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منظمة الأغذية والزراعة للأمم المتحدة | 联合国粮食及农业组织 | Food and Agriculture Organization of the United Nations | Organisation des Nations Unies pour l'alimentation et l'agriculture | Organización de las Naciones Unidas para la Agricultura y la Alimentación

FISHERY COMMITTEE FOR THE EASTERN CENTRAL ATLANTIC

Twenty-first Session

Dakar, Senegal, 20 – 22 April 2016

Main outcomes of the seventh session of the Scientific Sub-Committee

SUMMARY

This document is the summary of the final report of the seventh session of the Scientific Sub-Committee of the Fisheries Committee for the Eastern Central Atlantic (CECAF), which was held in Tenerife, Spain from 14 to 16 October 2015. The complete report is available as FAO Fisheries and Aquaculture Report No 1128 (Bi) (Information document CECAF/XXI/2016/Inf.2). Major topics discussed were: (i) the reports of the assessment working groups on small pelagics and demersal species, as presented by the subgroups; (ii) the artisanal fisheries working group and future perspectives; (iii) fishery management advice in the CECAF region; (iv) review of assessments and reporting issues; (v) CECAF-FIRMS fisheries inventories – status of updates and usage; (vi) progress on the implementation of the ecosystem approach to fisheries in the CECAF region; (vii) statistics: catch trends, socio-economic study, and Pan-African Strategy study; (viii) deep-sea fisheries and vulnerable marine ecosystems, global and regional perspectives; considerations for the CECAF region, (ix) report of work of other projects/programmes in the CECAF region, report of work of research institutions or scientific groups in CECAF member countries; and (x) future programme of work in the region.

OPENING OF THE SESSION

1. The seventh session of the Scientific Sub-Committee (SSC) of the Fishery Committee for the Eastern Central Atlantic (CECAF) was held at the Spanish Institute of Oceanography (IEO), Tenerife, Spain, from 14 to 16 October 2015.

2. Mr Kossi Maxoe Sedzro of Togo chaired the Session. A total of 39 participants from 15 CECAF Members and representatives from the Subregional Fisheries Commission (SRFC), the Regional Fishery Committee of the Western Central Gulf of Guinea (FCWC), Ministerial Conference on Fisheries Cooperation Among African States Bordering the Atlantic Ocean (ATLAFCO), the Southeast Atlantic Fisheries Organization (SEAFO), the Canary Current Large Marine Ecosystem (CCLME) Project, the EAF-Nansen Project, USAID, the FAO Fisheries and Aquaculture Department, the FAO Regional Office for Africa, and the FAO Sub-regional office for Central Africa, attended the Session.

3. Mr Sedzro welcomed the participants and thanked the IEO for hosting the meeting and FAO for its regular support to the SSC. He recalled the mandate of CECAF and in particular the SSC.

4. The session was opened by Mr Luis Lopez Abellan, Director of the IEO centre in Tenerife, on behalf of the General Director of the IEO Mr. Eduardo Balguerias, himself member of the SSC. In the address, the participants were reminded of the objectives of the SSC and its role in giving scientific advice to guide the activities of the different fisheries stakeholders and all community and transforming the difficulties into challenges and weaknesses in opportunities in the respective countries.

5. Ms Merete Tandstad, Fishery Resources Officer, of the FAO Fisheries and Aquaculture Department, welcomed the participants on behalf of the Director-General of the Food and Agriculture Organization of the United Nations (FAO), Mr Graziano Da Silva, and the Assistant Director General of the Fisheries and Aquaculture Department, Mr Arní Mathiesen. In the address, the key role of the SSC in providing scientific advice to the Committee and its members in support of improved fisheries management decisions was stressed. There has been significant evolution and changes in many of the fisheries in the CECAF region since the last session of the SSC, and the importance of ensuring that these changes are well reflected upon and that adequate information is provided to the Working Groups to analyse the impact of these on the resource base, including reflections related to IUU was highlighted. The vital importance of small scale fisheries in the CECAF region with respect to food security, livelihoods and income generation was also stressed.

6. On behalf of the FAO and the Fisheries and Aquaculture Department Ms Tandstad expressed gratitude to the Government of Spain and the IEO for hosting and supporting the organization of the session and to the European Union for providing financial support. The Governments of Sweden and Norway, who through the NEPAD-FAO Fish Project and EAF-Nansen Project respectively have supported the activities of CECAF, were also gratefully acknowledged.

MAIN OUTCOMES OF THE WORKING GROUPS

7. The **three assessment categories** adopted by the CECAF scientific Working Groups were recalled::

   • **Not-fully exploited**: When the stock is in good condition and fishing pressure can be increased without affecting the sustainability. All increases must be seen in the context of the general environmental situation.

   • **Fully Exploited**: The fishery operates within the limits of sustainability. Current fishing pressure seems sustainable and can be maintained.

   • **Overexploited**: The fishery is in an undesired state both in terms of biomass and fishing mortality. Fishing pressure should be reduced to allow the stock to grow.

8. It was further noted that the Working Groups have adopted the following Biological Reference Points (BRPs):

- **Target Reference Points**: $B_{0.1}$ and $F_{0.1}$
- **Limit Reference points:** B_{MSY} and F_{MSY}

9. The target reference points indicate the ideal situation for the stocks whereas the limit indicate that the situation that we do not want to surpass.

10. The Groups presents for each stock estimates of:

$F_{cur}/F_{0.1}$: Ratio between the fishing mortality coefficients observed for the last year of the series and $F_{0.1}$. **$B_{cur}/B_{0.1}$**: Ratio between the estimated biomass for the last year of the series and the biomass corresponding to $F_{0.1}$.

Where:

$F_{0.1}$ - level of fishing mortality at which the slope of the Y/R curve is 10% of the slope at the origin
$B_{0.1}$ – is the value of B corresponding to **$F_{0.1}$**

11. Management advice for the stocks is given in relation to the reference points and on the basis of the projections. The advice is intended to provide guidance to management on how to make the different stocks develop in a direction where each stock is exploited at an optimum level.

A) SMALL PELAGICS WORKING GROUP – NORTH

12. Four meetings have been held since the SSC's session in 2011. The presentation focused mainly on the results of the last meeting of the Working Group held in Casablanca from 20-25 July 2015. The working area is defined as the waters between the southern border of Senegal and the northern Atlantic border of Morocco. The reports of the various meetings were supplied as reference documents (see Appendix C of the FAO, 2015; CECAF/XXI/2016/Inf.2).

Sardine

13. Stock in zones A + B is continuing to improve, and the stock is now considered to be not fully exploited. However, given the instability of this resource with regard to environmental changes, a precautionary approach was adopted and a catch limit for sardines in zones A+B was set as the same level as 2014, with around 550 000 tonnes being recommended.

14. Stock in zone C was considered to be not fully exploited. The stock is affected by environmental factors. Due to biomass fluctuations, the total catch limit must be adjusted to suit the natural changes in the stock.

Sardinella

15. The assessment of sardinella species continued to pose a problem for the Working Group due to the absence of abundance indices. The analysis was carried out of the round sardinella and the results of the assessments show that the stock is overexploited. The Working Group maintains its recommendation of reducing the fishing effort for all segments of the fleet.

Horse mackerel

16. The Cunene horse mackerel remains overexploited whilst the Atlantic horse mackerel is considered to be fully exploited. Given the mixed nature of this fishery and the results of projections, as a precautionary measure, the Working Group recommends that fishing effort and catch for both species should be reduced.

Atlantic chub mackerel

17. The assessment of the Atlantic chub mackerel indicates that the mackerel stock is fully exploited. The Working Group recommends that the average catch over the last five years should not be exceeded across the entire subregion.

Anchovy

18. This stock is considered to be overexploited. The Working Group recommends that current fishing effort should be reduced and that in the long term they should be adjusted to the natural fluctuations of this stock.

Bonga

19. The results of the assessment show that the stock is overexploited at a subregional level. The Working Group recommends that the current level of fishing effort should be reduced with a view to finding a catch level that ensures the sustainability of this species.

20. During the discussions, the Sub-committee raised various issues:

21. The basis for the hypothesis assuming that bonga consists of a single stock at the regional level was discussed in relation to a recent study on stock identity. The importance of carrying out stock identity studies was mentioned and it was agreed that the Working Group should look further into this issue.

22. The sensitivity of the different methods to the choice of biological parameters with regard to the results was highlighted for the round sardinella. This species was found to be overexploited according to the Working Group, while the IMROP Working Group in Mauritania found that this species is fully exploited, using another type of analysis. To that end, it was specified that all the assessment methods used by the Working Group gave convergent results and it was further clarified that the group considered both the results of the models and the information collected in the fishery in order to make its diagnosis. However, the interruption of the abundance series, such as acoustic measurement and the catch per unit effort (CPUE), have not allowed for the application of more complex assessment methods

23. The Senegal RV *Itaf Deme* will be available to carry out the intercalibration exercise with the RV *Dr Fridtjof Nansen*, and the need to collaborate in the management of shared stocks was stressed.

24. Further information was provided regarding the differentiation between the horse mackerel species, noting the presence more to the north of Cape Blanc of Atlantic horse mackerel whilst Cunene horse mackerel is thought to be present more to the south of this same cape.

25. The need to carry out ecosystem surveys, such as the surveys undertaken by the CCLME project, in order to gain a better understanding of stock dynamics was highlighted. Moreover, it was suggested that climate change should be integrated into the study of pelagic stocks, and notably the understanding of stock dynamics. The importance of strengthening the knowledge of the biology and life cycle of pelagic species was also stressed.

B) SMALL PELAGIC WORKING GROUP – SOUTH

26. The status of small pelagic fish resources in the south of the CECAF region, covering the area between Guinea-Bissau to Angola, are based on the results of the Working Group held in Pointe-Noire, Republic of the Congo from 17 to 23 March 2014.

