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NOTE ON THE SITUATION OF COOPERATION WITH THE
FAO COMMON OCEANS/ABNJ TUNA PROJECT PROGRAM

At its meeting in November 2012 in Agadir, the Commission gave its consent for the Secretariat to take the necessary steps to become a partner of the ABNJ/GEF programme. For this purpose, the Secretariat wrote a letter addressed to the FAO and the GEF to inform that ICCAT would join the programme provided that ICCAT benefited from the activities envisaged. During the 2017 Annual meeting, the Commission continued participation in the FAO Common Oceans/ABNJ Tuna Project was discussed and it was agreed that ICCAT would continue to participate in the projects underway. Several CPCs noted the value of this cooperation, as pointed out by the SCRS Chair, and there was general agreement that engagement in this project should continue in the future, in order to complement and strengthen related scientific and management initiatives within ICCAT.

Since implementation of this programme, the Secretariat has participated actively in various technical and administrative meetings. It has contributed efficiently to the work of the Steering Committee and to the discussion of the different work plans. To this end, since the previous SCRS Plenary, the ICCAT Secretariat has participated in Common Oceans ABNJ Tuna project initiatives. These include participation in the following meetings that were funded or partially funded by the Project:

- 2nd Workshop of the Tuna Compliance Network, 15-18 February 2018, Honiara, Solomon Islands
- FAO Coordinating Working Party on Fisheries Statistics (CWP) technical workshop on global harmonization of tuna fisheries statistics, that was held in Rome, 19-22 March 2018;
- Joint tuna RFMO MSE Working Group meeting held at University of Washington in Seattle, 13-15 June 2018;
- Fifth project Steering Committee (PSC) of the Common Oceans ABNJ tuna project held in Rome, 16-18 July 2018;
- 2nd meeting of the ICCAT Expert Port Inspection Group for Capacity and Assistance, Madrid, 18-19 September 2018.

In addition, the ICCAT Executive Secretary and his Assistant informally met the Common Oceans ABNJ Tuna Project coordinator at the margins during of the last COFI meeting held in Rome in June 2018.

ICCAT coordinated and concluded in late 2017, together with the Common Oceans ABNJ Tuna Project, a *Feasibility study on the development of an Online Reporting System* (FORS). This includes both a feasibility study to determine the resources, costs, technologies required to implement an online reporting system, as well as the production of a demo online reporting tool. During 2018, various "outcomes" of the FORS study (technology, development model, concepts, recommendations, etc.) were used by the Secretariat aimed at improving the SCRS statistical online validation system. Furthermore, this prototype tool went into a testing phase during 2018. Following the objectives of the Common Oceans ABNJ Tuna project, the FORS tool and study results are generic and can potentially be applied across multiple tuna RFMOs.

According to the project coordination team, the total amount spent with the abovementioned ICCAT activities in 2018 amounted to US$47,913.01*, as detailed below:

Activity	Contribution regarding ICCAT Secretariat coordinated activities ($US)
FAO Coordinating Working Party on Fisheries (CWP) technical workshop on global harmonization of tuna fisheries statistics workshop	1686.12
Joint tuna RFMO MSE Working Group meeting	2034.00
Fifth project Steering Committee (PSC) of the Common Oceans ABNJ Tuna project	1692.66
2nd Workshop of the Tuna Compliance Network, 15-18 February 2018, Honiara, Solomon Islands	8200,00
2nd meeting of the ICCAT Expert Port Inspection Group for Capacity and Assistance	34,300.23*
TOTAL	**47,913.01***

* Estimated cost based on a Euro/US dollar exchange rate of 0.858.

The Steering Committee of the FAO Common Oceans/ABNJ tuna Project met at the FAO headquarters in Rome in July 2018 and overviewed the activities carried out through the four components of the project, as well as of the other projects being carried out under the Common Oceans Programme. The draft work plan and budget for year six was reviewed, and some discussion was held on the future process for developing a project proposal for GEF 7. A 12 month no cost extension has been approved for the project in order to finish those activities which were still ongoing. Among the funding approved are the financing for the:

- ICCAT Integrated On-line management System (IOMS, phase I) - total available amounts to $US75,000;

- Port inspection capacity building: the cost of consultant(s) to assess the needs of Cote d'Ivoire and Nigeria - total available amounts to $US12,000;

- Attendance of participants from developing countries to the following meetings if requested and held before 31 July 2019:

  • joint t-RFMOs Working Group on By-catch – total available amounts to $US40,000 (not exclusively to ICCAT);

  • meeting of the ICCAT Standing Working Group on Dialogue between Fisheries Scientists and Managers – total available amounts to $US12,000;

  • 2rd joint t-RFMOs Working Group on FADs – to be host by IATTC in May 2019 (tentatively 8-10 May) – total available amounts to $US10,000.

