SOFTWARE PACKAGES PRODUCED BY COPEMED II TO IMPROVE IDENTIFIED STATISTICAL MODULES FOR THE MOROCCAN FISHERIES ADMINISTRATION

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Rome, July 2009

September 2009
The conclusions and recommendations given in this document and in other documents in the *Co-ordination to Support Fisheries Management in the Western and Central Mediterranean* CopeMed II Project series are those considered appropriate at the time of preparation. They may be modified in the light of further knowledge gained in subsequent stages of the Project. The designation employed and the presentation of material in this publication do not imply the expression of any opinion on the part of FAO, the Government of Spain or the Commission of the EU concerning the legal status of any country, territory, city or area, or concerning the determination of its frontiers or boundaries. This document has been financed by the European Union and Spain. The views expressed herein can in no way be taken to reflect the official opinion of the European Union or Spain.
Preface

The CopeMed II Project on “Coordination to support fisheries management in the Western and Central Mediterranean” is executed by the Food and Agriculture Organization of the United Nations (FAO) and funded by the Secretaría General de Pesca Marítima and the Directorate-General for Maritime Affairs and Fisheries of the European Commission (DG-MARE).

The objective of the project is to maintain the sustainability of the marine fisheries in the central and western Mediterranean Sea and its ecosystem, taking into consideration environmental, biological, economic, social and institutional issues. For that purpose CopeMed II promotes the cooperation between the National Fisheries Administrations, the Research Institutions and the remaining stakeholders of the participating countries (Algeria, France, Italy, Libyan Arab Jamahiriya, Malta, Morocco, Spain and Tunisia) and the International Fisheries Commissions (GFCM and ICCAT) established in this area of the Mediterranean.

Particular attention is given to support national and regional fisheries management processes taking advantage of the increased scientific multidisciplinary knowledge developed through the first phase of the project. The occurrence in the project’s area of shared fishery resources requires the promotion of cooperative fisheries management among the coastal countries, in line with the indications of the FAO Code of Conduct for Responsible Fisheries. In similar way agreements with other regional fora, stakeholders and regional organisations (e.g. Barcelona Convention, ACCOBAMS, IUCN) with interest in fisheries-related issues are in line with the Project objectives.

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This document is printed on paper
CopeMed II – ArtFiMed project publications are issued in the CopeMed Technical Documents series and are related to meetings, missions and research organized or conducted within the framework of the two Projects.

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For bibliographic purposes this document should be cited as follow:

Preparation of this document

This document is the final version of the meeting report prepared by the project CopeMed II.


RÉSUMÉ

Ce document fait suite à la Recommandation GFCM/33/2009/2 sur la mise en œuvre de la maille de 40 mm carrée ou de 50 mm losange à l’ensemble de la flottille chalutière méditerranéenne et à la décision de CopeMed II d’apporter son soutien à la mise en place de projets-pilote destinés à en favoriser et à en évaluer l’application.

Les différentes étapes de mise en place d’une expérimentation de sélectivité y sont décrites, ainsi que les équipements nécessaires. Il y est notamment rappelé la nécessité d’ajuster autant que possible les conditions d’expérimentation à celles des pêcheries que l’on souhaite étudier.

Les opérations de pêche seront effectuées sur un navire de pêche commercial, choisi ainsi que le chalut, son gréement en fonction des caractéristiques des équipements de cette flottille. La sélectivité du cul en maillée carrée de 40 mm sera mesurée par la méthode dite de la double-poche.

Les captures seront traitées à bord selon les procédures en vigueur méthodes et analysée selon les méthodes statistiques standardisées, en termes de sélection de taille et d’espèce. Les pertes et gains biologiques et économiques seront évalués par comparaison des résultats obtenus avec ceux de la mesure de la sélectivité du maillage couramment utilisée par la flottille de pêche étudiée.

Les procédures de recueil des informations et d’analyse devraient pouvoir être aisément adaptées à chaque cas de pêcherie chalutière méditerranéenne pour en favoriser la comparaison et contribuer ainsi à leur gestion.
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1. Introduction

The present application “MarocStat” was upgraded and adapted through the collaboration of the CopeMed project, following the request from the Moroccan Institute National de Recherche Halieutique (INRH) in order to carry out a Catch and Effort Survey on the Moroccan Mediterranean industrial fisheries fleet based on data collected from landing and market places on monthly catch and effort by species and fishing gear.

The application was first developed to carry out a Pilot Study on the Mdiq port, and it can be fed from data collected by the Ministry (vessel registry) and the Office National des Pêches (landings from market place approach).