27. The main small pelagic fish species studied by the Working Group are: the round sardinella (*Sardinella aurita*), the flat sardinella (*Sardinella maderensis*), bonga (*Ethmalosa fimbriata*), anchovy (*Engraulis encrasicolus*) and Carangidae. The Working Group considers four sub-areas: North (Guinea, Guinea Bissau, Sierra Leone, Liberia), West (Côte d'Ivoire, Ghana, Togo, Benin), Central (Nigeria, Cameroon) and South (Republic of the Congo, Democratic Republic of the Congo, Gabon and Angola).

28. Data series on catches and fishing efforts (1990-2012) of sixteen stocks were analyzed. The Working Group also had access to fisheries independent data from surveys carried out by the RV *Dr. Fridtjof Nansen*.

29. The results of the assessment were:

    (a) overexploited - round sardinella, western stock; anchovy, western stock; Cunene horse mackerel, northern and southern stock; Mackerel scad, southern and northern stock;

(b) fully exploited - flat sardinella, western stock; round and flat sardinella, northern stock; bonga, northern and southern stock;

(c) not fully exploited - anchovy, southern stock; (d) it was not possible to assess the stocks of round sardinella, central stock; flat sardinella central stock; bonga, central stock; bonga, western stock and Cunene horse mackerel, western stock.

30. The Working Group recommended:

- Overexploited stocks, the catch levels should not exceed the average for the last five years in order to allow for the renewal of the stock.

- Fully exploited stocks, the catch level should not exceed the average catch level recorded for the last three years.

- Since most fisheries in the region are multi-specific, there should be a global reduction in fishing efforts.

31. Questions were raised related to insufficiencies or lack of data for assessing the stocks or incoherence regarding the reporting of these data. In relation to this, recommendations were made for future actions.

C) DEMERSAL SPECIES WORKING GROUP – NORTH

32. The state of demersal stocks in the northern region of CECAF, covering the waters between the southern border of Senegal and the northern Atlantic border of Morocco, was presented based on the assessments made by the Working Group on demersal resources, sub-group North held in Fuengirola, Spain from 18 to 27 November 2015.

33. In all, 28 stocks were analyzed. The most important group of species in the region is the group of cephalopods, notably the octopus which represents an average of 37 percent of total catches of demersal resources during the period analyzed.

34. Most of the demersal species show a decline in recent years. Among the stocks assessed:

- **Ten are overexploited** - white grouper in Mauritania, The Gambia and Senegal stock (still considered in a serious state of overexploitation); southern rose shrimp in Senegal and The Gambia; octopus, Cap Blanc stock and Dakhla stock; white hake in Morocco; breams nei, in Morocco; axillary seabream, in Morocco; sea breams, in Morocco; rubber-lip grunt, in Morocco and the deep water rose shrimp, in Morocco.

- **Six stocks are considered fully exploited -** West African croakers, Senegal and The Gambia; Large-eye dentex, Mauritania, Senegal and The Gambia stock/area and Morocco stock; bluespotted seabream, Mauritania, Senegal, and The Gambia stock/area and squid, Dakhla stock and Senegal and The Gambia stock.

- **Twelve stocks were considered as non-fully exploited** - Black hake, in Mauritania; catfish, Senegal and The Gambia; red pandora, Mauritania, Senegal and The Gambia stock/area; deep water rose shrimp, Mauritania, Senegal and The Gambia stock; deep water rose shrimp, Mauritania stock and Senegal and The Gambia stock; southern pink shrimp, Mauritania stock; octopus, Senegal and The Gambia stock; cuttlefish, Dakhla stock; cuttlefish, Cap Blanc stock, and Senegal-The Gambia stock and squid, Dakhla stock.

35. The Working Group recommended reducing the fishing mortality of 2012 for all overexploited species. For the stocks that are non-fully exploited and for stocks for which reliable results cannot be obtained, for precautionary approach, the fishing mortality must not exceed its present level (2012).

36. The SSC noted that there is an improvement in some stocks in the region, which could be attributed to a reinforcement of the management plans implemented by the countries (i.e. Morocco, Mauritania) and

recommended to follow the management plans in force and to control the fisheries in order to avoid a new decline of the stocks.

D) DEMERSAL SPECIES WORKING GROUP – SOUTH

37. The results of the present state of demersal stocks are based on the third meeting of the FAO/CECAF Working Group on the Assessment of Demersal Resources, Subgroup South. This Group met in Accra, Ghana, from 15-24 November 2011. The working area for the Working Group is defined as the waters between the southern border of Senegal and southern border of Angola, including the islands of Cabo Verde and Sao Tomé and Principe.

38. A total of around 50 stocks were analyzed. Six stocks could not be evaluated using any of the assessment models because the data available to the Working Group were not in the appropriate format and/or not sufficient to use in the assessment models. The Working Group noted that catch and effort information from some countries in the region is no longer being collected.

- **Nine stocks were found to be overexploited** - West African croakers, Guinea Bissau and Guinea stock/area, and Angola, Congo, Republic Democratic Republic of Congo and Gabon stock/area; Bigeye grunt, Côte d'Ivoire, Ghana, Togo and Benin stock/area, and Congo and Angola stock/area; lesser african threadfin, Côte d'Ivoire, Ghana, Togo and Benin stock/area, and Congo and Angola stock/area; red pandora, Côte d'Ivoire, Ghana, Togo and Benin stock/area; flounder nei, Angola stock and cuttlefish, Ghana stock.

- **Twelve stocks are fully exploited** - bobo croaker, lesser african threadfin and grunt, in Guinea and Guinea-Bissau stock/area; grouper and moray, Cabo Verde stock; West African croakers, Côte d'Ivoire, Ghana, Togo and Benin stock/area and Nigeria and Cameroon stock/area; black hake and large eye dentex, Angola stock; dentex nei., Congo, Gabon, Angola and Democratic Republic of Congo stock/area; deep water rose shrimp, Guinea Bissau stock and Congo stock, and southern pink shrimp, Congo stock.

- **Five stocks are not fully exploited** - seabreams, catfishes and sole in Guinea Bissau and Guinea stock/area; southern pink shrimp, Ghana stock, and octopus, Guinea-Bissau stock.

39. It was recommended that fishing effort should be reduced for the overexploited stocks or not increased for the other stocks, to avoid further depletion. When possible, recommendations on catch levels are also indicated for each stock. Given that most fisheries in the region are multispecific, an overall reduction in fishing effort is necessary. There was uncertainty in the assessments carried out, mostly due to deficiencies in some of the data available.

FORMULATION OF ADVICE ON FISHERY MANAGEMENT MEASURES IN THE CECAF REGION

40. The Sub-Committee endorsed the reports of the Working Groups to be presented to the Committee (CECAF). A summary of the assessments and management recommendations is provided in Appendix D of the SSC report (FAO, 2015; CECAF/XXI/2016/Inf. 2) and as Appendix 1 of this report. Appendix E of the SSC report (FAO, 2015; CECAF/XXI/2016/Inf. 2) provides an overview of the main recommendations for the four assessment Working Groups (see Appendix 2).

WORKING GROUP ON ARTISANAL FISHERIES: ROLE AND FUTURE PERSPECTIVES IN THE LIGHT OF THE VOLUNTARY GUIDELINES FOR SECURING SUSTAINABLE SMALL-SCALE FISHERIES (SSF) IN THE CONTEXT OF FOOD SECURITY AND THE ERADICATION OF POVERTY

41. An overview of the work carried out by the CEFAF Working Group on artisanal fisheries as well as recent global and regional initiatives on small-scale fisheries was presented and discussed.

42. The presentation focused on the importance of artisanal fisheries and their role in the contribution to food security and the eradication of poverty, at a regional and global scale, in developing countries and within the CEFAF zone. The significant involvement of women in this subsector was also highlighted.

43. In view of the growing role played by artisanal fisheries in food security and the eradication of poverty, Voluntary Guidelines aimed at ensuring sustainable small-scale fisheries within the context of food security and the

eradication of poverty (Small-Scale Fisheries Guidelines) were developed through a consultative process and approved by the FAO Committee on Fisheries (COFI) in 2014. The nature, objectives and contents of these Guidelines were presented.

44. In context, the need for the revitalization of the Working Group on artisanal fisheries within the framework of the Fishery Committee for the Eastern Central Atlantic (CEFAF), and the study of its potential role for the implementation of the guidelines on small-scale fisheries, was submitted to the SSC participants for their opinion.

45. In their discussions, the SSC participants recognized the importance of the CEFAF Working Group on artisanal fisheries, and the need for updating its terms of reference in connection with the small-scale fisheries guidelines and other initiatives such as the voluntary guidelines for the responsible governance of land tenure regimes applicable to land, fisheries and forests, within the context of national food security (Voluntary Guidelines on Tenure / Land Tenure Guidelines).

46. Moreover, the participants also highlighted the fact that this updating of the CEFAF Working Group on artisanal fisheries' terms of reference should take into account other ongoing initiatives, such as the African Union's Working Group on small scale fisheries and the upcoming Think Thank meeting on small scale fisheries and the "Too big to ignore" initiative. A small group was set up to make the first proposals to the SSC on the modification of the terms of reference and the members of the CEFAF Working Group on artisanal fisheries; the organisation of a workshop on this subject was proposed.

47. The proposal for revised terms of reference for the Artisanal Fisheries Working Group put forward by the group and discussed by the SSC is set out in Appendix 3 of this report for the considerations of the Committee.

REPORTING ON THE STATE OF RESOURCES IN THE CECAF AREA

48. A summary of the main outcomes of a technical review of the Working Group reports and the assessment methods applied by the Working Groups and suggestions to improve the documentation workflow from the Working Groups was presented and discussed.

49. The reviews provided advice on assessments conducted while considering the data available to the group and reflected on possible alternative methods, including for data poor fisheries.

50. The expert group meeting concluded that the Working Group reports meet the primary objective of documenting the assessment methods that are the basis of stock status determination and management recommendations for the CECAF process. At the same time, the Working Groups were encouraged to document all explorations, discussions and technical choices made during the meeting, even if these are not all included in the reports and to document the reliability for each data source. This would help for quality control, transparency and continuity during changes in Working Group membership.

