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Organisation des Nations Unies pour l'alimentation et l'agriculture Продовольственная и сельскохозяйственная организация Объединенных Наций Organización de las Naciones Unidas para la Alimentación y la Agricultura

# MedSudMed

Report of the Fifteenth Meeting of the Coordination Committee

Tunis, Tunisia, 02-03 March 2017

The conclusions and recommendations given in this and in other documents in the Assessment and Monitoring of the Fishery Resources and Ecosystems in the Straits of Sicily 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 designations employed and the presentation of material in this publication do not imply the expression of any opinion on the part of FAO or MiPAAF or EU concerning the legal status of any country, territory, city or area, or concerning the determination of its frontiers or boundaries.

# Preface

The Regional Project "Assessment and Monitoring of the Fishery Resources and the Ecosystems in the Straits of Sicily" (MedSudMed) is executed by the Food and Agriculture Organization of the United Nations (FAO) and funded by the Italian Ministry of Agriculture Food and Forestry Policies (MiPAAF). Since 2012 MedSudMed is cofounded by the Directorate General for Fisheries and Maritime Affairs of the European Commission (DG Mare). The Italian Regione Siciliana funded a project aimed at strengthening MedSudMed's effectiveness on issues related to demersal resources, namely crustaceans for 30 months, starting from April 2011.

MedSudMed promotes scientific cooperation between research institutions of the four participating countries (Italy, Libya, Malta and Tunisia), for the continuous and dynamic assessment and monitoring of the state of the fisheries resources and the ecosystems in this area of the Mediterranean.

Research and training are supported to increase and use knowledge on fisheries ecology and ecosystems, and to create a regional network of expertise. Particular attention is given to the technical coordination of the research between the countries, which should contribute to the implementation of the Ecosystem Approach to Fisheries. Consideration is also given to the development of an appropriate tool for the management and processing of data related to fisheries and their ecosystems.

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# GCP/RER/010/ITA Publications

MedSudMed Project publications are issued as series of Technical Documents (GCP/RER/010/ITA/MSM-TD-00) and Scientific Reports (GCP/RER/010/ITA/MSM/SR-00) related to meetings, missions and research organized by or conducted within the framework of the Project.

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# Preparation of this document

This document is the final version of the report of the Fifteenth Meeting of the Coordination Committee, organized by the FAO-MedSudMed Project (Assessment and Monitoring of the Fisheries Resources and the Ecosystems in the Straits of Sicily) held in Tunis, Tunisia, from 02<sup>th</sup> to 03<sup>th</sup> March 2017.

# Acknowledgements

The Institut National des Sciences et Technoclogies de la Mer of Tunisia (INSTM), which provided kind hospitality and assistance in the organization of the meeting is gratefully acknowledged.

#### MedSudMed

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#### **ABSTRACT**

The Fifteenth meeting of the MedSudMed Coordination Committee was held in Tunis, Tunisia, 02-03 March 2017. It was attended by representatives from the countries participating in the Project (Italy, Libya, Malta and Tunisia), a representative of FAO Sub-regional Office for North Africa (FAO SNE), a representative of the FAO Fisheries and Aquaculture Policy and Resources Division (FIA), a representative of FAO Regional Project AdriaMed, of the FAO General Fisheries Commission for the Mediterranean Secretariat (FAO GFCM), as well as the staff of the FAO MedSudMed Project. A brief remind was made on the Project objectives and activities and a presentation of the activities implemented for the MedSudMed components during the inter-session period was made.

The proposed work plan for the next period was discussed and approved. It focuses on the same priorities of standardizing approaches, increasing scientific knowledge on fishery resources and ecosystems, strengthening national expertise and regional cooperation. The belief that continuing the Project can only bring success and be beneficial for each of the participating countries was affirmed.

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# Report of the $15^{th}$ Meeting of the MedSudMed Coordination Committee

# Tunis, Tunisia, 02-03 March 2017.

# Opening of the meeting and election of the Chairperson (Agenda Item n. 1)

- 1. The 15<sup>th</sup> meeting of the Coordination Committee of the FAO Regional Project MedSudMed "Assessment and Monitoring of the Fisheries Resources and the Ecosystems in the straits of Sicily" was held in Tunis, Tunisia on 2<sup>nd</sup> and 3<sup>rd</sup> March 2017, hosted by the Institut National des Sciences et Technologies de la Mer (INSTM).
- 2. The meeting was attended by representatives of the Donors, Italian Ministry of Agriculture, Food and Forestry Policies (MiPAAF), representatives from the countries participating in the Project (Italy, Libya, Malta and Tunisia), a representative of FAO Sub-regional Office for North Africa (FAO SNE), a representative of the FAO Fisheries and Aquaculture Policy and Resources Division (FIA), a representative of FAO Regional Project AdriaMed, of the FAO General Fisheries Commission for the Mediterranean Secretariat (FAO GFCM), as well as the staff of the FAO MedSudMed Project.
- 3. The Director General of the Institut National des Sciences et Technologies de la Mer (INSTM), Mr Hechmi Missaoui, welcomed all the Committee Meeting participants. He drew the attention of the participants on the importance of the Project for his institute and his country for the continuous support received through time. He wished that the meeting could be a moment for fruitful discussion and for planning future activities.
- 4. The Representative from Tunisia, Mr Othman Jarboui, MedSudMed National Focal Point for Tunisia, welcomed the participants and expressed his honor at having the Committee members gathered in Tunisia in occasion of the fifteenth MedSudMed Coordination Committee meeting. He remarked on the importance given to the MedSudMed project by Tunisia and highlighted the success of the Project in several fields.
- 5. Mr Cherif Toueilib, from the FAO Sub-regional Office for North Africa (SNE), welcomed the participants to Tunis on behalf of FAO and congratulated the Project for the results achieved so far. He put at disposal the availability of FAO SNE offices to facilitate participants stay during the meeting. He also encouraged new future activities of the Project focused on Tunisia by acknowledging the key role that the country is playing in the south Mediterranean.
- 6. The representatives of the participating countries, Malta, Italy and Libya, thanked the Institut National des Sciences et Technologies de la Mer (INSTM) of Tunisia for hosting the meeting and the MedSudMed Project for the support given to the countries.
- 7. The FAO MedSudMed Project Coordinator, Mr Enrico Arneri, took the floor and welcomed the Tunisian authorities for hosting the meeting. He welcomed the Delegations to the city of Tunis and thanked the participating countries for their strong commitment and involvement at scientific and administrative level, which has resulted in the project achievements. He also wished to welcome in particular the representatives from Libya, expressing the satisfaction to see them actively participating in the Project. He informed the Meeting that a set of documents prepared by the Project staff had been made available on line for the

participants at the URL:

http://www.faomedsudmed.org/doc\_temp/cc15/CC15\_documents.html. A printed copy of the documents was also distributed to each delegation.

- 8. The FAO MedSudMed Project Fishery Monitoring Expert, Mr Luca Ceriola, thanked the Delegations and recalled that the meeting marked fifteenth years of Project activities. He called the attention of the Committee to the two achievements of the coming period, the establishment of the GFCM Management Plan for European hake and Deep water rose shrimp<sup>1</sup>, and the preparation of 17 scientific papers based on the joint work carried out inside the Project. The two achievements testify the high level of cooperation reached and of the importance given to the Project cooperative work. This in turn results in high expectations from the work of the group and to higher level of requests. Both aspects make the incoming period challenging and this 15<sup>th</sup> Coordination Committee meeting very relevant for the future of the Project.
- 9. Mr Hechmi Missaoui was proposed and elected as Chairperson of this MedSudMed Coordination Committee meeting.

## Adoption of the Agenda (Agenda Item n. 2)

10. The Agenda was presented to the Coordination Committee. The Chairperson invited the participants to offer any comments. The Agenda was adopted with no changes.

# Report on the Project's Progress (Agenda Item n.3)

- 11. The Project Fisheries Monitoring Expert, Mr Luca Ceriola, introduced this agenda item and presented the document "Report on the Project's Progress", in which the main activities carried out by MedSudMed from May 2016 to February 2017 are described in detail. The activities correspond to the Project work programme and mandate for this phase of the Project, as well as the recommendations of the 14<sup>th</sup> Meeting of the MedSudMed Coordination Committee.
- 12. Where the intersessional activities are concerned, the Project presented them grouped into four main components: 1) Cooperative research programmes and working groups; 2) National capacity development; 3) Regional cooperation; 4) Project communication.
- 13. The Coordination Committee was informed on the progress made in the framework of the established cooperative work programmes, starting with the component on demersal resources. In order to progress with the assessment of stocks of the main target species for fisheries in the Project area, the Study Group for Stock Assessment (SG-SA) met shortly before the annual meeting of the Project Working Group on Demersal Fisheries Resources (WG-DEM). The Study Group updated the stock assessment of *Parapenaeus longirostris* and *Merluccius merluccius* in the MedSudMed area using traditional and new approaches; in addition, assessment exercises were finalised for *Mullus barbatus* and as well as a preliminary stock assessment was carried out for *Trachurus trachurus*.

<sup>&</sup>lt;sup>1</sup>Recommendation GFCM/40/2016/4 establishing a multiannual plan for the fisheries exploiting European hake and deep-water rose shrimp in the Strait of Sicily (GSAs 12 to 16)

- 14. The Committee was informed that the WG-DEM meeting reviewed the Study Group's activities and, among other issues, discussion was held in view of the newly adopted *Recommendation GFCM/40/2016/04 establishing a multiannual plan for the fisheries exploiting European hake and deep-water rose shrimp in the Strait of Sicily (GSAs 12 to 16)*. In addition to the Study Group and Working Group meetings, during the intersessional period, the Project organised a technical meeting involving all fisheries stakeholders (fishers, fisheries administration and scientists) from the participating countries in order to contribute to the development process for the multi-annual management plan for fisheries targeting *P. longirostris*, *M. merluccius* in the south-central Mediterranean Sea, in line with the abovementioned recommendation adopted at the 40<sup>th</sup> FAO GFCM session. Some possible scenarios to be tested using simulation tools for assessing their likely consequences on fish stocks and fisheries were agreed and then used to feed discussion during the GFCM SAC Workshop on management strategy evaluation (FAO HQs, Rome, 20-23 February 2017).
- 15. The Committee was informed on the Project's activities related to discussion on recreational and small scale fisheries. The project contributed to the organisation of a session of the GFCM Regional conference "Building a future for sustainable small-scale fisheries in the Mediterranean and the Black Sea", held in Algeria (March 2016), as well as supported the preparation of a contribution illustrating multi-disciplinary information on three areas in the south-central Mediterranean Sea subject to specific management rules and where SSF represent a significant segment of the fisheries sector. Moreover, discussion was initiated on Recreational Fisheries in the Project area with a first appraisal of the current knowledge and information on RFs in the Project countries.
- 16. In the context of activities regarding demersal fisheries resources, the Meeting was informed on socio-economic data collection for fisheries exploiting *P. longirostris* and *M. merluccius* in North Tunisia. The activities initiated with the training of data collectors in January 2016. Data collection activities began in April 2016 in order to: i) provide national authorities with updated information on deep water trawl fisheries; ii) support compliance with GFCM requirements in terms of data submission; iii) provide basic information for the assessment and bio-economic evaluation of *P. longirostris* and *M. merluccius* fisheries in the south-central Mediterranean in line with the Recommendation GFCM/40/2016/04. Furthermore, in Tunisia, the Project supported pilot action for the direct monitoring of demersal fisheries in the Gulf of Gabès, involving observers on board, in order to provide new geo-referenced data on commercial catch including discard and incidental catch for supporting spatial base studies and fisheries management planning.
- 17. Where small pelagic fisheries resources are concerned, the Coordination Committee received detailed information on the activities and the results achieved in the intersessional period. The MedSudMed Working Group on Small Pelagic Fishery Resources met and progress was made on the assessment of the state of *Trachurus trachurus* stock and related fishery resources in the south central Mediterranean Sea as well as on the interpretation of results of joint acoustic and ichthyoplankton studies. The WG also made progress towards the publication of a special issue of the Scientific Journal Hydrobiologia. Further priorities for future activities were also identified.