The present document constitutes the technical documentation on the structure and functioning of the application for the Catch and Effort Assessment Survey (CAS). It provides guidance through the data entering procedure and the reporting as well as information on the reference system and coding. The forms to be used to collect the data are also available.


As discussed in this methodological document, the programme of work contemplated that the whole task would be divided into two consecutive phases, whereby the first would mainly be devoted to the preparation, training of national staff, run a pilot survey and tuning of the system. The second phase would be devoted to its full implementation when adequate resources are available.

This software application is, therefore, not complete (it is limited to one vessel type only and one port) and is intended to be used during the pilot survey (phase one) aiming at involving the INRH statistical staff in on-the-job training to collect data and use the software. The above will enable us to sharpen the field forms, data entry procedures and processing reporting.

Once the system is reviewed and accepted, the software application will be extended to manage all ports and all the main fisheries (chalutiers, sardiniers, palangriers...).

As far as the last part of this application is concerned, the analyses component, we must wait until the whole process (data collection, processing, inputs from the ONP, the inputs from the Administration) is completed and fully functioning.
2. Objectives

This initiative was undertaken with the support of the Copemed II Project and in particular within the regional statistical development programme MedStat. The main objective of this new action is framed within the research activities of the INRH which, intends to bring a contribution to find out the best, or at least the most appropriate, possible system to recommend. This is done through learning methods and mechanisms which apply different techniques and models to target the improvement of the data collection practice in Morocco. Along this line, the present application is directly related to the previous exercise conducted by the same team which concerned a pilot study to apply a classical Catch and Effort Assessment Survey based on landing approach.

This project task is conducted under the coordination of the director of the INRH office of Tangier. The staff of the Institute and FAO-Copemed II MedStat Team fully collaborated for the achievement of the objectives (see reference above).

It is strongly recommended to get familiar with the methodology behind this application (see reference above to methodological document).
3. QCSS Structure

The full application must reside upon the main directory “MarocStat_Mdiq”, under which the following directories must be created:

C:\\MarocStat_Mdiq\Databases\QCSS

Under the QCSS directory the application (QCSS.mdb) and the following directories have to be located (it is important to keep this structure for the application to work):

- Data: contains the following files/directories:
  - Directory NEW_CAS_DBS: This directory contains the new files created after the NEW_CAS exercise procedure. Files in this directory have to be moved into the “data” directory to be fully operational to the QCSS application. Besides, it must be renamed to Chalutiers_Mdiq.cs1 (trawlers), Palangriers_Mdiq.cs2 (long liners) or Sardiniers_Mdiq.cs3 (purse seiners).
  - Directory NEW_CAS_Templates: This directory contains the templates used by the NEW_CAS exercise procedure:
    - Chalutiers_Empty.cs1
    - Palangriers_Empty.cs2
    - Sardiniers_Empty.cs3
  - File Chalutiers_Mdiq.cs1: This file contains all data registered for the Trawlers vessel type.
  - File Palangriers_Mdiq.cs2: This file contains all data registered for the Long liners vessel type.
  - File Sardiniers_Mdiq.cs3: This file contains all data registered for the Purse seiner vessel type.

**IMPORTANT NOTE:**

Only Chalutiers_Mdiq.cs1, Palangriers_Mdiq.cs2 or Sardiniers_Mdiq.cs3 must reside in the “data” directory. New files generated by the NEW_CAS procedure must be copied into this directory and be renamed to Chalutiers_Mdiq.cs1, Palangriers_Mdiq.cs2 or Sardiniers_Mdiq.cs3.

- Docs: contains the following files/directories:
  - File Chalutiers Capture (pdf): Form to be filled by the recorder.
  - File Chalutiers Effort (pdf): Form to be filled by the recorder.
  - File Palangriers Capture Catch (pdf): Form to be filled by the recorder.
  - File Palangriers Effort (pdf): Form to be filled by the recorder.
  - File Sardiniers Capture (pdf): Form to be filled by the recorder.
  - File Sardiniers Effort (pdf): Form to be filled by the recorder.

- Files: This directory contains the reference files used by the QCSS application. It contains the following files/directories:
  - File Chalutiers_2004.ws1
  - File Palangriers_2004.ws2
  - File Sardiniers_2004.ws3

- Ministry: This directory contains files used by the QCSS application in the “Import from Ministry” functionality. It contains the following files/directories:
  - Directory Import_Rpts: contains the error files from the import procedure from the ministry files. Each file has a list of errors produced during the import procedure (usually wrong format). The user can then correct the errors in the import file according indications and repeat the import procedure.
- Files `<import file> (xls)`: excel file containing vessel register information to be imported into the QCSS application (this file has to be provided by the Ministry and copied to this directory).