51. The SSC took note of and endorsed the proposed next steps to follow up on this review that included the appropriation by the different Working Group's members of the final outcome of the reviews, testing of alternative assessment methods (or alternative approaches) during upcoming meetings, seek means to conduct training of Working Group members on retained assessment methods and/or approaches as appropriate.

52. With respect to the reports of the Working Groups it was noted that normally the Working Group reports are made available to the Working Group members in draft form after the meeting, whereas the final report is subject to internal technical editing and finalized in English and French. Given limited human and financial means in recent years, the time and costs involved with the translation, and the time gap between the SSC meetings, some reports have been finalized with considerable delay. This is problematic as assessment and management advice is time bound and needs to be circulated quickly for the consideration of competent national authorities.

53. To address some of these issues, the small pelagic North Working Group has in recent years prepared a "management" summary that has been circulated soon after the meetings, highlighting the main results. Furthermore, at the 2015 meeting, a term of reference for the chair of the Working Group was developed. Both of these initiatives were appreciated by the SSC, and it was noted that all Working Groups should have similar procedures and exigencies.

REVIEW OF CECAF-FIRMS FISHERIES INVENTORIES-STATUS OF UPDATES AND USAGE

54. An overview of FIRMS and CECAF collaboration was provided. .

55. With respect to current arrangements, responsibilities, governance and maintenance it was recalled that CECAF is responsible for the content of the marine resources inventory while countries are responsible for the content of the fisheries inventory. Noting that CECAF has the corporate responsibility for the overall consistency of the fisheries inventory, and the supervision and global overview of strategic and policy aspects. The Chairperson of the SSC is the FIRMS focal point for the CECAF region. Marine Resource reports can be published based on published CECAF Working Group Reports. Countries can update the content of their fishery inventory on a routine basis.

56. The SSC was asked to provide feedback on current fact sheets, and on how workflow and timeliness of uploading new information to FIRMS can be improved.

57. Various participants raised several points regarding the clarification of procedures for validation, updating and the data attributes in FIRMS. With respect to the fisheries inventories, it was pointed out that the information is on an Excel file and that it is easy to update. The data on fisheries are provided and validated by the countries, whilst the data on the resources come from published CECAF Working Group reports on the assessment of the resources.

58. Concerns were noted regarding the publication in the form of a synoptic table of certain information – such as the status of stocks – that could be confidential and strategic for some countries in the region. To this end, it was requested that one should ensure the agreement of countries on the modality for distributing information before making them publicly available. An agreement should be put in place on the minimum information that can be made available. Moreover, certain products presented should require more consultation before being published online by FIRMS.

PROGRESS ON THE IMPLEMENTATION OF EAF IN THE CECAF REGION

59. In Africa, support for the implementation of EAF is provided mainly through the EAF-Nansen Project. Since 2007, the EAF-Nansen Project has been assisting coastal countries in Africa to undertake activities towards the implementation of EAF. The various activities, many carried out in partnership with CECAF and the sub-regional fishery bodies (COREP, FCWC, and SRFC) as well as the LME projects in the area (BCC, CCLME, and GCLME) were enumerated including, acquisition of knowledge on marine ecosystems through fisheries and ecosystem surveys carried out with the research vessel *Dr Fridtjof Nansen*. Also listed are the regional multidisciplinary workshops and training on various aspects of research and management, national and sub-regional projects to prepare fisheries management plans, and putting in place a process that allows the review and tracking of EAF. It was noted that these activities have contributed to improved understanding of EAF.

60. The most critical problems encountered are typically insufficient management and scientific capacity, the need to engage stakeholders more effectively, and conflicts between the long term goals of sustainability and short-term social and economic needs.

61. The SSC was requested to make recommendations to the Committee to ensure immediate implementation of the national EAF management plans, to impress upon the countries in Northwest Africa to examine and approve the sub-regional management framework for small pelagic fisheries when received from CCLME to present same for adoption at the next session of CECAF, and to assess the progress made by the countries, and the region as a whole in the use of the ecosystem approach in the management of their fisheries.

62. In the discussions that followed the presentation, SSC noted the progress made in the development of EAF management plans in the region, and discussions focused on how countries can effectively implement the plans and how implementation can be tracked. Several countries also reported on other national initiatives in relation to EAF implementation. It was also noted that fisheries objectives differ from country to country and that many countries are under pressure to adopt and implement the EAF due to market pressure and issues of certification.

63. The SSC noted, however, that implementation process needs to be action oriented rather than focused on further training.

STATISTICS: THE CATCH TRENDS, THE SOCIO-ECONOMIC STUDY, AND THE PAN-AFRICAN STRATEGY

64. An overview of CECAF catch trends from the CECAF database was presented.

65. Total capture production in the CECAF area has been decreasing after the maximum reached in 2010 at 4.5 million tonnes. On the longer period of 44 years covered by the database, a general upward trend is clearly visible. A pattern of catch cycles, with time periods ranging from 6 to 13 years can also be noted. Final minimum point of each cycle it has been so far always greater than the starting point. The Sub-Committee noted that environmental effects on resources should be investigated further, also in relationship with climate change.

66. The share of catches by Distant Water Fishing Nations (DWFNs) on total capture production has been falling from 57.5 percent in 1977 to 16.7 percent in 2013. This implies that coastal countries have been progressively exploiting themselves the fishery resources in their Exclusive Economic Zone (EEZ) rather than selling licenses through fisheries agreements with DWFNs.

67. At present, the CECAF capture database includes catch statistics for 297 species items. For the CECAF area as a whole, 63.6 percent of the 2010-13 total catches were at species level and only 5.3 percent was lumped together under "Marine fishes nei".

68. The major thematic areas of the "*A Pan-African Strategy on the improvement of fisheries and aquaculture data collection, analysis and dissemination"* [4], which cover the industrial and artisanal sub-sectors of marine and inland fisheries, aquaculture production, post-harvest and trade, are: i) a conceptual framework and guiding principles; ii) a list of core variables to be collected at the national level; iii) the institutional setting for the exchange of information; iv) fisheries and aquaculture statistics and its incorporation into National Statistical Systems and the National Strategy for the Development of Statistics (NSDS); v) capacity building; and vi) an action plan for implementation including considerations for funding. The guiding principles of the Strategy are currently being implemented in various projects in Africa.

DEEP-SEA FISHERIES AND VULNERABLE MARINE ECOSYSTEMS (VMES); GLOBAL AND REGIONAL PERSPECTIVES; CONSIDERATIONS FOR THE CECAF REGION

69. FAO provided an update on current global and regional discussions in relation to Deep-sea Fisheries and Vulnerable Ecosystems in Areas Beyond National Jurisdiction (ABNJ), as well as an overview of activities under the FAO Deep-seas fisheries program including the ABNJ Deep Seas project of the Common Oceans Programme.

70. In 2008, the International Guidelines for the Management of Deep-sea Fisheries in the High Seas were adopted (DSF guidelines).

71. An introduction to the DSF Guidelines was provided, including to the criteria for the identification of Vulnerable Marine Ecosystems (VMEs). With regards to ongoing activities FAO described the VME Portal and database. This database was launched in December 2014 and contains a comprehensive overview of VME measures.

72. Historically in the CECAF region, there are no well developed deep-sea fisheries in the ABNJ, but some countries report catches for deep-sea species in some of the CECAF Statistical Areas. Given that CECAF's mandate includes the ABNJ it was felt be opportune for the SSC to discuss and share information on recent developments in deep-sea fisheries and biodiversity conservation in the CECAF area including in the ABNJ and to discuss relevant information and research in support of conservation measures to protect VMEs. A regional workshop looking at deep-sea fisheries and VMEs in the CECAF area is proposed for early 2016 and the SSC was invited to reflect on possible experts and to propose specific topics to be addressed by the Regional DSF/VME workshop in the CECAF region and to propose potential experts.

73. The participants provided an update on some of the deep-sea activities in the region, mostly focusing on activities within the Exclusive Economic Zones (EEZs), indicating the type of information that could be made available to improve the knowledge about deep-sea fisheries and ecosystems in the CECAF area. Two VME areas have been identified in CECAF area 34.1.2 (Canary Islands) applying a methodology used in the NAFO[5] Area. In

Mauritania an atlas on VMEs is available. Constraints with respect to deep-sea species identification were highlighted.

74. Several countries indicated their willingness to provide names of scientists and experts for the deep sea fisheries/VME meeting scheduled for 2016.

PROGRAMME OF WORK IN THE REGION –WORKING GROUPS AND ACTIVITIES

75. Noting the progress made in the assessment of several stocks and at the same time the documented recurrent constraints that requires immediate or medium term corrective action, the SSC strongly recommends that the Working Groups and its members should focus on a certain number of issues related to:

(i) further development of scientific knowledge
(ii) development and improvement of methodological tools.

At the same time the SSC invite the committee to support:

(iii) the strengthening of the statistical and biological sampling systems in all of the countries of the CECAF region
(iv) strengthen capacities in direct assessment methods
(v) strengthen synergies and regional cooperation in the areas of research and management notably due to the transboundary nature of a great number of the small pelagic and demersal stocks shared by the countries of sub-regions and between sub-regions, considering at the same time the ecosystem interactions between these stocks.

76. The general and specific recommendations emanating from the discussions are summarized in Appendix 2 of this report.

77. The Spanish delegation informed the SSC that the IEO has established a monitoring system to gather systematic information on the fisheries being carried out in the Canary Islands other than tuna fisheries. Data collected may permit to conduct stock assessment of some of the species caught in certain local fisheries. Furthermore, information on the fishing activities as well as on the biology of the main target species could be relevant to the work of the SSC. Consequently, the Spanish delegation proposed the SSC to consider the possibility of including the assessment of the stocks fished in the Canary Islands (CECAF Division 34.1.2) in the regular assessment work of its Working Groups. The proposal was accepted and approved by the SSC.