- 18. The Committee was informed on the activities of the Study Group for the joint processing of small pelagic data, which met in the intersessional period. The Study Group made progress in the interpretation of results attained during joint acoustic data processing and defined the timeframe for the preparation of three scientific documents based on the work done. In particular the environmental factors affecting the spatial distribution of a selected assemblage of small pelagic species were jointly identified, the growth and environmental parameters for *Trachurus trachurus* from two sectors of the Project area were compared, and progress on the characterisation of *Sardinella aurita* and *T. trachurus* of preferred habitat was achieved. Where joint data collection activities are concerned, two missions were organised in Tunisia. The missions aimed to define the next steps to make R/V Hannibal fully operative in view of future work at sea, including the planned inter-ship comparison for acoustic surveys involving the R/V Hannibal and R/V Dallaporta.
- 19. In the intersessional period, in collaboration with CopeMed II, the Project organised a workshop on the stock assessment of *Coryphaena hippurus* in the western-central Mediterranean (September 2016), attended by experts from fisheries administrations and scientific institutions from Italy, Malta, Spain and Tunisia. Discussion was also held on *Seriola dumerili* fisheries. Progress was made towards the assessment of *C. hippurus* in the area and joint stock assessment exercises were carried out. The results of the exercises were presented to the GFCM SAC-WG (November 2016).
- 20. National capacity development was transversal to all activities. Training courses were organised following specific requests by the participating institutes, these were an opportunity to strengthen scientific collaboration and to exchange competencies between institutes. The Meeting was informed on five training courses held in the intersessional period covering several aspects of fisheries sciences, including methods for basic biological research, data processing for mapping spatial distribution and stock assessment. Mention was also given to a specific training programme for experts of the Marine Biology Research Centre of Tajura (MBRC, Libya) initiated in 2016. The courses included lectures and handson sessions for the application of specific methodologies.
- 21. In the framework of cooperative activities, as indicated in the last meetings of the Coordination Committee and by the FAO Independent Evaluation, the Project strengthened liaisons with the Donors (MiPAAF and EU-DG-MARE) and intensified the communication flow with them, including coordination meetings. Cooperation was reinforced with the other FAO Regional Projects AdriaMed, CopeMed II and EastMed throughout the year to consolidate and develop common activities. In addition, in close collaboration with CopeMed II, the Project promoted bilateral discussion between Algeria and Tunisia for the identification of species of joint interest for stock assessment purposes and to plan possible joint surveys at sea. The discussion promoted the signature by the INSTM and CNRDPA of an agreement for bilateral scientific cooperation. In the framework of the FAO decentralisation process, MedSudMed is reinforcing collaboration with the MedSudMed is reinforcing collaboration with the FAO Sub-regional office for North African (FAO SNE) and FAO Regional Office for North African and Near East (RNE). MedSudMed continued to support the activities of the GFCM by providing scientific contributions for discussion and by participating and funding the participation of experts in GFCM meetings.

- 22. The project issued and disseminated several technical documents, the Committee was informed on the preparation of a monography focusing on the MedSudMed area in the scientific peer-reviewed journal 'Hydrobiologia', with a special issue entitled: *Marine ecosystems and living resources in Central Mediterranean Sea*. The activity is ongoing and support is being provided for the preparation and preliminary submission of manuscripts.
- 23. The Chair welcomed the Presentation and opened the floor to the discussion.
- 24. The representative of Italy, Mr Mauro Colarossi, thanked the INSTM for hosting the meeting and the MedSudMed staff for the effort put in place to finalise all the activities that have been illustrated and for the preparation of this Coordination Committee Meeting. He took the occasion to inform the participants on the willingness of Italy to continue supporting the Project in the coming period.
- 25. The representative of Italy, Mr Fabio Fiorentino, Italian National Focal Point, thanked for the presentation and congratulated the Project for the amount of work done and the results achieved. The Project achievements resulted both in the improvement of the scientific knowledge on fisheries and marine ecosystem in the Project area and put the basis for scientific advice in support of fisheries management. He noted that the achievements are the results of the cooperation established in the Project framework and wished that this cooperation be continued in view of the new challenges to be jointly faced.
- 26. The representative of Tunisia, Mr Jarboui, thanked the Project staff for the large amount of activities carried out and results produced. He referred to the important role played by MedSudMed in promoting the discussion among scientists, fisheries administrations and stakeholders in support to the discussion on fisheries management and wished the continuation of the Project support and inputs in this direction. In this view, he stressed that, besides the revision of the activities carried out in the intersessional period, the Committee is called to plan and put the basis for the future activities and looked forward for incoming discussion.
- 27. The representative of Malta, Mr Reno Micallef, echoed the congratulations to the Project for the work done at regional and at single country level. He stressed that Malta had benefitted from Project support since its inception and underlined the importance, for his country, of ensuring the continuation of this key Project. In this view, mention was given to the Project efforts that enabled Malta to cope with the staff turnover and in the last years, to continuously enhance national capacity. He put an accent on the activities carried out on *Coryphaena hippurus* which are very important for his country. He also informed the participants that support to the activities on some small pelagics would be further ensured by Malta, even if, due to technical issues related to total catch, the country has to suspend the acoustic monitoring of these resources.
- 28. The representative of Libya, Mr Salem Zgozi, thanked the Donors of the Project, the Government of Italy through its Ministry of Agriculture, Food and Forestry Policies and the European Commission though the Director General for Maritime DG-MARE that ensured continuity to the Project activities. He recalled the support of the Project since its inception and stressed that one of the key strength of the MedSudMed is the identification of shared goals and the establishment of a strong and fruitful cooperation. This cooperation will also be the key factor in facing future work and commitments.

Mr Federico De Rossi, the GFCM Secretariat representative, welcomed the Presentation and the work done. He noted that the work done in the region by MedSudMed was instrumental for the countries and for the achievement of the GFCM objectives. By recalling the successful work done in promoting technical discussion in support of fisheries management, he pointed out that the cooperation with MedSudMed is regarded as a milestone by the GFCM for the further development and implementation of the Management Plan in the central Mediterranean. He therefore looked forward to further strengthen and improve collaboration.

- 29. The representative of FAO SNE congratulated for the presentation and the impressive amount of work done by the Project. Mr Toueilib informed the participants on some activities, relevant for the Committee, in which FAO SNE and INSTM are involved. He referred to a governance programme that covers also national management plan and to the bilateral agreement between Algeria and Tunisia. He also informed the participants that a Project "Plan AquaPêche 2020" is currently ongoing in collaboration of the research institutions of Algeria. He looked forward to strengthen future cooperation with MedSudMed to find new synergies with the aim to optimise the resources available and enhance the level of achievement.
- 30. The MedSudMed Project Coordinator wished to point out the importance of regional experts in the Project activities: it is thanks to their effort if the Project capacity of delivery is very high and of high quality. The results presented are the outcomes of the work carried out, at different level, thanks to the strong commitment of all the research institutions and administrations involved.

## FAO GFCM work plan for the next intersession period (Agenda Item n.4)

31. The representative of the GFCM Secretariat, Mr Federico De Rossi, presented the activities and meetings foreseen for 2017 under the frame of some of the GFCM main committees, namely the Scientific Advisory Committee on Fisheries (SAC), and Compliance Committee (CoC), underlining among others the importance of the recently established SAC Sub Regional Committees in providing sound advice to the consideration of the SAC. The targets and expected outputs of the Mid-term Strategy towards the sustainability of Mediterranean and Black Sea fisheries were also presented, with a specific focus on the new activities that were being launched during the first phase (2017-18), namely: i) the preparation of the GFCM Forum on Fisheries Science and elaboration of a common methodology for regional surveys-at-sea (Target 1 - scientific advice); ii) the conduct of a regional survey on socio-economic characteristics of fisheries, including small-scale fisheries (SSF), the evaluation of the impact of recreational fisheries and the work on SSF associations (Target 2 – SSF); iii) the operationalization of a regional vessel monitoring system (Target 3 – IUU fishing); and iv) the launching of a bycatch monitoring programme and related awareness campaigns for fishers as well as the work towards an adaptation strategy on climate change, invasive species and marine litter (Target 4 – interactions with environment). Specific mention was also made to the technical assistance mechanism foreseen by the mid-term strategy and aimed at supporting requesting countries to build the necessary capacity to cope with GFCM requirements, in the fields of fisheries data collection and management, monitoring control and surveillance, sustainable development of aquaculture and others. This mechanism will be based on collaboration with relevant stakeholders and other active donors, including the FAO Regional Projects.

32. Finally, the presentation recalled that – following the revision of the Compendium of GFCM decisions and the progressive implementation of data submission in line with the GFCM Data Collection Reference Framework (DCRF) – relevant data have now to be submitted according to a new calendar and, as appropriate, through the new online DCRF platform. The platform characteristics were briefly outlined (e.g. online excel based tool, dynamic dashboard, multi-user access, historical data submission recording, notification email, data quality check). The platform is currently under finalisation and it will be made available to CPCs for data submission by mid-April 2017.

#### Development of the Project's Programme for the next period (Agenda Item 5)

- 33. The MedSudMed Project Coordinator, Mr Arneri introduced the document "Development of the Project's Programme", pointing out that the final work plan would also give due consideration to the indications emerging from this Committee meeting. The activities described take into account the Project aims, the outcome of the intersessional working groups' meetings as well as the suggestions received from the participating countries during the informal meetings held. In addition, some of the activities take into account the indications provided by the FAO External Evaluation of the Project (2012). All the activities planned are integrated, consistent with and will contribute to the newly adopted GFCM midterm strategy (2017-2020); the GFCM Framework Programme 2013-2018 and the work plan of the GFCM SAC Sub Regional Committee for the Central Mediterranean. Collaboration with other FAO Mediterranean projects particularly AdriaMed, CopeMed II, and EastMed will continue and all activities are subject to budget availability.
- 34. The Meeting was reminded that the work plan would cover the five main areas of Project intervention: demersal fisheries resources; small pelagic fisheries resources; training and national capacity development; web site and information system; regional cooperation. Where demersal fishery resources are concerned, much of the medium-term technical work will be in support of the newly-adopted GFCM Recommendation (GFCM/40/2016/4) establishing a multiannual plan for the fisheries exploiting European hake and Deep-water rose shrimp in the Strait of Sicily. The Project will organize the annual Working Group on Demersal Fisheries Resources to: review the work of the MedSudMed SG-SA; continue discussion on the integration of socio-economic data in the appraisal of fisheries status for management strategies evaluation and bio-economic modelling; explore data availability and options to take advantage of existing geo-referenced fisheries dependent and fisheries independent data; identify priorities and plan future common joint research activities.
- 35. The Project will continue to support socio-economic data collection activities, finalising the processing of 2016 data and supporting a second year's survey in Tunisia regarding data from demersal fisheries targeting *Parapenaeus longirostris* and *Merluccius merluccius*, possibly expanding the data collection programme to a selected small-scale métier and/or to a selected sub-region. The data gathered will be key to the completion of assessment of the state of the stocks in question and will contribute to providing Tunisia with the tools for managing national capture fisheries, fostering compliance with the GFCM recommendation on data collection. Furthermore, the Meeting was informed that the Project would also explore the possibility to enhance the collection of standardised, geo-referenced fisheries independent data either in terms of area coverage or frequency of sampling.

