2023 ICCAT REGIONAL WORKSHOP IN WEST AFRICA FOR THE IMPROVEMENT OF STATISTICAL DATA COLLECTION AND REPORTING ON SMALL-SCALE (ARTISANAL) FISHERIES

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SUMMARY

The workshop was conducted in Abidjan from 12-16 June 2023 and 21 participants from 12 different countries participated. Training was provided by three instructors in French and English, although plans were also made for Spanish. No participants from Spanish-speaking countries attended. All documents and materials were provided through Google Classrooms, mostly including published documents from ICCAT, with a few from FAO. Google Classroom was an efficient way of supporting training and the SCRS should consider this tool for future training. All participating countries provided summaries of their data collection activities in the form of national reports. The content of these reports is being edited by the workshop coordinator to provide a consolidated summary of the West African region as a separate SCRS document. The item on biological sampling was not covered to emphasize other aspects of the agenda more important to participants. A pre-workshop questionnaire provided a view of participants' profiles and expectations of the workshop. Analysis of post-workshop questionnaires will be completed by the end of September and be the basis for a preliminary evaluation of the workshop's success.

RÉSUMÉ

L'atelier a été organisé à Abidjan du 12 au 16 juin 2023 et a rassemblé 21 participants de 12 pays différents. La formation a été assurée par trois instructeurs en français et en anglais, mais des dispositions avaient également été prises pour l'espagnol. Aucun participant de pays hispanophones n'y a participé. Tous les documents et supports ont été soumis à travers Google Classrooms, incluant pour la plupart des documents publiés par l'ICCAT et quelques-uns par la FAO. Google Classroom a été un moyen efficace de dispenser la formation et le SCRS devrait envisager d'utiliser cet outil pour les futures formations. Tous les pays participants ont soumis des résumés de leurs activités de collecte des données sous forme de rapports nationaux. Le contenu de ces rapports est actuellement édité par le coordinateur de l'atelier afin de soumettre un résumé consolidé de la région d'Afrique de l'Ouest en tant que document SCRS distinct. La question de l'échantillonnage biologique n'a pas été couverte afin de mettre en évidence d'autres points de l'ordre du jour plus importants pour les participants. Un questionnaire préalable à l'atelier a fourni un aperçu des profils des participants et de leurs attentes face à l'atelier. L'analyse des questionnaires remis après l'atelier sera achevée d'ici la fin septembre et servira de base à l'évaluation préliminaire du succès de l'atelier.

RESUMEN

El taller se celebró en Abiyán del 12 al 16 de junio de 2023 y contó con 21 participantes de 12 países. La formación corrió a cargo de tres instructores en francés e inglés, aunque también estaba previsto impartirla en español. No asistió ningún participante de países hispanohablantes. Todos los documentos y materiales se facilitaron a través de Google Classroom, en su mayoría documentos publicados por ICCAT y algunos de la FAO. Google Classroom fue una forma eficaz de apoyar la formación y el SCRS debería considerar esta herramienta para la formación futura. Todos los países participantes presentaron resúmenes de sus actividades de recopilación de datos en forma de informes nacionales. El contenido de estos informes lo está editado el coordinador del taller para ofrecer un resumen consolidado de la región de África occidental como documento independiente del SCRS. El tema del muestreo biológico no se trató con objeto de hacer hincapié en otros aspectos del orden del día más importantes para los participantes. Un cuestionario previo al taller permitió conocer el perfil y las expectativas de los participantes. El análisis de los cuestionarios posteriores al taller concluirá a finales de septiembre y servirá de base para realizar una evaluación preliminar del éxito del taller.

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KEYWORDS

Statistics, training, artisanal fisheries

1. Workshop objectives

The ICCAT SCRS identified a need to improve the capacity of CPCs to provide the data from small-scale fishery activities required to support the SCRS scientific work, and the Commission's mandate to monitor ICCAT fisheries. The ICCAT Commission provided funding to support the implementation of two such workshops, one in West Africa in 2023 and one in the Caribbean in 2024. This report provides a summary of the workshop conducted in Abidjan, Cote d´Ivoire from June 12-16, 2023. The author of this report is the coordinator of the workshop, Dr. David Die who was awarded the contract ICCAT # S23-0337-AF.

The workshop initially was to cover the following topics:

- Species Data collection (Species identification, type of data, frequency of sampling).
- Data collectors at key landing sites (Key communities, number of people involved, experience/ knowledge of data collectors).
- Catch and effort estimation for the purposes of reporting data to ICCAT.
- Data reporting to ICCAT (ICCAT forms or other ways to get the collected data to the Statistical Correspondent on a regular and continued timely way).
- Training on data reporting to ICCAT (how to fill forms) or if very limited capacity, how to report to ICCAT in an EXCEL spreadsheet facilitated by ICCAT.
- Biological sampling collection and data recording.

