



Terminal evaluation of
the areas beyond
national jurisdiction
(ABNJ) Tuna project,
part of the "Global
sustainable fisheries
management and
biodiversity conservation
in ABNJ"

**Project Evaluation Series
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beyond national jurisdiction
(ABNJ) Tuna project,
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Acronyms and abbreviations

ABNJ	Areas beyond national jurisdiction
CBOP	Crew-based Observer Programme
CCSBT	Commission for the Conservation of Southern Bluefin Tuna
CEFC	Certificate IV on Fisheries Enforcement and Compliance Course
CLAV	Consolidated List of Authorized Vessels
EAFM	Ecosystem Approach to Fisheries Management
EBFM	Ecosystem-based fisheries management
EMS	Electronic monitoring system
ERS	Electronic reporting system
FAD	Fish Aggregating Device
FAO	Food and Agriculture Organization of the United Nations
FFA	Forum Fisheries Agency
GEF	Global Environmental Facility
IATTC	Interamerican Tropical Tuna Commission
ICCAT	International Commission for the Conservation of Atlantic Tunas
IOTC	Indian Ocean Tuna Commission
ISSF	International Seafood Sustainability Foundation
IUU	Illegal, unregulated and unreported
MCS	Monitoring, control and surveillance
MSE	Management strategy evaluation
NGO	Non-governmental organization
PSMA	Port State Measures Agreement
RFMO	Regional fisheries management organization
SDG	Sustainable Development Goals
SPC	Secretariat of the Pacific Community
TCN	Tuna Compliance Network
WCPFC	Western and Central Pacific Fisheries Commission
WCPO	Western and Central Pacific Ocean
WWF	World Wide Fund

Executive summary

Introduction

1. The Common Oceans ABNJ (areas beyond national jurisdiction) Program (2014-2019) was implemented by the Food and Agriculture Organization of the United Nations (FAO), the United Nations Environment Programme (UNEP) and the World Bank, with a four-year implementation period. The programme consisted of five child projects, including three full-sized projects: Tuna, Deep-Sea, and Ocean Partnerships, a mid-sized Capacity project and a mid-sized Program Coordination project. Besides the Global Environment Facility (GEF) funding amounting to USD 50 million, over USD 370 in co-financing by various partners was expended in its implementation.
2. The ABNJ tuna project, one of the main components of the Common Oceans ABNJ Program, was implemented globally covering all four major oceans of the world: Atlantic Ocean, Indian Ocean, Pacific Ocean and Southern Ocean. The total budget of the Tuna project was about USD 178 million, of which USD 27.2 million was funded by GEF and USD 264 million was provided by co-financing from the main stakeholders. FAO is the GEF implementing agency, while the five tuna RFMOs (Inter-American Tropical Tuna Commission - IATTC, International Commission for the Conservation of Atlantic Tunas – ICCAT; Commission for the Conservation of Southern Bluefin Tuna – CCSBT; Indian Ocean Tuna Commission - IOTC, Western and Central Pacific Fisheries Commission - WCPFC) and member countries are the executing agencies, together with several other partners (Forum Fisheries Agency (FFA), Central American Fisheries and Aquaculture Sector Organization (OSPESCA), Parties of the Nauru Agreement (PNA), Secretariat of the Pacific Community (SPC), Governments of Fiji and Ghana, National Oceanic and Atmospheric Administration (NOAA), BirdLife International (BLI), International Seafood Sustainability Foundation (ISSF), World Wildlife Fund (WWF) and Industry).
3. This terminal evaluation is a requirement of the GEF. It is being conducted for both accountability and learning purposes of the implementing agency (FAO), executing agencies, project team, participating institutions and national governments. The terminal evaluation will serve as an input to improve future formulation and implementation of similar projects. Currently, FAO and its partners are preparing a follow-up programme for the GEF-5 Common Oceans ABNJ Program.
4. The terminal evaluation consists of a simultaneous evaluation of the full-sized Tuna and Deep-Sea projects, the medium-sized Capacity project and of the programme as a whole (which includes the assessment of the Coordination project).
5. The evaluation followed the latest GEF guidance on terminal evaluations (2019) in the selection of evaluation criteria, ratings and other key aspects. Given the nature of the interventions, the evaluation used a **non-experimental** design, i.e. not involving any comparison group, but focusing on the extent of change mainly for those affected by the intervention. The emphasis of the analysis was on the achieved **transformative changes** that have potential to engender the relevant longer term outcomes and impacts, such as the Sustainable Development Goals (SDGs) and Convention on Biological Diversity (CBD) targets.
6. To arrive at its findings and conclusions, the evaluation used four **data collection tools**:
i) desk reviews and document/literature surveys; ii) in-depth key informant interviews;

iii) field mission and direct observation of project events; and iv) one case study. The results were rated against GEF criteria.

Main findings

Relevance

Finding 1. The Tuna project outcomes were consistent with and contributed to attaining UN Sustainable Development Goals (SDGs), GEF Strategic Goals, and FAO Strategic Objectives, as well as global and regional priorities of tuna RFMOs, and international agreements and frameworks on the ABNJ.

Finding 2. Notwithstanding the great relevance attained by the project, there should have been a broader consultation with tuna (t)-RFMO member countries to increase participation and ownership. Because of this handicap, ownership might have been lower than desirable, particularly by RFMO member states.

Effectiveness (achievement of project results)

Finding 3. During the implementation of the ABNJ Tuna project, the number of stocks managed under a harvest strategy (HS) or having a HS being developed increased from 1 to 14, while the number of overfished stocks decreased by more than 60 percent. The percentage of healthy stocks, almost doubled, increasing from 43 percent to 78 percent. Although it is not possible to objectively assess how much of this progress can be attributed to the ABNJ Tuna project, efforts undoubtedly contributed significantly to this outcome.

Finding 4. Despite the difficulty to assess objectively the actual transformational change promoted by the ABNJ Tuna project in the field, its impact on the operational capabilities of t-RFMOs and member countries to combat illegal, unreported and unregulated (IUU) fishing through improved monitoring, control and surveillance (MCS) tools and better intelligence integration is unquestionable. Overall, it is clear that the ABNJ Tuna project has strengthened and harmonized MCS systems over all five t-RFMOs, particularly in the Pacific and Indian Oceans. The ABNJ Tuna project also had a catalytic effect, helping to disseminate and to showcase the benefits/advantages of electronic monitoring system(EMS)/electronic reporting system (ERS), despite the sustainability problems faced by these initiatives.

Finding 5. Overall, it is unquestionable that the ABNJ Tuna project did succeed to promote a transformational change in the way bycatch issues are managed by t-RFMOs, in a global scale, significantly reducing the impact of tuna fisheries on bycatch species and in the marine ecosystem.

Finding 6. The ABNJ Tuna project entailed a degree of international and inter t-RFMO cooperation unprecedented in the management of bycatch, from data gathering and stock assessment, to the adoption of mitigation measures. The amount of this progress that can be attributed to the project, again, cannot be objectively measured. Nevertheless, at least in the Pacific Ocean, the ABNJ Tuna project was undoubtedly the main driver behind these changes.

Finding 7. The engagement of the private sector, mainly through the ISSF, in the ABNJ Tuna project was unparalleled, greatly contributing to the adoption of best practices for bycatch mitigation by tuna fishing boats worldwide.

Efficiency, project implementation and execution

Finding 8. The project had a satisfactory (timely and within budget) record of completion, despite some administrative difficulties related to procurement policies and procedures, such as travel limitations for the Project Monitoring Unit (PMU) staff, that represent impediments to the efficient implementation of projects in FAO.

Monitoring and evaluation

Finding 9. The original monitoring and evaluation (M&E) design of the Tuna project was inadequate, lacking a theory of change and having confusing outputs and indicators, forcing a significant restructuring, following the mid-term evaluation (MTE). Despite this shortcoming, progress reports were timely, very well-designed and quite useful for tracking the progress achieved by the project.

Project coordination and management

Finding 10. The Project Management Unit was very efficient and highly qualified. The competent management and coordination of project activities by the PMU was undoubtedly one of the main drivers for the success of the project.

Knowledge management and communications

Finding 11. The project generated an enormous amount of knowledge, but it did not have a structured lessons-learning, nor an efficient communication strategy targeted at specific interest groups and stakeholders, such as t- Regional Fisheries Management Organization (RFMOs) and their member states. External communications focused more on passive consumption (social media and web-based information) than in the active engagement of key stakeholders.

Finding 12. Communication, integration and consequent interactions between various components of the ABNJ Tuna project were very limited, resulting in a loss of opportunities for synergic gains.

Co-financing

Finding 13. The project mobilized much more than the targeted magnitude of co-financing required, from various partners. The vast majority of the co-financing, however, was as in-kind contribution. Composition and details of specific utilization remained unclear and somewhat opaque, raising the prospect of inflated estimates.

Finding 14. The project did not identify nor secured commitments towards recurrent expenditures, which are an important form of co-financing with significant implications for sustainability.

Factors affecting performance

Finding 15. The factors that supported or hindered the effectiveness of project delivery included both enabling and hindering factors.

- i. Enabling factors: domain leadership, comparative advantage and credibility of implementing agencies and executing partners; effective partnership management; and strong institutional commitment by environmental non-governmental organization (NGO) and the fisheries sector.

- ii. Hindering factors: under-resourced knowledge management and communication; and cumbersome FAO operational/administrative procedures.

Stakeholder engagement and partnerships

Finding 16. One of the strengths of the project was that most of the many partners, from very different backgrounds, had vast pre-existing experience in the fisheries management sector. This significantly contributed to the delivery of project outputs and co-financing. Most partnerships have endured and are likely to continue in future initiatives - as evidenced by the proposals already emerging for a follow-on project.

Finding 17. The large number of partners, however, also made the coordination of the various activities very complex, resulting in poor integration and communication among project participants, an issue already noted in the communication section. This was aggravated by poor planning during the project design phase, resulting in deficient consultation with stakeholders.

Environmental and social safeguards

Finding 18. Environmental and social impacts were assessed at project design and found to be minimal or none, requiring no further assessment. The overall improvement in the condition of tuna stocks, in MCS measures, and in the reduction of bycatch attest that the ABNJ Tuna project was successful in achieving its main environmental objectives.

Finding 19. Due to the absence of targeted socio-economic indicators, it is more difficult to estimate the socio-economic impact of the project. Nevertheless, these environmental benefits are expected to also improve the socio-economic conditions in the target countries, enhancing food security and nutrition.