- 36. In the coming period, MedSudMed will explore the possibility to continue supporting and further expanding the 2016 on-board monitoring pilot action to gather data on overall catch, bycatch, incidental and accidental catch of sensitive species; moreover, the Project will explore the possible involvement of fishers in direct sampling and self-reporting actions regarding bycatch and incidental species. The Project Study Group for Stock Assessment will also continue resource appraisal activities on selected target species, i.e. *Parapenaeus longirostris, Merluccius merluccius, Mullus barbatus* and *Mullus surmuletus*, by exploring alternative methods for assessment, as well as investigating possible simulations to evaluate likely consequences of different management scenarios on these stocks and fisheries.
- 37. Where technical support to fisheries management is concerned, the Committee was informed that the Project would continue providing assistance to participating countries and to the GFCM SAC concerning the provisions of Recommendation GFCM/40/2016/4, promoting multi-stakeholder discussion on this issue, including discussion on Management Strategy Evaluation. The Project could provide technical support to participating countries in the development of national/local management plan if sought.
- 38. Given the ecological importance of elasmobranchs and the widespread occurrence in the south-central Mediterranean, the Project will support technical discussion and joint activities on demersal elasmobranchs. This activity was foreseen in 2016 but for technical reasons was postponed. The first meeting of the Working Group on Elasmobranchs will attempt, *inter alia*, the mapping of spatial distribution of selected species as well as the development of an ATLAS on demersal Elasmobranchs in the MedSudMed area and the stock assessment for selected species. Discussion on discards, incidental catch and gear selectivity will also be tackled.
- 39. Following the technical discussion on Red coral fisheries during the last MedSudMed Working Group on Demersal Fisheries Resources and the incoming GFCM Workshop on Red Coral (Tunis, Tunisia, 7-8 March 2017), MedSudMed will explore the possibility to support the countries on this issue e.g. implementing a pilot study on benthic communities and biocoenoses in the Project area, taking advantage of existing data.
- 40. The Meeting was informed that joint activities would continue on small-scale fisheries and recreational fisheries. MedSudMed will support the discussion and explore the possibility to establish pilot studies for data collection on SSF and RF. The Project will explore options to perform pilot actions on monitoring of these fisheries.
- 41. Where small pelagic fishery resources are concerned, the Committee received information on the activities planned for the coming period and learned that the annual MedSudMed Working Group on Small Pelagic Fishery Resources (WG-SP) would be organised and discussion would be based on the revision of the work carried out by the Study Group on the joint processing of acoustic and ichthyoplankton data; on the progress in the standardisation of age reading and bottom and acoustic survey data; and the definition of new priorities.
- 42. To bring forward the work carried out to date on joint surveys at sea in pursuit of the standardisation of data collection and processing, in the coming period, preparatory work for the inter-ship comparison will be resumed and the possibility to carry out the work at sea will be explored to support the standardisation of methods for fisheries and fish biology related studies. Furthermore, inter-calibration of fish age determination will continue

- through a multi-step programme to standardise small pelagic fish age determination by otolith reading beginning with *Trachurus trachurus* and possibly expanding to other species.
- 43. Ad hoc activities will continue concerning appraisal of *C. hippurus* stock and fisheries in close cooperation with CopeMed II. The Meeting was also informed on continuing support to the appraisal of *T. trachurus*, by promoting estimation of input parameters, the standardisation of survey data (acoustic and bottom trawl) and the exploration of the best model for stock evaluation.
- 44. The Project will organise the meeting of the *Study Group for the joint processing of acoustic and ichthyoplankton data* (SG-JDP) to: i) progress in the use of acoustic data for the estimation of small pelagic fish biomass at sea and for the characterisation of small pelagic fish assemblages; ii) integrate information from bottom trawl surveys to characterise small pelagic fish communities; iii) continue the joint processing of ichthyoplankton data to define spawning areas and areas of concentration of fish larvae; and iv) progress in estimation of parameters and data preparation for the assessment of stock status and spatial distribution of *Trachurus* species. The possible further participation of experts from Algeria will be explored in collaboration with CopeMed II.
- 45. The Project will continue to support the strengthening of national expertise through the implementation of specific activities, prioritising the full involvement of all the research institutes and scientists from the participating countries in the activities organised. In this line, mention was made to the "Summer School in quantitative fisheries stock assessment" jointly organized by the FAO Mediterranean Projects, including MedSudMed, the FAO Fisheries and Aquaculture Department, the GFCM and the European Commission Joint Research Center (JRC).
- 46. In line with previous decisions of the Coordination Committees and with the recommendations that emerged from the Independent Evaluation carried out in 2012, the Project will continue to strengthen international and regional cooperation at Mediterranean level with the GFCM and its relevant subsidiary bodies. Synergies with other international institutions and initiatives underway in the Mediterranean regarding fishery subjects of interest for the Project region will be sought for the sake of avoiding duplication of efforts and optimizing the use of human and financial resources, including training activities.
- 47. At the end of the presentation the Chairperson opened the floor for comments and discussion. The representative of Malta, Mr Micallef, while acknowledging the relevance of the work plan presented, pointed out some priorities for Malta. He further mentioned that his country has benefitted up to now of several trainings that lead the local scientific community well acquainted on evaluation of fisheries resources. Now time has arrived to reach a similar level on economic aspects and management strategy evaluation; accordingly, he welcomed the training activities planned on these two topics. He also indicated the training on R as fundamental for new scientists. With regards to the specific activities on fisheries resources, the interest for small pelagics in Malta is hampered by the low level of catch that resulted in the impossibility to pursue monitoring activities (e.g. through acoustic survey). On the other side, he reiterated the importance that the work planned on *Coryphaena hippurus* has for his country. Lastly, he stressed the importance to provide a mechanisms to continue tutoring

- trained scientists for some time after the trainings; this could be done with exchange programmes between research institutions.
- 48. Regarding the fisheries monitoring programme presented, the Committee discussed to some extent on the bycatch monitoring. The quantification of bycatch, incidental catch, discards in general is among the main problems when a multispecies fisheries like bottom trawling is concerned. On the other side, the difficulties to gather accurate data on this fraction of the catch is widely acknowledged worldwide. Direct observation on board and self-reporting by fishers are possible options to gather information on these fractions of the catch. The discussion then focused on the possibility to plan joint methodological discussion on data collection on board of professional fishing vessels through observers. Given the existence of several actions already in place or in the pipeline on this issue at national and regional level, discussion was urged toward the standardisation of data collection for observers and/or fishers on board. In particular, the possibility to standardise the data to be collected on fishing operations, catch and discarded species was considered a priority to facilitate the data sharing and joint processing. The Committee concurred that discussion on sampling methods for observers on board could be held on occasion of the MedSudMed Working Group on Demersal Fisheries Resources. The meeting outputs could be presented as technical contribution to the GFCM Mid-term Strategy.
- 49. The representative of Libya, Mr Hisham Ghmati, welcomed the work plan and acknowledged the challenges involved for both the Project and the countries. With reference to the training programme initiated by the Project in 2016 at the MBRC, he further emphasized the importance of having continued the support of the Project on this component. He also welcomed the support of the Project in monitoring the resources initiated in 2016 (e.g. data collection on small pelagics caught by lampara) and looked forward for further technical support in view to progress on this activity. He wished that the problems that delayed the acquisition of material and equipment for age reading and cutting tools to the MBRC will be solved in short time. Considering future perspectives, by acknowledging the reactivation of the Working Group on Elasmobranchs, he urged the Project support in ensuring discussion on invasive species.
- 50. On this regard, he brought the Committee's attention to the occurrence of new species that are affecting fisheries dynamics and the autochthonous species (ecologic and economic effects of species invasion). Accordingly, the possibility that MedSudMed could apply the experience accrued so far on species monitoring to invasive species was put forward.
- 51. The representatives of Tunisia, echoed the comments of the Libyan representatives on the support of the Project on this issue and brought the example of the blue crab (*Portunus signus*) in their country. The species is increasingly substituting autochthonous species and is creating broad damages to the local fishing communities and to the local bottom habitats.
- 52. The representative of Italy, Mr Fiorentino, underlined the role that MedSudMed may have in providing sound scientific information on the colonization dynamics of invasive species. He underlined that, owing to the ecological role of the Straits of Sicily in controlling the process of bio-invasion, the Project is in a privileged position to monitor the spread of invasive species in the Mediterranean Sea.

- 53. With regards on possible methods to monitor the invasive species, the Committee was informed on the pilot survey made in the Adriatic Sea within the framework of the AdriaMed Project. The survey, that foresaw interviews with fishers (both professional and recreational), was pointed out as an example of monitoring activity of invasive species potentially replicable in any region. Following the discussion, the Committee agreed on the proposal to add a research line in the project work plan focused on the invasive species. The subject shall be, in first place, addressed by the Working Group of Demersal Species, in which the steps to initiate a monitoring programme shall be identified. The consideration that synergies shall be found with similar initiatives and/or projects in the area on this issue was put forward: the cooperation with activities in bordering areas (e.g. eastern Mediterranean; Adriatic Sea) will be essential to proper understand the dynamics of the invasive species phenomenon. The activity should comprise an initial meeting to be carried out in the short term to take stock of existing information and monitoring methods, the completion of interviews with fishers and a further discussion meeting to explore the results of the activities carried out.
- 54. The Representative of Tunisia, Mr Jarboui, acknowledged the relevance of the work plan presented and pointed out some additional activities, of national interest, for which he wished the support of the Project. With regards to resources appraisal, he mentioned the pilot action carried out in the Gulf of Gabès to study clams (*Ruditapes decussatus*) stocks. He stressed the importance of broadening the Pilot action by expanding the area coverage and proceeding with the evaluation of abundance, distribution and stock structure of clams. He singled out the need of continuing capacity development activities and indicated as a priority the training planned by the Working Group on Small Pelagics on the retrieval, processing and mapping of environmental data from satellites.
- 55. The Committee was informed on the activities that CopeMed II is planning in 2017 relevant to the Central Mediterranean and in particular, those that are being developed jointly in close collaboration with MedSudMed. In this context, mention was given to the ongoing studies in the bordering area between Tunisia and Algeria on possible shared stocks of hake and sardine. The work planned for 2016 has been accomplished, including the target species definition, trial stock assessment, the identification of data and knowledge gaps that prevent further studies. Based on the results achieved, follow up for the coming period has been planned: knowledge sharing between experts from Tunisia and Algeria, standardization and strengthening of biological sampling in Algeria. Should the sampling be completed in Algeria during 2017, new stock assessment exercises could be attempted taking advantage of the forthcoming sessions of the Working Groups or Study Groups on stock assessment of the two projects. As follow up of the joint MedSudMed-CopeMed II Workshop on C. hippurus and of the comments of the GFCM Working Group on Stock Assessment for Small Pelagics, the data set used for C. hippurus stock assessment is being improved. A study is in place to improve the estimates of catch per unit of effort (CPUE) through the use of Generalised Linear Models; in addition a publication will be prepared with the contribution of all the working group experts.
- 56. The Committee was also informed on the work that CopeMed II is planning for supporting the INSTM in the data collection of European eel in Tunisia and on a pilot study for the elaboration of a Management Plan for small scale fisheries in EL Bibane Lagoon following the ecosystem approach to fisheries (EAF). Several stakeholders meetings and trainings are planned for this pilot study during 2017. Close collaboration with MedSudMed will be sought on this issue. CopeMed II is also planning a Workshop on methodologies for the identification of stock units in the Alborán Sea with the aim to design a two-year research plan for one priority species.

- 57. The Committee acknowledged the presentation and took the opportunity to thank the CopeMed II Project for the work carried out and the activities planned in 2017. The Committee underlined that cooperation should be ensured when activities in areas of common interest are concerned.
- 58. After thorough discussion and comment on the content of the Document CC/15/03, the Committee agreed on the programme of activities proposed (Annex E) and the suggestions made by the participants for the coming period. The activities will be carried out upon budget availability.

#### Other matters (Agenda item n.6)

- 59. The representative of FAO-FIA, Mr Paolo De Donno took the floor to anticipate to the participants, the needed administrative steps when implementing a newly open Trust Fund (TF) project, in this case, project GCP/INT/269/EC. Mr De Donno briefly mentioned that, as part of FAO's project cycle, there are a series of documents that need to be prepared to initiate the implementation of activities under a TF project. One of these documents is the Project Agreement (Annex 8). The Project Agreement between FAO and recipient governments, describes the respective obligations and responsibilities of recipient governments and the Organization during implementation of the specific project. The Agreement has two key functions: i) expresses the Government's ownership and acceptance of the project taking place on its territory, and commits the Government to take responsibility for the project and its success (this is essential, as FAO is not in a position to decide to implement a project in a recipient country on its own, and without the express consent of the Government) and ii) it establishes the legal framework for the activities of FAO in the recipient country.
- 60. Mr De Donno explained that the Project Document is attached to the Project Agreement and this document will have several Appendixes. In particular they are the FAO Logical Framework Matrix, Work Plan, Budget and the Project Risk Management Plan. The document will be channeled for signature to the countries through the FAO Sub Regional Office or the Permanent Representatives.
- 61. Delegates and Meeting participants wished to express their thanks to the Institut National des Sciences et Technologies de la Mer for the kind hospitality provided.

#### Date and venue of the next Coordination Committee meeting (Agenda item 7)

62. Upon the kind invitation of the Libyan delegation, the next Meeting of the MedSudMed Coordination Committee will be held in Libya. The date and venue will be proposed in due time by the Project. This proposal was welcomed by the Meeting participants.

This report was adopted on 03 March 2017.