2. Process of workshop development

The proposed work was divided into four major tasks, announcement of workshop and selection of participants, development of workshop training materials, workshop instruction, and evaluation of workshop success. The coordinator of the workshop was supported on these tasks by staff of the ICCAT secretariat and two invited workshop instructors, Papa Kebe, from Senegal and Freddy Arocha from Venezuela. These two instructors are authors of previous reports on the status of the collection of data from artisanal fisheries in West Africa and the Caribbean that informed the development of the 2023 workshop (Kebe 2015, Arocha 2019).

2.1 Workshop announcement and participant selection

A single announcement (ICCAT CIRCULAR # 3294/2023) was made for the 2023 workshop and prepared by the ICCAT secretariat in collaboration with the workshop coordinator, the Coordinators of the Billfish and Small tuna working groups, and the SCRS Chair. The announcement was distributed by the ICCAT Secretariat to all CPCs identified in ICCAT Circular 2665-23:

Cabo Verde	Ghana	Mauritania	São Tomé e Príncipe	The Gambia
Côte d'Ivoire	Guinea-Bissau	Nigeria	Senegal	
Gabon	Liberia	Republique de Guinée (Conakry)	Sierra Leone	

The workshop aimed to attract statistical correspondents of each of the above CPCs and those scientists from such CPCs who are regularly involved in work related to small-scale fisheries. The initial announcement invited participants and instructors to travel to Dakar, Senegal, where the coordinator of the billfish working group in ICCAT, Fambaye Ngong had invited the group and organized the local logistics. Unfortunate events in Senegal during the week preceding the workshop week forced ICCAT to seek to shift the workshop venue to another location (ICCAT CIRCULAR # 5284 / 2023). We are all grateful to colleagues in Cote d'Ivoire, who offer to host the workshop in Abidjan. Although switching the venue a week prior to the start of the workshop was a tremendous challenge, the cooperation and intense work from the ICCAT secretariat, and our hosts in Senegal and Cote d'Ivoire resulted in a successful change of venue. The workshop was held at Azalaï Hotel Abidjan Cote d'Ivoire. All logistic arrangements for the venue, including required audio-visual and internet equipment were made by the Cote d'Ivoire participant team led by Dr. Constance Diaha. Unfortunately, as a result of the change in venue, the travel of Dr Freddy Arocha became very challenging, and he was unable to participate in the workshop.

The selection of invited participants was conducted by the workshop coordinator and ICCAT secretariat staff from the list of applicants received at the Secretariat. The final list of participants was approved by the SCRS Chair. The final list of participants to the workshop included all those invited plus two additional local scientists from Cote d'Ivoire who were able to attend it.

2.2 Preparation of workshop materials and delivery to participants

Development of instructional materials required for the workshop was done by the coordinator in collaboration with the secretariat staff. All materials were provided to the participants from CPCs, when possible and if necessary, in French and English. Some of the materials were provided to the participants prior to the workshop and all were available through Google Classrooms developed for the workshop in French, English, and Spanish (**Figure 1**). The ICCAT cloud server was used as an archive of class materials not for delivery of materials during the workshop. ICCAT classrooms and their materials and documents are presently only available to those participating in the workshop. Before such materials are made available to other members of the SCRS, they should be reviewed by the SCRS.

Preliminary agenda

The preliminary agenda for the workshop was:

- Monday – Fishery sampling principles and Data reporting (I)
- Tuesday - ICCAT Data reporting (II)
- Wednesday – Catch and effort estimation.
- Thursday – Biological Sample collection
- Friday – From data to assessment to management advice

3. Workshop Results

A total of 21 participants attended the workshop, twelve of them being statistical correspondents, and the other nine were scientists (**Appendix 1**). Participants represented twelve of the thirteen CPCs invited to the workshop, and all CPCs were represented at least by their statistical correspondent. Seven CPCs had scientists also attending. It must be noted that some statistical correspondents from these CPCs also attend and participate in SCRS meetings as scientists.

The ICCAT secretariat arranged for the travel and financing of each of all attendees including experts, secretariat staff, and the participants from each CPC. The coordinator helped with the process of organizing the workshop by being the liaison between the ICCAT secretariat and the country host to ensure all facilities required were in place.

The workshop took take place over five days and with four daily sessions, two in the morning and two in the afternoon. Sessions were separated by short breaks during morning and afternoon and a longer break at lunchtime. Sessions were conducted in both French and English so that local participants could express themselves in their own language. Two of the three instructors were bilingual and were able to translate to the group all the comments and presentations that were made by participants and instructors.

The item Biological Sample collection was not addressed by the instructors in the workshop, but some of the participants did provide information on this topic in their national reports of statistical monitoring and their respective presentations. It was agreed that it was impossible to organize access to biological samples and laboratories to handle them during the present workshop. Without such access, it was deemed impractical to cover the topic of biological sampling. The preliminary agenda was modified during the workshop to accommodate more time for the presentations from the participants, as the group agreed these were most important for the benefit of the participants and the SCRS.

Presentations of National reports by workshop participants were done throughout the week, as some of the participants made final edits to their reports during the workshop. **Appendix 2** contains a list of the reports provided by the participants. At the end of the workshop participants agreed to collaborate to compile all the reports into a single SCRS paper that will present a summary of data collection activities in West Africa to the SCRS. The coordinator will lead the production of this paper to be presented at the appropriate meeting of the SCRS in 2024.