78. The SSC approved the Working Groups session proposed for the next intersessional period as follows:

• The **Demersal Species Working Group- Sub-group South** meeting is planned for the **first quarter 2016 in Gabon**, pending confirmation of the partners to financing arrangements.
• The **Small Pelagics Working Group- Sub-group North** is expected to meet in **May/June 2016 in Senegal**, pending confirmation of the partners to continue with the existing financing arrangements.
• A meeting of the **Demersal Working Group CECAF-Sub-group North** is proposed for the **third quarter 2016 in Tenerife**, Spain, pending confirmation on funding.
• Tentatively, a meeting of the **Small Pelagics Working Group – Sub-group South** is planned for the **fourth quarter of 2016 or early 2017 in Ghana**, pending confirmation of the partners to financing arrangements.

79. Opportunities for organizing a session of the Artisanal Fisheries Working Group will be sought.

80. To ensure sustainability of the Working Groups, the SSC recommends that the Committee considers adopting a similar financing arrangement as for the Pelagic North Working Group for the other Working Groups. This would facilitate planning and ensure that regular meetings are organized.

ANY OTHER MATTERS

A) REPORT OF WORK OF OTHER PROJECTS/PROGRAMMES IN THE CECAF REGION

I. EAF-NANSEN PROJECT

81. For 40 years UN-flagged research vessel *Dr Fridtjof Nansen* has been assisting ocean research and assessment and monitoring of fisheries resources in developing countries through the Nansen Programme and the EAF-Nansen Project. Explanation was given on the two major pillars of the project, namely ecosystem surveys with the R/V *Dr Fridtjof Nansen* and the EAF management. On the first pillar, several surveys have been carried out in the CECAF area with the collaboration of the countries and the LME projects – CCLME and GCLME. The extent and importance of the database built over the years was underscored. The facilitation role of the Project towards North-South and South-South cooperation in marine scientific research was noted.

82. The SSC was appraised on the environment survey work being done in support of the oil and gas industry in some of the member countries (Angola, Ghana) and the use of the video-assisted multi sampler (VAMS).

83. Under the second pillar of the Project the in-country projects on the development of fishery management plans, training, monitoring and other capacity development activities were explained. The support to CECAF Working Groups was also noted.

84. The SSC was then appraised on the new phase of the EAF-Nansen Project following the decision by the Government of Norway to provide a new vessel for the Project.

85. Comparing the statistics on the existing and the new research vessels, it was noted that the new research vessel will be better equipped to meet the needs of the new Programme. The SSC was assured that the new Programme will continue the excellent collaboration with Regional and Sub-regional Fisheries Bodies as well as the Large Marine Ecosystem projects.

86. The SSC took note of the information and expressed appreciation to the Government of Norway for the continued support to African countries through the EAF-Nansen Project. Sub-Committee members sought clarification on a number of issues including surveys to be carried out with the R/V *Dr Fridtjof Nansen* vis-à-vis national research vessel surveys, the emphasis on environmental aspects, and the depth range within which the research vessel can work.

II. CANARY CURRENT LARGE MARINE ECOSYSTEMS PROJECT (CCLME)

87. The Food and Agriculture Organization of the United Nations (FAO) and the United Nations Environment Programme (UNEP) are the agencies responsible for the execution of the Canary Current Large Marine Ecosystem (CCLME) project. The project is funded by the Global Environment Facility (GEF) together with co-financing from participating countries and other partners.

88. A great deal of work has been devoted to developing Transboundary Diagnostic Analysis (TDA). This is a technical and scientific document, which allows the relative importance of the sources, causes and impacts of transboundary problems to be characterised. Scientific surveys, demonstration projects in addition to numerous thematic studies all served as a basis for creating the TDA document, which has been published on the project website while it is currently undergoing final editing (http://www.canarycurrent.org/en/about/working-groups-1/tda-working-group).

89. The Strategic Action Programme (SAP), which is a negotiated policy document, was drawn up by a large group of representative experts and stakeholders who had already participated in the preparation of the TDA. It establishes clear priorities for actions to be undertaken in order to resolve the transboundary problems identified in the TDA. A governance framework for the implementation of the SAP has been defined. The SAP will be finalised and submitted to the 7 countries for signing.

III. ACHIEVEMENT AND PERSPECTIVES OF THE SRFC ON THE SUSTAINABLE MANAGEMENT OF SMALL PELAGIC IN THE CONTEXT OF SUSTAINABLE FISHERIES IN NORTHWEST AFRICA

90. The Sub-regional Fisheries Commission (SRFC) presented various activities that they conduct under different projects in their area of competence.

91. The project: "Towards regional policies for small pelagic fish species in NW Africa" (Small pelagics), has been implemented by SRFC since 2007. Certain synergies had been developed with FAO (Food and Agriculture Organization of the United Nations) in the context of the implementation of demonstration project of the CCLME (Canary Current Large Marine Ecosystem) project on small pelagic fish species.

92. Over these last few years, the "Small pelagics" project has allowed consultation mechanisms to be put in place and for the development of policy instruments to the benefit of member States. The project supported the creation of National Consultative Committees (NCC) in The Gambia (2011), Senegal (2011) and in Mauritania (2012), and a Regional Consultative Committee (RCC) (2012) to promote cooperation both within and between the States.

93. The 2016/2017 action plan is centred around five objectives:
    - Objective 1: To mobilise multidisciplinary scientific expertise to help with decision-making.
    - Objective 2: To support the organisation, analysis and summary of data and knowledge in order to know and understand the status and dynamics of fisheries resources.
    - Objective 3: To organise and facilitate national consultative committees for the management of small pelagics, associating the fishing operators / and other stakeholders, so as to identify the priorities in the management of fisheries resources.
    - Objective 4: To promote the development of management plans for priority fisheries that is of political and/or societal importance.
    - Objective 5: To disseminate and transfer knowledge

IV. UTF PROJECT: MARINE FISHERIES RESOURCES ASSESSMENT IN EQUATORIAL GUINEA

94. This four years duration project was launched in August 2014 in Malabo, Equatorial Guinea. It is funded by the Government of Equatorial Guinea, and implemented by FAO in collaboration with the "Ministerio de Pesca y Medio Ambiente" (MPMA) of Equatorial Guinea. Technical assistance and support has been provided from FAO since its formulation and a project coordinator was appointed in September 2015.

95. The project aims to improve scientific knowledge of the status of marine fisheries resources in Equatorial Guinea in order to ensure a maximum and sustainable exploitation, in support of improved fisheries management and development and leading to guaranteed supplies of local quality fishery products to the national markers. This will contribute to enhanced food security, and reduce the dependency on import of fish products from external markets.

96. The three main components of the project are:

    - Marine bottom mapping and fisheries resources surveys
    - Strengthened MPMA capacity through improved organization, training and equipment
    - Fisheries resources assessment and management

97. Main activities implemented to date includes: setting up of project facilities and organization of MPMA inputs; capacity development in basic computing, basic fisheries statistics and fishery data collection have been conducted.

V. PROJECT ON THE SURPLUS CONCEPT FOR SUSTAINABLE FISHERIES PARTNERSHIP AGREEMENTS (SFPAS)

98. This project relates to 10th specific contract under the Framework Contract MARE/2012/21 "Scientific Advice for Fisheries Beyond EU Waters", commissioned by the DGMARE (EU) to the IEO led Consortium (IEO, AZTI, IPMA, IRD, Agrocampus Ouest, MRAG and IMARES).

99. Its main goal is to provide guidance/advice on the concept of surplus for the three different types of SFPAs of the EU: mixed SFPAs in West Africa, tuna SFPAs and SFPA with Greenland. In the specific context of West Africa, the main objective is to provide scientific guidance regarding how the concept of surplus could be applied to the demersal and small pelagic stocks covered by the SFPAs. The study should consider the single stock approach as a base case but also evaluate how the ecosystem approach could be integrated.

VI. RESULTS OF THE STUDIES ON CLIMATE CHANGE HAZARDS UNDERTAKEN UNDER THE NFFP

100. The findings of two case studies conducted with the support of the NEPAD-FAO Fish Programme (NFFP) in collaboration with the EAF-Nansen project on "Climate Change and African Coastal Fisheries: A Vulnerability Analysis and Recommendations for Adaptation" were presented.

101. The overall goal of the case studies was to contribute to the design and implementation of appropriate interventions to reduce such impacts, both on the ground at a local level, and at the level of policy at national and regional scales. The Western Indian Ocean Marine Science Association (WIOMSA) coordinated the work of specialist authors to produce four case studies relating to specific small-scale African fisheries, two of which relates to the CECAF region: the small pelagic fisheries of Ghana, and the small pelagic fisheries of Senegal. Both in Senegal and Ghana the Small pelagic fisheries are important for food security, employment and social welfare and changes in availability of these species whether climate driven, because of overfishing or as a result of natural variability, would have direct impact on national and local poverty and food security.

102. To date, the evidence for specific climate change effects on the small pelagic case study fisheries is somewhat equivocal. In Senegal and the Canary Current in general the best provisioned in terms of information on the oceanography and ecology, some trends are apparent in primary productivity, in SST profiles, and in some stock distributions for example, but these have not yet been unequivocally attributed to the effect of anthropogenic greenhouse gas emissions. It is even possible that climate change may increase the upwelling index off Northwest Africa. The degree and potential impact of acidification remains unclear at the moment.

B) REPORT OF WORK OF RESEARCH INSTITUTIONS OR SCIENTIFIC GROUPS IN CECAF MEMBER COUNTRIES

103. Several countries (Spain, Morocco, and Mauritania) provided information on new/recent research of relevance to the management of fisheries in the CECAF area. Furthermore, several publications by researchers from the sub-region on topics related to the work of CECAF had been published. The SSC was also informed that Mauritania conducted, in December 2014, the IMROP Working Group for the assessment of stocks and management of fisheries. This group meets every 4 years. Appendix G of the SSC report (FAO, 2015, CECAF/XXI/2016/Inf. 2) provides an overview of the work carried out by these countries.