Gender

Finding 20. Only limited action was taken to address gender issues during project implementation. There were no gender specific targets in the results framework of the project, neither a specific policy or proactive measures for gender equality in the selection of participants and beneficiaries from the project capacity development activities. Some efforts to address gender issues were noted in Fiji and Ghana by the hiring of women in the electronic monitoring system.

Capacity development

Finding 21. The ABNJ Tuna project contribution to capacity development was broad and highly diverse, ranging from capacity building for human resources (individual level), to infrastructure improvement, and innovation in practices and processes (organizational level).

Sustainability

Finding 22. The ABNJ Tuna project has generated a multitude of results out of its over 20 outputs, each of them covering a variety of activities. While some results are sustainable without further programme investments, some do require continued funding for recurring costs and expansion of coverage. The most sustainable results were those related to institutional governance measures and adoption of standards and good practices by t-RFMOs, such as harvest strategies, monitoring and control systems, and bycatch management. The least sustainable were those depending on a continued investment from national governments, such as the EMS in Ghana and Fiji, and the Crew-based Observer Programme (CBOP) in Pakistan.

Progress to impact, upscaling and replication potential

Finding 23. Many of the results achieved by the project have already been replicated and upscaled, having had, in some cases, a significant catalytic effect in changing fishing practices and operating modes within t-RFMOs, with a tangible improvement in the overall sustainability of the tuna fisheries worldwide.

Lessons learned

Lesson learned 1. If a theory of change and a partnership strategy had been developed at the inception stage, as a result of a well conducted consultation process during project design, the weak ownership of the project by some stakeholders would have been largely minimized.

Lesson learned 2. One of the most crucial aspects to a successful communication strategy is to have a clear understanding of the target audience. Communication efforts need to be focused on those that are most likely to benefit from the information being provided and in a way that would help the project to achieve its objectives. Another important aspect of communication is to make sure that it is done in the language of the potential users.

Lesson learned 3. Good communication is crucial not only during project implementation, but also during project preparation to ensure the engagement of all stakeholders. Otherwise, the sense of ownership and their consequent engagement are compromised, as occurred in the preparation of the first phase, resulting in a very low/limited knowledge of the project, its scope, objectives and activities among t-RFMO member states and many stakeholders.

Lesson learned 4. Coordination and communication are closely linked – insufficient communication within the various components of a given project or between projects of a given programme are an impediment to good coordination.

Conclusions

Conclusion 1. The ABNJ Tuna project gave a relevant contribution for the attainment of several UN SDG, GEF Strategic Goals, and FAO Strategic Objectives, as well as global and regional priorities of tuna RFMOs, and the international agreements and frameworks on the ABNJ. However, the emphasis of design and resource allocations was more on outcomes relating to sustainable fisheries sector governance - including biodiversity impacts linked to fisheries operation, and less on biodiversity conservation from a cross-sectoral perspective.

Conclusion 2. The ABNJ Tuna project promoted important transformational changes in the management practices of the tuna fisheries, improving their sustainability, strengthening MCS capabilities of t-RFMOs and their members, and significantly reducing their impact on biodiversity.

Conclusion 3. The ABNJ Tuna project was well managed and implemented despite several hindrances linked to FAO administrative procedures, such as procurement policies and travel limitations.

Conclusion 4. Most of the results achieved by the ABNJ Tuna project are sustainable, despite some which would require continued funding for recurring costs and expansion of coverage. Even in these cases, however, the results achieved were very relevant to showcase innovative tools for MCS, helping to promote and spread them in t-RFMOs around the globe.

Conclusion 5. The ABNJ Tuna project generated an enormous amount of knowledge but lacked a proper structured mechanism and strategy to harvest and disseminate it.

Conclusion 6. GEF funding was instrumental to the achievement of several important project results in institutional/governance.

Recommendations

Recommendation 1. (To GEF-FAO) The shortcomings observed during project design and consultations held for the preparation of the project document for the first phase, should be avoided and rectified in the preparation of the follow-on project. In particular, to ensure a proper consultation with key stakeholders, enough time and financial resources must be allocated to this task. Therefore, the financial balance of the project, close to USD 2 million, should be used mainly for this purpose. Furthermore, the consultation and engagement of stakeholders, to the extent possible, should go beyond the t-RFMOs secretariats, moving down to the member states and private sector. Proper consultation with national stakeholders (RFMO members) during the design phase should also help to leverage proper allocation of co-financing.

Recommendation 2. (To the Fisheries Department senior management and FAO-GEF Coordination Unit) It is recommended to stress the importance of implementing FAO's Strategic Results Framework (FAO, 2019), Recommendation 7 on an "administrative environment fit for purpose". This evaluation considers it essential for FAO to continue to be able to fully implement and execute GEF projects of this magnitude. In particular, the hard limits on the travels imposed on staff engaged in the coordination of such projects need to be waived.

Recommendation 3. (To the Project Management Unit) Linked to Recommendation 1, a proper theory of change (TOC) should be constructed this time prior to the definition of the several outputs and activities to be undertaken by the project, in order to ensure they will be guided by and stem from the priorities identified in the TOC, to maximize the chances of achieving project outcomes and objectives, and not the other way around.

Recommendation 4. (To the Project Management Unit) A proper allocation of financial and human resources to management and communication of knowledge should be ensured for the next phase, under formally, clearly established and interconnected lessons learned and communication" strategies.

Recommendation 5. (To the Project Management Unit) A much better communication, interaction and integration, not only between the different outputs/activities of the ABNJ Tuna project, but also between all the projects included in the Common Oceans Programme should be ensured, so that opportunities for synergic gains are not wasted. As already recommended by the mid-term evaluation (Recommendation 7.v), the preparation for the next phase should include a review/evaluation on how the ABNJ Tuna project, together with all other projects, could better integrate their efforts to maximize their chances to achieve the ideated goals.

Recommendation 6. (To the Project Management Unit). As recommended by the mid-term evaluation (Recommendation 8.i), during the next phase a sustainability plan should be developed and formally included in the project to avoid some of the sustainability problems faced by the ending project. This would set out project efforts to ensure the uptake and continued use of its results, after it finishes. As also noted by the programme evaluation, a co-financing strategy should be targeted to enhance sustainability, noting that recurring public expenditures hold the key to sustainability of technology and innovation funded from GEF grants. It is important to secure

upfront commitments of recurrent public expenditure as a specific component of co-financing in interventions that fund capital goods and assets requiring recurrent operational costs on part of beneficiaries, before irreversible expenditures are undertaken.

Recommendation 7. (To the Project Management Unit) The ABNJ Tuna project for the next phase, as also recommended by the mid-term evaluation (Recommendation 6.v), should develop a Gender Action Plan (GAP), together with all the executing partners, to enhance the project contributions to the achievement of FAO gender policy objectives. Implementation of good agricultural practices (GAP) should be closely monitored and reported. Project efforts in this regard should go well beyond just taking note of the number of women participating in project activities; the fact that the tuna fisheries is indeed strongly dominated by men should not be used as an excuse to waive such an obligation. On the contrary, it should prompt an even more proactive attitude by the project to rectify, to the extent possible, the serious problem of gender imbalance.

Recommendation 8. To the Project Management Unit) The ABNJ Tuna project was developed in all oceans of the world, involving the five t-RFMOs, making coordination of the different project/activities with a multitude of partners quite complex. Notwithstanding, the project should be very careful to ensure that the language problems faced during the first phase, such as in some of the harvest strategy workshops, are not repeated in the second phase, including by securing a proper budget to cover all the required languages in any project event.

GEF rating table

FAO-GEF rating scheme	Rating	Summary comments
1) Relevance		
Overall relevance of the project	HS	The project was well aligned to and contributed to the attainment of GEF objectives and international priorities.
2) Effectiveness		
Overall assessment of project results	S	The Tuna project demonstrated overall effectiveness in achieving its results, with a great potential for impact.
3) Efficiency, project implementation and execution		
Overall quality of project implementation & adaptive management	MS	Despite some shortcomings related to bureaucratic/administrative procedures by the implementing agency (FAO), the Project Management Unit was able to overcome these institutional difficulties to deliver most outputs and outcomes in a timely manner.
Quality of execution (executing agencies)	S	The executing agencies delivered their outputs within reasonable limits, despite some initial difficulties.
Efficiency (including cost effectiveness and timeliness)	S	Most project outputs were completed in time with some adjustments. GEF grant utilization was beyond 90% (93%).
Overall rating of efficiency	MS	
4) Sustainability		
Overall sustainability	L	There is high likelihood of sustainability of the knowledge developed by the project, but upscaling and expanding depend on political initiative and continued funding by national stakeholders, which were beyond the scope of the project.
5) Factors affecting performance (M&E and stakeholder engagement)		
Overall quality of stakeholder engagement	S	The project managed a complex diversity of partners effectively, many of which were working together for the first time.
Overall quality of M&E	MU	The lowest of the two sub-component ratings below.
M&E design at start up	MU	Poor design during the planning phase resulted in a lack of clear indicators to report on, besides under resourcing of monitoring, evaluation and communication components.
M&E plan implementation	S	Monitoring reports were well prepared and provided in time.

1. Introduction

1. The approach and structure of this report follow the guidance provided by the Office of Evaluation (OED) of the Food and Agriculture Organization of the United Nations (FAO) and the Global Environment Facility (GEF) Coordination Unit, as well as the Terms of Reference (TOR) for the terminal evaluation of the “Common Oceans ABNJ (areas beyond national jurisdiction) Program- Global Sustainable Fisheries Management and Biodiversity Conservation in the Areas Beyond National Jurisdiction Program”, GEF ID 4580 and its child projects. They are also guided by several UN, FAO and GEF norms, policies and guidelines.¹
2. **The Common Oceans ABNJ Tuna project terminal evaluation report** is one of four evaluation reports in the terminal evaluation of the Common Ocean ABNJ Program. The other three evaluation reports cover the Common Ocean ABNJ at programme level, the ABNJ Deep-Sea project and the ABNJ Coordination/ABNJ Capacity Development projects.