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# **Annotated Agenda**

- 1. Opening of the meeting and election of the Chairperson
- 2. Adoption of the Agenda

#### 3. Report on the Project's progress

The main activities and the Project's outputs will be presented and reviewed. Information will be given on the activities of the MedSudMed Working Groups, the on-going cooperative research work, the training sessions, the technical work in support to fishery management and the relationship and cooperation of the Project at Mediterranean level.

# **4.** FAO General fisheries commission for the Mediterranean (GFCM) work plan and strategy for the next intersession period

An update on the GFCM activities for 2017-2018 and on the newly adopted Mediterranean mid-term strategy (2017-2020, Mediterranean Strategy) will be presented. Discussion will be held on how the activities foreseen by the Project are integrated and will contribute to the Mediterranean Strategy and to the work of the GFCM Sub-regional Committee for the Central Mediterranean Sea.

#### 5. Development of the Project's Programme for the next period

The work plan of the Project will be outlined and discussed. Topics to be dealt with are those pertaining to the ongoing research programmes, the training activities, the joint activities directed toward the national capacity development and the preparatory work towards joint fishery management decisions in the project area. Particular attention will be given to the follow-up of the MedSudMed Working Groups activities and priorities, and to the technical support for the development of harmonised fishery management strategies. The international cooperation, the relationship with other projects in the south-central Mediterranean Sea, the relationship with the Donors, with the GFCM and other topics brought forth by the Committee will be discussed. The Committee will be asked to provide the Project with an appraisal and orientation of the programme presented and/or any other contribution.

- 6. Other matters
- 7. Adoption of the report
- 8. Date and venue of the next Coordination Committee meeting

# **List of Documents**

Report on Project's Progress (May 2016 – February 2017)  FAO-MedSudMed: CC/15/03  Development of the Project's Programme  FAO-MedSudMed: Provisional list of participants  FAO-MedSudMed: Report of the Fourteenth Meeting of the Coordinate CC/15/Info 02  Report on Project's Progress (May 2016 – February 2017)  Provisional list of participants  Report of the Fourteenth Meeting of the Coordinate CC/15/Info 02  MedSudMed Study Group for Stock Assessment in south-central Mediterranean Sea (FAO HQ, Rome, 6)
FAO-MedSudMed: CC/15/Info 01  Provisional list of participants  Report of the Fourteenth Meeting of the Coordinat CC/15/Info 02  MedSudMed Study Group for Stock Assessment in
FAO-MedSudMed:  CC/15/Info 01  Report of the Fourteenth Meeting of the Coordinate CC/15/Info 02  MedSudMed Study Group for Stock Assessment in
CC/15/Info 02 Committee. MedSudMed Technical Documents N.39  MedSudMed Study Group for Stock Assessment in
7.035.10.335.1
CC/15/Info 03 07 October 2016) – Meeting memorandum
FAO-MedSudMed: MedSudMed Working Group on Demersal Fisher Resources in the south-central Mediterranean Structure (Palermo, Rome, 24-28 October 2016) – Meet memorandum
- Stock Assessment Forms on Demersal Fisher Resources, namely Parapenaeus longirostris. Present at the GFCM-SAC – Working Group on Stock Assessment on Demersal Species (Rome, 07-November 2016) - Stock Assessment Forms on Demersal Fisher Resources, namely Merluccius merluccius. Presented the GFCM-SAC – Working Group on Stock Assessment on Demersal Species (Rome, 07-12 November 2016) - Stock Assessment Forms on Demersal Fisher Resources, namely Mullus barbatus GSAs 15-Presented at the GFCM-SAC – Working Group on Stock Assessment on Demersal Species (Rome, 07-November 2016) - Stock Assessment Forms on Demersal Fisher Resources, namely Mullus barbatus GSAs 13-Presented at the GFCM-SAC – Working Group on Stock Assessment on Demersal Species (Rome, 07-November 2016).
FAO-MedSudMed: MedSudMed technical meeting towards the developm

CC/15/Info 06	of management measures in the south-central Mediterranean Sea demersal fisheries (FAO HQ, Rome, 06-08 February 2017)	
FAO-MedSudMed: CC/15/Info 07	MedSudMed Working Group on Small Pelagic Fishery Resources in the south-central Mediterranean Sea (Capo Granitola, Italy 19 - 23 September 2016 – Meeting memorandum	
FAO-MedSudMed: CC/15/Info 08	CopeMed II – MedSudMed Workshop on stock assessment of <i>Coryphaena hippurus</i> in the Western-Central Mediterranean held in Malaga, Spain on 13-15 September 2016	
FAO-MedSudMed: CC/15/Info 09	Major activities of the FAO Regional Projects. Documents presented at the GFCM 40 <sup>th</sup> Annual Session (St. Julian's, Malta, 30 May-03 June 2016)	
FAO-MedSudMed: CC/15/Info 10	FAO/GFCM/JRC Summer school in quantitative fisheries stock assessment. Leaflet	
FAO-MedSudMed: CC/15/Info 11	MedSudMed Capacity development component 2016	
FAO-MedSudMed: CC/15/Info 12	Abstracts for the Hydrobiologia Special Issue: Marine ecosystems and living resources in the central Mediterranean Sea	
FAO-MedSudMed: CC/15/Info 13	Artisanal fishery communities in the central Mediterranean: three managed case studies in the blue growth perspective. Document presented at the GFCM Regional Symposium on Small Scale Fisheries, Algiers, Algeria, March 2016	
FAO-MedSudMed: CC/14/Info14	Ied: CC/14/Info14 List of Documents	

# Report on the Project's Progress (May 2016 – February 2017)

#### Introduction

This paper provides an overview of the main activities carried out by the Project MedSudMed between May 2016 and February 2017, including meetings, training, research activities and technical assistance provided to the participating countries, as well as the cooperation established with the FAO General Fisheries Commission for the Mediterranean (FAO GFCM), its Scientific Advisory Committee (SAC) and other relevant institutions. The work programme and recommendations of the 14<sup>th</sup> meeting of the MedSudMed Coordination Committee (St. Julian's, Malta, 26-27 April 2016; CC/15/Info 02) were implemented.

The activities carried out during the inter-committee period comply with the methodological framework of the Project and its mandate for the current phase. To some extent, the work plan in the intersessional period was affected by the political situation in the region that sometimes resulted in changes to the schedule and calendar of activities. This report details the main outputs of the Project activities and the results achieved with direct reference to the following Project Objectives:

- 1) Support the scientific standardization of the methodologies applied in the relevant studies related to fishery resources and to the relationships between fishery resources and biotic and abiotic factors:
- 2) Improve the scientific knowledge on fishery resources and their ecosystem in the Project area through the finalization of the research activities program;
- 3) Strengthen the national expertise through on-the-job training and working groups, and support the national research institutions in enhancing scientific expertise;
- 4) Strengthen and support scientific cooperation between the different experts and institutions involved in the Project activities;
- 5) Strengthen the technical and scientific cooperation at Mediterranean level, among the participating countries and between the Project, the FAO General Fisheries Commission for the Mediterranean (FAO GFCM) and other FAO Regional Projects.

The activities presented are grouped according to four main components, as follows, which may cover one or more of the Project Objectives:

- 1. Cooperative research programmes and working groups;
- 2. National capacity development;
- 3. Regional cooperation;
- 4. Project communication.

#### 1. Cooperative research programmes and Working Groups

In 2016 the Project implemented a series of activities dealing with field work and data processing methodology.

The Project, in close cooperation with the research participating institutes, initiated to implement the work plan for the medium and long term activities identified during the 11<sup>th</sup> MedSudMed Coordination Committee (Malta, April 2013). The work plan was also in agreement with the conclusions of the FAO independent evaluation (2012) and Project mandate.

# 1.1. MedSudMed Component on Demersal Resources

During the inter-committee period, the work carried out within this Project component focused on planning field work, promoting discussion on emerging issues and priorities on fisheries between national experts, joint data analysis, finalisation of technical reports and technical documents. In addition, specific work was developed to promote discussion among participating countries in support to the definition of agreed management strategies for fisheries exploiting shared resources in the Project area as follow up of the priority emerged during the GFCM plenary session (the latest being the 40<sup>th</sup> session held in St. Julian's, Malta, from 30 May to 03 June 2016). In this view, synergies are established with the GFCM, which is the final forum for discussion on fisheries management.

Under this Project component, the following activities were supported:

- Study Group for Stock Assessment and Technical Meeting on Elasmobranchs in the south-central Mediterranean Sea (SG-SA);
- Working Group on Demersal Fisheries Resources (WG-DEM);
- Technical discussion in support of fisheries management
- Support to discussion on recreational and small scale fisheries
- Pilot action on socio-economic data collection in fisheries exploiting *P. longirostris* and *M. merluccius* in Tunisia.
  - Study Group for Stock Assessment and Technical Meeting on Elasmobranchs in the south-central Mediterranean Sea (SG-SA)

Considerable effort was made by the Project and the research institutes in the south-central Mediterranean Sea to progress toward the appraisal of the state of main fisheries target species. In this view, the *MedSudMed Study Group for Stock Assessment (SG-SA)* was held at FAO HQ, Rome, Italy from 03 to 07 October 2016 (CC/15/Info 03). The meetings were attended by 11 experts from all the Project participating institutions. Staff of the AdriaMed and MedSudMed Projects also attended the meeting. During the SG-SA: i) the stock assessment of *Parapenaeus longirostris* and *Merluccius merluccius* in the MedSudMed area (south-central Mediterranean Sea) were jointly updated using traditional and new approaches; ii) stock assessment exercises for *Mullus barbatus* were carried out; iii) a preliminary stock assessment exercises for *Trachurus trachurus* was performed; and vi) a follow up to finalise the preliminary exercises was carried out, in view of the MedSudMed Working Group on Demersal Fisheries Resources (WG-DEM, 24-28 October 2016).

#### - Working Group on Demersal Fisheries Resources (WG-DEM)

The Project organised the annual meeting of the MedSudMed Working Group on Demersal Fisheries Resources (WG-DEM). The meeting was held on 24-28 October 2016 in Palermo (Italy). The WG-DEM was attended by 16 researchers from all the research institutes involved in the Project. The WG-DEM: i) reviewed the appraisal of the state of demersal fish stocks (P. longirostris, M. merluccius, and Mullus barbatus) and fisheries in the MedSudMed Project area as produced by the SG-SA; ii) pursued technical discussion in support of fisheries management in the south-central Mediterranean in view of the newly adopted Recommendation GFCM/40/2016/04 establishing a multiannual plan for the fisheries exploiting European hake and deep-water rose shrimp in the Strait of Sicily (GSAs 12 to 16); iii) initiated discussion on recreational fisheries in the Project area, exploring existing knowledge and the possibility to initiate joint studies; iv) held discussion on the preparation of technical and scientific documents summing up the approach used and outcomes achieved in the joint studies on demersal fisheries resources; v) formulated proposal for specific activities to be implemented in the future within the MedSudMed framework. The assessment produced for P. longirostris, and M. merluccius GSAs 12-16 and M. barbatus were presented and discussed at the meeting of the Working Groups on Demersals of the Scientific Advisory Committee (SAC-WG) of the GFCM, GFCM HQs, Roma, Italy, 07-12 November 2016 (CC/15/Info 04, CC/15/Info 05).