C) NEW/UPCOMING INITIATIVES

I. USAID/SFMP: STOCK IDENTIFICATION OF SARDINELLA IN WEST AFRICA. APPLICATION TO FISHERIES MANAGEMENT

104. The Sustainable Fisheries Management Project (*USAID/SFMP*) is a five-year initiative (October 1, 2014 – September 30, 2019) supported by the U.S. Agency for International Development (USAID-Ghana). It is implemented through a cooperative agreement with the University of Rhode Island (URI). The main goal of the *USAID/SFMP* Project is to support the Government of Ghana's efforts to achieve reform of its fisheries sector by strengthening many of the enabling conditions necessary to end overfishing and rebuild small pelagic fisheries and to improve post-harvest processing conditions through effective tools and approaches in a participatory fisheries management process.

105. Suggested method and timeline (November 2015 – November 2016):

- Develop a TOR with collaborators.
- Collect a fin clip (pectoral, pelvic, adipose or caudal) from each fish being sampled, preferably during spawning season.
- Place the fin clip into a small plastic vial containing high strength (80% to 95%) ethanol (does not need to be refrigerated).
- Minimum 30 samples per species (*S. Aurita and S. Maderensis*)
- Ship it to SFMP in Ghana via DHL.
- Nuclear DNA analysis at URI and/or within West Africa if possible,
- Results published with co-contributors.
- Validate results and share report with CECAF (Nov. 2016).

II. THE COASTAL FISHERIES INITIATIVE - WEST AFRICA COMPONENT

106. The SSC was informed that FAO with other partners is developing a programme to be finances by GEF called the « coastal fisheries initiative" in which one of the projects is focused on three countries in West Africa, notably Cabo Verde, Senegal and Côte d'Ivoire. The overall environmental objective is to contribute so that the development of coastal fisheries generates environmental, social and economic benefits. More specifically to promote and demonstrate the feasibility of management models for coastal fisheries management that are integrated, efficient, sustainable and replicable., characterized by coherent incentives and an effective governance. A series of consultations are currently on the way for the development of this project and programme.

107. Following the presentation, participants indicated that they would be interested to receive more information on this programme supported by GEF, and led by FAO. It was highlighted that consultations are underway, and that national consultations have been conducted in Côte D'Ivoire, Senegal and Cabo Verde on this subject. FCWC also indicated that they were informed and involved in this initiative.

III. OTHER INITIATIVES

108. The representative of ATLAFCO presented some initiatives taken by his organization which is in line with the recommendations of the SSC to strengthen regional cooperation. He informed the meeting that a memorandum of understanding (MoU) had been signed in February 2015 in Agadir (Morocco) between ATLAFCO and the sub-regional fisheries bodies SRFC, FCWC, COREP, as well as INFOPÊCHE, and the network of fisheries policies in West Africa. The West African Association for small scale fisheries development recently also signed the MoU. ATLAFCO also support the setting up of networks of various stakeholders and regional institutions in the fisheries sector, such as the network of women working in fisheries, the network of maritime training institutions. Revitalizing the network of fisheries research institutes and marine sciences has also been launched and a meeting that will bring together all the research institutions in Member States of ATLAFCO is planned for early 2016.

109. The FCWC and the SRFC stressed the importance of cooperation platform set up with ATLAFCO through the MoU and informed that the development of work and finance plan for its implementation is currently underway. The FCWC furthermore informed the SSC that the meeting of the Conference of Ministers of the FCWC will take place in Ghana before the end of the year and cordially invited the SSC to take part in this meeting.

ELECTION OF THE CHAIRPERSON AND VICE-CHAIRPERSON

110. The SSC unanimously elected Mr Kossi Sedzro of the Department of Fisheries of Togo as Chairperson and Mr Said Benchoucha of the National Fisheries Research Institute of Morocco as Vice-Chairperson

DATE AND PLACE OF THE SEVENTH SESSION

111. Côte d'Ivoire proposed to host the eight session of the SSC in 2017. The Director-General of FAO, in consultation with the host country, will decide on the date.

ADOPTION OF THE REPORT

112. The report of the seventh session of the CECAF SSC was adopted on 16 October 2015.

ACTIONS REQUESTED FROM THE COMMITTEE

113. The Committee is asked to consider and approve:

a. the assessments and management recommendations given in Appendix 1 as well as the main recommendations from the four assessment Working Groups provided in Appendix 2.

b. the revised terms of reference for the Artisanal Fisheries Working Group and provide advice on when and with what means the next meeting of the working group can take place.

c. the programme of work in the region for the intersessional period and provide advice on how these can be effectively achieved.

114. Take note of the conclusions from the review of the work of the scientific working groups and consider their recommendations for improved reporting, investigations of the use of alternative assessment methods and approaches, clarifying the decision recommendation process and the TORs for the chairs of the working groups as endorsed by the SSC.

115. Consider and provide additional inputs with regards to the implementation of EAF in the region, the FAO CECAF statistical database, the socio economic study and the PAN-African fisheries strategy as well as the upcoming work on Deep-sea fisheries and Vulnerable Marine Ecosystems in the Areas Beyond National Jurisdiction, and the recommendations with regards to FIRMS activities.

116. Take note of the activities of the different regional organizations, national institutions and projects in the CECAF region, and the new and upcoming projects and initiatives.

APPENDIX/ANNEXE 1

Summaries of the assessments and management recommendations for each stock/Résumé des évaluations et les recommandations de gestion pour chaque stock
i) English

Table 1: Management recommendations summary sheet - Small pelagics - CECAF North

Stock	Catch[1] (5years avg.) (1 000 tonnes)	*$B_{cur}/B_{0.1}$	*$F_{cur}/F_{0.1}$	Assessment	Management recommendations
Sardine *S. pilchardus* Zone A+B	573 (435)**	122%	48%	Non-fully exploited (2013)	The stock continues improve as compared the 2013 assessment and the stock is considered non-fully exploited. The results of the projections were not conclusive. However, considering the instability of this resource vis-a vis environmental changes call for the adoption of a precautionary approach requiring setting a catch limit for sardine in this zone at the same level as for 2014, which is around 550 000 tonnes .
Sardine ** *S. pilchardus* Zone C	344 (378)**	141%	32%	Non fully exploited (2013)	The stock is influenced by environmental factors and shows fluctuations independent of fishing. Considering the observed fluctuations, total catch should be adjusted according to observed natural changes in the stock. The stock structure and abundance should be closely monitored by fishery independent methods covering the complete distribution area.
Sardinella[**] *S. aurita* *S. maderensis* *Sardinella* spp. Whole subregion	598 (570) 203 (175) 801 (745)	- - -	250% (LCA-Y/R) - -	Overexploited	The working group notes that in the absence of acoustic estimates for recent years and the deterioration of CPUE series the production model traditionally applied could not be used. However improved length frequency data made possible the application of an LCA model and a yield per recruit analysis. The results of the assessments indicate that the stock is overexploited. The working group further notes that the catches in recent years (since 2007) are high, despite the state of overexploitation indicated by the working group. The increase of catches over a longer period, despite a stock being overexploited, could be linked to an increase in the level of recruitment during this period, There is no guarantee that such a high level of recruitment will continue in the future and high catches do not necessarily reflect the state of the stocks. As a precautionary measure, the Working Group retains its recommendation of previous years to reduce fishing effort for all fleet segments. The Working Group could not make a catch recommendation as at present it does not dispose an adequate index of abundance and is unable to predict future recruitment.
Horse mackerel *T. trachurus* *T. trecae* Whole subregion	104 (95) 222 (228)	105% 23%	104% 1329%	*T. trachurus* fully exploited and *T. trecae* are overexploited.	An increase in catch and effort is observed in 2014 compared to 2013 for both of the Trachurus species. *T.trecae* remains overexploited whereas *T.trachurus* is fully exploited. Given the mixed nature of this fishery and the results of the projections, the working group, as a precautionary approach, recommends to reduce both effort and catch for the two species.
Chub mackerel *Scomber colias* Whole subregion	344 (280)	135%	140%	Fully exploited	The working group adopted, based on the results of both the production model and the analytical model that the stock is fully exploited The Working Group recommends not to exceed the mean level over the last five years 280 000 tonnes in 2014 for the whole sub-region.

[1] 2014

Stock	Catch[1] (5years avg.) (1 000 tonnes)	*$B_{cur}/B_{0.1}$	*$F_{cur}/F_{0.1}$	Assessment	Management recommendations
Anchovy *Engraulis encrasicolus* Whole subregion	19 (94)***	NA	112% (LCA-Y/R)	Over exploited	The results of the model indicate that the species is overexploited. The availability of this species is highly dependent on environmental factors and is fished opportunistically, thus the catches varies considerably from one year to another. Assessment was carried out on information from Zone North +A+B. The Working Group recommends that current effort should be reduced and on the long term be adjusted according to the natural fluctuations in this stock.
Bonga *Ethmalosa fimbriata* Whole sub-region	83 (67)	NA	164% (LCA-Y/R)	Overexploited	The working group notes a general increasing trend in catches even though a decrease was observed in 2014. The Working Group recommends that effort should be decreased as compared to current levels for bonga to regain a catch level that can ensure sustainability.