1.1 Purpose of the evaluation

3. The Common Oceans ABNJ Program, one of the first programmes under GEF 5, was formulated as a concerted effort to bring various stakeholders to work together to manage and conserve the world’s common oceans. The programme aimed to achieve transformational changes in the management and sustainability of resources in the high seas. It had a wide scope of coverage: tuna and deep-sea fisheries management, policy, conservation of biodiversity, capacity development, building networks, testing, documenting and disseminating best practices, and improving the interface of science and policy for improved decision-making.
4. The programme consisted of five child projects, including three full-sized projects: Tuna, Deep-Sea, and Ocean Partnerships, a mid-sized Capacity project and a mid-sized Program Coordination project. The ABNJ Tuna project and the ABNJ Capacity project started in January 2014, whereas the ABNJ Program Coordination and the ABNJ Deep-Sea project commenced later, in June 2014 and September 2014, respectively. The ABNJ Ocean Partnership started in November 2014. All projects in the ABNJ Program closed in December 2019.
5. The ABNJ Tuna project was implemented globally covering all four major oceans of the world: Atlantic Ocean, Indian Ocean, Pacific Ocean and Southern Ocean. The total project budget was about USD 178 million, of which USD 27.2 million was funded by GEF and USD 150.8 million was provided by co-financing from the main stakeholders. FAO was the GEF implementing agency, while the five tuna regional fisheries management organizations (t-RFMOs) (Inter-American Tropical Tuna Commission – IATTC; International Commission

¹ The United Nations Evaluation Group Norms & Standards (UNEG, 2016); OED Manual (OED, 2015); OED Terminal Evaluation Guidelines; Guidelines for GEF Agencies in Conducting Terminal Evaluation for Full-sized Projects (GEF, 2017a); The GEF Evaluation Policy 2019 (GEF IEO, 2019); GEF Monitoring and Evaluation Policy (GEF IEO, 2010); GEF Policy on Stakeholder Engagement (GEF, 2017b); GEF Principles and Guidelines for Engagement with Indigenous Peoples (GEF, 2012); GEF Partnership in practice: engagement with indigenous peoples (GEF, 2014); FAO and GEF policy on environmental and social safeguards (2011); FAO Policy on Gender Equality (FAO, 2013); FAO Guidelines for the assessment of gender mainstreaming (FAO 2017a); FAO Guide to Mainstreaming Gender in FAO’s Project Cycle (FAO, 2017b); GEF Guidance on Gender Equality (GEF, 2018a); GEF Gender Implementation Strategy (GEF, 2018b); GEF Policy on Gender Equality (GEF, 2017c) and GEF Guidelines on co-financing (GEF, 2018c).

for the Conservation of Atlantic Tunas - ICCAT; Commission for the Conservation of Southern Bluefin Tuna – CCSBT; Indian Ocean Tuna Commission – IOTC; Western and Central Pacific Fisheries Commission - WCPFC) and member countries were the executing agencies, together with several other partners: Forum Fisheries Agency (FFA), Central America Fisheries and Aquaculture Sector Organization (OSPESCA), Parties of the Nauru Agreement (PNA), Secretariat of the Pacific Community (SPC), Governments of Fiji and Ghana, National Oceanic and Atmospheric Administration (NOAA), BirdLife International (BLI), International Symposium of Fisheries Sustainability (ISSF), World Wide Fund for Nature (WWF) and Industry.

6. This terminal evaluation is a GEF requirement. It is being conducted for both accountability and learning purposes of the implementing agency (FAO), executing agencies (see above), the project team, participating institutions and national governments. The terminal evaluation will serve as an input to improve future formulation and implementation of similar projects. Currently, FAO and its partners are preparing a follow-up programme for the GEF-5 Common Oceans ABNJ Program.
7. The terminal evaluation consists of a simultaneous evaluation of the full-sized Tuna and Deep-Sea projects, of the medium-sized Capacity project and of the programme as a whole (which includes the assessment of the Coordination project).

1.2 Intended users

8. The primary audience and intended users of the ABNJ Tuna project evaluation are FAO, as the implementing GEF agency, and all executing agencies, who will use the evaluation findings and conclusions for the planning of the ABNJ Program phase two, including:
 - i. In FAO: members of the Project Steering Committee (PSC), the Project Management Team and members of Project Task Force, FAO divisions, such as the Fisheries and Aquaculture Department (FI), the Climate and Environment Division (CBC) which houses the FAO- GEF Coordination Unit, FAO regional, subregional and national offices, who will use the findings and lessons identified in the evaluation to plan for sustainability of results achieved and improve formulation and implementation of similar projects in the future.
 - ii. All the executing agencies: the five tuna RFMOs (IATTC, ICCAT, CCSBT, IOTC, WCPFC) and member countries, the Forum Fisheries Agency, the Central American Fisheries and Aquaculture Sector Organization, Parties to the Nauru Agreement, Secretariat of the Pacific Community, Governments of Fiji and Ghana, National Oceanic and Atmospheric Administration, BirdLife International, International symposium of Fisheries Sustainability, World Wide Fund and the fishing Industry, in general.
 - iii. GEF and other donors who will use the findings to inform strategic investment decisions in the future.
9. The secondary intended users include donors, national governments and organizations interested in supporting sustainable fisheries management and biodiversity conservation in the high seas.

1.3 Scope and objectives of the evaluation

10. The terminal evaluation of the ABNJ Tuna project is being undertaken simultaneously with the terminal evaluation of the ABNJ Deep-Sea project, the Common Ocean ABNJ Program, and the ABNJ Capacity Development project. It is an assessment of the project results linked to GEF International Waters and Biodiversity focal area outcomes, as formulated in the project document.
11. The terminal evaluation assessed the results achieved by the ABNJ Tuna project from its inception, in January 2014, until December 2019, including all key elements of the project across the activities/outputs outlined in the original project document and the theory of change (TOC), as revised according to the recommendations from the mid-term evaluation (MTE). Accordingly, the assessment of the ratings for each of the outcomes was done against the intermediate outcomes established in the revised project results framework.

1.4 Methodology

12. In line with GEF evaluation policy requirements and guidance as of May 2019, the evaluation followed the latest GEF guidance on terminal evaluations in the selection of evaluation criteria.
13. The ABNJ Tuna project terminal evaluation assessed the quality of design and performance effectiveness against the results matrix, for each of the four components, focusing particularly on the transformational changes achieved.
14. The main methodology for the evaluation of the ABNJ Tuna project was the use of evaluation questions, based on the criteria established by the GEF/Office of Evaluation (OED) guidelines, as applicable to GEF projects, using different tools for collecting and analysing data. Triangulation of evidence in support of findings was made across the various sources of information and data collection methods used to ensure the data collected were credible, reliable and useful.
15. Given the nature of the interventions, which collectively aimed at strengthening institutional mechanisms and knowledge for the promotion of sustainable use and better governance of biodiversity conservation across a broad spectrum of economic and scientific research interests in the ABNJ, and the global, regional and national tiers at which such governance is to be promoted, the evaluation followed a non-experimental design, i.e. focusing on the extent of change mainly for those affected by the intervention and not for a comparison group. Given the project thrust on establishing and propagating good practices and enabling stakeholders with knowledge to support better governance, and the longer time horizon for manifestation of biodiversity impacts, the emphasis of the analysis was on the transformative changes that have potential to engender the relevant longer term outcomes and impacts, such as the Sustainable Development Goals (SDGs) and Convention on Biological Diversity (CBD) targets.

1.4.1 Data collection tools

16. To arrive at its findings and conclusions, the evaluation used four data collection tools: i) desk reviews and document/literature surveys; ii) in-depth key informant interviews (project agencies, direct participants, ultimate beneficiaries, other key relevant actors); iii) field mission/direct observation of project events; and iv) case study.

1.4.1.1 Desk reviews and key informant interviews

17. Several documents were analysed in the desk review process (see Bibliography section)
18. The project has a wide range and diversity of stakeholders, including government agencies, regional intergovernmental institutions, , environmental non-governmental organization (NGOs), fisheries NGOs, special interest and advocacy groups, all of which were interviewed at some level.
19. Informants were interviewed either face-to-face at meetings they were attending, during field mission or over phone/Skype, with a standardized set of open-ended questions to gauge unprompted and qualitative perceptions. A non-exhaustive list of questions can be found in Annex 1).
20. The questions provided for broad aggregation and segmentation of perceptions on the usefulness of project activities and outputs to a diverse set of stakeholders. The list of informants is provided in Appendix 1.

1.4.1.2 Field mission/case studies

21. The evaluation team conducted field missions to Rome, Italy, to FAO headquarters, for coordination of the evaluation efforts, including participation in the 6th and 7th Project Steering Committee Meetings; to Washington, United States of America, to hold interviews with GEF, ISSF, WWF, Conservation International, and United States National Oceanic and Atmospheric Administration; to Suva, Fiji; and to Karachi, Pakistan. The evaluation team also attended the 3rd Intergovernmental Conference of the biodiversity beyond national jurisdiction (BBNJ) negotiation process, in New York, USA; the Workshop on Options to Operationalize the ecosystem approach to fisheries management (EAFM) in Tuna RFMOs, in Rome, Italy; the 26th regular meeting of the International Commission for the Conservation of Atlantic Tunas, in Palma de Mallorca, Spain; and the Joint t-RFMO Bycatch WG Meeting, in Porto, Portugal.
22. The first mission, to Rome, for the EAFM Workshop, as well as the participation in the two PSC meetings, provided an excellent opportunity to witness the exchange of views first hand in the context of project activities and the interaction among participants, which included representatives from several executing agencies, such as the t-RFMOs, ISSF, WWF, among others, as well as project beneficiaries. A selection of stakeholders/participants (based on their availability and interest to discuss) were interviewed at the side of these events. The field mission to Washington allowed face-to-face interviews with some of the key executing agencies and beneficiaries. Finally, the field missions to Fiji and Pakistan allowed to assess project achievements in the field, with regard to two key outputs: the reduction of gillnet bycatch in the Northern Indian Ocean (Output 1.1.3) and the electronic monitoring system, in Fiji (Output 2.2.1).

1.4.1.3 Case study

23. One case study was done through a survey addressed to the participants of the Certificate IV Fisheries, Enforcement and Compliance Course, supported by the Tuna project, as an activity under the Output 2.1.3. "Ten G77 National Fisheries offices effectively implement and enforce national and regional monitoring, control and surveillance (MCS) measures through training in a new competency-based certification program by 160 national fisheries staff from IOTC/WCPFC regions".