# - Technical discussion in support of fisheries management

With the objective to promote a participatory approach and disseminate scientific data and discussion outputs, MedSudMed organised a series of technical meetings involving all fisheries stakeholders of all participating countries: St. Julian, Malta 24-26 June 2014, Tunis, 17-18 March 2015; FAO HQs, Rome, 25-26 January 2016. A further meeting was organised at FAO HQ, Rome on 06-07 February 2017. Representatives of fisheries associations, fisheries administrations, non governmental organizations and scientists of Italy, Libya, Malta and Tunisia joined the meetings. The overall objective of the meetings was to contribute to the process of the development of an internationally agreed multi-annual management plan for fisheries targeting P. longirostris, M. merluccius in the south-central Mediterranean Sea in line with the conclusions of the recommendation adopted at the 40<sup>th</sup> plenary sessions of the FAO GFCM (Malta, May-June 2016). The meetings provided an opportunity for all fishery stakeholders to share information, knowledge and expertise, to compare experience and to identify priorities among all the MedSudMed participating countries. The meetings provided also the possibility to discuss on potential management strategies to be outlined in a multiannual management plan. In this view, during the meeting held in January 2017 the participants: shared information on spatial distribution of fisheries resources including on nurseries and spawning grounds and agreed on possible scenarios to be tested using simulation tools for assessing their likely consequences on fish stocks and fisheries (CC/15/Info 06). The scenarios were used to feed discussion during the GFCM SAC Workshop on management strategy evaluation (FAO HQs, Rome, 20-23 February 2017)

- Support to discussion on recreational and small scale fisheries

Attention was devoted by the Project to small scale fisheries (SSF) and recreational fisheries (RF) at global and Mediterranean level in recent years. In 2013, to stimulate discussion and raise awareness on the importance of SSF at regional level, the GFCM organised the first regional symposium on SSF (Malta, December 2013) and with the support of the FAO Regional Projects AdriaMed, CopeMed II, EastMed and MedSudMed. As follow up, a second event was organised in 2016 (GFCM Regional conference "Building a future for sustainable small-scale fisheries in the Mediterranean and the Black Sea", 7-9 March 2016, Algiers, Algeria. On that occasion, MedSudMed contributed to the organisation of one session and promoted the preparation of a contribution depicting multi-disciplinary information on three areas in the south-central Mediterranean Sea subject to specific management rules and in which the SSF plays a major role: the Egadi (Italy), Kerkhenna (Tunisia) and Malta Islands (CC/15/Info 13). During the reporting period, the Project supported the finalisation of a contribution document to be published in the proceedings of the GFCM Regional Conference. Recreational fisheries (RFs) has considerable socio-economic importance at local and national level and contribute to the total capture production for some high valuable species. Following the request formulated during the 14<sup>th</sup> Project Coordination Committee (Malta, April 2016), discussion was initiated on RF in the Project area during the WG-DEM. On that occasion, a first appraisal of the current knowledge and information availability on RFs in the countries participating in the Project was provided.

- Pilot action on socio-economic data collection in fisheries exploiting P. longirostris and M. merluccius in Tunisia

According to a request formulated by representatives of the INSTM during the 13th Coordination Committee meeting (Rome, Italy, April 2015), the Project designed and initiated a pilot action on fisheries socio-economic data collection in the fishing port of La Goulette, Tunis, in cooperation with the INSTM. The aim of this pilot activity is to verify and test the feasibility of socioeconomic survey at national scale and to provide a description of the main socio-economic aspects for the fisheries exploiting P. longirostris and M. merluccius. A training exercise was organized and held in Tunis (Tunisia) on 11-13 January 2016 for 6 data collectors. The training focused on the objective of the survey and basic approaches to interview fishermen, vessel's owners and workers in all the ports of Tunisia, as well as to record and store data in electronic format. After the training, the sampling scheme for the socio-economic survey was consolidated in collaboration with the local administrations and data collectors. The data collection was initiated in April 2016 in the ports of Tabarka, Bizerte, La Goulette and Kelibia. Either a census or sampling approach was adopted depending on the area considered and the number of vessels operating in the area. Fishing vessels exploiting P. longirostris and M. merluccius in the winter period and based in the south or east of Tunisia were also included in the sampling. The data quality check and reporting is currently ongoing. The gathered information will be instrumental to: i) provide national authorities with updated information on deep water trawl fisheries; ii) support the country in being compliant with GFCM requirements in terms of data submission; and iii) to gather basic information necessary for the proper assessment and bio-economic evaluation of P. longirostris and M. merluccius fisheries in the south-central Mediterranean in view of the newly adopted GFCM multi-annual management plan Recommendation GFCM/40/2016/04.

- Pilot action on the direct (on-board) observation of fisheries in Tunisia

The Project, in cooperation with the INSTM, supported a Pilot action on the direct monitoring of bottom trawl fisheries in the Gulf of Gabès (GSA 14, south Tunisia). The monitoring was carried out involving observers on board. A fishing vessel with the same characteristics of the 80% of the bottom trawl fisheries in GSA 14 was monitored during regular fishing operations 10 days per month every month in 2016. The activity was planned to address a request of the 14<sup>th</sup> Coordination Committee meeting (Rome, Italy, April 2016) to provide new georeferenced data on commercial catch including on discard and incidental catch for supporting spatial base studies and fisheries management planning. Geo-referenced data on fishing operations and catch of target and non target species (including on elasmobranchs and bottom biocoenoses) were recorded per haul per fishing trip. Samples of target and accessory species were taken, as well as samples of biocoenoses. The data were processed and maps were produced using simple spatial representation and kriging interpolation (Bray Curtis inverse distance similarity). Preliminary outputs of activities were presented on occasion of the MedSudMed WG-DEM (Palermo, October 2016, CC15/Info/04).

#### 1.2. MedSudMed Component on Small Pelagic fish

As for the previous years and following the requests formulated during the MedSudMed Coordination Committee meetings, efforts were made by the Project to pursue: the improvement of expertise on small pelagic fisheries resources; the harmonisation of methodologies for data collection at sea; the standardisation and joint processing of data gathered during surveys; and the dissemination of results achieved through the publication of scientific and technical documents. In this line, the following activities were carried out in the intersession period:

- Working Group on Small Pelagic Fishery Resources;
- Study Group for the joint Processing of small pelagic data in the south-central Mediterranean Sea:
- Study Group for the joint Processing of small pelagic data in the south-central Mediterranean Sea;
- Joint surveys at;
- CopeMed II-MedSudMed Workshop on stock assessment of *Coryphaena hippurus* in the western-central Mediterranean and related fisheries.
- Working Group on Small Pelagic Fishery Resources

In the inter-committee period, particular importance was given to enlarging and consolidating the group of researchers involved in studies on small pelagic fish. In this framework, the MedSudMed Working Group on Small Pelagic Fishery Resources (WG-SP) was organised in Capo Granitola, Italy, on 19-23 September 2016 (CC/15/Info 07).

During the meeting, national experts made progress toward the assessment of the state of *Trachurus trachurus* stock and related fishery resources in the south central Mediterranean Sea. Progresses were made on the interpretation of results of joint acoustic and ichthyoplankton studies was dealt with focus on: the identification of factors affecting spatial distribution of adult small pelagic fish based on the acoustic density data; and the definition of the main oceanographic factors affecting larval assemblage and dispersion in the central

Mediterranean Sea. The group progressed toward the publication of a special issue of the Scientific Journal Hydrobiologia. An *ad hoc* section was created by the Journal on its website to submit papers. A timeframe for the manuscripts preparation and preliminary submission to the Guest Editorial Board was agreed on. Overall 18 titles have been proposed and a summary sheet summarising information on authors, title, area coverage and possible timeframe for drafting and sending to submission was developed (CC/15/Info 12). Priorities for joint studies and activities on small pelagic stocks and fisheries to be carried out in the framework of MedSudMed were identified.

- Study Group for the joint Processing of small pelagic data in the south-central Mediterranean Sea

The Study Group for the joint Processing of small pelagic data was held from 10 to 12 January 2017 in La Goulette, Tunis, (Tunisia), kindly hosted by the Institut National des Sciences et Technologies de la Mer (INSTM). The meeting was attended by experts from Italy, Libya and Tunisia. During the meeting progresses were made in the interpretation of results achieved during the joint acoustic data processing. In particular:

- the environmental factors affecting the spatial distribution of a selected assemblage of small pelagic species were jointly identified;
- the growth parameters estimated for *Trachurus trachurus* in south Sicily, Malta and Tunisia were preliminary compared, environmental parameters in the areas considered were compared, potential factors affecting growth were explored;
- the main factors characterising preferred habitat for *Sardinella aurita* in Libya, Malta and Italy were identified.

At the end of the joint work, the milestones for the preparation of three scientific documents were defined and deadlines for manuscript preparation were agreed on.

#### - Joint surveys at sea

According to the recommendations of the 11<sup>th</sup> and 12<sup>th</sup> meeting of its Coordination Committee, the Project was called to support the implementation of joint surveys at sea. In this view, the organisation of an inter-ship comparison for acoustic surveys involving the Tunisian and Italian research vessels, R/V Hannibal and R/V Dallaporta was foreseen for summer 2015. The technical aspects concerning the sampling scheme, the dates of the work at sea were discussed and agreed on. The administrative procedures to provide the necessary authorisation for the surveys were also initiated. However, due to the unforeseeable unavailability of the R/V Hannibal, the inter-ship comparison was postponed. With the objective to detect the problems that limited the efficiency of the R/V Hannibal, the Project organised a first technical mission to the Port of La Goulette (October 2015) in collaboration with the technical staff of the INSTM responsible for the vessel. In the reporting period, two further missions were organised to define the next steps for making fully operational the R/V Hannibal (May and June 2016) in view of 2017 surveys.

- CopeMed II-MedSudMed Workshop on stock assessment of Coryphaena hippurus in the western-central Mediterranean and related fisheries

To cope with a request formulated on occasion of the 13<sup>th</sup> Project Coordination Committee (Malta, April 2016), the Project, in collaboration with CopeMed II, organised a workshop on stock assessment of *Coryphaena hippurus* in the western-wentral Mediterranean. The

workshop was held in Malaga on 13-15 September 2016. It was attended by experts from fisheries administrations and scientific institutions involved in common dolphinfish fisheries from Italy, Malta, Spain and Tunisia. The workshop was moderated by an Officer of the Inter American Tropical Tuna Commission (IATTC). During the workshop: progresses were made towards the assessment of *C. hippurus* in the WC-Mediterranean; the approach adopted by the IATTC for the assessment of *C. hippurus* (a Monthly Depletion Estimator, MDE) was explored; joint stock assessment exercises were carried out by applying the MDE to national data from Italy, Malta, Tunisia and Spain. The results of the exercises were discussed. Participants agreed to present the exercises outputs to the coming SAC-WG (GFCM HQ, Roma, Italy, 07-12 November 2016). Discussion was also held on *Seriola dumerili* fisheries. *S. dumerili* is generally captured as bycatch in *C. hyppurus* fisheries or as target of recreational fisheries. *S. dumerili* fisheries have generally local and seasonal interest (CC/15/Info 08).

# 2. National Capacity development and training

During the intersessional period, considerable effort was devoted to support the national capacity development, mainly through training courses following specific requests of the participating institutes. The courses were an opportunity to strengthen scientific collaboration and to exchange competencies between institutes, as they involved scientists belonging to the network that has been created and consolidated by the Project. Some of the training courses allowed for joint processing of survey data and aimed not only at enhancing capacity development but also at producing scientific information directly related to the Project activities. Moreover MedSudMed, in cooperation with the other FAO Projects in the Mediterranean and GFCM, sought synergies on common training activities to broaden the perspective of the actions planned and provide wider group of young Mediterranean experts with the possibility to develop harmonised skills and to discuss issues of common interest.

In this context, five training courses were held in summer-autumn 2016. The courses covered several aspects of the fisheries sciences, including methods for basic biology investigations and data processing for mapping spatial distribution and stock assessment. All the trainings comprised lectures and hands-on sessions for the application of techniques or approaches. Experts from all the MedSudMed participating institutions attended the 2016 training programme, laying the basis for the standardisation of methods used and outputs produced in joint and national studies (CC/15/Info 09).

Training activities carried out by MedSudMed in the reporting period (CC/15/Info 11):

- Age determination through otolith reading for small pelagic species (IAMC-CNR Capo Granitola, Italy, 23 May – 01 June 2016);
- Use of the Extended Survival Analysis (XSA), preparatory meeting for joint stock assessment (FAO HQ, Rome, 25 29 July 2016);
- Spatial distribution mapping using Quantum GIS (Palermo, Italy, 02 05 August 2016):
- Elasmobranchs age determination (IAMC-CNR Mazara del Vallo, Italy, 27-30 September 2016);

• Fish macroscopic and microscopic gonad studies for sex and sexual maturity investigation (IAMC-CNR Capo Granitola, Italy, 04-07 October 2016).

#### 3. Regional cooperation

As indicated in the last meetings of the Coordination Committee and by the FAO Independent Evaluation (2012), the Project strengthened liaisons with the Donors (MiPAAF and EU-DG-MARE) and intensified the communication flow with them. In the intersessional period, a series of coordination meetings were held at the MiPAAF Headquarters. Occasion was taken during the GFCM 40<sup>th</sup> session (May 2016), the Intersessional meeting of the GFCM on the Mid-term strategy (2017–2020) towards the sustainability of Mediterranean and Black Sea fisheries (22 September-23 September2016), the Intersessional meeting of the Compliance Committee (CoC) of the GFCM (January 2017). Other informal meetings were held to discuss and coordinate with the EU-DG-MARE staff for the presentation of new grant applications for additional funds.