*All advice is based on the results of the production model, unless otherwise indicated.
**Assessment relates to 2013 as the data available did not allow for an assessment up to 2014
*** Catches of anchovy in Mauritania before 2013 (1997-2012) is believed to include also small horse mackerel. See Chapter 6 for details

Table 2: Management recommendations summary sheet-Small pelagics - CECAF South

Stock	Catch[2] (5 years Avg.) (tonnes)	*$B_{cur}/B_{0.1}$	*$F_{cur}/F_{0.1}$	Assessment	Management recommendations
Sardinella ***Sardinella aurita*** **West**[3] (Côte d'Ivoire, Ghana, Togo and Benin)	35539 (33304)	82	46	Stock is overexploited.	As a precautionary measure, do not exceed catch level above the average of the last five years (33 000 tonnes) to allow the stock to grow. Biomass increased in 2012.
Sardinella ***Sardinella aurita*** **Central** (Nigeria and Cameroon)	7031 (5934) (average 4 years due problem 2008 data)	-	-	No assessment made as no CPUE series is available. Trends in catches show a general increase since 2007	As a precautionary measure, do not exceed the average of the 4 last years (5934 tonnes).
Sardinella ***Sardinella maderensis*** **West** (Côte d'Ivoire, Ghana, Togo and Benin)	13 854 (12 953)	105	106	Fully exploited.	This species is caught together with *S. aurita* which is considered overexploited caution is called for. As a precautionary measure, catch level should not exceed the average of the 5 last years (13 000 tonnes).
Sardinella ***Sardinella maderensis*** **Central** (Nigeria,)	13 969 (14 114)	-	-	No assessment made as no CPUE series are available. Trends in catches show a stable trend last years.	As a precautionary measure, do not exceed the average of the 5 last years (14 000 tonnes).
Sardinella ***Sardinella* spp. North** (Guinea Bissau,Guinea, Sierra,Leone, Liberia)	44 090 (39 743)	157	48	Fully exploited..	As a precautionary measure, do not exceed current fishing level. As the current catch information is uncertain, the working group did not make a specific catch recommendation.
Sardinella ***Sardinella* spp. South** (Gabon, Congo, Democratic Republic of Congo, Angola)	116 886 (80 824)	116	94	Stock is fully exploited.	Biomass has shown decreasing trend since 2006, and. 2012 catch is the highest of the time series. As a precautionary approach, it is recommended not to exceed catch level of the average of the last 5 years (80 000 tonnes)
Bonga *E. fimbriata* **North** (Guinea)	59 645 (44 638)	111	110	Fully exploited	As a precautionary measure, do not increase catches from the average of the 5 last years (44 000 tonnes).
Bonga *E. fimbriata* **Central** (Nigeria)	23 235 (23 550)	-	-	No assessment made, but catches are stable the last years.	As a precautionary measure, do not exceed the average of the 5 last years (24 000 tonnes).
Bonga *E. fimbriata* **West** (Côte d'Ivoire,, Ghana, Togo and Benin)	1028 (1875)	-	-	No reliable results from model. Catches fluctuate annually.	No specific recommendation was made due to the uncertainties in the data. Close monitoring of the stock is recommended
Bonga *E. fimbriata* **South**	17 559 (14 288)	114	95	Stock is fully exploited.	As a precautionary measure, do not increase catches of this species from the average of the 5 last years (14 000 tonnes).

[2] 2012

[3] assessment made up to 2011

Stock	Catch[2] (5 years Avg.) (tonnes)	*$B_{cur}/B_{0.1}$	*$F_{cur}/F_{0.1}$	Assessment	Management recommendations
(Gabon, Congo, DR Congo)					
Anchovy (*E. encrasicolus*) **West** (Côte d'Ivoire, Ghana, Togo and Benin)	56064 (54050)	85	53	Stock is fully exploited	Catch level should not exceed the average level of the 3 last years (56 000 tonnes).
Anchovy (*E. encrasicolus***) South Congo**	993 (692)	127	44	Non-fully exploited	As a precautionary measure, catch level should not exceed the average catches of the 3 last years (790 tonnes). . Can sustain an increase in exploitation
Horse mackerel and other Carangidae North (Guinea Bissau, Guinea, and Liberia) (NO CATCH SL)	9 654 (17 382)	71	77	Overexploited.	Catch last year low compared to catches over the last 10 years As a precautionary measure, do not increase catches of this species above the 2012 level (10 000 tonnes) to allow the stock to grow. .
Horse mackerel and other Carangidae *Trachurus trecae* West West (Côte d'Ivoire, Ghana, Togo, Benin)	13 011 (12 128)	-	-	No reliable results from assessments.	Catches decrease over the last 5 years. As a precautionary measure, do not increase catches of this species from the average of the 5 last years (12 000 tonnes).
Horse mackerel and other Carangidae *Trachurus trecae* South (Gabon, Congo, DR Congo and Angola)	39 210 (21 660)	43	92	Overexploited	Survey data shows a general decreasing trend over the time series until 2011, followed by an increase in biomass for 2012 and 2013. Catch levels of this species should not be increased to allow the stock to recover
***Decapterus* spp.** North (Guinea)	6679 (4297)	73	176	Overexploited	Catches should be decreased and the working group retains the 2009 recommendation that catches should not exceed 3 000 tonnes.

Table 3: Management recommendations summary sheet-Demersals- CECAF North

Stock	Catch[4] (5 years Avg.) (tonnes)	*$B_{cur}/B_{0.1}$	*$F_{cur}/F_{0.1}$	Assessment	Management recommendations
Hake *Merluccius merluccius*	5137 (4458)	96%	109%	Overexploited	It is recommended to reduce the current fishing mortality by 10 percent compared with 2012 of the coastal trawler fishery which targets the juveniles.
Hake *Merluccius* spp. Mauritania	6883 (7541)	127%	50%	Non- Fully Exploited	It is recommended to reduce the current fishing mortality by 10 percent compared with 2012 of the coastal trawler fishery which targets the juveniles.
Arius spp. Senegal and The Gambia	5657 (6754)	128%	69%	Non- Fully Exploited	As a precaution the Working Group recommends not to increase the fishing mortality above the 2012 level.
Pseudotolithus spp. Senegal/ The Gambia	9674 (5967)	-	-	Not conclusive	The assessment not being conclusive due to insufficient catch and effort data available to the Working Group, a precautionary approach is recommended and the fishing mortality should not exceed the 2012 level.
Epineplehus aeneus Mauritania/Seneg al/ The Gambia	3413 (2605)	34%	762%	Overexploited	The working group recommends a reduction in fishing mortality.
Pagrus caeruleostictus Mauritania, Senegal and The Gambia	6308 (7483)	-	-	Not Conclusive	Considering the uncertainties about the origin of the catches and the representativeness of the CPUE of the stock abundance, as a precaution, the Working Group recommends not to exceed the 2008 fishing mortality.
Sparus spp. Morocco	4484 (3496)	82%	187%	Overexploited	The quality of the fit does not allow for a very precise conclusion on the state of the stock. However, due to the low catches observed in recent years during the surveys in Mauritania, a precautionary approach would be not to exceed the 2012 fishing mortality.
Plectorhynchus mediterraneus Morocco	4387 (6586)	26%	381%	Overexploited	The sea breams are exploited by the deep-sea cephalopod, fisheries. The management measures applied to this species are valid for each of these fisheries. This stock should have the same measure as those for cephalopods fisheries.
Pagellus belottii Mauritania, Senegal and The Gambia	5675 (6978)	158%	26%	Non-Fully Exploited	As a precaution, the Working Group recommends not to exceed the 2012 fishing mortality.
Pagellus acarne Maroc	569 (243)	68%	7%	Overexploited	Considering that the besugue is taken as bycatch in several fisheries, it is important to monitor the application of the regulations in force in the different fisheries to ensure a stock recovery.
Pagellus spp. Morocco	4079 (3318)	-	-	Overexploited	Considering that the besugue is taken as bycatch in several fisheries, it is important to monitor the application of the regulations in force in the different fisheries to ensure a stock recovery.
Parapenaeus longirostris Morocco	9597 (9078)	67%	164%	Overexploited	Considering that the pink shrimp is exploited by the same coastal trawler fleet which targets the white hake it is recommended to reduce actual fishing mortality of the coastal trawler fishery which targets the juveniles by 10%
Parapenaeus longirostris Mauritania	2086 (2082)	140%	44%	Non-Full Exploited	Considering the exceptional situation in 2012 (end of the EU-Mauritania Fisheries Partnership Agreement and closure of the fishery at the end of July 2012,) the Working

[4] 2012

Stock	Catch[4] (5 years Avg.) (tonnes)	*$B_{cur}/B_{0.1}$	*$F_{cur}/F_{0.1}$	Assessment	Management recommendations
					Group recommends not to increase the 2011 fishing mortality.
Parapenaeus longirostris Senegal and The Gambie	2668 (2695)	116%	82%	Non-Fully Exploited	Senegal-The Gambia- Considering that the 2012 effort data were not available, the Working Group recommends not to increase the 2011 fishing mortality
Parapenaeus longirostris Mauritania, Senegal, Gambia	4754 (4977)	136%	51%	Non-Fully Exploited	The indicators on the state of the stock were particularly close to those obtained for the Mauritanian
Penaeus notialis Mauritania	679 (1135)	92%	29%	Non-Fully Exploited	Considering the exceptional situation in 2012 (end of the EU-Mauritania Fisheries Partnership Agreement and closure of the fishery at the end of July 2012) the Working Group recommends not to increase the 2011 fishing mortality
Penaeus notialis Senegal and The Gambia	2879 (2787)	50%	191%	Overexploited	Considering that the 2012 effort data were not available, the Working Group recommends decreasing the 2011 fishing mortality
*Octopus vulgaris Da*khla (26°N-20°50'N)	27524 (31448)	58%	112%	Overexploited	Fishing effort should not exceed the current level (2012),
Octopus vulgaris Cap Blanc (20°N-16°N)	29942 (27510)	84%	120%	Overexploited	The Working Group recommends not exceeding the 2012 fishing mortality
Octopus vulgaris Senegal/ The Gambia	8631 (6634)	115%	93%	Overexploited	As the 2012 statistics are average estimates for the last three years, the Group, as a precaution, recommends not to exceed the 2012 fishing mortality. Strengthen the control of management measures
*Sepia officinalis Da*khla (26°N-20°50'N)	24539 (18544)	124%	59%	Non-Fully exploited	Considering that this species is caught by the same fleets targeting octopus the same recommendations made for octopus are also valid for the cuttlefish fishery.
Sepia officinalis Cap Blanc (20°N-16°N)	2539 (2630)	145%	47%	Non-Fully exploited	Considering that this species is caught by the same fleets targeting octopus the same recommendations made for octopus are also valid for the cuttlefish fishery.
Sepia officinalis Senegal and The Gambia	3754 (3569)	117%	37%	Non-Fully exploited	Considering that this species is caught by the same fleets targeting octopus the same recommendations made for octopus are also valid for the cuttlefish fishery.
*Loligo vulgaris Da*khla (26°N-20°50'N)	5243 (4481)	-	-	Not Known	Considering that this species is caught by the same fleets targeting octopus and cuttlefish the same recommendations made for octopus and cuttlefish are also valid for the loligo fishery.
Loligo vulgaris Cap Blanc (20°N-16°N)	1848 (1396)	146%	37%	Not Fully exploited	Considering that this species is caught by the same fleets targeting octopus and cuttlefish the same recommendations made for octopus and cuttlefish are also valid for the loligo fishery.
Loligo vulgaris The Gambia	103 (115)	-	-	Not Known	Considering that this species is caught by the same fleets targeting octopus and cuttlefish the same recommendations made for octopus and cuttlefish are also valid for the loligo fishery.