24. The Certificate IV in Fisheries Enforcement and Compliance (CEFC) was designed by FFA and its members. The course is accredited by and delivered through the University of South Pacific (USP) and was developed to teach the general skills and knowledge required by monitoring, compliance and surveillance officers at the entry-level. The CEFC qualification provides the technical and practical skills and knowledge expected of competent MCS officers. The programme covers curricula that comply with standards of competency related to demonstrating an understanding of the Western and Central Pacific Ocean (WCPO) Fishery, MCS concepts and legal frameworks. This programme also helps students to apply MCS tools to effective fisheries management and contribute to effective MCS activities, as well as operational planning and coordination. Also, students become able to contribute to regional cooperation in MCS activities and occupational health and safety (OHS) requirements. A detailed report of the survey analysis is available in Annex 2.

1.4.2 Data analysis

25. The gathered data were evaluated according to the criteria provided by GEF/OED guidelines, as applicable to GEF projects (Table 1). The evaluation was mainly based on the analysis of qualitative observations from a diversity of stakeholders to enable the assessment of the level of implementation of the several outputs and outcomes, the extent of change for those affected by the project and the transformational change (output/longer term impact) achieved by it.
26. For the assessment of relevance, the extent to which project results were in line with the priorities and policies of the GEF focal areas/operational programme strategies, FAO's global and regional priorities and strategic objectives, international agreements and frameworks on the ABNJ, and t-RMOs and member states was assessed.
27. For the assessment of effectiveness, the data analysis tools included thematic content analysis, narrative analysis for identification of most significant changes, and projection of results observed to longer term impacts. Views from the considerable diversity of informants, together with desk review and field missions adequately provided the needed inputs for triangulation of findings to support the evaluation's conclusions.
28. For the analysis of efficiency, the focus was on completion of deliverables within time and budget, and cost-effectiveness in form of supplementary resource mobilization and leveraging opportunities for enhancing coverage and outreach.
29. For the analysis of sustainability, the evaluation team used the GEF interpretation, as the probability of long-term project-derived results and impacts continuing after the close of the intervention and of the GEF financing. Accordingly, and aligned with the mid-term evaluation, the final evaluation identified and assessed the key conditions or factors that are likely to contribute or undermine the persistence of benefits after the project ends. Some of these factors were outcomes of the project, i.e. stronger institutional capacities, legal frameworks, socio-economic incentives and public awareness. Other factors included contextual circumstances or developments that were not project outcomes but were relevant to the sustainability of outcomes.

Table 1: Evaluation criteria and interpretations

Relevance (rating required)	The extent to which an intervention is in line with the priorities and policies of the target group, recipient and donor. Quality and appropriateness of design, clarity of theory of change and contribution pathways. Comparative advantage of implementing agencies.
Achievement of project results (rating required)	The extent to which the stated outputs, outcomes and objectives were effectively achieved. Adequacy of intervention resources and level of effort in relation to target results. Analysis of success factors and constraints to attaining target results.
Efficiency, project implementation and execution (rating required)	Timeliness and within budget execution, cost-effectiveness. Role and responsibilities discharged by the implementing agencies and execution partners.
Monitoring and Evaluation (rating required)	Monitoring and evaluation (M&E) design and plan adequacy and practicality. M&E implementation as per the M&E plan and information gathered in a systematic manner, using appropriate methodologies. Use of M&E system to make timely decisions and foster learning during implementation.
Sustainability (rating required)	Probability of long-term project-derived results and impacts continuing after the close of the intervention and the GEF financing ends. Overall likelihood environmental, financial, socio-political and institutional risks to sustainability.
Stakeholder engagement (rating required)	Level and quality of stakeholder engagement and the project's partnership arrangements both at the design stage and during implementation. Active engagement of stakeholders in project design, implementation of project activities and decision-making; consultations with and between stakeholders; and dissemination of project-related information to and between stakeholders.
Environmental and social safeguards	Appropriate environmental and social safeguards in the project's design and implementation.
Gender	Gender considerations in designing and implementing the programme/projects: gender analysis, gender equitable participation and benefits, and gender disaggregated data on beneficiaries.
Co-financing	Extent of co-financing materialized, in cash or in-kind, grant or loan or equity and from project agencies or external sources.
Progress to impact	Evidence of progress towards long-term impacts and attributability to programme.
Knowledge management	Structured lesson-learning and experience-sharing between project partners and interested groups, identification of good practices, development, dissemination and feedback on communication products.
Capacity development	Capacities built at individual, institutional and enabling environment and results in form of adoption, practices and political commitment.

1.5 Structure of the report

30. Following this introduction, Chapter 2 presents the background and context of the project. Chapter 3 presents the main findings based on relevance, effectiveness, efficiency, cross-cutting issues, sustainability and progress to impact. Lessons learned are presented in Chapter 4, followed by conclusions and recommendations in Chapter 5.

2. Background and context of the project

31. Many of the world's most valuable fisheries and marine ecosystems are found in areas beyond national jurisdiction, which represent 40 percent of the planet's surface, covering 64 percent of the surface of the ocean and 95 percent of its volume. Some of the most valuable fisheries in ABNJ target tuna species that account for about 20 percent of the value of all marine capture fisheries, with landed catches surpassing USD 10 billion annually. Tunas are highly migratory, travelling vast distances across the oceans, passing through both the high seas and the exclusive economic zones of several coastal states. More than 85 countries harvest tunas in commercial quantities, making the management of their fisheries extremely complex and only feasible by RFMOs.
32. There are about 20 RFMOs currently in existence covering various geographic areas and species. Of these, five manage exclusively fisheries for tunas, being called tuna RFMOs (t-RFMOs). They are: the Inter-American Tropical Tuna Commission, the International Commission for the Conservation of Atlantic Tunas, the Commission for the Conservation of Southern Bluefin Tuna, the Indian Ocean Tuna Commission, and the Western and Central Pacific Fisheries Commission. They include both coastal states and distant water fishing nations; their primary mandate is to ensure the sustainability of the tuna fisheries under their purview. Notwithstanding, most of the tuna stocks in the world are either fully or over-exploited, with an urgent need to arrest further stock decline, in the case of depleted stocks, and to maintain and rebuild tuna stocks to sustainable levels. It is also urgent that t-RFMOs deal effectively with over-fishing, overcapacity and illegal, unreported and unregulated (IUU) fishing activities.
33. In this context, the expected outcome/objective of the ABNJ tuna project - Sustainable management of tuna fisheries and biodiversity conservation in the areas beyond national jurisdiction was to achieve transformational change in the form of enhanced efficiency and sustainability in tuna production and biodiversity conservation in the ABNJ, through the systematic application of an ecosystem approach for: i) supporting the use of efficient and sustainable fisheries management as well as fishing practices by the stakeholders of the tuna resources; ii) reducing IUU fishing; and iii) reducing bycatch and other adverse ecosystem impacts on biodiversity.
34. The project, as approved, did not include a theory of change, since it was not required for FAO-GEF projects at that time, but, as recognized in the mid-term review, the project's strategy was largely set out in its results framework, despite the causal linkage between project outcomes and the final desired impact being only partly described, unclear and confusing in some places. These limitations were recognized by the Project Steering Committee in July 2015.

2.1 Theory of change

35. In the absence of a formal theory of change (TOC), the MTR evaluation team, in 2016, reconstructed one based largely on a review of the various components/elements of the project and other sources, with additional feedback on an initial draft TOC from the Project Management Unit staff (Annex 3). In a parallel initiative, during the fifth Meeting of the Common Oceans ABNJ Program Global Steering Committee, held on 9 July 2016, following the Tuna project 2015 Project Steering Committee meeting, a programmatic theory of

change aimed at providing the basis for a programmatic evaluation framework, was developed retroactively, with inputs from the projects and also relying on the experiences from the Coastal Fisheries Initiative where the programmatic TOC was central during project design. As for the evaluation of the Tuna project, it would be evidently much more logical to base the review on the specific TOC reconstructed for it, during the mid-term review. Considering, however, that the main question to be answered with regard to the TOC is whether the project really made an impact in the field, the main assessment to be done here is the extent to which the transformational change foreseen in the project was actually achieved.

36. The main transformational change expected by the Tuna project was a significant progression towards the adoption and implementation of management systems set according to a rigorous ecosystem approach thereby ensuring efficient and sustainable fishing over the years.
37. Accordingly, the expected outcomes from the original project were: i) improved management decision-making in all t-RFMOs leading to more effective conservation and management measures based on an ecosystem approach, including the use of appropriate harvest control rules and limit reference points being prepared and supported; ii) an efficient, effective and equitable rights-based management system that has been designed, tested and implemented in the Western Pacific Ocean and the results promoted globally;² iii) harmonization and adoption of monitoring, control and surveillance best practices across all five t-RFMOs, strengthening the capacity of t-RFMOs and states to detect and deter illegal, unreported and unregulated fishing; iv) implementation of MCS best practices, including incorporation into the global record of tuna vessels greater than 100GT, an effective search tool (Consolidated List of Authorized Vessels - CLAV) that allows identification and tracking of all vessels authorized to fish and two pilot electronic observer systems that, when scaled up and implemented fleetwide, have the combined effect of reducing the number of illegal vessels operating by 20 percent in at least one t-RFMO and has a positive catalytic effect on IUU fishing in other t-RFMO regions; v) new bycatch assessments and information sharing that will result in strengthened conservation and management measures (CMMs) for sharks being adopted by the Western and Central Pacific Fisheries Commission and by the Inter-American Tropical Tuna Commission, with results shared globally; and vi) bycatch mitigation measures for seabirds, sharks and small tunas being effectively demonstrated in fisheries of the Indian Ocean Tuna Commission and of the International Commission for the Conservation of Atlantic Tunas and reported as having been taken up in at least 40 percent of vessels in both regions reporting uptake of agreed CMM mitigation measures.
38. The expected impact in the reconstructed theory of change for the ABNJ Tuna project was: "Structure, functions and processes of ecosystems in ABNJs protected and maintained; Sustainable provision of ecosystem's goods and services from ABNJs to communities (including improved food security)".
39. To achieve its objective, the original project strategy had four components, eight outcomes and 25 outputs. However, due to the realization that several outcomes and their associated outputs were mis-constructed, a revised results framework for the project was devised by the Project Management Unit, which involved some renumbering of outputs (e.g. Output

² This outcome was excluded afterwards, based on a recommendation from the mid-term evaluation.

1.1.3 was reassigned to Component 3, as it addresses bycatch issues rather than harvest strategies or management strategy evaluation- MSE) and significant changes to the outcomes.