The coordinator provided background documents in the Google Classroom site as references for each of the topics in the workshop. When possible, these documents were sourced from the collection of ICCAT publications to maintain consistency with the way concepts are presented to ICCAT, and use terminology already adopted by ICCAT. When this was not possible, FAO documents were used. **Appendix 3** contains a list of such documents separated by the topics of the workshop. This practice also allowed for providing many of the documents in the three official languages of ICCAT. Participants agreed this was useful but recommended that all documents in these training workshops be translated to all three languages.

3.1 Pre- and post-workshop evaluation survey

Before and after the workshop, participants were asked to fill in a short survey to help the coordinator evaluate the training's effectiveness. **Appendix 4** contains the survey questions that were administered through www.surveymonkey.com and detailed results of the surveys. The post-workshop survey was administered after the deadline of data reporting to ICCAT so that any improvements in the ability of participants to report data may be reflected in survey results. Eighteen participants responded to the post-workshop survey (72% response rate) and twelve responded to the post-workshop survey (48% response rate). The coordinator designed, implemented, and analyzed the survey results.

4. Conclusions and Recommendations

The workshop was a success despite the challenges associated with the changes in venue that happened at the last minute. The Secretariat staff, the hosts in Senegal and Cote d'Ivoire, and the participants all must be thanked for their willingness to work hard to adapt to the last-minute change in venue.

The workshop attracted participants from a range of ICCAT experiences, with some being the first time attending an SCRS meeting and others with extensive experience participating in ICCAT. Most, however, have large experience working in ICCAT fisheries, but also work in other national fisheries.

Participants expected the workshop would help them improve their understanding of the reporting process at ICCAT and the collection of fishery data. Some also expected to improve their understanding of aspects of the process of stock assessment in support of sustainable management.

The Google Classroom platform used to deliver materials and communicate with workshop participants worked well and was a valuable tool for the course. The ICCAT SCRS should consider this type of platform as a possible option for course and training delivery of ICCAT activities. For this workshop, we chose to develop one classroom in each language which requires maintaining multiple copies of documents and restricts communication to participants who sign in each classroom. It may be worthwhile exploring whether it is possible to develop multi-language classrooms. During the workshop, some participants signed in multiple classrooms as they were multilingual.

Participation in the workshop was clearly enhanced by the ability of participants to speak and present in their own language of choice and by the willingness of instructors to translate interventions from participants. Participants insisted that ideally every document made available should be translated into each ICCAT language. The use of ICCAT documents for the workshop training ensured that most documents were available in the three languages. This stresses the value of efforts made by ICCAT to translate all documents that are meant to facilitate training such as the ICCAT manual.

Although MS Excel is the most common software used by participants to support their ICCAT responsibilities, about half of participants use advanced quantitative programming languages like R and SQL. Despite this quantitative knowledge, prior to the workshop many participants had some issues with reporting data to ICCAT that they need help with. These issues related to a variety of ICCAT forms.

Inviting both statistical correspondents and scientists worked very well as in many countries the roles of reporting and data collection are held by different people.

Responses to the post-workshop survey suggest the workshop was a success. Most participants think the workshop covered all topics, including fishery statistics, and the mechanics of using ICCAT statistical forms properly although a few found the level of training a bit too basic. All participants specially appreciate the presentation from national colleagues about their respective data collection programs for fishery statistics.

Only half of the respondents thought the training will help them improve their reporting, despite many admitting they learned a lot about the ICCAT data submission process. Half of participants still think ICCAT statistical forms are overly complex. Among the suggestions for improvements were longer time dedicated to statistical forms, including practical sessions prior to the time that they need to report their national data to ICCAT.