Table 4: Management recommendations summary sheet – Demersals - CECAF - South

Stock	Catch[5] (5 years Avg) (tonnes)	$B_{cur}/B_{0.1}$	$F_{cur}/F_{0.1}$	Assessment	Management recommendations
Pseudotolithus elongates (Guinea + Guinea Bissau)	11233 (15571)	76%	121%	Fully exploited	The fishing effort should not exceed the current level and that total catch should be above the average of the last three years (9 000 tonnes).
Pseudotolithus spp. (Guinea + Guinea Bissau)	7005 (11650)	65%	105%	Overexploited	Reduction in the fishing effort compared with the 2009 level and that the total catch should not exceed the 2009 catch (7 000) tonnes.
Galeoides decadactylus (Guinea + Guinea Bissau)	5265 (7980)	131%	64%	Fully exploited	Not to exceed the 2009 fishing effort and that the total catch should not be greater than the average of the last three years (5 000 tonnes).
Pomadasys spp. (Guinea + Guinea Bissau)	3050 (5522)	88%	82%	Fully exploited	Not to increase total effort above the 2009 level. Total catch should not exceed the average of the catches from 2007-2009 (3000 tonnes per year).
Arius spp. (Guinea + Guinea Bissau)	11467 (13945)	137%	44%	Non- fully exploited	As a precautionary measure, s not to increase fishing effort as a series of more complete and better quality data are not available. The catch should not exceed the 2009 level.
Cynoglossus spp. (Guinea + Guinea Bissau)	5168 (8956)	140%	41%	Non- fully exploited	As a precautionary measure not to increase fishing effort as a series of more complete and better quality data are not available. The catch should not exceed the 2008 level (5 000 tonnes).
Sparidae (Guinea + Guinea Bissau)	4765 (6490)	93%	58%	Non- fully exploited	As a precautionary measure, the Working Group recommends that the fishing effort should be closely monitored.
Cephalopholis taeniops (Cape Verde)	248 (246)	116%		Fully exploited	As a precautionary approach fishing effort should not exceed the current level and that total catch should not exceed the average of the last three years (240 tonnes)
Muraenidae (Cape Verde)	148 (138)	119%	82%	Fully exploited	As a precautionary approach, fishing effort should not exceed the current level and that total catch should not be greater than the average of the last three years (140 tonnes).
Pseudopeneus prayensis (Cape Verde)	33 (33)	118%	75%	Fully exploited	As a precautionary approach the Working Group recommends an analysis of the data on the abundance index series (CPUE) and that new analysis models should be tried.
Seriola spp. Cape Verde	119 (85)	-	-	No results from assessment	The Working Group decided to adopt a precautionary approach, and recommends an analysis of the data on the abundance index series (CPUE) and that new analysis models should be tried.
Diplodus spp. Cape Verde	278 (59)	-	-	No results from assessment	The Working Group decided to adopt a precautionary approach, and recommends an analysis of the data on the abundance index series (CPUE) and that new analysis models should be tried.
Brachydeuterus auritus (Côte d'Ivoire, Ghana, Togo and Benin)	14584[6] (19073)	37%	236%	Overexploited	As a precautionary measure and while waiting to receive more precise and complete information, the Working Group recommends a reduction in fishing effort in order not to exceed the 2010 total catch (14 000 tonnes).
Galeoides decadactylus (Côte d'Ivoire, Ghana, Togo and Benin)	2088[7] (2741)	50%	158%	Overexploited	Given the results obtained from the assessment and the trends in CPUEs, the Working Group recommends a reduction in fishing effort. The total catch in the zone should not exceed the 2010 level (2 000 tonnes).

[5] 2009
[6] 2010
[7] 2010 *

Stock	Catch[5] (5 years Avg) (tonnes)	$B_{cur}/B_{0.1}$	$F_{cur}/F_{0.1}$	Assessment	Management recommendations
Dentex spp. (Côte d'Ivoire, Ghana, Togo and Benin)	6891[8] (8081)	-	-	No results from model	As a precautionary measure and in expectation of more complete and reliable data series being collected in the future and knowing this species was considered to be overexploited during the last assessment and that the CPUEs are at a very low level, the Working Group recommends a reduction in fishing effort, and the catch should not be higher than the average of the last three years which is about 6 000 tonnes.
Pagellus bellottii (Côte d'Ivoire, Ghana, Togo and Benin)	4212[9] (5742)	46%	158%	Overexploited	Taking into account the results obtained in the assessment and the trends in CPUE, the Working Group recommends reducing effort on this stock and no longer issuing new licenses for this fishery. The Working Group also recommends that catches should not be greater than the average of the last three years which is estimated at 4000 tonnes.
Pseudotolithus spp (Côte d'Ivoire, Ghana, Togo and Benin)	2344* (2507)	107%	85%	Fully exploited	As a precautionary approach and in the hope that the data time series collected will be more complete and reliable for the next meeting, the Working Group recommends not to increase the fishing effort., and the catches should not exceed the average of the last five years estimated at 2 300 tonnes.
Pseudotolithus spp. (Nigeria and Cameroon)	8719* (13211)	76%	69%	Fully exploited	Given the results obtained in the assessment of the stock of Nigeria and Cameroon and the trends in CPUE, the Working Group recommends a reduction in fishing effort. Total catch should not exceed the 2010 catch of 8 000 tonnes per year for the stock of Nigeria and Cameroon.
Galeoides decadactylus (Nigéria, Cameroon, S. Tome &Guinea Equatorial)	5257* (2567)	-	-	No results from model	As a precautionary measure and pending more complete information, the Working Group recommends not to increase fishing effort for Nigeria, Cameroon and Equatorial Guinea and Sao Tome & Principe. These fisheries should be monitored carefully.
Cynoglossus spp. (Nigeria and Cameroon)	8828* (8085)	-	-	No results from model	As a precautionary approach, the Working Group recommends for *Cynoglossus* spp in Nigeria and Cameroon, a reduction in fishing efforts due to high effort in 2010, and that the fisheries should be closely monitored.
Brachydeuterus auritus (Nigeria)	1165* (984)	-	-	No assessments made	The Working Group recommends reducing fishing effort as this species is caught along with other demersal species by the industrial trawlers.
Dentex spp (S Tome & Principe)	193 (183)	-	-	No results from model	As a precautionary measure, the Working Group was not in a position to recommend any specific management measure. Nevertheless, it recommends proceeding with an in-depth analysis of the data before the next Working Group meeting.
Pagellus spp (Equatorial Guinea And Sao Tome)	845* (670)			No results from model	As a precaution, the effort can be maintained.
Pseudotolithus spp. (Congo, Gabon and Angola)	21 058* (35029)	50%	189%	Overexploited	Reduce the fishing effort. The total catch should not exceed the average of the last 5 years (32 000 tonnes) for the stock of Gabon, Congo, the Democratic Republic of Congo and Angola.
Galeoides decadactylus (Congo, Gabon and Angola)	8045* (6812)	51%	196%	Overexploited	Reduce fishing effort and the total catch should not exceed the average of the last 5 years Gabon, Congo, and Angola stock (4 300 tonnes).

[8] 2010 *2010

[9] 2010

Stock	Catch[5] (5 years Avg) (tonnes)	$B_{cur}/B_{0.1}$	$F_{cur}/F_{0.1}$	Assessment	Management recommendations
Dentex macrophtalmus (Angola)	17 820 (18 000)	129%	62%	Fully exploited	Total catches should not exceed the average of the last 5 years (18 000 tonnes).
Dentex spp. (Gabon, Democratic Republic of Congo and Angola)	8 076 (12000)	102%	72%	Fully exploited	Total catches should not exceed the average of the last 5 years (2006-2010) (12 000 tonnes per year)
Cynoglossus spp. (Gabon, Congo and Democratic Republic of Congo)	445 (1800)	-	-	No results from model	As a precautionary measure, that catch should not exceed the average of the last 5 years (2006-2010), estimated to be 1 800 tonnes, because the CPUEs are in sharp decline.
Cynoglossus spp. (Angola)	767 (600)	67%	191%	Overexploited	Reduced fishing effort and that the total catch should not exceed the average of the last 5 years (600 tonnes).
Brachydeuterus auritus (Congo and Angola)	3 799 (3 900)	42%	308%	Overexploited	Reduce the fishing effort and not exceed the level of catches from 2001 to 2003 (2 000 tonnes)
Arius spp (Gabon and Congo)	756* (720)	-	-	No results from model	As a precautionary measure and the CPUE is still low, the Working Group reiterates the 2008 recommendation for Gabon and Congo to reduce fishing effort and limit catches to the 2007 level (500 tonnes).
Pomadasys spp (Gabon, Democratic Republic of Congo and Angola).	965 (1000)	-	-	No results from model	The CPUE is still lowas in 2008 assessment. Reduce fishing effort and limit catches to the level of 2007 (900 tonnes).
Merluccius polli Angola	4 675 (4488)	165%	47%	Fully exploited	A general reduction in fishing effort should be undertaken. Special attention should also be given to the problem of bycatch
Penaeus notalis (Guinea Bissau)	140 (69)	-	-	No results from model	As a precautionary approach, not to increase the fishing effort and given the uncertainty about the total catch no recommendation was made for the total catch level, and to review and complete the catch and effort data series from the other industrial fleets and to estimate the catch data from the artisanal
Penaeus notalis (Guinea)	232 (349)			No results from model	Not to exceed the 300 t level until new information is made available to the Working Group
Penaeus notalis (Ghana)	271 (200)	126%	48%	Non- fully exploited	As a precautionary approach the fishing effort should not exceed the level established in the last assessment in 2008 of 170 tonnes from an average of the period 2004–2006.
Penaeus notalis (Congo)	207 (188)	123%	62%	Non- Fully exploited	The fishing effort should not exceed the current level. Catch should not exceed the average of 2008–2010 (200 tonnes). The fishery should be closely monitored.
Parapeneus longirostris Guinea -Bissau	1600 (808)	126%	63%	Non- fully exploited	Not to increase the fishing effort and the total catch should not exceed the mean of the last three years (2008-2010) of 2000 tonnes
Parapeneus longirostris Congo	791 (850)	87%	153%	Fully exploited	Not to increase the fishing effort and to keep the total catch below the landing amount for the last years (about 700 tonnes).
Parapeneus longirostris Angola	917 [10] (2510)			No results from model	Complete the catch and effort data series of the fish and shrimp trawlers that harvest this species.
Coastal shrimps (Nigeria and Cameroon)	7707 (9830)			No results from model	The Working Group was not in a position to provide specific management advice for these stocks. However decided to adopt a precautionary approach while waiting to obtain more information. It recommends that no new