40. The new intermediate outcomes in the revised project results framework were:
- i. IO1. Elements of harvest strategies for selected commercial tuna stocks developed.
 - ii. IO2. Roadmaps to operationalize EAFM/ecosystem-based fisheries management (EBFM) in t-RFMOs developed and submitted for adoption.
 - iii. IO3. Improved shark fisheries management framework (proposed) across the Pacific.
 - iv. IO4. Bycatch mitigation best practices adopted by RFMOs and/or targeted tuna vessels.
 - v. IO5. Improved operational capabilities through improved MCS tools and better intelligence integration.
 - vi. IO6. Strengthened capacity of compliance officers in member states via capacity building and mechanisms for knowledge and experience sharing.

3. Findings

3.1 Relevance

EQ 1. To what extent were the project outcomes consistent with and contributed to attaining UN SDG, GEF Strategic Goals, and FAO Strategic Objectives, as well as global and regional priorities of tuna RFMOs, and international agreements and frameworks on the ABNJ?

Finding 1. The Tuna project outcomes were consistent with and contributed to attaining UN SDG, GEF Strategic Goals, and FAO Strategic Objectives, as well as global and regional priorities of tuna RFMOs, and international agreements and frameworks on the ABNJ.

Finding 2. Notwithstanding the great relevance attained by the project, there should have been a broader consultation with t-RFMO member countries to increase participation and ownership. Because of this handicap, ownership might have been lower than desirable, particularly by RFMO member states.

41. The project results were highly relevant. They were consistent with and contributed to attaining the UN Sustainable Development Goals 14.c.1³, 14.2.1⁴, 14.4.1⁵, and 14.6.1⁶; GEF Strategic Goal 1 (conservation, sustainable use and management) and Goal 4 (national and regional capacities and enabling conditions) in respect of areas beyond national jurisdiction, and more specifically Outcomes 4.1 and 4.2 of the International Waters Focal Area, and Outcomes 2.1 and 2.2 of the Biodiversity Focal Area; and FAO Strategic Objectives (SO2- Increase and improve provision of goods and services from agriculture, forestry and fisheries in a sustainable manner; with links to Strategic Objective SO1- Contribute to the eradication of hunger, food insecurity and malnutrition; and Strategic Objective SO4- Enable more inclusive and efficient agricultural and food systems at local, national and international levels). The project was also consistent with the United Nations Convention on the Law of the Sea (UNCLOS), the United Nations Fish Stocks Agreement and FAO Code of Conduct for Responsible Fisheries. It was also aligned with the priorities of tuna RFMOs, helping to deliver many of the goals⁷ established in the so-called Kobe Process, as well as of their member states.
42. The three components of the project were: i) strengthening sustainable fisheries management, including precautionary approach and ecosystem approach to fisheries (EAF); ii) strengthening and harmonizing monitoring, control and surveillance to address illegal, unreported and unregulated fishing; and iii) reducing ecosystem impacts of tuna

³ 14.C.1. Number of countries making progress in ratifying, accepting and implementing through legal, policy and institutional frameworks, ocean-related instruments that implement international law, as reflected in the United Nations Convention on the Law of the Sea, for the conservation and sustainable use of the oceans and their resources

⁴ 14.2.1. Proportion of national exclusive economic zones managed using ecosystem-based approaches.

⁵ 14.4.1. Proportion of fish stocks within biologically sustainable levels.

⁶ 14.6.1. Progress by countries in the degree of implementation of international instruments aiming to combat illegal, unreported and unregulated fishing.

⁷ E.g.: 1. Improvement, sharing and dissemination of data and stock assessments and all other relevant information in an accurate and timely manner (...); 7. Development and implementation of stronger measures to prevent, deter and eliminate IUU fishing (...); 10. Implementation of the precautionary approach and an ecosystem-based approach to fisheries management including improved data collection on incidental by-catch and non-target species and establishment of measures to minimize the adverse effect of fishing for highly migratory fish species on ecologically related species, particularly sea turtles, seabirds and sharks (...).

fishing, were rightly identified, being the most relevant for achieving the overall project objective, namely to achieve efficiency and sustainability in tuna production and biodiversity conservation in the ABNJ, through the systematic application of an ecosystem approach in tuna fisheries for: i) supporting the use of sustainable and efficient fisheries management and fishing practices by the stakeholders of the tuna resources; ii) reducing illegal, unreported and unregulated fishing; and iii) mitigating adverse impacts of bycatch on biodiversity.

43. The project has contributed significantly for the implementation by t-RFMOs of the precautionary approach, mainly by the development of harvest strategies, and the ecosystem approach, by advancing the dialogue and helping to build a common understanding by t-RFMO on how the EAFM can be implemented.
44. The project has contributed to combat IUU fishing, by improving the MCS framework in t-RFMOs, in a variety of ways, including by developing MCS best practices, by helping in the implementation of the FAO Port State Measure Agreement (PSMA), by providing guidance on the development of catch documentation scheme (CDS) frameworks, by supporting the consolidation and automation of the consolidated list of authorized vessels, by creating the Tuna Compliance Network (TCN) within the international monitoring, control and surveillance network, by investing in MCS capacity building, etc.
45. Likewise, project activities were also very relevant to assess and reduce the impact of tuna fisheries on bycatch species and on the marine ecosystem, not only by improving data access and availability, but also by helping the development and dissemination of bycatch mitigation measures.
46. The project was also relevant to approximate and significantly increase cooperation between NGOs, such as WWF and ISSF, with t-RFMOs and member countries, with some outstanding example, such as the significant improvement in the relationship between WWF Pakistan and the Pakistani Government.
47. The project has been particularly relevant for the Kobe Process, which seeks to improve coordination among t-RFMOs to help them achieve their objectives. In this regard, as already noted by the mid-term evaluation, one of the main objectives of the Kobe Process is to help developing nations to implement the management measures agreed by t-RFMOs, including those related to MCS, intended to combat illegal, unreported and unregulated fishing, an objective that has been greatly supported by the project.
48. Notwithstanding the great relevance attained by the project, there should have been a broader consultation with t-RFMO member countries to increase participation and ownership. Because of this handicap, ownership might have been lower than desirable, particularly by RFMO member states, despite some very active participation of the private sector, mainly (but not only) through ISSF. In the eventuality of a second phase, it is very important to ensure this deficiency observed in the first phase is properly rectified.
49. The overall rating for this evaluation item on relevance is Highly Satisfactory, while ownership/stakeholder engagement is considered as Satisfactory.

3.2 Effectiveness (achievement of project results)

EQ 2. To what extent has the project delivered on its outputs, outcomes and objectives, and what wider results has the project achieved at national, regional and global levels?

50. The overall rating of project effectiveness/achievement of results was considered Satisfactory (S) (Table 2).

Table 2: Ratings on effectiveness by outcome

Outcome	Rating	Description
IO1	Highly Satisfactory (S)	The project had no shortcomings in the achievement of its objectives, in terms of effectiveness.
IO2	Moderately Satisfactory (MS)	The project had moderate shortcomings in the achievement of its objectives, in terms of effectiveness.
IO3	Highly satisfactory (HS)	The project had significant shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
IO4	Satisfactory (S)	The project had moderate shortcomings in the achievement of its objectives, in terms of effectiveness.
IO5	Satisfactory (S)	The project had moderate shortcomings in the achievement of its objectives, in terms of effectiveness.
IO6	Moderately Satisfactory (MS)	The project had moderate shortcomings in the achievement of its objectives, in terms of effectiveness.
Overall project	Satisfactory (S)	The project had no shortcomings in the achievement of its objectives, in terms of effectiveness.

Component 1. Strengthening of sustainable fisheries management, including precautionary approach and ecosystem approach to fisheries.

EQ 03. How has the Tuna project contributed to a better management of tuna fisheries resources and sustainability in areas beyond national jurisdiction, including national, regional and international governance?

Finding 3. During the implementation of the ABNJ Tuna project, the number of stocks managed under a harvest strategy or having a harvest strategy being developed increased from 1 to 14, while the number of overfished stocks decreased by more than 60 percent. The percentage of healthy stocks, almost doubled, increasing from 43 percent to 78 percent. Although it is not possible to objectively assess how much of this progress can be attributed to the ABNJ Tuna project, project efforts have undoubtedly contributed significantly to this outcome.

51. Component 1 had originally two outcomes:

- i. Outcome 1.1. Improved management decision-making concerning tuna and associated species in the areas under the jurisdiction of the five t-RFMOs, through

- enhanced engagement and motivation of stakeholders, including the tuna industry at all levels.
- ii. Outcome 1.2. An efficient and effective rights-based management) system has been designed, tested and implemented in one t-RFMO region with greater management control exercised over fishing fleets and increased economic revenue flows to small island developing states.
52. Outcome 1.2., including its two outputs,⁸ was discontinued very early during project implementation. Due to delays in the transfer of funds from GEF, the review of the Vessel Day Scheme (VDS) was completed independently by the Parties of the Nauru Agreement, in 2014, using alternative funds. The only activity carried out under this Outcome, in Output 1.2.2., was a one-day right-based management workshop done in conjunction with an MSE workshop held in Sri Lanka, led by WWF, also in 2014. Following a recommendation from the mid-term evaluation) (Recommendation 1.iii), Outputs 1.2.1 and 1.2.2. were cancelled, with their budget being reallocated to other project outputs.
 53. Outcome 1.1. originally had five outputs: 1.1.1 and 1.1.4, both related to capacity building, outreach promotion and adoption by t-RFMOs of reference points, harvest control rules (HCR) and management strategy evaluation; 1.1.2., aimed at increasing the capacity of developing coastal states to comply with t-RMOs obligations; 1.1.3., on bycatch of the northern Indian Ocean tuna gillnet fishery; and 1.1.5., on the promotion of the ecosystem approach to fisheries, by t-RFMOs.
 54. Following a recommendation from the mid-term evaluation, Output 1.1.2., was transferred to Component 2, since it was too general in its purpose, covering a variety of activities mostly related to that component (MCS). Output 1.1.3., directly related to bycatch, was likewise transferred to Component 3. Under this outcome, therefore, only Outputs 1.1.1, 1.1.4, and 1.1.5 remained and will be addressed here.
 55. Outputs 1.1.1 and 1.1.4 were grouped under the new revised Outcome IO1 - Elements of harvest strategies for selected commercial tuna stocks developed; while Output 1.1.5 was included under the new revised Outcome IO2 - roadmaps to operationalize EAFM/EBFM in t-RFMOs developed and submitted for adoption.
 56. Outputs 1.1.1 and 1.1.4 had the similar objective of promoting the adoption of pre-set management objectives, based on the definition of reference points (limit, target and trigger) and associated harvest control rules, embedded in a management strategy evaluation framework (referred here as harvest strategies). According to Wakeford et al. (2019), who provide a very recent review on the subject in t-RFMOs, MSE involves using simulation to compare the relative effectiveness for achieving management objectives of different combinations of data collection schemes, methods of analysis and subsequent processes leading to management actions.
 57. The development of harvest strategies has become a top priority in fisheries management worldwide, since they have the ability, at least to some degree, to depoliticize the decision-making process of setting total allowable catches (TACs) and other management measures,

⁸ 1.2.1. Pilot enhanced rights-based management (RBM) in the Western Pacific Ocean/Review of the Parties to the Nauru Agreement - Vessel Day Scheme (PNA-VDS); and 1.2.2. Lessons learned from RBM pilot (1.2.1) shared globally.

in response of scientific advice, making the whole fisheries management process more sound and sustainable. Therefore, the decision by the ABNJ Tuna project to include them as the central objective under Component 1 - Promotion of sustainable management - was very appropriate.