- 3rd meeting of the joint t-RFMOs MSE Working Group, if requested, which can include funding for the establishment of a *github* – total available amounts to $US15,000;

- Restructuration of the tuna.org website as a whole, I including MSE page + MSE github cost – to be developed by FAO in close cooperation with ICCAT and other t-RFMOs.

During the last Annual meeting, the Commission has expressed its wish not only to follow, but to be heavily involved in, the development of proposals for phase 2, to ensure that ICCAT can be in the vanguard of innovative activities, which will help to strengthen and complement (but not replace) the activities being undertaken by ICCAT. During the 2018 Steering Committee of the FAO Common Oceans/ABNJ Tuna Project meeting, the GEF officer at FAO suggested that, as early as possible, partner countries be requested to allocate STAR funding for biodiversity to ABNJ related activities, particularly those relevant to ecosystems and by-catch mitigation. Following closely the progress and activities of the UN BBNJ process would also help to ensure that the requests made by ICCAT are in line with the overall philosophy of the programme. More details on the process to be followed are available in the report of the 5th Steering Committee meeting (http://www.fao.org/in-action/commonoceans/documents/en/). It is envisaged that all proposed activities will start with the theory of change and the identification of specific outcomes. Activities will be selected in accordance with their suitability. FAO will compile the activities into a single project.

During the above mentioned Steering Committee meeting, the Secretariat put forward a list of potential project proposals, which are listed below (and contained in the **Appendix 1**):

1. Port Inspection Capacity Building

Objective: To equip developing CPCs with the skills and equipment needed to carry out Port Inspections and report appropriately.

2. Compliance Capacity Building Missions

Objective: To assist developing CPCs to better understand and be able to report on all ICCAT reporting requirements and improve compliance with ICCAT conservation and management measures.

3. Online reporting

Objective: To develop an online reporting system for both statistical and compliance-related data/information in a modular form and which could be shared, in part and as required, with other organisations. This would highly facilitate the development of the ICCAT Integrated Online Management System.

4. MSE

Objective: Support the work of the joint t-RFMO MSE Working Group.

5. Improve global communication of t-RFMO scientific advice and information of joint interest to tRFMOs – tuna.org webpage

Objective: To develop a more dynamic platform (revised tuna.org web site currently hosted in the ICCAT website) for information sharing and improve communication.

6. Ecosystem Report Cards

Objective: To increase capacity of tRFMOs to provide advice on ecosystem-based fishery management.

7. FAD and By-catch Joint t-RFMO Working Groups meetings

Objective: To further the work already carried out jointly by tRFMOs.

8. Development of global standards for scientific observers

Objective: Consultant to carry out initial draft for global standards for scientific observers.

9. Field species ID cards

Objective: To develop new field species ID cards "bank" for target and commonly by-catch species from tuna fisheries for all t-RFMOs, as although a few species are specific to individual oceans, many are common to more than one t-RFMO Convention area.

In addition to the above potential projects, there are other non-ICCAT led initiatives which are supported by ICCAT and linked to above, such as:

10. CLAV

Under the previous project, FAO funded an expert to improve data quality of the CLAV. This has proved very useful to RFMOs in detecting duplicates, possible inconsistencies etc.

11. Tuna Compliance Network

ICCAT would support the continued funding of the Tuna Compliance Network over the next project period.

Appendix 1

Activities proposed by ICCAT for the work plan and budget for project year four
Common Oceans ABNJ Tuna Project (Phase 2)

1. Port Inspection Capacity Building

Objective: To equip developing CPCs with the skills and equipment needed to carry out Port Inspections and report appropriately.

Seven ICCAT Contracting Parties have submitted pre-assessment forms in order to request assistance with the implementation of ICCAT Port Inspection Measures. The Expert Group had agreed in 2017 that on the basis of the pre-assessment, a full assessment should be carried out in person by the Working Group, the Secretariat and/or an external consultant.