[10] 2004

Stock	Catch[5] (5 years Avg) (tonnes)	$B_{cur}/B_{0.1}$	$F_{cur}/F_{0.1}$	Assessment	Management recommendations
					Shrimp licenses should be issued for fishing in these stocks.
Coastal shrimps (Democratic Republic of Congo)	7438 (4834)			No results from model	The data provided to the Working Group for the Democratic Republic of Congo was insufficient to allow any analysis.
Sepia spp. (Ghana)	2186 (2152)	36	246%	Overexploited	The situation seems to be worse than in 2008 assessment. In 2010 the increase of the effort has been 65% compared to 2004. Fishing effort should be reduced and catches limited to a maximum of 2 000 tonnes per year.
Sepia spp. (Guinea Bissau)	201 (1338)	-	-	Not Accepted	As a precautionary measure, the fishing effort should not exceed the level of the average 2007-2009 period (1 900 tons)
Sepia spp (Guinea)	3404[11] (4486)			No assessment	The cuttlefish CPUEs shows an increase trend from 2006The WG reiterates the 2005 and 2008 recommendations that fishing effort should be significantly reduced and catches should in any case not exceed the level reported for 2005 (3 000 tonnes).
Octopus vulgaris (Guinea-Bissau)	631 (2393)	136%	19%	Non- fully exploited	The fishing effort should not exceed the level for the period 2007-2009. Catch should not overcome the average of 3000 tonnes. Data provided in 2010 are provisional and are not considered for this recommendation. The WG recommends to review the statistics series of all fleets that harvest this resource.

[11] 2008

APPENDIX/ANNEXE 2
Research recommendations for the Working Groups/ Recommandations des recherches de groups de travail

Area needing corrective measures or strengthening	General recommendations concerning the four Working Groups of the two sub-regions	Specific recommendations	Sub-region concerned
Fisheries statistical and biological data	The SSC reiterates its recommendation to establish appropriate statistical systems for commercial catches and fishing effort for each stock and fishery. To make a biological sampling programme, covering the entire fishing areas and seasons, for all fleets, as well as for by-catches; The SSC also recommends that by-catches should be included in the species composition of the catch and that the species caught and origin of catches should be more clearly identified; It also recommends to carrying out the research for the standardisation of fishing effort for all fleets and developing an accurate CPUE series in order to obtain consistent abundance indices for each stock.	- Intensify sampling of length frequencies and the species composition of the catch (taking into account the by-catch); - Ensure a good coverage of all size ranges in the catch of each species for all fleet segments during the year.	All CECAF Area
Independent abundance indices of commercial fisheries	The SSC recommends strengthening the direct assessment of stocks (stock abundance indices, eggs and larvae, recruitment…) through regular scientific surveys (when possible) or support other countries with inadequate resources to undertake such surveys. The joint planning between the countries and intercalibration of vessels should be continued in order to continue and improve the time series of abundance indices.	- Coordinated exploration surveys should be conducted regularly throughout the region; - Include in the programmes of research vessels in the northern sub-region surveys for assessment of recruitment of small pelagic species studied like those carried out by the research vessel AtlantNIRO	All CECAF Area - Sub-region north
Biology and ecology of species	The SSC notes a need to strengthen the knowledge for the identification of stock units, particularly concerning the resources shared by several countries and recommends that support be provided for this type of study through national and regional initiatives to strengthen capacities in this regard.	Support to conducting genetic and/or holistic studies on stocks requiring the urgent development of knowledge on their unit(s): - Bonga - Sardinella - Mackerel - Horse mackerel Continue genetic studies being undertaken in the region on other species to establish stock units (sardine, anchovy, octopus)	CECAF Region

Area needing corrective measures or strengthening	General recommendations concerning the four Working Groups of the two sub-regions	Specific recommendations	Sub-region concerned
Biology and ecology of species	The SSC recommends the development of knowledge on the biology and ecology of stocks (life cycles of species, migratory and distribution patterns, critical phases of life cycles, determination of recruitment, and mechanism for environmental variability impact, etc.) in order to better understand their spatial and temporal dynamics.		
	The SSC recommends strengthening the aging programme of the main species and promoting exchanges between countries		
Development and improvement of methodological tools and assessment methods	The SSC recommends that the Working Groups should document all explorations, discussions and other technical methods adopted during the Working Groups, even if they are not all included in the reports, and document the viability of each source of data as part of an approach to ensure quality control, transparency and continuity in case of changes in membership of the Working Groups. The SSC also recommends taking into account the recommendations and observations made in the report of the Group of Experts (CECAF/SSCVII/2015/ Ref.8) The improvement and access to existing data generally constitutes a prerequisite for the development and use of advanced model approaches. The information available for the assessment of stocks varies considerably according to the zone and fishery. More focused approaches would not necessarily be more appropriate than those currently in use. However certain stocks (especially short-lived species) would require other assessment methods. Moreover, some data problems may require	- The adoption and improvement of methods for assessing small pelagics and demersals should be continued. The assessment models used by the Small Pelagics and demersals Working Group of the region should be developed (integration of environmental aspects, other versions of production functions, multiple abundance indices, uncertainty estimations etc.) - Introduce tools for analysing data on length structures collected in the catches.	Sub-region north and south Sub-region north and south

Area needing corrective measures or strengthening	General recommendations concerning the four Working Groups of the two sub-regions	Specific recommendations	Sub-region concerned
	technical support. The SSC thus encourages exploring alternative assessment methods during future meetings and looking for appropriated scientists for training the Working Groups members		
Cooperation	The SSC recommends to intensify the regional cooperation with regard to research and management as most stocks are shared between countries in the region. This includes: • Organisation of regional thematic seminars or study groups between members of this Working Group (shared stocks, environmental effects, biology, identification of stocks, etc.); • Organisation of training workshops on new approaches (evaluation of stocks and others); • Meetings for planning of surveys.	- Organisation of training sessions for scientists of the Small Pelagics Working Group of the northern sub-region on new assessment tools presented during the last Working Group (e.g. SCAA); - Organisation of a training workshop on stock assessment methods adapted to short-lived species; - The convening of the Planning Group for the Coordination of Acoustic Surveys scheduled for October 2015 should be maintained (Case of Small Pelagics-North); - Undertaking the inter-calibration of trawls of the different research vessels in Morocco, Mauritania and Senegal	Sub-region north Sub-region north and south Sub-region north Sub-region north
Improvement of procedures	The SSC recommends that agreed procedures for the transmission of data to the next Working Group should be respected. The national focal points should ensure that the data and working documents are sent to the leaders for each species group/stock, the chairperson of the Working Group and the FAO, within the agreed time frame.		

APPENDIX/ANNEXE 3
Terms of Reference of the Artisanal Fisheries Working Group

Acknowledging recent regional and international initiatives and instruments on small-scale fisheries, the CECAF Artisanal Fisheries Working Group is an important platform for facilitating their implementation among CECAF members, and for contributing to improved knowledge of small-scale fisheries.

The scope of the Artisanal Fisheries Working Group should cover the whole value chain, including harvesting, processing, marketing and consumption aspects of the sector. To this end, the composition of the Working Group shall reflect the multi-disciplinary aspects of its tasks.

Considering the added value and relevance of information that could be provided by stakeholders involved in artisanal fisheries, the Working Group encourages the participation, in an observing capacity, of interested parties involved in artisanal fisheries in the CECAF area, including regional fishery bodies and regional professional organisations. The Artisanal Fisheries Working Group may establish task teams to deal with specific issues as required.

In order to ensure a robust assessment of fish resources in the CECAF area, the results of the Artisanal Fisheries Working Group will be provided not only to CECAF but also to the Working Groups on the assessment of demersal and small pelagic resources for their consideration.

The Artisanal Fisheries Working Group will:

Data collection and analysis

1. Assess, harmonise and promote common methods and tools for data collection and analysis for artisanal fisheries, including on catch (by volume and value) and effort as well as, where possible, post-harvest components and actors.

2. Improve the knowledge of the spatial distribution, harvesting system, fishing strategies, as well as costs and earnings of the small-scale sector.

Socio-economics

1. As required, commission socio-economic studies addressing the harvesting, processing and marketing aspects of the small-scale sector.
2. Evaluate the social and economic impact of regulatory frameworks on artisanal fisheries.

Environment

1. Assess the impacts of artisanal fisheries activities on the environment as well as environmental factors impacting the sector, including climate change.

Collaboration and linkages

1. Recognise, promote and contribute to the assessment of the implementation of regional and international initiatives relevant to the work of this Working Group, including the Voluntary Guidelines for the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context National Food Security, adopted by the Committee on World Food Security in 2012, the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication, adopted by the FAO in 2014, and the Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa, adopted at the African Union Joint Conference of Ministers of Agriculture, Rural Development, Fisheries and Aquaculture and endorsed by the Summit of African Heads of States and Governments in 2014.

Based on the above tasks and in collaboration with the Working Groups on the assessment of demersal and small pelagic resources, the Artisanal Fisheries Working Group will formulate recommendations for improved management of the small-scale sector.