58. One of the main drivers to popularize harvest strategies was their inclusion as one of the Performance Indicators by Marine Stewardship Council fisheries management standards (MSC, 2018) (PI 1.2.1- There is a robust and precautionary harvest strategy in place); i.e. a given fishery will have a great difficulty to be certified as sustainable by the MSC, if it does not have harvest strategies in place. A good example of the driving force of MSC certification process towards the adoption of harvest strategy by t-RFMOs can be found in the Indian Ocean skipjack tuna fishery, where the Maldives pole-and-line fishery has been certified (MSC, 2016).. Their development and application in the fisheries management process conducted by t-RFMOs, however, are relatively new. Although the use of reference points (e.g. maximum sustainable yields, MSY) in fisheries management has been around for over a century, more formally structured harvest control rules and management strategy evaluation frameworks were virtually unknown in t-RFMOs, not much longer than a decade ago.⁹
59. Although the scientific community has become quite familiar with these concepts for a longer time, most fisheries managers, the ones responsible for making the political decisions in t-RFMOs, were not much aware of their meaning. To pursue the goal of promoting harvest strategies through enhancing the dialogue between scientists and managers engaged in the decision-making processes of t-RFMOs was another correct decision made by the ABNJ Tuna project, as reflected in Outputs 1.1.1 and 1.1.4.
60. Nevertheless, although Outputs 1.1.1 and 1.1.4 had a rather similar objective, their implementation strategies were much different. Activities under Output 1.1.1, led by WWF, consisted mainly of workshops to increase the familiarity of officials from developing states with biological reference points, principles of harvest control rules, and methods for developing a management strategy evaluation, so that they could participate more effectively in negotiations related to these subjects in the RFMOs they respectively participate. From April 2014 to June 2019, 10 workshops were held, with 346 participants (89 women/26 percent), with another 3 scheduled to happen by December 2019. They were well distributed among member countries of different tuna RFMOs (2 with IOTC members; 2 with IATTC; 2 with ICCAT; 2 with WCPFC; and another 2 with tuna fishing countries from Eastern Pacific Ocean (EPO), mainly IATTC members).
61. The curricula used in these training workshops were initially developed by the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and later refined by Ocean Outcomes, to become more interactive and participatory, since the initial version was considered too technical by many of the participants. The officials from different countries were invited to participate in the workshops more on their own capacity, and less as the country official representatives in t-RFMOs. Although the intention behind that choice might have been positive, aiming at having a broader participation, the result was a high-level of participation of "officials" who were not directly related to the negotiations in

⁹ The origin of the process can be traced back to the development of a revised management procedure in the International Whaling Commission in the late 1980's, which included simulation-based evaluation of four different decision-rule-based procedures.

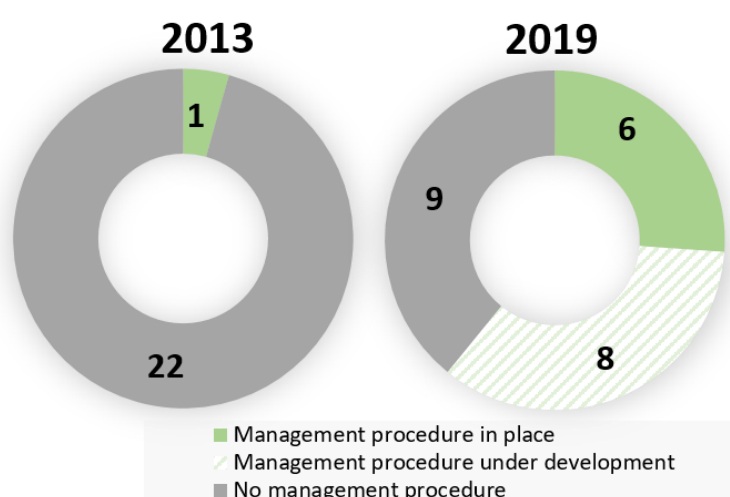
RFMOs, as recognized in the PSC 2019 meeting report as one of the biggest challenges: the lack of continued and meaningful participation in the workshops of officials from RFMO member states who were actively engaged in t-RFMO negotiation processes. There were also some issues related to insufficient translation, at least in the first meetings. Another evident deficiency was the limited participation of the industry sector, which was also recognized by the leading agency for this Output (WWF).

62. Activities under 1.1.4, led by FAO, followed a much different strategy compared to the workshops led by WWF. They were done mainly through the RFMO governance structure itself, consisting basically in directly helping them to advance the harvest strategy agenda in various ways, from supporting the participation of representatives from developing states in t-RFMOs meetings related to the subject, to holding meetings with this specific objective, such as the first and second meetings of the Kobe Joint Management Strategy Evaluation Technical Working Group.
63. From May 2014 to June 2019, the ABNJ Tuna project supported close to 20 meetings in different ways. Support ranged from the mere attendance of the Project Management Unit (e.g. ICCAT Second Meeting of the Standing Working Group to Enhance Dialogue Between Scientists and Managers, Bilbao, Spain, June 2015) to the financing of several events, including the participation of members (e.g. WCPFC Fourth Management Objectives Workshop, Bali, Indonesia, December, 2015). Most of these meetings (12) happened in IOTC, with much fewer activities in ICCAT (2) and WCPFC (1) and none in IATTC, where, according to the PSC 2019 meeting report, most of the MSE development is being conducted by the Secretariat and routinely reported to the Commission. As for IATTC, differently from all other t-RFMOs, it has its own scientific staff and therefore does not need training/capacity building, at least for the scientific work.
64. In the case of IOTC, the main reason for the large number of meetings was the creation of a Technical Committee on Management Procedures (TCMP), largely driven by the project. The TCMP is a formal body that receives standardized reports of progress in the development of the ongoing MSE work and have the scientists to formulate specific requests for feedback that influence the direction of MSE work. This certainly has been one of the major contributions of the project in pushing forward the harvest strategy agenda. According to the project coordinator, another reason was that the distribution of effort was guided by the degree of development of the process and the scientific capacity of the different t-RFMOs. To assess that, project coordination was in close contact with the main scientific bodies of the t-RFMOs (e.g. SPC in WCPFC and Standing Committee on Research and Statistics - SCRS) in ICCAT, Secretariat in IATTC) to identify where there were gaps and IOTC just happened to have the least scientific support, justifying thus a higher amount of investment by the project.
65. Among the most important meetings supported under this output there were the first and second meetings of the Kobe Joint Management Strategy Evaluation Technical Working Group, held in Madrid, Spain, in November 2016, and in Seattle, USA, in June 2018. Both meetings were fundamental to share experiences and build a common understanding among t-RFMOs on MSE, including its theoretical and practical aspects, related to its implementation by the respective commissions.
66. Because of their much more directed target, activities conducted under Output 1.1.4 seem to have resulted in a higher level of engagement of officials from developing states actually

active in t-RFMOs, helping thus to push the MSE agenda in t-RFMOs more effectively than the activities done under Output 1.1.1.

67. Nevertheless, their different approaches allowed for a complementarity between them, which certainly resulted in a synergic effect in promoting a more sustainable management of the tuna fisheries, by t-RFMOs, by the increasing adoption of management strategies based on harvest strategies. Besides, most of the activities done under 1.1.4. were focused on IOTC, for the reasons already discussed, while those carried out under 1.1.1 were much better distributed geographically. This was particularly important for the EPO/IATTC region, where no specific activity was conducted by Output 1.1.4, as noted above, while four workshops were held by 1.1.1. Considering that the MSE development in IATTC has been largely conducted by the secretariat, being only reported to members, the main challenge was to convince countries to push the secretariat scientific staff to start developing an MSE process; according to interviewees, the four workshops held with countries in that region had a great influence in pushing the MSE agenda forward in that particular t-RFMO.
68. The revised intermediate outcome (IO) indicator for Outputs 1.1.1 and 1.1.4, under IO1, was the development of elements of harvest strategies for selected commercial stocks, with end-of-project targets of significant progress achieved in the adoption of harvest strategies/management procedures for ten stocks of targeted species and an increase in the number of proposed/adopted conservation and management measures containing elements of harvest strategies/management procedures. The baseline in 2013 was the development of harvest strategies in t-RFMOs being non-existent or in very early stages of development, except for CCSBT, which already had a harvest strategy in place for the southern bluefin tuna, and ICCAT, which had one CMM related to harvest strategy adopted. By 30 June 2019, well-structured harvest strategies were completed for six tuna stocks and were being developed for another eight (Figure 1), justifying a rating of Highly Satisfactory (HS) for these two outputs and consequently for IO1.