- **ONP**: This directory contains files used by the QCSS application in the “Import from ONP” functionality. It contains the following files/directories:
  - Directory `Import_Rpts`: contains the error files from the import procedure from ONP files. Each file has an error list produced during the import procedure. The user can correct the errors in the import file and repeat the import procedure.
  - Files `<import file> (xls)`: excel file containing vessel and catch information from the ONP to be imported into the QCSS application.

- **Sent**: Contains files exported by the QCSS application through the functionality “Export vers le système central” (Export to the Central System).

General structure screenshot:

Attention: the Data-Directory structure must be absolutely observed for the application to work.
4. Main Menu

When opening the application (QCSS.mdb) from the QCSS directory a new Record Locking (.ldb) file will be created to stop other modifications from happening simultaneously in the database. This file should disappear automatically when closing the application, or else be deleted manually.

Main menu description: Interface to enter into the QCSS functionalities:

- **Vessel Management:**
  - trawlers;
  - long liners;
  - purse seiners;
  - data Management System (système de gestion des données).
- **Tools**
  - references;
  - on line manual;
  - Forms.

There are two ways of starting a new CAS exercise:

1- From scratch: by opening the corresponding Template (trawlers, etc) and introducing the vessel data one by one or from the vessel registry imported from the Ministry.
2- From the previous CAS exercise (previous month), being this the most usual way, described hereafter:
5. Data Entry/Modification - Trawlers (Chalutiers)

Description: Interface to enable the user to insert/modify/visualize all data concerning the trawler vessel type for the current CAS exercise. This interface is the same for all the three vessel typologies (trawlers, long liners, purse seiners), so it will be documented only for trawlers.

Clicking in the button Trawlers from the main menu the user will choose the database file from which to launch the QCSS software (Chalutiers_Mdiq.cs1), and the next window form will pop up:
The “Data Entry” window form is divided in four different sections:

5.1. Activity management (Gestion de activité)

- **Insert (saisir):**
  Button to create a new monthly activity exercise (CAS). If there are no active vessels registered for the previous month an error message will pop up to handle the previous month. The new monthly activity exercise created will have the same number of vessels than the previous month but all vessels will be inactive as a starting point.

- **Visualize / Modify**

In this window form a general snapshot about the vessel activity for all months in the CAS exercise is visualized. Clicking in the rows visualized for each month the user will navigate into the monthly activity details to insert/modify/visualize the vessels activity status.

Note that the last month is empty (no active vessels). Clicking in it the next window will pop up:
In this window the user will specify the sampling data. Since the example refers to an empty month (new CAS exercise) no activity data are reported in the boxes, only the data for the box concerning to the previous month.

Clicking in the button “CAS 2.1 Gestion des Bateaux” the next window will pop up:
In this window the user can modify the activity status of each vessel visualized. If no activity status is specified, the vessels will be considered as “active” by clicking the button Sauver/Sortie (save/exit).

To add/insert a new vessel click the button “Saisir bateaux” and the next window form will pop up:
In this window the user may choose a vessel included in the global vessel registry or create a new one by clicking in the button “Saisir nouveaux bateaux”. You can choose to add the new vessel as permanent vessel or temporary vessel with the appropriate button.

Clicking the “Saisir nouveaux bateaux” button the next window form will pop up:
In this window the user will have to specify the vessel properties requested in the form. With the button “Saisir le nouveaux bateaux” the new vessel will be inserted in the vessel list to be included in the vessel monthly activity status report.

- **Save (enregistrer)**
  This button saves all the modifications done.

### 5.2. Daily catch and effort (Captures et efforts journaliers)

- **Insert (saisir)**
  Button that enables the user to insert new catch and effort data into the application for the active vessels.
  By clicking in this button the next window will pop up with the number of active vessels per porth and month:
Clicking in one of the window rows (each row represents one month of vessel activity) the next window will pop up:

In this window the user can choose one of the active vessels registered (for the month selected in the previous window) in order to insert new catch and effort data related to it. By clicking in one of the rows visualized the next window will pop up:
In this window the user will fill in the detailed information regarding the landing date/hour and the recorder.

By clicking in the button “Enter catch and effort data” the next window will pop up:

In this window the user can insert the detailed information about the species landed and their weight by boxes and/or by specimen.

Buttons:
- Save Record: the new species will be registered.
- Esc button: will cancel the record inserted.
- Save Gear (sauver engin): will save all species registered for the selected fishing gear.
• **Delete Gear (eliminar engin):** will cancel all data inserted for the selected fishing gear.