It is expected that some progress on this will be made at the forthcoming Expert Group in September, but travel to some of the seven CPCs may be required to analyse further. Following a determination of needs, training and/or other assistance will be developed. Such assistance will also be dependent on the availability of funds; the fund held at ICCAT at present for this purpose is very limited, and significant voluntary contributions are not foreseen in the short term.

Funding from ABNJ phase two for these activities is sought. To date, small amounts to fund the Expert meetings have been (gratefully) received, but more significant funding would be required to adapt and impart training courses on site. Approval was tentatively given in 2015, but it is recognised that there have been some delays in ICCAT processes, so this funding was not taken up.

Based on IOTC experience and available estimates, it is foreseen that the process would cost approximately €1,200,000 to be spread over the entire period of the project.

2. Compliance Capacity Building Missions

Objective: To assist developing CPCs to better understand and be able to report on all ICCAT reporting requirements and improve compliance with ICCAT conservation and management measures.

This is an area which needs serious development in ICCAT. To date, ICCAT capacity building activities have concentrated on meeting attendance, statistical data collection, and stock assessment related courses. While ICCAT needs to maintain efforts on the aforementioned three areas, it also needs to develop capacity building for compliance with the increasingly complex ICCAT Recommendations.

Given the number of ICCAT Contracting Parties (52, of which around 40 would be eligible for assistance), on-site assistance to all parties may not be feasible, given the small number of staff which the compliance department currently comprises. A two-pronged approach is therefore suggested; the first, initially, workshops could be held either at the ICCAT Secretariat or in conjunction with intersessional meetings for a limited number of representatives from each CPC. The second would be to determine priority CPCs in conjunction with the Compliance Committee where a continuous and serious lack of compliance with reporting obligations has been noted, and carry out missions to those CPCs.

Although only a limited number of missions could be carried out each year, funding for these would be required to cover the workshop expenses, Secretariat travel, and CPC participant travel.

Costs will depend much on the number of participants and number of workshops, which for practical reasons may be limited. A very rough estimate would be in the region of €1,000,000 spread over the entire period of the project.

3. Online reporting

Objective: To develop an online reporting system for both statistical and compliance-related data/information in a modular form and which could be shared, in part and as required, with other organisations.

The Online Reporting Working Group is currently developing the plan for executing this task, but in general there is agreement that this will need to be done on a modular basis. The overall development of this will be quite expensive, and CPC training may also be required. At this stage, ICCAT requests clarification as to whether such development could be covered by the Project, and if so, that funding be made available. See **Annex 1** below.

Approximate estimated costs €1,500,000, details to be developed later in the year.

4. MSE

Objective: Support the work of the joint t-RFMO MSE Technical Working Group.

ICCAT has been leading work on this over the last few years, and is happy to continue to do so. Work at present advances slowly, being limited mainly to one meeting a year. Since its creation the *t-RFMO technical Group on MSE* has mostly worked through correspondence and relied on the willingness to participants to invest their time to reach the Group goals. All previous Group Chairs have had to shoulder the responsibility of chairing with many other responsibilities. The same can be said about the members of the Group. For most of them the responsibility of spending time on their own t-RFMO MSE process has precluded them from contributing more time to the tRFMO Technical Group. Moreover, there are only relatively few people with expertise on MSE in tRFMOs. This state of affairs has resulted in slow progress for many of the activities of the MSE Working Group. The main activity to date has been to be a forum for discussion on critical MSE-related issues. ICCAT suggests that funding be made available for one lead scientist from the MSE Group to dedicate 2-3 months per year to this, with a set of deliverables agreed in advance, in addition to keep financial support for the attendance of experts to the meetings. The deliverables would then be discussed by the wider group before any agreement, but work could advance at a speedier pace then heretofore.

Proposed activities:

(a) Dedicated Chair of the tRFMO Working Group. To have a Chair which dedicates at least two months a year to coordinate and advance the work of the MSE Working Group.

(b) Support the creation and maintenance of *github* site dedicated to serve as repository of MSE Code from all t-RFMOs.

(c) Produce a review of approaches for the development and implementation of technical criteria to be used in the evaluation of the presence of exceptional circumstances.