Figure 1: Progress in the development of harvest strategies in t-RFMOs, during the implementation of the ABNJ Tuna project



Source: ABNJ Project leaflet: *Not a drop in the ocean: Key Successes- Common Oceans ABNJ Program (2014-2019)*

69. The last output under Outcome 1.1. was Output 1.1.5. - Dialogues on the definitions of EAFM/EBFM and ways to operationalize EAFM/EBFM held among tuna RFMOs. Following the mid-term evaluation (Recommendation 1.ii), this output was much changed from its

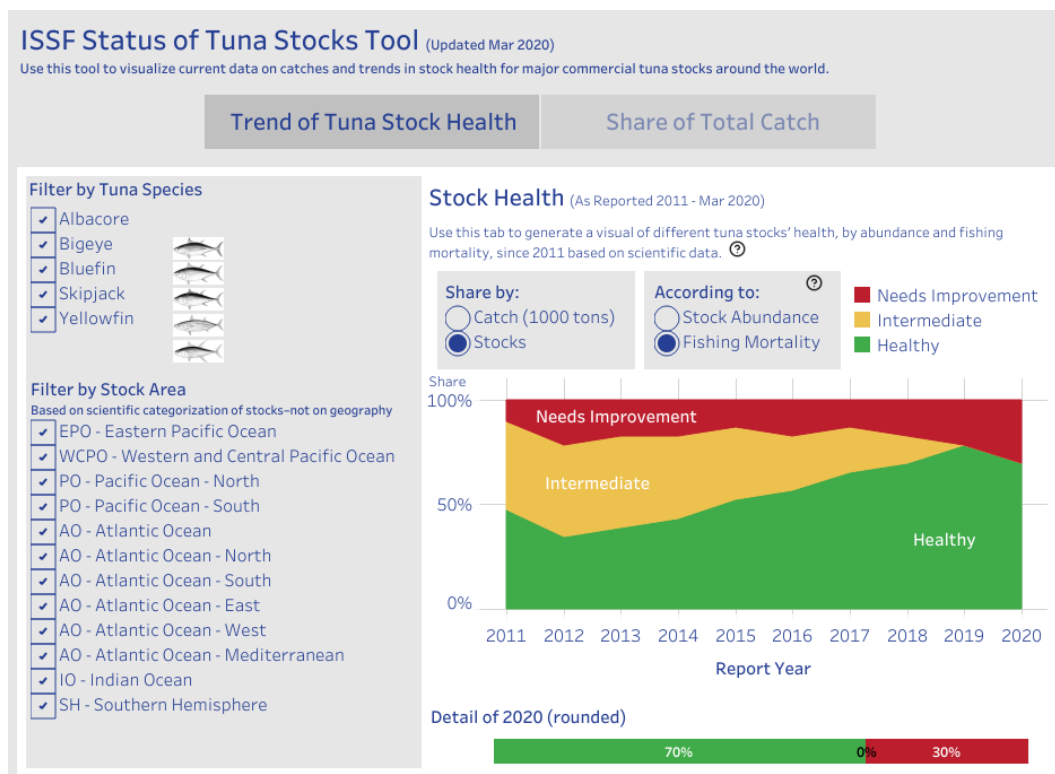
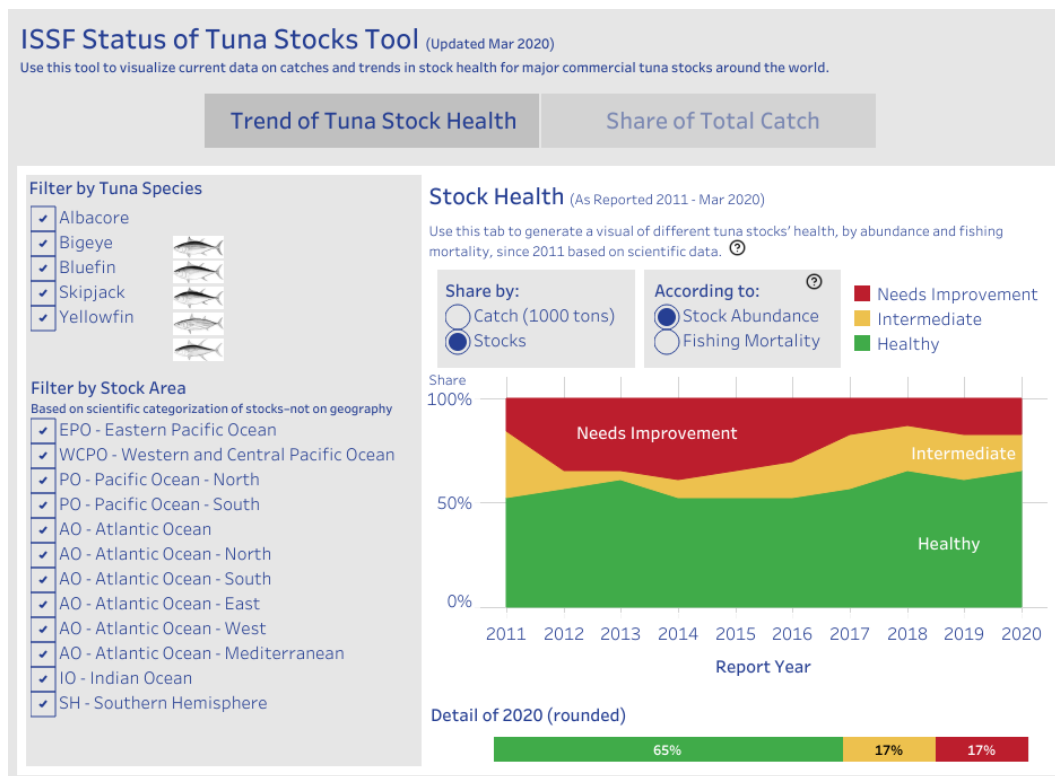
original format, which was much bolder, aiming at ecosystem evaluations and plans prepared for each t-RFMO to support an EAF. The narrowing of Output 1.1.5 from drafting EAFM/EBFM plans, to promoting the dialogue among t-RFMOs on the subject was appropriate, considering the complexity of the issue, the different understanding and approaches of the various t-RFMOs on the subject, and the difficulties to define ecosystem-based management objectives. These issues still require a much more profound dialogue between scientists and managers, and among t-RFMOs.

70. Such challenge was properly recorded in the PSC 2019 meeting report. All t-RFMOs committed to implementing EAFM, and agreed on the consequent need to expand fisheries management to also include the ecological impacts of fishing operations on the ecosystem. Different views about the actions that are actually required to achieve this were recognized, as well as the fact that no RFMO has developed EAFM plans to guide this process so far. Considering the complexity of the issue, the paucity of data and the lack of capacity, time and priority, this is not likely to happen any time soon. Notwithstanding, all t-RFMOs have made progress in incorporating ecosystem considerations in their management strategies, mainly by adopting conservation and management measures protecting marine mammals, seabirds, marine turtles, etc. As already noted by the mid-term evaluation, as for the harvest strategy, EAFM/EBFM is perceived by managers as too “academic” and “complex”.
71. The lack of socio-economic and governance dimensions was pointed out as one of the main bias in the way t-RFMOs have been applying the ecosystem approach to fisheries. Nevertheless, t-RFMOs should not necessarily be expected to adopt detailed socio-economic objectives in their EAF, considering not only the complexity of the issue, but the fact that their members have different socio-economic status and quite diverse national objectives and understandings on the subject.
72. The ABNJ Tuna project supported two workshops on EAFM/EBFM, both held in Rome at FAO headquarters, the first, more technical/academic, in December 2016; and the second, more practical, with the joint participation of scientists and managers/commissioners, aimed at discussing a possible roadmap to facilitate the implementation of the EAFM process in t-RFMOs, in September 2019. A third workshop directly related to the subject, the Joint tuna RFMOs Bycatch Working Group Meeting, was held in Porto in December 2019.
73. The revised intermediate outcome indicator for Output 1.1.5, IO2, was the development and submission for adoption of roadmaps to operationalize EAFM/EBFM in all t-RFMOs, with an end-of-project target of at least one t-RFMO having developed and submitted such a plan. During the last EAFM meeting, held in September 2019, several officials and representatives of member countries involved in all five t-RFMOs agreed to push for consideration of explicit implementation of EAFM plans, in line with their prior decisions; however, nobody has done so in a comprehensive framework, justifying the rating of Moderately Satisfactory (MS) for IO2. For the reasons already explained, however, the indicator of this output was very unrealistic in project design, since it is not fully under the control of the project, making the achievement of a higher rating extremely unlikely.
74. The overall condition of the 23 tuna stocks managed by the t-RFMOs improved during the duration of the project, both regarding the biomass level as well as fishing mortality. The proportion of stocks with a healthy biomass (i.e. not overfished) increased by about 10 percent from 2014 to 2019, while the percentage of stocks that had a fishing mortality

below the level required to ensure the maximum sustainable yield (i.e. not suffering overfishing) increased by 30 percent, from about 50 percent, in 2014, to 80 percent, in 2019 (Figure 2). Since overfishing has to be reduced first, to allow the biomass to recover, these data indicate an overall trend of stock recovery. The percentage of healthy stocks, in turn, almost doubled, increasing from 43 percent to 78 percent (Figure 2), while the number of overfished stocks decreased by more than 60 percent, declining from 13 to 5 (Figure 3).

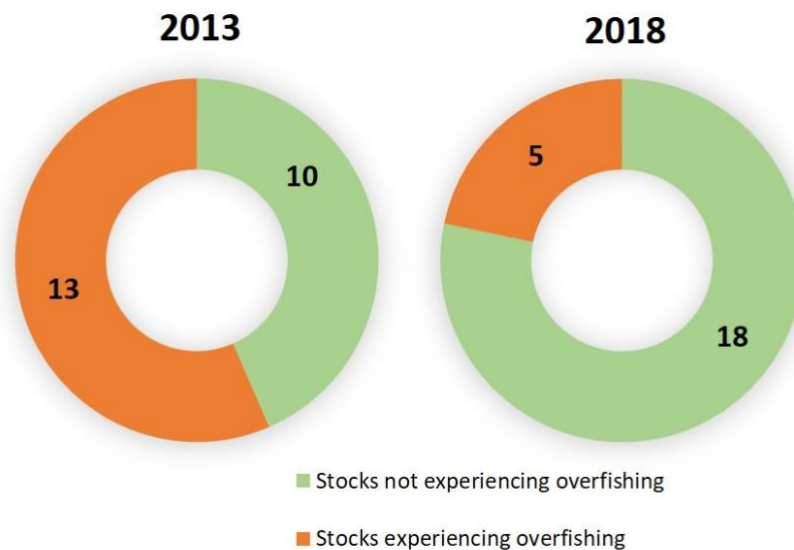
75. The revised indicators for the achievement of project objectives of Component 1 were: i) the number of stocks of major commercial tuna species subject to overfishing, with a decrease as the end-of-project target; ii) joint initiatives of tuna RFMOs addressing priorities identified in the Kobe Framework and by t-RFMO members, with an end target to support at least three initiatives; and iii) major commercial stocks of targeted tuna species with harvest control rules adopted, for at least six stocks, as the end target. The full achievement of these objectives should contribute to “the sustainable management of tuna fisheries, in accordance with an ecosystem approach”, with the understanding that the full achievement of such a goal would never be attainable by a single project. However, considering the decrease in the number of overfished tuna stocks, from 13 to 5 (Figure 3); the development of harvest strategies, either concluded or being developed, for 14 stocks; and ten joint t-RFMOs meetings already held (two on EBFM; one on BYC; two on fish aggregating devices - FAD); two on MSE; and three of the TCN), from 2014 to 2019, it is safe to affirm that the objective of Component 1 has been achieved, with a Satisfactory (S) rating.
76. It is not possible to measure how much of this progress can be attributed to the ABNJ Tuna project since many factors depend on decisions taken by key stakeholders. However, there is no doubt that project efforts have contributed significantly to inform, build capacity, disseminate and promote the use of harvest strategies in all t-RFMOs. Project contribution to the overall improvement in the condition of stocks is more difficult to assess than the use of harvest strategies. Nevertheless, since this improvement can be partly attributed to the growing application of HCR harvest control rules/management strategy evaluation, it is safe to also assume that the ABNJ Tuna project did have a significant impact on the overall condition of the tuna stocks.