In view of strengthening cooperation and enhance information flow on MedSudMed activities, the Project staff held meetings with the newly appointed Director General of the DGPA (Direction Générale de la Pèche et de l'Aquaculture) and the Director of the INSTM in Tunis, Tunisia, on 23-24 May 2016. On that occasion, emerging priorities for Tunisia and the MedSudMed area in general were discussed and possible future activities were planned.

The reinforcement of regional cooperation was encouraged by the Project through support provided to regional experts for the participation in several workshops, training exercises, meetings, seminars and conferences organised in the Mediterranean area. Relations were constantly maintained with the researchers and the institutes of the MedSudMed area for the discussion of the Project's activities, planning and organization of the working groups and comments on the publications produced. Several informal meetings with national experts and focal points were held through the year to preliminarily discuss technical issues and plan possible activities. In this view, and to facilitate the participation of experts from the Marine Biology Research Centre of Tajura (MBRC, Libya) to Project activities, considerable effort was devoted by Project staff for the issuing of a multi-entry Schengen VISA for a team of experts (8 including the Director) from the MBRC for the period March-December 2016. The work resulted in the full participation of MBRC staff to all MedSudMed activities and meetings organised in that period.

To strengthen international and regional cooperation, the Project operated closely with the FAO Regional Projects AdriaMed, CopeMed II, and EastMed. In particular, the Project interacted closely with AdriaMed<sup>2</sup>, with support provided on technical issues and administrative matters. In this view, the Project also participated in the 18<sup>th</sup> AdriaMed Coordination Committee meeting (Albania, February 2017); ii) AdriaMed Working Group on demersal fisheries resources (FAO HQ, Rome, and 19-20 October 2016) and on Small Scale Fisheries (30-31 January 2017).

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<sup>&</sup>lt;sup>2</sup> Scientific Cooperation to Support Responsible Fisheries in the Adriatic Sea

Cooperation was further strengthened with the FAO Project CopeMed II and EastMed to optimise the use of human and financial resources. MedSudMed staff participated to the 9<sup>th</sup> CopeMed II (St. Julian's, Spain, May 2016) Coordination Committee. The Project actively cooperated with CopeMed II for the organisation of the Joint workshop on Coryphaena hippurus assessment and fisheries (September 2016). In addition, the project promoted, in collaboration with CopeMed II, Algeria and Tunisia bilateral discussion for the identification of species of joint interest for stock assessment purpose and for planning possible joint surveys at sea. In this view discussion initiated in September 2015 on occasion of the MedSudMed WG-DEM and continued in 2016. Two meetings were held in Rome, Italy, on February 2016 and in Algeria on March 2016, as side discussion in occasion of the GFCM Sub-regional Committee on central Mediterranean and of the GFCM Regional Conference on Small Scale Fisheries respectively. The meetings lead to the identification of two target species, one pelagic (sardine) and one demersal (hake), for initiating joint studies. A further meeting was held on 17-18 May 2016 in Salammbô, Tunisia, kindly hosted by the INSTM. The Directors and experts from the Tunisian institute (INSTM) and from the Algerian marine research institution (Centre National de Recherche et de Développement de la Peche et de l'Aquaculture of Algeria (CNRDPA) participated in the meeting. During the meeting, exploratory exercises toward the joint assessment of Hake (Merluccius merluccius) and Sardine (Sardina pilchardus) stocks and relevant fisheries in GSAs 04 and 12 were carried out. Priority activities to achieve further progress toward the assessment of the selected species were discussed and agreed upon. On the same occasion, the Directors of the INSTM and CNRDPA signed an agreement for bilateral scientific cooperation.

In addition, several coordination meetings were also held with the other FAO Regional Projects AdriaMed, CopeMed II and EastMed throughout the year (the last being in January 2017) to consolidate and develop common activities.

In the framework of the FAO decentralisation process, MedSudMed is reinforcing collaboration with the FAO offices for north African (FAO SNE) and Near East (RNE) by: i) liaising periodically; ii) supporting joint initiatives on fisheries; and iii) sharing information on the activities of the Project.

Cooperation was further sustained with the GFCM and the GFCM Subsidiary bodies (CC/15/Info 09). Several informal meetings of coordination were held with the GFCM Secretariat back to back to FAO GFCM events, in order to strengthen collaboration and to find synergies. Among others the following meetings were held:

- Preparatory meeting with the GFCM Secretariat in view of the 40th GFCM session (GFCM HQ, Rome, Italy 26 May 2016);
- Meetings with the Moderator of the GFCM Sub-regional Committee for the Central Mediterranean Sea (Malta, May 2016);
- Preparatory meeting with GFCM Secretariat on the intersessional meeting on the midterm strategy (FAO HQs, September 2016);
- Preparatory meeting with the GFCM Secretariat for the preparation of the Working Group on Stock Assessment (FAO-HQs, October 2016);

• Preparatory meeting with the GFCM Secretariat in view of the Sub-Regional Committee on the Central Mediterranean to follow up on the implementation of management measures (FAO HQ, Rome, Italy, January 2017).

MedSudMed continued to support the activities of the GFCM by providing scientific contributions for discussion and by participating and funding the participation of experts in GFCM meetings. Due to the overlap in geographical areas covered by MedSudMed and CopeMed II, the two Projects coordinated the support to the participation of national scientists in the meetings organised by the GFCM. Overall, MedSudMed supported the participation of about 25 experts to the following meetings held in the intersession period (CC/15/Info 09).

- GFCM Task Force for a "Strategy for the sustainable development of Mediterranean and Black Sea Aquaculture" (ATF 1st Meeting) 4 6 May 2016, Naples, Italy;
- FAO-GFCM 40<sup>th</sup> session of the General Fisheries Commission for the Mediterranean 30 May 3 June 2016, St Julian's, Malta;
- FAO Workshop on the Management of Deep-sea Fisheries (DSF) and Vulnerable Marine Ecosystems (VMEs) in the Mediterranean (in collaboration with GFCM) 18 20 July 2016, FAO HQ Rome, Italy;
- EIFAAC/ICES/GFCM Working Group on Eels 15 22 September 2016, Cordoba, Spain
- GFCM Intersessional meeting of the Commission on the mid-term strategy, including concerted actions for technical assistance 22 - 23 September 2016, FAO HQ Rome, Italy
- Meeting on GFCM fisheries data requirements 3 4 November 2016, FAO HQ, Rome, Italy;
- Working groups on stock assessment of demersal species (WGSAD) and small-pelagic species (WGSASP) 7 12 November 2016, GFCM HQs Rome, Italy;
- Joint GFCM-ATLAFCO workshop on Supporting the regional implementation of the FAO Port State Measures Agreement: a decisive step forward an International Day for the fight against IUU fishing 6 8 December 2016, Tangier, Morocco;
- GFCM SRCs joint meeting on the use of simulation and forecast bioeconomic models for the assessment of management measures /working group on alternative management measures for small pelagics in the Adriatic 20–25 February 2017 GFCM HQs Rome, Italy.

# 4. Project Communication

#### 4.1. Web site (http://www.faomedsudmed.org)

Since its publication, the Project's website has been continually updated. A general description of the MedSudMed Project is available, as well as information on the recent or forthcoming events organized by the Project, links to the Research Institutes participating in the Project, the Mediterranean Regional Projects or to sites regarding GIS, databanks and Research Institutions. A specific section of the website devoted to demersal crustacean relevant for fisheries was built. The information in this section has been taken from the MedSudMed Technical Documents No. 32 Synthesis of information on some demersal

crustaceans relevant for fisheries in the south-central Mediterranean Sea. The specific section describing the main activities carried out in the framework of the Project is under renewal. In this context the Project continued the adaptation of its web pages into Italian and Arabic.

#### 4.2. Technical Documents

MedSudMed **Publications** are issued as series of Technical **Documents** (GCP/RER/010/ITA/MSM-TD-00) and of Scientific Reports (GCP/RER/010/ITA/MSM-SR-00) related to meetings and research organised or conducted within the framework of the Project. The list of Technical Documents available on the Project web site has been updated and more than 25 MedSudMed Technical Documents are now available as .pdf files. The MedSudMed Technical Documents are included in the ASFA (Aquatic Sciences and Fisheries Abstracts) database. The most recent Project publications are also disseminated through the Project's mailing list. Three technical document and two scientific reports related to meetings and specific research activities promoted by the Project were finalised and circulated or drafted:

- MedSudMed Working Group on Demersal Fisheries Resources in the south-central Mediterranean Sea (Palermo, Italy, 24-28 October 2016). GCP/RER/010/ITA/MSM-SR-9. MedSudMed Scientific Reports. No 9: 21 pp.
- MedSudMed Working Group on Small Pelagic Fishery Resources in the southcentral Mediterranean Sea (Capo Granitola, Italy 23-27 September 2016). GCP/RER/010/ITA/MSM-SR-10. MedSudMed Scientific Reports, No 10: 18 pp.
- MedSudMed. 2016. Report of the Fourteenth Meeting of the Coordination Committee. FAO-MiPAAF Assessment and Monitoring of the Fisheries Resources and Ecosystems in the Straits of Sicily. GCP/RER/010/ITA/MSM-TD-39. MedSudMed Technical Documents, No 39: 37 pp.

# - Special issue Hydrobiologia

Further to the Technical Documents produced, considerable effort has been devoted by MedSudMed in supporting the dissemination of the outputs of joint studies promoted by the Project. As described in the paragraph on Small Pelagics, the Project is coordinating and supporting the preparation of a monography focused on the MedSudMed area on the scientific peer-reviewed Journal 'Hydrobiologia'. The special issue will be titled: Marine ecosystems and living resources in Central Mediterranean sea. An *ad hoc* section has been created by the Journal on its website to submit papers. A template was circulated between the main authors to compile preliminary information on manuscripts. A timeframe for the manuscripts preparation and preliminary submission to the Guest Editorial Board was agreed on. Overall 18 titles have been proposed and a summary sheet summarising information on authors, title, area coverage and possible timeframe for drafting and sending to submission was developed (CC/15/Info 12).

#### **Development of the Project's Programme**

#### Introduction

The aim of this document is to provide the Coordination Committee (CC) members with elements for discussion on the MedSudMed Project Work Programme for the coming year.

The MedSudMed Project has been operative since April 2001 with an initial mandate of 5 years (MedSudMed phase I). During the 5<sup>th</sup> MedSudMed Coordination Committee meeting (2006), the Committee reviewed the conclusions and recommendations made by the Project's Mid-term Review and recommended a four-year extension period from 2006 to 2010 (MedSudMed II phase). Following a technical review conducted in 2009, the Italian Donor, the Ministry of Agriculture Food and Forestry Policies (MiPAAF), confirmed the extension of its financial support to the Project activities. Additional funds were also provided to MedSudMed (2011-2013) by the Regione Siciliana (Italy) to carry out specific actions on crustaceans. Since 2012 the Project has been co-funded by the Directorate General for Fisheries and Maritime Affairs of the European Commission (EU-DG Mare). At the last Coordination Committee meeting (Rome, Italy, 26st 27th April 2016), the Italian Donor confirmed the extension of its financial support to the Project activities for the whole 2017. Moreover the co-Donor European Commission-DG Mare further provided the contribution for the entire 2017. Therefore, this work plan covers approximately 12 months of activities. The possibility of further extension is under discussion with both Donors MiPAAF and EU-DGMARE.

The activities proposed in this document take into account the objectives and results achieved so far, the recommendations received during the 14<sup>th</sup> Coordination Committee meeting (26-27 April 2016, St. Julian's, Malta), the indications gathered from the countries during a series of informal meetings held with the national staff and with the National Focal Points, and indications raised from the Project's Working Groups throughout the intersessional period. In addition, some of the activities take into account the indications provided by the FAO External Evaluation of the Project carried out March-June 2012 by an FAO independent team. The scientific cooperation established with the FAO General Fisheries Commission for the Mediterranean (GFCM) is also considered and all the activities planned are integrated, consistent and will contribute to the newly adopted GFCM mid-term strategy (2017-2020) for the sustainability of Mediterranean and Black Sea fisheries (Resolution GFCM/40/2016/2); the GFCM Framework Programme 2013-2018 (in particular to the Work Programmes 1, 2, 3 and 4) and the GFCM SAC Sub Regional Committee for the Central Mediterranean.