By clicking in the button “Effort Sheet” the next window will pop up:

![Effort Sheet Window](image)

In this window the user can insert detailed information about the effort collected for the selected landing observation.

• **Visualize / Modify (Visualiser / Modifier)**
  Button that enables the user to visualize/modify catch and effort data inserted in the application through the windows described before.

By clicking in this button and selecting the year/month of data to be visualized, the next window will pop up:
In this window the user can choose one of the “active” vessels registered (for the month selected in the previous window) to visualize/modify catch and effort data.

By clicking in one of the rows visualized the next window will pop up:

In this window the user can visualize the catch data for the vessel selected in the previous window. Repeating the process described before by clicking the button “Enter catch and effort data” the user can insert new catch and effort data.

By clicking in the registered data visualized in the text box the user can modify registered data already inserted.

- Error tracking (recherche des erreurs)
It provides a description of the problem encountered and indicates its location.

5.3. Vessel data/information (données sur les bateaux)

- Select (selectionner)
  By clicking this button the user can visualize the vessels information registered for the whole production period.
  The next window will pop up:

In this window all vessels with some fishing activity registered for the whole QCSS production period will be listed.

By clicking one of the rows (each representing a vessel), the next window will pop up with a summary of the vessel information:
In this window the user will visualize all fishing activity registered data for the selected vessel.

- Look through (Parcourir)
  The same information can be visualized with this button. By clicking in it, the user can navigate through the vessels detailed information with the arrows beside the button “Sortie”.

5.4. Reports (Rapports)

- Field forms (Formulaires de terrain)
  By clicking this button, the user will have access to the report interface where following reports will be available for visualization:
  QSCC 2.1 Sampling Frame
QSCC 2.2 Active vessels list by port by month (Liste de bateaux actifs par mois par période (mois)).
QSCC 2.3 Catch (Capture).
QSCC 2.3 Effort.
QSCC 2.4 Monthly Sample Activity Data Sheet.
QSCC 2.5 Summary of monthly results (Sommaire des résultats mensuelles).

Reports can be chosen by clicking the specific button in the following window form after the selection of the report period in the combo box (drop-down list) on the top of the window:

- **Import from ONP**
  By clicking this button, the user will have access to the report interface where following reports concerning the ONP Import procedure will be available for visualization:
  QSCC 2.6 Summary of daily results (Sommaire des résultats par jour)
  QSCC 2.7 Summary of monthly results (Sommaire des résultats par mois).

Reports can be chosen by clicking the specific button in the following window form, after the selection of the report period in the combo box (drop-down list) on the top of the window:
6. Data Management System (Système de gestion des données)

Description: Interface to enable an administrator user to the following functionalities:

- Import from ONP
- Import from ONP AGGREGATED
- Import from Ministry
- Error management/handling (Gestion des erreurs)
- Export to the Central System (Exporter vers le système central)
- Create a new CAS exercise (Créer un nouveau CAS exercise)

By clicking in the system de “gestion de données” button in the main window form, the user will be taken to the following interface:
6.1. Import from ONP

- Description:
  Window form to import the daily catch data from the ONP to the QCSS database. ONP data imported can be visualized by the “ONP report” functionality in the vessel_type (chalutiers, palangriers, sardiniers) interface.

- File Format:
  Data will be made available to the application in excel format and the file must follow the next format:

The excel import file must be located in the “MarocStat_Mdiq\Databases\QCSS\ONP” directory.
After clicking on the button “Import from ONP” the next window will pop up:

- **Description:**
- Database origine (Origine de la base de données): Combo box (drop-down list) with a Excel import file list from the “MarocStat_Mdiq\Databases\QCSS\ONP” directory.
- Reference month (Mois de référence): Combo box to specify the month that figures in the Excel’s file “market_date” column.
- Year (Année): Combo box to specify the year that figures in the Excel’s file “market_date” column.
- Import: Button to execute the import procedure.
- Exit (Sortie): Button to exit from the window.

Attention! The excel format cannot be changed or modified since it may jeopardize the whole work.

### 6.2. Import from ONP AGGREGATED

- **Description:**
  Window form to import the monthly catch aggregated data from the ONP to the QCSS database. ONP data imported can be visualized by the “ONP report” functionality in the vessel_type (chalutiers, palangriers, sardiniers) interface.

- **File Format:**
  Data will be provided to the application in Excel format and the file **must** follow the next format:
The excel import file must be located in the “MarocStat_Mdiq\Databases\QC\ONP” directory.

