à bord des navires de pêche.

La France a proposé de donner suite à ces recommandations en mettant en place un projet pilote visant à estimer par échantillonnage les niveaux d'effort de pêche et de capture des petits métiers.de la Région Languedoc-Roussillon L'année 2007 est à considérer comme une phase de validation du protocole de collecte. La région Languedoc-Roussillon présente la particularité de réunir des petits métiers opérant en mer et en lagune. L'étude permettra également de mieux caractériser les flottilles ciblant l'anguille, espèce dont le plan de restauration est une des préoccupations actuelles de la Commission européenne. La France poursuivra en 2008 les suivis d'effort de pêche et des captures des navires de moins de 12 mètres en Méditerranée et étendra l'échantillonnage à l'ensemble du littoral de la façade continentale, couvrant les quartiers maritimes du Languedoc-Roussillon et de la Côte d'Azur (région PACA).

Méthodologie

Le protocole d'étude, inspiré du Guide pratique pour le contrôle statistiques des pêcheries lorsque la main d'œuvre est limitée (Caddy et Bazigos, 1988, FAO), consistera :

- à stratifier les flottilles en fonction des métiers pratiqués, avec généralisation de l'établissement des calendriers d'activités de chaque navire.
- à définir des strates géographiques homogènes (regroupements de points de débarquement) où seront échantillonnées les différentes flottilles,
- à estimer le nombre de sorties en mer par métier par enquêtes téléphoniques ou directes sur le terrain,
- à échantillonner les sorties de pêche sur le terrain (500 jours cumulés d'observation sont prévus en 2007) . Les paramètres collectés pour une marée échantillonnée comprennent
    - les caractéristiques de(s) l'engin(s) mis en œuvre
    - les lieux de pêche par engin
    - l'effort de pêche : durée de la sortie, quantité d'engins utilisés, temps d'immersion des engins
    - les débarquements par engin et espèce
    - l'estimation des coûts de la sortie et par engin
    - l'échantillonnage biologique des principales espèces cibles

La définition du plan d'échantillonnage visera à préciser le nombre mensuel d'enquêtes de terrain pour chacune des régions, à choisir les jours d'observation et les plages horaires les plus pertinents, à répartir les jours d'enquêtes dans les divers groupes de ports retenus et à tirer de manière aléatoire les jours d'enquête dans chaque groupe de ports. Cette tâche nécessitera un soutien confirmé en matière de statistiques, afin d'apporter une garantie sur la qualité de la collecte des données et de leur utilisation

pour élever les résultats obtenus à l'échelle des flottilles et segments de l'appendice III de la DCR.

La journée d'enquête des techniciens dans un port donné sera consacrée à l'observation des mouvements des navires (entrées-sorties), à l'enquête des efforts de pêche et des productions par espèce des navires au retour de leur marée et à la reconstitution du nombre de leurs dernières sorties. Des échantillonnages biologiques des principales espèces cibles seront également menés. A cette fin des enquêteurs à temps plein ou à temps partiel seront mobilisés dans les principaux points de débarquements des régions étudiées.

La vigilance pour respecter au mieux un échantillonnage aléatoire stratifié dans la mise en place du plan de sondage devrait permettre d'utiliser la théorie des sondages pour le calcul des estimateurs d'effort de pêche et de production globale et par espèce. Ce calcul sera effectué par strate de ports et par flottille.

Cette stratégie d'échantillonnage préfigure les travaux qui seront à réaliser dans le cadre de l'approche Pêcheries mixtes (Fleet-Based Approach) et de l'application de la matrice de segmentation des flottilles qui devrait structurer la seconde phase de la DCR pour la période 2009-2013. Cette approche a donc vocation à être pérennisée, parallèlement au dispositif réglementaire qui s’appuie sur les journaux de bord et les fiches de pêche

Appendix 10

The European Union new Data Collection Regulation (DCR) – further notes on data needs, data typology and sampling strategies

Expected data needs

From the overview of current and expected data needs by RFO, the SGRN 06-03 concluded that the new DCR should focus on obtaining *reliable estimates of the total removals from fish and shellfish stocks, regardless of who* (professional or recreational fishers) *or what* (fish retained for landing or returned to the sea as discards) *is as their origin*.

Data collection under the new DCR could be based on groupings of species with similar data needs, according to the data requirements defined by the end-users. Such groupings would replace the species appendices in the current DCR. There would be no need for comprehensive sampling for age for all removals, but there is a need to ensure that the length compositions of the catches are adequately sampled. Provided that representative samples for catch-at-length are obtained by sampling stratum, a common age length key (ALK) derived from appropriately combined strata, could then be used to calculate the age distributions of the removals.

With respect to the ecosystem approach, the SGRN 06-03 concluded that valuable additional information can be collected without major changes to the existing observer programmes and research surveys, and that the collection of catch and ecosystem information can readily be integrated in a single framework.