(d) Testing of optional visualization approaches for MSE results by applying such approaches to a global representative set of tuna stocks. This set should include both, model-based and empirical management procedures.

(e) Develop a process and provide the resources required for the independent review of MSE processes in tRFMOs.

It is estimated that approximately €350,000 could cover the needs of the MSE leader and meetings over the project period.

5. Improve global communication of t-RFMO scientific advice and information of joint interest to t-RFMOs

Objective: to develop a more dynamic platform (revised tuna.org website currently hosted in the ICCAT website) for information sharing and improve communication.

In recent years, the tuna.org website has been less dynamic than would be desirable. ICCAT is happy to continue to host this site, but has some ideas for its development, including automatic updates from links to the t-RFMO site, as well as establishing designated contacts for period updating and improvement. The site currently links to the CLAV, and could also be used to publicise activities by the Tuna Compliance Network as well as other initiatives common to all t-RFMOs.

This project would also benefit from the development of the on-line reporting system implementation, by including all the final "products" (information) available in each one of the five t-RFMOs OR systems. The potential is enormous and updates can be made in real time, by combining meetings calendar, slightly more complex standard global executive reports (data requirement summaries, production summaries, etc.), dynamic world map fishing activity (catches, effort, fishing power, etc.), etc.

Individual t-RFMOs communicate scientific advice in the form and through the means that are more appropriate for each organization. Such individualized communication does not easily allow global assessments of the status of tuna stocks. Furthermore, countries that are members of more than one t-RFMO, face the challenge of having to deal with information in different forms.

Proposed activities

(a) Improvement of the tuna-org.org web portal by developing and maintaining a dedicated web page on MSE including links to MSE pages for each t-RFMO, and maintaining multilingual versions of such webpage;

(b) Providing web access to learning tools about MSE (shiny apps, training modules, MSE related media).

Estimated development costs: €200,000.

6. Ecosystem Report Cards

Objective: To increase capacity of tRFMOs to provide advice on ecosystem-based fishery management.

The report cards would be relevant to Atlantic, Indian and Pacific Oceans. As noted by the 2016 ABNJ report on EBFM most t-RFMOs have had trouble operationalizing initiatives related to EBFM. Most of the progress in operationalizing has been at the national level.

Proposed activities:

(a) Develop an agreement on ecosystem units to be used by t-RFMOs especially in the geographical areas of overlap between tRFMOs: southern oceans vs all other oceans, eastern vs Central Pacific Ocean, southern Indian Ocean vs southern Atlantic Ocean, eastern Indian Ocean vs western Pacific Ocean.

(b) Choose two ecosystem units where there is overlap between t-RFMOs and:

(c) Develop and obtain agreement from the corresponding t-RFMOs on an initial set of operational objectives related to EBFM for such two units.

(d) Develop an ecosystem report card for such two units.

Estimated development costs: €400,000.

7. FAD and By-catch Joint t-RFMO Working Groups meetings

Objective: To further the work already carried out jointly by t-RFMOs.

ICCAT hosted the First joint t-RFMO FAD Working Group meeting in 2017. Although there was general agreement that further joint meetings could be beneficial, a Technical Working Group (TWG) is being established, as work has to be carried out previous to future joint meetings.

ICCAT has been approached to host a meeting of the joint t-RFMOs Working Group on By-catch during the 1st semester of 2019, tentatively back-to-back with another SCRS meeting (tentatively Sharks Species Group, as shark by-catch will be the major issue to be discussed).

Funding will be necessary for these Working Groups to carry out their work and for ICCAT to host two more joint meetings during the project period, requiring approximate funding of €250,000.

8. Development of global standards for scientific observes

Objective: Consultant to carry out initial draft for global standards for scientific observers.

A consultant to carry out initial draft and three meetings of experts during the project period would entail approximate costs of €200,000.

9. Field species ID cards

Objective: To developed new field species ID cards "bank" for target and common by-catch species from tuna fisheries for all t-RFMOs, as although a few species are specific to individual oceans, many are common to more than one t-RFMO Convention area.