All the activities include collaboration with other FAO Mediterranean projects particularly AdriaMed, CopeMed II, and EastMed. The final work plan will take into due account the recommendations of the 15<sup>th</sup> Coordination Committee meeting, in accordance with the priorities expressed by the countries on each activity and directly linked to the Project's budget availability. Moreover, the work plan will take also into due account the indication and possible recommendations of the forthcoming session of the GFCM (Montenegro, September 2016), including the indication of the GFCM Scientific Advisory Committee (Slovenia, May 2017).

#### **WORK PLAN**

For the coming period the Project, in collaboration with the participating institutions, will focus its attention on research activities in support of fisheries management, the filling of scientific gaps on fisheries, fisheries resources and the ecosystem, the finalisation of pending publications and the training and capacity development component.

In order to facilitate the presentation of the work plan for the next 12 months, all the activities are organized into five main themes:

- a. Demersal fisheries resources;
- b. Small pelagic fisheries resources;
- c. Training and national capacity development;
- d. Web site and information system;
- e. Regional cooperation.

Moreover coordination with the participating countries, with all the FAO Regional Projects operating in the Mediterranean and the GFCM, will be fostered in order to avoid any overlap, to find synergies and strengthen the activities carried out.

Some of the activities included in this work plan overlap with those of the previous programme of work, as they were initiated during the intersessional period and are currently in progress.

# a) Demersal fisheries resources

In the coming period, effort will be devoted by the Project to further promote and support the development of a common view on the management of demersal fisheries resources. In particular, in synergy with the GFCM, most of the technical work in the medium term shall be focused to support the implementation of the newly adopted GFCM Recommendation GFCM/40/2016/4 establishing a multiannual plan for the fisheries exploiting European hake and Deep-water rose shrimp in the Strait of Sicily (GSAs 12 to 16). More specifically the project will organize the following:

- Support to Socio-economic data collection (Tunisia);
- Support to fisheries independent data collection;
- Monitoring of bycatch for bottom trawl fisheries;
- Study Group on stock assessment;
- Technical discussion in support of fisheries management planning;
- Working Group on Demersal Elasmobranchs in the south-central Mediterranean Sea;
- Joint activities on red coral;
- Joint activities on recreational and small scale fisheries;
- Working Group on Demersal Fisheries Resources.

# • Support to Socio-economic data collection

The Project will continue to support the collection of fisheries related data. In 2016, as follow up of the discussion held during the 2015 MedSudMed Working Groups on Demersal

Fisheries Resource (WG-DEM) the priority emerged to integrate socio-economic information into fisheries appraisal. Consequently the Project initiated a programme for fisheries socioeconomic data collection in Tunisia. On a pilot scale, the programme focused on demersal fisheries targeting Parapenaeus longirostris and Merluccius merluccius. For the coming period, the Project together with the Direction General de la Pêche et de l'Aquaculture (DGPA) and the Institut National Sciences et Technologies de la Mer (INSTM), will finalise the processing of 2016 data and support a second year survey. In addition, based on the experience of the previous year, the Project will investigate the possibility to expand the data collection programme to a selected small scale métier, and/or to a selected sub-region. As for the pilot action, the work could include a capacity development component, the data collection in the field and the estimation of selected indicators to describe the main socioeconomic features for the selected fisheries. The data gathered will be instrumental to complete the appraisal of the state of Parapenaeus longirostris and Merluccius merluccius and related fisheries and to model their dynamics under different management scenarios. Overall, these activities will contribute to providing Tunisia with the tools for managing national capture fisheries and will support the country to comply with the GFCM recommendation on data collection (Recommendation GFCM/33/2009/3). The activities planned will also contribute to quantify the indicators set within the context of the United Nations Sustainable Development Goals (SDGs).

# • Support to fisheries independent data collection

The discussion on possible implications of spatial based fisheries management strategies as foreseen in the Recommendation GFCM/40/2016/4, calls for accurate information on sensitive areas for target species. In this respect, geo-referenced fisheries independent data are generally considered the baseline for planning spatial based management. A number of surveys were carried out in the last 20 years in the south-central Mediterranean Sea using different research vessels and protocols. A MedSudMed inter-calibration exercise was carried out to ensure that national survey data are standardised and ready for joint processing. In recent years, the area covered by scientific bottom trawl surveys in the south-central Mediterranean has been significantly reduced, hampering the possibility to complete the mapping of fisheries resources abundance and to provide updated fisheries independent data in support of fisheries assessment and management. The Project will explore the possibility to enhance the collection of standardised fisheries independent data either in terms of area coverage or frequency of sampling.

# • Monitoring of bycatch for bottom trawl fisheries

The selection of the model/s to be used for the assessment of fish stocks and fisheries is typically driven by the amount and type of commercial catch data available. Catch data collection generally takes place at landing site thus risking to miss information on discard and bycatch and, ultimately, to underestimate total catch. Recently, specific programmes have been put place at national level to overcome this limit; most of them involves the direct observation on board of fishing vessels. However, in the south-central Mediterranean, the coverage of such programmes is only partial and further effort will be necessary to cover the entire area. On this regard, as follow up of a request of the 14<sup>th</sup> Coordination Committee, a pilot action was carried out in 2016. Observers on board followed fishing operations twice per

month from January to December 2016 in Tunisia. In the coming period, MedSudMed will explore the possibility to continue supporting and further expanding the 2016 pilot action. The monitoring will provide useful information and data on catch overall, bycatch, incidental and accidental catch of sensitive species. In addition, following the request formulated during the WG-DEM (Italy, October 2016, CC/15/Info 04) the possibility to establish pilot action for the involvement of fishers for self sampling and self reporting on bycatch and incidental species will be explored. On this regard, the experience gained in GSA 16 will be used.

#### MedSudMed Study Group on stock assessment

As for previous years, the Project will continue to support the organisation of the Study Group for Stock Assessment (SG-SA). The work of the SG-SA will be instrumental to carry out stock assessment exercises for selected target species, i.e. *Parapenaeus longirostris*, *Merluccius merluccius*, *Mullus barbatus* and *Mullus surmuletus*. During the SG-SA, the Project will explore the possibility to use alternative methods for the assessment of *P longirostris* and *M. merluccius*, e.g. GADGET, two-stage biomass model. In addition, as follow up of the work carried out in 2016, the SG-SA will continue progressing toward the stock assessment of *Trachurus trachurus*. Following the discussion held during the WG-DEM (Italy, October 2016), the SG-SA will also be called to explore options to carry out simulations to evaluate likely consequences on fish stocks and fisheries of different management scenarios for *P. longirostris*, *M. merluccius* and *M. barbatus* stocks and fisheries. All existing data will be used for the simulations, including socio-economic data and geo-referenced data from surveys at sea. The results of the SG-SA will be presented to the MedSudMed Working Group on Demersal Species for overall approval and finalisation.

#### • Technical discussion in support of fisheries management planning

In 2013, the GFCM identified 4 sub-regional case studies for developing fisheries management plans in the Mediterranean. Based on information available, the demersal fisheries exploiting P. longirostris and M. merluccius were identified as case study for the south-central Mediterranean Sea. Multi-stakeholder technical meetings were initiated within the Project framework and in connection with GFCM involving fishers, fisheries administrations and experts (Malta, 24-26 June 2014, Tunisia, 15-16 March 2015, FAO HQ, January 2016, February 2017 CC/15/Info 06). During the 40<sup>th</sup> session of the GFCM (Malta, May-June 2016) the GFCM Recommendation GFCM/40/2016/4 was adopted establishing a multiannual plan for the fisheries exploiting European hake and deep-water rose shrimp in the Strait of Sicily (GSAs 12 to 16). MedSudMed contributed to address technical issues relevant for the definition of fisheries management strategies. To keep its role in promoting technical discussion in support of fisheries management, the Project will continue to provide assistance to participating countries and SAC to cope with the request included in the Recommendation GFCM/40/2016/4 and promote multi-stakeholder discussion on this issue, including discussion on Management Strategy Evaluations. In this view, MedsudMed foresees the organisation of meetings with the involvement of both scientific community and representatives of fisheries' administrations, non governmental organizations and fisheries' associations, of participating countries. With the aim to cope with emerging priorities at subregional and national level, the Project will also explore the possibility to provide technical support to participating countries in the development of national/local management plan as per request. The project will liaise with the other relevant initiatives in the framework of fishery management planning taking place in the south-central Mediterranean Sea.

• MedSudMed Working Group on Demersal Elasmobranchs in the south-central Mediterranean Sea The activity has been planned in 2016, but for technical reason has been postponed to 2017.

Demersal elasmobranchs are iconic and ecologically important species that have undergone a general reduction in abundance and distribution throughout the Mediterranean Sea. They are caught accidentally by a number of fishing gears and they have in general relatively low economic value. The south-central Mediterranean Sea is probably the area with the greatest occurrence of demersal elasmobranchs. As follow up to the indications received by the Working Group on Demersal Fisheries Resources (Palermo, Italy, 24-28 October 2016, CC/15/Info 04), the Project will support technical discussion and joint activities on demersal elasmobranchs. In this view, the Project will organise the first meeting of the Working Group on demersal elasmobranchs (WG-ELAS). The WG-ELAS will focus on: i) the mapping of spatial distribution of selected species; ii) the development of an ATLAS on demersal Elasmobranchs in the MedSudMed aera; iii) the gathering and pooling together publications existing at national level; iv) the stock assessment for selected species. Discussion on discards, incidental catch and gear selectivity will also be tackled by the WG-ELAS. The possibility to carry out the Working Group on demersal elasmobranchs back-to-back with the Working Group on Demersal Species or with the Study Group for Stock Assessment will be considered. Coordination with similar initiatives carried out by the other FAO Regional Projects and SAC-GFCM will be sought.

#### • Joint activities on red coral

Great attention was devoted to red coral fisheries at Mediterranean level in recent years. Two GFCM Recommendations were adopted in 2011 and 2012 to ensure sustainability to Red coral fisheries (GFCM/35/2011/2, and GFCM/36/2012/1) and a management plan is going to be developed. Italy and Tunisia traditionally exploit Red coral in national and international waters. A request was formulated to the Project to explore options to promote technical discussion on Red coral fisheries. As follow up, one agenda item of the last MedSudMed Working Group on Demersal Fisheries Resources was devoted to explore existing data and knowledge on Red coral and its fisheries in the south-central Mediterranean Sea. Following the discussion held on that occasion, MedSudMed will explore the possibility to take advantage of existing data to initiate a programme on the characterisation of bottom communities and biocoenoses in the Project area. On this regard, discussion could be held on occasion of the MedSudMed WG-DEM. In addition, synergies will be sought with GFCM in view of the forth coming Workshop on red coral [WKREDCORAL] on 7-9 March 2017.

#### • Joint activities on recreational and small scale fisheries

In 2014, following a recommendation of the Project Coordination Committee and in view of contributing to discussion on occasion of the GFCM Regional Conference on "Building a future for sustainable small-scale fisheries in the Mediterranean and the Black Sea" (Algeria, March 2015), the Project initiated a joint study for the characterisation of three areas in which small scale fisheries (SSF) are the main fishing activities and are subject to specific

regulations: Kerkhenna islands (Tunisia), Egadi Islands (Italy) and Maltese islands. In 2016 the discussion on SSF was tackled during the WG-DEM (CC/15/Info 04, CC/15/Info 13). On that occasion, discussion was also held on recreational fisheries (RF), probably one the main forms of use of the coastal areas that interact closely with SSF. SSF and RF plays a major role in the recently established GFCM Mid-term strategy and MedSudMed will support the discussion and explore the possibility to establish pilot studies for data collection on SSF. The need to progress in the characterisation of RF at national and sub-regional level in terms of gears used, target species, seasonality and interaction with SSF was raised. The Project will support the compilation of existing information on RF and explore options to perform pilot actions on RF monitoring. The possibility to discuss on RF, SSF and their interactions on occasion of the MedSudMed WG-DEM or WG-ELAS will be explored.