5. Acknowledgments

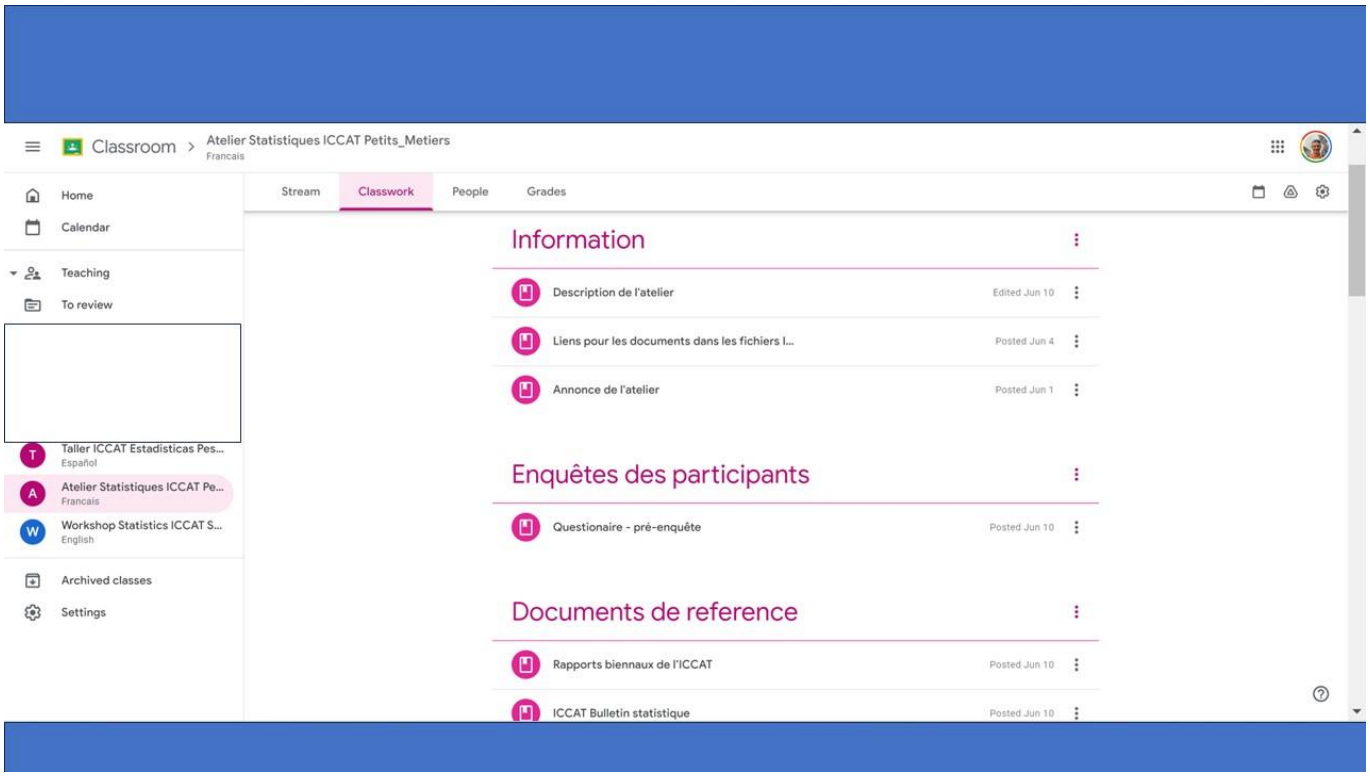
We are indebted to Constance Diaha and Julian Djou from the Centre de Recherches Océanologiques of Cote d'Ivoire who hosted us in Abidjan and took care of all the logistics to make the workshop successful. We would also like to thank Fambaye Ngom Sow who had made the original arrangements to hosts us in Dakar. Papa Kebe and Freddy Arocha contributed to the research and contacts that led to the organization of this workshop. Papa Kebe and Carlos Mayor were instructors at the workshop and without them the workshop would not have been a success. The workshop was funded by ICCAT with funds provided by the European Union (Grant Agreement EMFAF-2021-VC-ICCAT5-IBA-02) and the United States data fund.

References

Arocha F. 2019. Comprehensive study of strategic investments related to artisanal fisheries data collection in ICCAT fisheries of the Caribbean/Central American region: Draft final report. Collect. Vol. Sci. Pap. ICCAT, 75: 2319-2368.

Kebe P. 2015. Inventaire des investissements stratégiques relatifs aux Pêcheries artisanales dans la region de l'afrique de l'ouest. Collect. Vol. Sci. Pap. ICCAT, 71: 3085-3105

Figure 1. Google Classroom for the workshop. Only part of the classwork materials is displayed in the image. Image only shows page in French. Similar classrooms were available in English and Spanish.



Appendix 1

List of participants

F/E/S language chosen for Google Classroom (French, English, Spanish)

Contracting party	*Participant*	*F/E/S*	*E-mail*	*SC/Sc*
Cabo Verde	Sandra Correia	F/S	sandra.correia@imar.gov.cv	Statistical correspondent
	Nuno Vieira	E	nuno.vieira@imar.gov.cv	Scientist
Côte d'Ivoire	Julian Djou	E	djoujulien225@gmail.com	Statistical correspondent
	Constance Diaha	F	diahaconstance@yahoo.fr	Scientist
	Edoukou Abekan (*)	F/E	abekanedoukou@gmail.com	Scientist
	Sadia Alfred Zoh (*)	F	zoh.sadia@yahoo.com	Scientist
Gabon	Davy Angueko	F	Davyangueko83@gmail.com	Statistical correspondent
Ghana	Reynolds Lawrend Yaw Amon Obeng	E	Reynolds.obeng@fishcom.gov.gh	Scientist
	Sylvia Ayivi	E	asmasus@yahoo.com	Statistical correspondent
Guinea Rep.	M. Mohamed Soumah	F	Soumahmohamed2009@gmail.com	Scientist
	M. Lansana Kolie	F	Klansana74@gmail.com	Statistical correspondent
Liberia	Nasi Broh	E	ntbroh@nafaa.gov.lr	Statistical correspondent
Mauritania	M. Cheikh Baye Brahame	F/E	baye.braham@gmail.com	Statistical correspondent
Nigeria	Ruth Funmilola Hungevu	E	olufunmiomotade@gmail.com	Statistical correspondent
	Akanbi Bamikole Williams	E	akanbi.williams@gmail.com	Scientist
São Tomé e Príncipe	Ilair Conceição	S	ilair1984@gmail.com	Statistical correspondent
Senegal	Mme Fambaye. Ngom Sow	F	ngomfambaye2015@gmail.com	Scientist/BIL rapporteur
	M. Mamadoe Seye	F/E	sidindaw@hotmail.com	Statistical correspondent
Sierra Leone	Ivorymae Coker	E	ivorymae007m@gmail.com	Statistical correspondent
The Gambia	Momodou Sidibeh	E	Mbailo85@hotmail.com	Scientist
	Momodou S Jallow	E	Ms.underhil@gmail.com	Statistical correspondent
Instructors	David Die		dddejean@kutaii.com	Coordinator
	Papa Kebe		papa.amary@gmail.com	Expert
	Carlos Mayor		Carlos.mayor@iccat.int	ICCAT Secretariat