The ICCAT Manual continues to be developed, and ICCAT has also developed several species ID Sheets. The current format of this information is more useful for desk work that for field work, and it has been suggested that a comprehensive set of tuna, shark and other by-catch species laminated sheets be developed for field work by scientists, port inspectors, etc. A few species are specific to individual oceans, but many would be common to more than one t-RFMO Convention area. The ID sheet "bank" would be available to all RFMOs interested in using them. This could also be linked to Port Inspection, as the sheets would be made available to inspectors and used for training. Initial costs would be linked to the development of the sheets; actual production costs will depend on number required of each.

Estimated development costs: €100,000.

Non-ICCAT led initiatives but supported by ICCAT and linked to above:

10. CLAV

Under the previous project, FAO funded an expert to improve data quality of the CLAV. This has proved very useful to RFMOs in detecting duplicates, possible inconsistencies, etc. ICCAT would support the continuance of this function, which benefits all t-RFMOs. It is expected that this work could be carried out by an expert on a part-time basis (cost to be estimated by FAO – €250,000 over five years?).

11. Tuna Compliance Network

ICCAT would support the continued funding of the Tuna Compliance Network over the next project period. Most t-RFMOs are unlikely to be in a position to make significant contribution to this, but all involved agree on its utility. The estimated costs are around €600,000 over the project period.

Annex 1

The ICCAT Integrated Online Management System (IOMS):
Short notes on common aspects shared by t-RFMOs on
Online reporting systems in development

Carlos Palma, Miguel Santos, Carlos Mayor, Mauricio Ortiz

All the five t-RFMOs (CCSBT, IATTC, ICCAT, IOTC, WCPFC) have been working (studying, planning, first development phases) in recent years on the development of online reporting/management (OR) systems, aimed at handling both structured and non-structured information in accordance with data requirements created to fulfil each t-RFMOs' mandate. This approach is a strategic "movement" towards more efficient data handling systems (provision of effective validation, real time responses, etc.). It is in fact, a complete change in the data management paradigm of the fisheries management domain, which has great potential to reduce decades of the technological gap (effective convergence) between the fisheries domain and other "high-tech" scientific domains.

The level of complexity of each t-RFMO OR system varies depending on their own specificities. However, a large portion of "elements" (data requirements, data structures, coding systems, business rules, etc.) that will comprise part of each OR system, are common and should share similar designs (allowing code re-use, shorten learning curves, sharing development experiences, promote data harmonization, etc.). This approach will also benefit (indirectly and in the long-run) all the t-RFMO parties in general.

The ICCAT Online Reporting Technology Working Group (WG-ORT), at its last intersessional meeting (Madrid, Spain 26-27 March 2018: see report) defined the main characteristics (development strategy, design model, technologies adopted, modular design pattern approach, Progressive Web Application (PWA) - development, etc.) and established a strategic plan to initiate (and progress over time) the development of the IOMS.

Among others, a fundamental aspect of the IOMS development was the adoption of an open source development approach (licensing, copyright, and terms of use, to be decided in the future). In addition, the development should also be based, as far as possible, on open source technologies (operating systems, databases, programming languages, web frameworks, etc.). This approach can benefit in several ways all the t-RFMO's. For example, when looking at IOMS first development phase (for details see the WG-ORT report) only, all the t-RFMO's can since the beginning, benefit (follow, learn, contribute, utilise) from:

- The IOMS database design model (core component of the main web-app platform, which will manage all web application modules, user profiles, data requirements, etc.);
- The IOMS standard components (message handler, data logger, data validators, versioning, etc.);
- The work on harmonised data structures and coding systems;
- Reduced learning curves on various development aspects;
- Adopting code examples (promotion of code re-use).

In general, the adoption of open source design approaches always promotes active development, higher participation, richer experiences, which often lead to more efficient and optimized results.

In the long-run (after OR systems implementations), if carefully planned, one of the great beneficiaries can also be TUNA-ORG (www.tuna.org) as a final consumer (moving from a static to a dynamic web page) of all the final "products" (information) available in each one of the five t-RFMOs OR systems. The potential is enormous. It can consume/present in real time, a simple combined tuna-org meetings calendar, slightly more complex standard global executive reports (data requirement summaries, production summaries, etc.), dynamic world map fishing activity (catches, effort, fishing power, etc.).

A final aspect that has to be studied (not yet discussed by ICCAT) in the future is: "what to do with the enormous amount of valuable information generated by OR automatic processes (threads, messages, validators, etc.). This work fits well in the "big-data" field (pattern search algorithms).