After clicking on the button “Import from ONP” the next window will pop up:

- **Description:**
  - Database origine (Origine de la base de données): Combo box (drop-down list) with an Excel import file list from the “MarocStat_Mdiq\Databases\QC\ONP” directory.
  - Reference month (Mois de référence): Combo box to specify the month that figures in the Excel’s file “Month” column.
  - Year (Année): Combo box to specify the year that figures in the Excel’s file “Year” column.
  - Import: Button to execute the import procedure.
  - Exit (Sortie): Button to exit from the window.
6.3. Import from Ministry

- **Description:**
  Window form to import the vessels provided by the ministry to the QCSS database. Ministry data imported will be inserted in the QCSS data structures to be used by the application.

- **File Format:**
  Data will be made available to the application in Excel format and the file must follow the next format:

  ![Excel Import Example](image)

  The excel import file must be located in the “MarocStat_Mdiq\Databases\QCSS\Ministry” directory.

  After clicking on the button “Import from Ministry” the next window will pop up:
Description:

Database origine (Origine de la base de données):
Combo box (drop-down list) with an Excel import file list from the “MarocStat_Mdiq\Databases\QCSS\Ministry” directory.

Import:
Button to execute the import procedure.

Exit (Sortie):
Button to exit from the window.

Attention! The excel format cannot be changed or modified since it may jeopardize the whole work.

6.4. Error Management/Handling (Gestion des erreurs)

Description:
Window form to visualize error files saved in the “MarocStat_Mdiq\Databases\QCSS\ONP\Import_Rpts”. These files are saved with the same name than the import source file, and contain the list of errors found during the ONP import procedure. The user can proceed to an interactive correction of the import files in case that an import error blocks the import procedure.

After clicking on the button “gestion des erreurs” the next window will pop up:
• Description:
• File Origine: Combo box with an Excel import error file list from the “MarocStat_Mdiq\Databases\QCSS\ONP\Import_Rpts” directory.
• Open: Button to execute the Open File procedure.
• Exit (Sortie): Button to exit from the window.

6.5. Create a new CAS exercise (Créer un nouveaux CAS exercise)

• Description:
This window interface allows users to create a new CAS (catch and effort assessment) exercise in two different ways:

1. By using the vessel registry from another database (e.g.: previous month CAS).
2. By using only an empty vessel registry table to begin the new CAS exercise. The vessel registry will have to be filled by hand with the application forms or with the “Import from Ministry” facility.

After clicking on the button “Import from Ministry” the user will chose:
Use existing Vessel Registry?

If the answer is “Yes” the next window will pop up:
• Description:
• Vessel type (Types des Bateaux): Combo box listing the vessel types to be chosen.
• File Origine: Combo box with the access file from which to import the vessel registry.
• Noun (Nom): Text box to indicate the ID name of the new database.
• Year (Année): Text box to indicate the year of the new CAS exercise.
• Import: Button to execute the import procedure.
• Exit (Sortie): Button to exit from the window.

The import procedure creates a new database file named:
<Vessel_Type>_<Nom>_<Annee>.cs<type>
For example:
Chalutiers_TEST_2009.cs1

This new database created will be saved in the
MarocStat_Mdiq\Databases\QCSS\data\NEW_CAS_DBS directory.

IMPORTANT NOTE:
Only Chalutiers_Mdiq.cs1, Palangriers_Mdiq.cs2 or Sardiniers_Mdiq.cs3 must reside in the “data”
directory. New files generated by the NEW_CAS procedure must be copied into this directory and
renamed to Chalutiers_Mdiq.cs1, Palangriers_Mdiq.cs2 or Sardiniers_Mdiq.cs3.

If the answer is “No” the next window will pop up:
- Description:
- Vessel type (Types des Bateaux): Combo box listing the vessel types to be chosen.
- Noun (Nom): Text box to indicate the ID name of the new database.
- Year (Année): Text box to indicate the year of the new CAS exercise.
- Import: Button to execute the import procedure.
- Exit (Sortie): Button to exit from the window.

The import procedure creates a new database file named:
<Vessel_Type>_EMPTY_<Nom>_<Annee>.cs<type>
For example:
Sardiniers_EMPTY_TEST_2009.cs3

This new database created will be saved in the
MarocStat_Mdiq\Databases\QCSS\data\NEW_CAS_DBS directory.

IMPORTANT NOTE:
Only Chalutiers_Mdiq.cs1, Palangriers_Mdiq.cs2 or Sardiniers_Mdiq.cs3 must reside in the “data” directory. New files generated by the NEW_CAS procedure must be copied into this directory and renamed to Chalutiers_Mdiq.cs1, Palangriers_Mdiq.cs2 or Sardiniers_Mdiq.cs3.
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