(*) Local participants, not initially part of the invited list developed prior to the workshop.

Appendix 2

List of documents presented by workshop participants

Authors	*Title*	*No. pages*
Anonymous, 2023	Systeme de collecte des donnees de la peche au Gabon	5 pages
Anonymous, 2023	Cote d'Ivoire : Description détaillée du programme national actuel de collecte de données sur les pêcheries	5 pages.
Anonymous, 2023	Système statistique de la pêche au Cabo Verde	10 pages.
Anonymous, 2023.	Mauritanie. Présentation du systéme de collecte de l'IMROP	5 pages
Anonymous, 2023.	Report on data collection in small-scale fisheries in The Gambia	6 pages.
Anonymous, 2023.	Artisanal fisheries of Sierra Leone. Data collection overview	8 pages.
Anonymous, 2023.	Système de suivi des activités de la Pêche Artisanale maritime (PA) en Guinée	22 pages.
Anonymous, 2023.	Senegal. Systeme d'information de la peche artisanale du CRODT	11 pages.
Ayivi S. and Obeng R., 2023.	Description of the current national artisanal fisheries data collection program for Ghana	9 pages.
Broth, Nasi T., 2023.	Liberia: ICCAT small-scale data collection. Sources, Method of Compilation and Tools for Compilation, Statistical capacity, Challenges	11 pages.
Conceição I., 2023	Artisanal Fishing in São Tomé and Príncipe	6 pages.
Williams A.B. and Hungevu R.F., 2023	Nigeria fisheries data collection mechanisms	11 pages.

Appendix 3

Documents and presentations classified by workshop topic

Introduction

FAO. 2019. Report of the technical workshop on global harmonization of Tuna fisheries statistics, Rome, 19–22 March 2018. FAO Fisheries and Aquaculture Report No. 1239. Rome. 52 pp.
https://www.fao.org/3/CA3132EN/ca3132en.pdf
ICCAT Statistical Bulletin. https://www.iccat.int/en/pubs_sbull.html?authuser=0&hl=en
ICCAT Biennial Reports. https://www.iccat.int/en/pubs_biennial.html?authuser=0&hl=en

Fishery Sampling Principles

ICCAT Manual: Chapter 4.1 Introduction and Statistical Basics.
https://www.iccat.int/Documents/SCRS/Manual/CH4/CH4_1-ENG.pdf?authuser=0&hl=en
ICCAT Manual - Annex 2 : Port Sampling Manual of tropical tuna in the Atlantic and Indian oceans.
ICCAT Manual Chapter 4.10 Observer information and other biological samples.
https://www.iccat.int/Documents/SCRS/Manual/CH4/CH4_10-ENG.pdf
ICCAT Species identification sheets - Small tunas and billfish.

ICCAT Statistical forms

Mayor. C. Introduction to ICCAT Statistical forms. Presentation for the workshop.
ICCAT. Access to ICCAT statistical databases. https://www.iccat.int/en/accesingdb.html?authuser=0&hl=en
ICCAT. Submitting Statistical Data to ICCAT. https://www.iccat.int/en/submitSTAT.html?authuser=0&hl=en

Catch and Effort estimation

FAO. Concepts about fishing effort. https://www.fao.org/3/Y2790E/y2790e04.htm?authuser=0&hl=en
ICCAT Manual Chapter 4.2 Sampling catches, effort, CPUE and size.
https://www.iccat.int/Documents/SCRS/Manual/CH4/CH4_2-ENG.pdf?authuser=0&hl=en
ICCAT Manual Chapter 4.4 CPUE and LPUE as relative abundance indices.
https://www.iccat.int/Documents/SCRS/Manual/CH4/CH4_4-ENG.pdf?authuser=0&hl=en

Biological Sampling

ICCAT Manual - Chapter 4.5 Genetics sampling. https://www.iccat.int/Documents/SCRS/Manual/CH4/CH4_5-ENG.pdf?authuser=0&hl=en
ICCAT Manual - Chapter 4.6 Tagging. https://www.iccat.int/Documents/SCRS/Manual/CH4/CH4_6-ENG.pdf?authuser=0&hl=en
ICCAT Manual - Chapter 4.8 Sampling for maturity.
https://www.iccat.int/Documents/SCRS/Manual/CH4/CH4_8-ENG.pdf?authuser=0&hl=en
ICCAT Manual - Chapter 4.9 Hard parts. https://www.iccat.int/Documents/SCRS/Manual/CH4/CH4_9-ENG.pdf?authuser=0&hl=en