# • MedSudMed Working Group on Demersal Fisheries Resources

The Project will organize the annual MedSudMed Working Group on Demersal Fisheries Resources. The meeting will be tentatively held in the second half of 2017. During the meeting attention will be paid to:

- o Review the work done during the MedSudMed SG-SA and finalise the appraisal of the stock status of selected demersal species *Parapenaeus longirostris*, *Merluccius merluccius*, *Mullus barbatus* and move forward in the stock assessment of *Mullus surmuletus*;
- o continuing discussion on the integration of socio-economic data in the appraisal of fisheries status for management strategies evaluation and bio-economic modelling;
- o the harmonisation of fisheries management in the south-central Mediterranean Sea;
- o explore options for the involvement, on a pilot scale, of fishers for self-sampling and self-reporting;
- o explore data availability and options to take advantage of existing geo-referenced fisheries dependent and fisheries independent data (VMS, AIS, observers on board, surveys at sea) for mapping fishing activities and critical areas for fisheries resources;
- o identifying priorities and plan future common joint research activities;
- o State of the art of the Hydrobiologia Special Issue Marine ecosystem and living resources in the Central Mediterranean Sea.

The WG-DEM will also explore the possibility to tackle discussion on biocoenoses and bottom communities including on red coral.

#### b) Small pelagic fisheries resources

The MedSudMed work plan comprises a series of activities to promote technical discussion in support of small pelagic fisheries. In particular, the Project will support and/or organize:

- <u>J</u>oint surveys at sea;
- Inter-calibration of fish age determination through otoliths reading;
- Ad hoc activities on selected species (Coryphaena hippurus; Trachurus spp.);
- Study Group on the joint processing of acoustic and ichthyoplankton data;
- Working Group on small pelagic fisheries resources.

#### Joint surveys at sea

The Project will continue to pursue the standardization of data collection and processing in the south-central Mediterranean Sea. Great attention has been given by MedSudMed to specific actions on small pelagic fisheries resources and to the standardisation of surveys at sea and survey data processing for such species. As follow up to the discussion held during the WG-SP, an inter-ship comparison for acoustic surveys between the Italian (R/V Dallaporta) and Tunisian (R/V Hannibal) research vessels was planned. The activity was postponed because of the unforeseeable unavailability of the R/V Hannibal. In the coming period, the preparatory work for the inter-ship comparison will be resumed and the possibility to carry out the work at sea will be explored.

#### • Inter-calibration of fish age determination through otoliths reading

The Project will continue to support the standardisation of methods for fisheries and fish biology related studies. In particular, given the importance to provide information on growth and population age structure for selected target species, the Project will promote a multi-step programme to standardise small pelagic fish age determination through otoliths reading. The programme will include: the sharing of views and approaches on otoliths reading, a capacity development component, standardisation exercises and the exchange of otoliths for reading comparison. The programme will initiate with *Trachurus trachurus*. Once the process and methods for standardisation will be consolidated, the same approach could be used to other species.

# • Ad hoc activities on selected species

#### Coryphaena hippurus

Dolphinfish, *C. hippurus*, is target of an *ad hoc* fisheries in the entire Mediterranean Sea and of a specific recommendation of the GFCM (GFCM/30/2006/2). Two technical workshops were carried out in March and September 2016 (CC/15/Info 08) in collaboration with CopeMed II. The workshops aimed to summarise knowledge and activities carried out on *C. hippurus* and related fisheries (March 2016) and to progress in the appraisal of *C. hippurus* stock status (September 2016). The Project will continue to support discussion on and appraisal of *C. hippurus* stock and fisheries. The activity will be carried out in cooperation with CopeMed II.

### Trachurus spp.

Horse mackerels, *Trachurus* spp., are frequent in the commercial catch in the entire south-central Mediterranean Sea. They are regarded as main target species in small pelagic fisheries in Tunisia and Libya. According to their importance for fisheries, *ad hoc* discussion was held on *Trachurus* spp during the last MedSudMed meetings: Working Group on Small Pelagic and Demersal Fisheries Resources (WG-SP Italy, September 2016 CC/15/Info 07, and October 2016) and the MedSudMed Study Group for Stock Assessment (SG-SA, FAO HQs, October 2016 CC/15/Info 03). During the meetings, preliminary stock assessment exercises on *Trachurus trachurus* were carried out. Some gaps in the data and model used hampered the finalisation of the exercises. A work plan to fill these gaps was agreed on. In 2017, MedSudMed will continue to support the discussion toward the appraisal of *T. trachurus*. In

particular, the estimation of input parameters (including age and growth parameters estimation as reported in the previous section), the standardisation of survey (acoustic and bottom trawl) data and the exploration of the best model for the stock appraisal will be promoted. The discussion will be carried out on occasion of the *Study Group for the joint processing of survey data*, with the MedSudMed *Working Groups on Small Pelagic and Demersal Fisheries Resources*.

## • Study Group on the joint processing of acoustic and ichthyoplankton data

The Project will continue to support participating countries in the process of data sharing and joint processing. The MedSudMed Working Group on Small Pelagic Fisheries Resources (WG-SP) (FAO HQs, March 2014) initiated the joint processing of survey data to produce a preliminary description of the distribution and abundance of different life stages of small pelagics. To further continue the process and consolidate the results achieved, a *Study Group* for the joint processing of acoustic and ichthyoplankton data (SG-JDP) was organised annually since 2014, the last being on January 2017 in Tunisia. In 2017, the Project will organise a further meeting of the SG-JDP to: i) advance in the use of acoustic data for the estimation of small pelagic fish biomass at sea and for the characterisation of small pelagic fish assemblages; ii) integrate information from bottom trawl surveys to characterise small pelagic fish community; iii) continue the joint processing of ichthyoplankton data to define spawning areas and areas of concentration of fish larvae; and iv) progress in the parameters estimation (e.g. growth, size at maturity, natural mortality) and data preparation (including from bottom trawl surveys) for the assessment of stock status and spatial distribution of Trachurus species. The SG-JDP will be tentatively organized in the first half of 2017. Given the nature of small pelagic stocks and the ongoing cooperation between experts from Tunisia and Algeria for what concern the acoustic studies of small pelagic fisheries, the possibility to invite expert/s from Algeria to the Working Group will be explored in collaboration with CopeMed II. The objective would be to broaden the technical discussion on fisheries resources (target species, stock spatial distribution, eggs and larvae data) and the technical support to surveys at sea.

#### • Working Group on small pelagic fisheries resources

The annual MedSudMed Working Group on Small Pelagic Fishery Resources (WG-SP) is tentatively planned to take place in the second semester of 2017. According to the conclusions of the previous meetings, the WG-SP will aim to:

- o Review the work carried out by the *Study Group on the joint processing of acoustic and ichthyoplankton data*;
- o Progress in the standardisation of age reading;
- o Progress in the standardisation of bottom and acoustic survey data for joint processing and assessing abundance and spatial distribution of selected species;
- o Continue the joint discussion on multi-disciplinary studies on *Trachurus trachurus* (mapping spatial distribution, biological parameters estimation, stock assessment);
- o preparation of joint technical and scientific documents;
- o Definition of priorities to be addressed to progress in the monitoring and appraisal of the state of small pelagic fish and fisheries.

The WG-SP will also be an occasion to consolidate and further expand the network of experts dealing with small pelagic species. In this view, and taking into account the collaboration already established in implementing surveys at sea, the possibility to enlarge the participation to experts from Algeria through synergies with CopeMed II will be sought.

## c) Training activities and national capacity development

The Project will continue to support the strengthening of national expertise through the implementation of specific activities. The Project will also continue to consider the full involvement of all the research institutes and scientists from the participating countries in the activities organised as a priority. The involvement of national administrations in the process of developing capacity and a common background/view on fisheries and marine resources will also be foreseen. The strengthening of the national capacity in terms of expertise will therefore be promoted through the support of specific research programmes that are coherent with the activities of the Project. Seminars and training activities will also be considered i) for the implementation of research activities, ii) to standardise scientific methodology and iii) to provide scientific institutions and administrations with tools and skills to discuss possible options for managing fisheries. In particular, activities foreseen for the coming period could include:

- o Ad hoc programme for training on fish biology for researchers from Libya;
- o On-the-job training on fisheries socio-economic data collection and processing;
- o Training course on the use of R;
- o Training on the extended survivor analysis model (XSA) for small pelagic experts, in collaboration with the FAO AdriaMed Project;
- o Training courses on the use of bio-economic (e.g. through the use of the application BEMTOOL) and of the Management Strategies Evaluation (MSE) models;
- O Training workshop on methods to measure fish larvae morphometry of small pelagic (e.g. *Engraulis encrasicholus* and *Sardinella aurita*) and demersal (e.g. *Mullus barbatus*) species.

In addition, the FAO Fisheries and Aquaculture Department, in close cooperation with the FAO Mediterranean Projects (AdriaMed, EastMed, CopeMed II and MedSudMed), the GFCM and the European Commission Joint Research Center (JRC) are organizing a "Summer School in quantitative fisheries stock assessment" (Summer school). The summer school is planned to run every year for two weeks during the summer months. In 2017 the Summer school will run from 10 - 22 July at the Institute for Marine and Coastal Environment (IAMC-CNR) in Capo Granitola, Sicily (Italy). The Summer school will combine theoretical lectures with practical, hands-on sessions. The courses will be based on the R language for statistical computing and graphics (more information are available at <a href="http://www.faomedsudmed.org">http://www.faomedsudmed.org</a>).

The organisation of *ad hoc* training programmes upon request of the participating institutes can be foreseen. Training activities, when possible, will be coordinated with the other FAO Regional Projects, in order to avoid duplication or overlapping of activities.

Wherever possible, and on the basis of budget availability, the Project will continue providing the equipment necessary to the institutes for the implementation of the Project activities.

# d) Web site and information system

The contents of the MedSudMed portal (<a href="www.faomedsudmed.org">www.faomedsudmed.org</a>), will be updated and reorganized based on the main Project components and areas of activity to group information more logically and improve access to areas of interest for website users. Following the reorganization of the MedSudMed portal, there will be the need to create new thematic sections, according to the new structure, which will focus on specific subjects e.g. fishery resources; demersal crustaceans.

# e) Strengthening the cooperation with the other FAO Mediterranean Projects and other initiatives in the region

The existing cooperation with other FAO Regional Projects (RP) such as AdriaMed, CopeMed II and EastMed will continue. In this context, the indications provided during the internal coordination meetings among Projects will be taken into consideration.

Strong collaboration has been established with CopeMed II for supporting joint discussion on shared stocks between Tunisia and Algeria. As a further follow up, the possibility of establishing a link between this group and the relevant small pelagic and demersal WGs of MedSudMed and CopeMed will be explored.

Areas of cooperation have been indicated for field work and socio-economic aspects of fisheries and training. The preparation of common informative material (leaflets, CD-rom, etc.) that can improve the visibility of the FAO Regional Projects in the Mediterranean area and in the international context is foreseen. To this extent, the preparation of a common technical manual for the collection of socio-economic data, based on the experience gained by the FAO Mediterranean Projects is foreseen. Training activities will be coordinated among all the Projects, in order to avoid duplication or overlapping. The participation of other Regional Project experts in training courses organized by MedSudMed will be foreseen and vice-versa. The FAO/GFCM/JRC "Summer School in quantitative fisheries stock assessment" (reported in this document under the session "Training activities and national capacity development" is an example).

Moreover, the Project will participate in the Coordination Committees of CopeMed II (December 2017) and EastMed (December 2017) where additional synergies will be identified.

Synergies with other international institutions and initiatives underway in the Mediterranean regarding fishery subjects of interest for the Project region will be sought for the sake of avoiding duplication of efforts and optimizing the use of human and financial resources.

As already stated, training activities will be coordinated among all the Projects.

The Project will collaborate, where relevant FAO Regional and sub-regional offices in the Mediterranean and Near-East region such as the Sub-regional Office for North Africa (SNE), Regional Office for North Africa and Near East (RNE).

# f) Strengthening the cooperation with the GFCM

In line with previous decisions of the Coordination Committee, with the recommendations that emerged from the Independent Evaluation carried out in 2012, and with the recently approved GFCM Mid-term Strategy 2017-2020, the Project will continue to strengthen international and regional cooperation at Mediterranean level with the GFCM and its subsidiary bodies (SAC, SAC Working Groups, and SAC Sub-regional Committees). This will consists in supporting: i) the preparation of scientific contributions for GFCM events; ii) the participation of experts from the Project's participating institutes in GFCM events; and iii) countries to be compliant with the GFCM recommendations. Moreover the Project will act in synergy with the proposed work plan for the SAC Sub Regional Committee for the Central Mediterranean (SRC-CM).