Access to VMS data at an appropriate resolution is an absolute necessity for the scientific evaluation of spatial management measures and ecosystem effects of fishing.
Finally, the SGRN suggested that the revised DCR should be sufficiently flexible to meet the changing data needs and specific *ad hoc* requirements of the end-users, without having to revise the entire DCR. For this to be possible, it also is essential that all DCR-data are stored in raw format, so that data aggregation and reporting in accordance with the changing needs of the end-users remains possible.

Métier-specific and stock-specific data

The SGRN 06-03 made a distinction between métier-specific data that *should* be collected by métier, and stock-specific data that *could* be collected by stock or population.

Métier-specific data:
- Fishing capacity.
- Fishing effort.
- Quantities landed and discarded.
- Length compositions of (commercial) removals.
- Occurrence of non-commercial species (fish) in the catches.

Stock-specific data:
- Fecundity.
- Maturity and maturation.
- Growth and age-length-keys

- Sex ratio.

In principle, *all métier-specific data should be collected for each individual cell in the métier matrices, according to the spatial and temporal requirements* (and their associated precision levels) *defined by the RFOs*. This means that the métier matrix cell is the unit stratum for all métier-specific data collection.

Effort, landings and revenue data are mostly collected from logbooks, sales notes or inquiries and thus, are usually available on a trip-by-trip basis. Therefore, the SGRN foresees no major problems for the allocation of effort, landings and revenue data to individual cells in the métier matrices.

With regards to the estimates of quantities discarded and the length compositions of catches and landings, however, it is unrealistic to expect that data can be collected for all cells in métier matrices separately. Therefore, the SGRN 06-03 suggests that *such data can be collected by groupings of cells with similar exploitation patterns*.

Métier-based sampling "in the field"

SGRN 06-03 realises that the proposed data collection framework for discards and length compositions may imply a considerable increase in workload, and therefore, proposes different objective means to reduce the number of métier matrix cells to be sampled. These include:

- Limiting the number of métier matrix cells to be sampled to the most important ones, either by means of a threshold system (i.e. restrict sampling to the métiers that represent > X % of the total removals, or landings, or revenues), or by means of a ranking system (i.e. restrict sampling to métiers that account for the top X % of the removals, or landings, or revenues).
- Mergers of cells in the métier matrices with the same exploitation pattern.
- Joint sampling of "supra-national métiers" (i.e. vessels flying a different flag but belonging to the same operational métier) at the regional level.

Proposed métier matrix for the Mediterranean (source: Report of the European Commission SGRN 06-03).

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	LOA classes							
Activity	**Gear classes**	**Gear groups**	**Gear type**	**Target assemblage**	**Mesh size and other slective devices**	**< 6**	**6-10**	**10-12**	**12-15**	**15-18**	**18-24**	**24-40**	**> 40**
Fishing activity	Dredges	Dredges	Boat dredge [DRB]	Molluscs	(a)								
	Trawls	Bottom trawls	Bottom otter trawl [OTB]	Demersal species	(a)								
				Deep-water species	(a)								
				Mixed demersal and deep-water species	(a)								
			Multi-rig otter trawl [OTT]	Demersal species	(a)								
			Bottom pair trawl [PTB]	Demersal species	(a)								
			Beam trawl [TBB]	Demersal species	(a)								
		Pelagic trawls	Midwater otter trawl [OTM]	Mixed demersal and pelagic species	(a)								
			Pelagic pair trawl [PTM]	Small pelagic fish	(a)								
	Hooks and Lines	Rods and Lines	Hand and Pole lines [LHP] [LHM]	Finfish	(a)								
				Cephalopods	(a)								
			Trolling lines [LTL]	Large pelagic fish	(a)								
		Longlines	Drifting longlines [LLD]	Large pelagic fish	(a)								
			Set longlines [LLS]	Demersal fish	(a)								
	Traps	Traps	Pots and Traps [FPO]	Demersal species	(a)								
			Fyke nets [FYK]	Catadromous species	(a)								
				Demersal species	(a)								
			Stationary uncovered pound nets [FPN]	Large pelagic fish	(a)								
	Nets	Nets	Trammel net [GTR]	Demersal species	(a)								
			Set gillnet [GNS]	Small and large pelagic fish	(a)								
				Demersal species	(a)								
			Driftnet [GND]	Small pelagic fish	(a)								
				Demersal fish	(a)								
	Seines	Surrounding nets	Purse seine [PS]	Small pelagic fish	(a)								
				Large pelagic fish	(a)								
			Lampara nets [LA]	Small and large pelagic fish	(a)								
		Seines	Fly shooting seine [SSC]	Demersal species	(a)								
			Anchored seine [SDN]	Demersal species	(a)								
			Pair seine [SPR]	Demersal species	(a)								
			Beach and boat seine [SB] [SV]	Demersal species	(a)								
	Other gear	Other gear	Glass eel fishing	Glass eel	(a)								
	Misc. (Specify)	Misc. (Specify)			(a)								
Other activity than fishing				Other activity than fishing									
Inactive				Inactive									
(a) Not spelled out in DCR but defined with reference to relevant EU Regulation(s)													