Appendix 4

Pre and Post evaluation surveys, including results

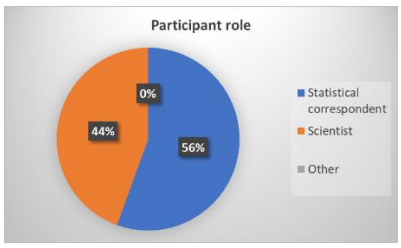
Pre-Workshop Survey

Responses to this questionnaire will be used exclusively to evaluate the success of the workshop. Responses to this questionnaire are anonymous and voluntary. It should take only a few minutes to answer the 10 questions included in it.

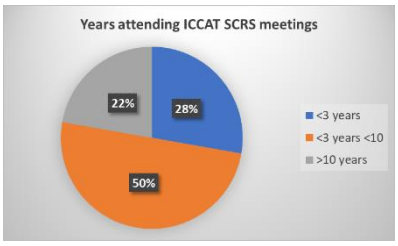
1. What is your responsibility regarding ICCAT fisheries?
   - I am a statistical correspondent
   - I am a scientist
   - None of the above
2. How many years have you been involved in ICCAT fisheries?
   - less than three years
   - More than three years and less than ten
   - more than ten years
3. How many ICCAT Scientific Committee (SCRS) meetings have you participated in?
   - This is the first
   - Between 2 and 5
   - More than 5
4. Do you have fisheries statistics responsibilities for non-ICCAT fisheries?
   - No, I only work on ICCAT fisheries
   - Yes, I work on statistics for other fisheries as well.
   - If you answered yes, specify for which other fisheries
5. What software do you use in your work as a fishery statistician-scientist_
   - I use EXCEL
   - I use databases like MS'ACCESS, SQL
   - I Use R
   - I use other software specifies
6. Have you already submitted data to ICCAT in the past?
   - Yes, through the ICCAT forms on the ICCAT website
   - Yes, but not using the ICCAT forms on the ICCAT website
   - No, I have never sent data to ICCAT, someone else does it in my country
7. If you have submitted data to ICCAT with the forms, how confident are you in your ability to enter the correct information on such forms?
   - I have never used ICCAT forms
   - I regularly submit data and I have no issues about how to do it.
   - I regularly send data but sometimes I have doubts about how to enter the information for certain forms
   - I regularly submit data to ICCAT, but often find it hard to know if I'm doing it right
8. If you have troubles submitting data on ICCAT forms, tell us which forms create the most problems for you.
9. What are the aspects of the forms that you find challenging and if you can suggest improvements
10. What do you hope to learn in this course?

Pre-Workshop survey results

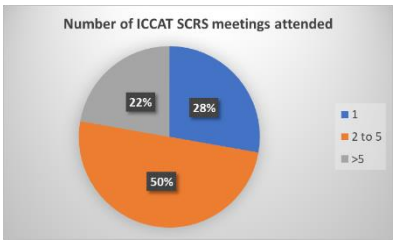
Question 1



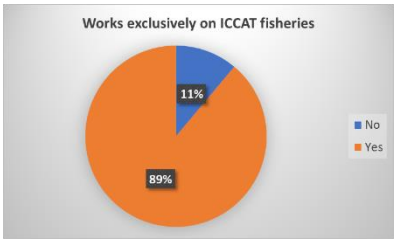
Question 2



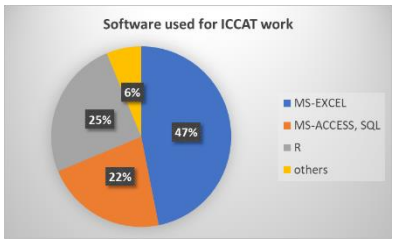
Question 3



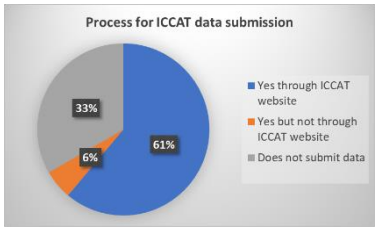
Question 4



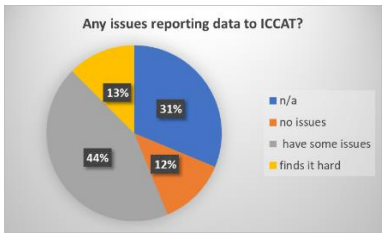
Question 5



Question 6



Question 7



Question 8. which forms create the most problems for you?

Forms that create issues for participants (in parenthesis number of participants that mention a form if greater than 1):
"ST02 (3), ST03, ST012 , reporting of billfish and sharks, FAD page 2, some fields in Task II and III, catch and effort"
"we typically submit data to ICCAT but they do not accept the data, because we are not a flag state, and only give access licenses as most of the vessels in […] are either […]. We are working on capacitating the artisanal sector to collect Tuna and tuna-like species"

Question 9. What are the aspects of the forms that you find challenging and if you can suggest improvements

"I found the form cumbersome…"
"The codes"
"I have only seen the industrial form which we download from ICCAT."
"How to generate some of this information from our available data and how to collect them if not available."
"le traitement par dégrée carré. Comment traiter les données par degré carré"
"Mettre en corrélation les types de navires et les espèces de thonidés. "
"J'ai d'abord besoin de bien comprendre les formulaires. "
"Le déploiement des dcp par carré, par mois, par type de DCP par bateau"
"Des explications claires sur la nature de certaines informations à soumettre"

Question 10. What do you hope to learn in this course?

"I hope to learn new approaches and share experiences in other regions.."
"Mainly how to completes the forms and submit them to ICCAT How to Use R to analyze ICCAT data and other fishery data How to write ICCAT reports I am also hoping to know about more capacity development opportunities in ICCAT and how to benefit from them."
"To learn the step involved in completing the form for the Artisanal fisheries on Tuna or Tuna like species and also ways to improve data collection."
"Improvement on data collation and analysis of ICCAT species in small scale fisheries"
"Improve the way we are collecting the data according to ICCAT rules, and also learn how to fill the data soumission forms."
"Better understand the data submission requirements and learn some analysis to further improve my data soumission"
"Apprendre quelles stratégies mettre en place pour une meilleure connaissance et déclaration des prises en vue d'une gestion durable des ressources exploitées. "
"une maitrise parfaite du remplissage de toutes les fiches de collette des données statistiques
"Collecter des données correctement Apprendre à remplir correctement les formulaires de l'ICCAT rédiger correctement les rapports"
"Appropriation des contenues des formulaires ST, du calcul de la densité des DCP par carré, des clés d'allocation de quotas des espèces ayant des limites de captures, du Diagramme de Kobe, ... "
"Comprendre les attentes de l'ICCAT en matière de données statistiques. "
"Les exigences de l'ICCAT en matiére de remplissage des formulaires, les données necessaires à collecté, comment améliorer le systéme de collecte de […]"
"Comment saisir les données dans le formulaire. Comment amélioré notre système de collecte pour les données de thons débarqués par la pêche artisanale"
"Résoudre ce problème et arriver à corriger les erreurs dans la base de données de l'ICCAT. Au niveau du catalogue nous soyons dans le vert pour les différentes espèces. "
"Comment remplir les formulaires et améliorer la collecte des données. "

Post-Workshop Survey

1. Did the workshop cover properly the topics you were most interested in?
   - No, the workshop did not cover the topics properly
   - Sort of, the workshop covered some of the topics properly, others no
   - Yes, the workshop cover most of the topics properly a few no
   - Yes, the workshop cover all topics properly

2. Did the workshop help you improve your understanding of fishery statistics?
   - Yes, it was clear and well structured
   - Somewhat, but it was a bit too simple and should have gone into more detail
   - Somewhat, but it was too complicated, it should be simplified
   - No, it was too complicated and not well presented

Specify any shortcomings in the design of the workshop, or its implementation (Optional).

3. Was the presentation on ICCAT statistical forms appropriate No, it was too complicated and not well presented and easy to understand ?
   - Yes, it was clear and well structured
   - Somewhat, but it was a bit too simple and should have gone into more detail
   - Somewhat, but it was too complicated, it should be simplified
   - No, it was too complicated and not well presented

Provide more specific comments on this topic (Optional)

4. Did the presentation on ICCAT statistical forms and practical work conducted during the workshop help you improve the quality and timeliness of statistical reports to ICCAT? (only respond if you are a statistical correspondent)
   - Yes, feel more confident and efficient in my reporting to ICCAT
   - Somewhat, but I still find some of the statistical forms unclear or challenging
   - Somewhat, but I still need substantial help to be able to report data to ICCAT
   - No, the workshop was ineffective in helping me improve my reports to ICCAT

Provide more specific comments on this topic (Optional)

5. Were the presentation by workshop participants on National data collection programs useful?
   - Yes, listening to regional colleagues gave me an opportunity to learn new ways we can respond to existing challenges with data collection faced by my own country
   - Somewhat, but approaches presented by neighbouring countries are not always applicable to my country
   - Somewhat, but presentations and discussions were not sufficient to determine whether I can apply any such approaches in my country
   - No, such presentations and subsequent discussions were not useful

Provide more specific comments on this topic (Optional)

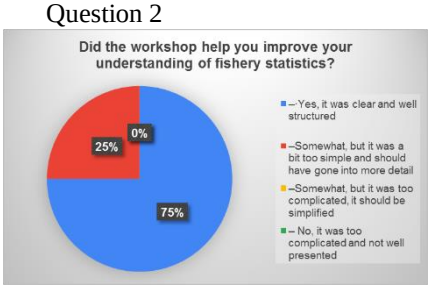
6. Was the format of the workshop appropriate, common on positive and negative aspects of the workshop and ideally provide suggestions on how to improve it.

7. Due to the scope and duration of the workshop, presentations and discussion on the collection of biological data were eliminated from the agenda. Would you be interested in participating in a future workshop that would focus on this topic? If yes provide comments on the specific aspects of biological data collection that you are most interested in.

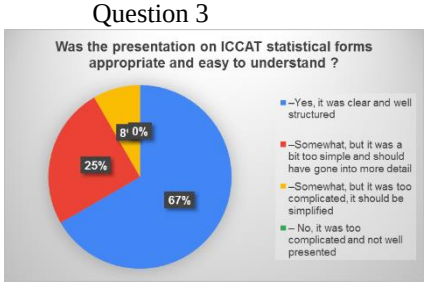
Post-Workshop survey results

Question 1

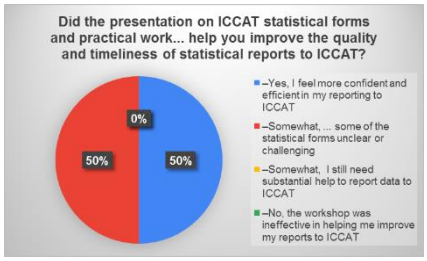
Question 2



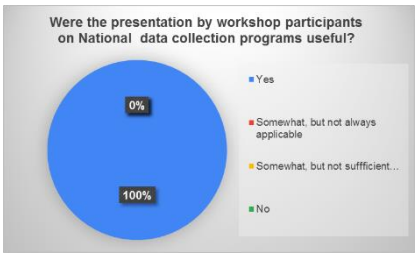
Question 3



Question 4



Question 5



Question 6: Was the format of the workshop appropriate, comment on positive and negative aspects of the workshop and ideally provide suggestions on how to improve it.

"It was very useful, especially the representation of the relevant subject matter specialists. We also know the ICCAT species which can be reported on from our respective countries. However, workshop did not cover other crucial matters of fish stock assessment, such as the application of models in data analysis."
"Workshop format was good"
"Yes, it was appropriate. The hands-on exploration of our country's data gave me a better understanding of its presentation in the ICCAT summaries."
"The format was very good and the workshop was very well structured, however, I think next time it would be better if we take more time with the statistical forms because some of them are still challenging for me."
"Oui. Aspects positifs : en présentiel, les explications sont mieux comprises, les relations d'échanges d'expériences sont établies et renforcées surtout lorsqu'il y a changement de correspondants au niveau d'un ou plusieurs Etats, ... Aspects négatifs : la durée de l'atelier était insuffisante par rapport au volume des travaux à réaliser et le chevauchement avec d'autres réunions de l'ICCAT a opéré un changement stratégique. Suggestion : Organiser un atelier trois mois avant le 31 juillet et un autre avant les Réunions du SCRS de septembre afin de préparer l'apport de modifications des données suivant les premières remarques du SCRS. Ce dernier atelier ne devra regrouper que les correspondants statistiques et les chercheurs ayant soumis des statistiques au Secrétariat. "
"oui, il était approprié de la manière ou nous avons pu échanger directement avec les instructeurs et éclairer les points d'ombre. A l'avenir présenter des cas de figures pour chaque formulaires avec des exemple de jeu de données. "
"oui, ce format était approprié. "
"il fallait continuer ce genre des ateliers dans la zone "
"Il fallait demander aux participants de venir avec leurs données afin que chacun puisse combler ses gaps. "

Question 7: Due to the scope and duration of the workshop, presentations and discussion on the collection of biological data were eliminated from the agenda. Would you be interested in participating in a future workshop which would focus on this topic? If yes provide comments on the specific aspects of biological data collection that you are most interested in.

"Yes, I have mentioned this earlier that we need a review on the stock assessment methods available from the different countries. Also, to be effective, we need continuity of participants in future workshop."
"Workshop on collection of biological data is very important. Specific aspects such as maturity scale, species identification, sampling protocols etc."
"Yes"
"Yes, I would interested in participating in future workshops related to biological data collection, the data that I would be interested in are in maturation state, DNA, and length frequency."
"Oui, je suis intéressé, données de fréquence de longueur"
"Oui. En cette phase de changement climatique, de prise en compte des facteurs y afférents dans les propositions du SCRS aux Comités, il est important de suivre quotidiennement les paramètres biologiques des stocks, notamment ceux qui ne sont pas évalués et qui font partie des prises accessoires d'autres pêcheries qui ne ciblent pas les thons. En plus, les remplacements des correspondants et des chercheurs par les Etats pour des raisons diverses exigent que des restitutions soient faites aux acteurs entrants et que les nouvelles technologies en la matière soient vulgarisées. "
"oui je serai intéressé. les aspects liés à la croissance et la reproduction. la reproduction, comment appliquer une clé de lecture des stades de maturité selon l'espèce. la croissances les paramètres complémentaire à collecter en dehors des pièces dures."
"Oui. Accès facile aux navires pour les échantillons; différentes mensurations; Rendre disponibles une partie des échantillons pour des études au laboratoire. "
"Oui"
"Très intéressant à rajouter cette partie prochainement. C'est bon nous les chercheurs. Dans l'évaluation des stocks avec les méthodes. "