Figure 2: Evolution of stock biomass and fishing mortality of the 23 tuna stocks exploited in the world, from 2011 to 2019



Source: ABNJ Tuna project development period: 2014-2019

Figure 3: Progress in the number of stocks experiencing overfishing during implementation of the ABNJ Tuna project



Source: ABNJ Project leaflet: *Not a drop in the ocean: Key Successes- Common Oceans ABNJ Program 2014-2019*

Component 2. Strengthening and harmonizing monitoring, control and surveillance to address illegal, unregulated and unreported fishing.

EQ 04. How has the Tuna project contributed to improve monitoring, control and surveillance of tuna fishing vessels and to reduce IUU fishing activities?

Finding 4. Despite the difficulty to assess objectively the actual transformational change promoted by the ABNJ Tuna project in the field, its impact on the operational capabilities of t-RFMOs and member countries to combat IUU fishing through improved MCS tools and better intelligence integration is unquestionable. Overall, it is clear that the ABNJ Tuna project has strengthened and harmonized MCS systems over all five t-RFMOs, particularly in the Pacific and Indian Oceans. The ABNJ Tuna project also had a catalytic effect, helping to disseminate and to showcase the benefits/advantages of EMS/ERS systems, despite the sustainability problems faced by these initiatives.

77. Component 2 had originally two expected outcomes:
- i. Outcome 2.1. Monitoring, control and surveillance systems, particularly those addressing IUU fishing and related activities, are strengthened and harmonized over all five t-RFMOs.
 - ii. Outcome 2.2. The number of illegal vessels operating in one t-RFMO is reduced by 20 percent from the baseline at project start.
78. In the revised project results framework, the intermediate outcomes were changed to:
- i. Outcome 2.1. Improved operational capabilities through improved MCS tools and better intelligence integration (IO5).
 - ii. Outcome 2.2. Strengthened capacity of compliance officers in member states via capacity building and experience sharing (IO6).

79. Although the content/approach of Outcome 2.1 did not change much from its original formulation, both aiming at strengthening MCS tools, it did suppress an important element, that related to “harmonization” of MCS as it was simply not attainable. RFMOs can and should strengthen MCS through better coordination and cooperation, but harmonization of measures is not realistic in most cases, considering their different structures and constituencies.
80. In turn, Outcome 2.2 was significantly modified. The evaluation also considers this change appropriate and much needed, since it was impossible to assess the outcome achievement in its original formulation. Due to its very nature, it is not possible to estimate the number of illegal vessels operating in any t-RFMO. Moreover, an improved MCS could very well result in an increase in the number of IUU incidents detected, and not a reduction. This misconceived output was also a result of a lack of an adequate theory of change from the start, a problem that plagued the whole ABNJ Program, not only the Tuna project.
81. In the original results matrix, Outcome 2.1 had five Outputs: 2.1.1 through 2.1.5, with Output 1.1.2. also added later, transferred from Component 1, as discussed above. In the revised project results framework, however, the new IO5 covered Outputs 2.1.1 (MCS best practices), 2.1.4 (PSM legislation template), 2.1.5 (CLAV), and 2.2.4 (CDS), clumped together, as well as Outputs 2.2.1 (EOS in Fiji), 2.2.2 (EOS in Ghana) and 2.2.3 (MCS in FFA). Outcome IO6 was only related to Output 2.1.3, while Outputs 1.1.2 (various activities) and 2.1.2 (International Monitoring, Control and Surveillance Network (IMCSN)/Tuna Compliance Network) were not covered anywhere in the revised project results framework. Following the grouping/order of the revised outcomes, IO5 will be addressed first, followed by IO6, and then Outputs 1.1.2 and 2.1.3, followed by the assessment of the whole Component 2.
82. The objective of the first output of Outcome 2.1/IO5, Output 2.1.1. - Global best practices in MCS for tuna fisheries identified and endorsed by the five t-RFMOs, led by FAO - was to develop a series of accepted MCS best practices in tuna fisheries to present to t-RFMOs for their endorsement. As noted in the mid-term evaluation, a review of current MCS approaches and tools available to t-RFMOs¹⁰ is highly valuable to prevent, deter and eliminate IUU fishing.
83. ISSF was contracted to provide material on MCS best practices, which FAO used internally but then decided to take a different approach to the issue by preparing MCS implementation sheets targeting compliance professionals in the RFMO member states. A draft MCS overview paper and four implementation sheets were presented to the IMCSN/TCN at its 3rd workshop held in February 2019, for revision and feedback. According to the last PSC meeting report, these products should be ready by the end of October 2019, but have become available only, in an advanced draft form, in early January 2020. The relatively slow progress achieved on this output, according to the 6th PSC meeting report, was due to the need to coordinate with other initiatives, to define the intended output, and to difficulties related to the contractual arrangements for the MCS specialist.
84. Notwithstanding, since 2018, ISSF has prepared and publicized a series of best-practices guidelines for t-RFMOs on a variety of issues, such as vessel monitoring system (VMS),

¹⁰ Including port state measures, vessel monitoring systems, authorized vessel lists, onboard observer programs, both physical and electronic (electronic monitoring systems- EMS), transshipment control mechanisms, observer programs, authorized vessel lists and overall compliance with t-RFMOs conservation and management measures.

support/supply/tender vessels, observer programmes, IUU vessel listing, authorized vessel listing and compliance assessments, including their respective “snapshots” (summary brochures). All these publications are available on the ISSF website, but not on the ABNJ website, despite the large number of resource documents (close to 90).

85. Although these ISSF publications were not done with direct financial support from the ABNJ tuna project, they may be considered as a co-financing, as they resulted from a joint effort/initiative, proving very useful not only for the t-RFMOs, but also for member countries and the private sector, including vessel owners, operators and skippers.
86. The objective of Output 2.1.4. - port State measures legislative template suitable for states and RFMOs, led by FAO - was the development of a legislative template to facilitate implementation of the 2009 FAO Port State Measures Agreement and the almost-identical IOTC Resolution 10/11 on PSM into national legislation of t-RFMO members. The FAO PSMA has also been incorporated by other t-RFMOs (e.g. ICCAT Rec. 18-09; WCPFC CMM 2017-02).
87. The FAO PSMA, in force since June 2016, is the first binding international agreement to specifically target illegal, unreported and unregulated fishing. Based on the control of port activities, particularly on the inspection of vessels flying the flag of a foreign state, its objective is to prevent, deter and eliminate IUU fishing by preventing vessels from using ports and landing their catches. As stated on the FAO website, the PSMA reduces the incentive of such vessels to continue to operate, while it also blocks fishery products derived from IUU fishing from reaching national and international markets; it is, therefore considered a very important tool to combat IUU fishing.
88. The ABNJ initiative in this regard complemented many other actions already taken by FAO to promote the PSMA ratification and to provide capacity building on its implementation. The legislative template was commissioned to a very experienced consultant who delivered the product in 2016. So far (as of June 2019), approximately 3 300 hard copies (mostly in English, but also in French and Spanish) had been distributed globally, with about 2 200 direct downloads from the website.
89. The core objective of the template is to serve as a guide for the national implementation of the PSMA, including all the necessary legislative changes required to achieve that. Therefore, as recognized by the PSC last meeting report, the most appropriate way to measure how effective this activity has been would be to assess the number of countries and RFMOs that have indeed used the template in developing legislation to implement the Port State Measures Agreement. This information, however, is not available, particularly due to the usually complex and time-consuming legislative processes in different countries, as well as in t-RFMOs. However, the mid-term evaluation considered this output as one of the most successful project results. The team conducting the final evaluation agrees with this assessment.
90. Besides the legislative template, the ABNJ Tuna project also supported one regional workshop on the PSMA¹¹, in October 2016, and four national workshops promoted by IOTC

¹¹ Second regional PSM training on national interagency collaboration and regional cooperation, 3-7 October 2016, Phuket, Thailand.

on the use of the e-PSM application, in Indonesia, Malaysia, Sri Lanka and Thailand, from November 2016 to January 2017.

91. Output 2.1.5. - CLAV automated to provide record and search tool for tuna vessels authorized to fish in t-RFMO regions, led by IOTC - aimed at further developing, updating and maintaining the consolidated list of authorized vessels, created in 2006, just before the first joint meeting of t-RFMOs, held in Kobe, Japan, in January 2007.
92. CLAV¹² gathers the lists of vessels authorized to fish for tunas and associated species by each of the five t-RFMOs, being therefore a very useful tool for various users, i.e. to verify whether a given catch has been done by an authorized vessel or not. Potential users include consumers, seafood brokers/traders, national port authorities and field enforcement personnel, as well as the t-RFMOs themselves. The ABNJ Tuna project helped to consolidate the work initiated by the t-RFMOs, by automating updates of the existing consolidated list of all vessels authorized to fish for tunas and tuna-like species by t-RFMO member states. The CLAV is now updated in real time (i.e. as soon as the list is changed by each of the t-RFMOs), and is therefore much more accurate and useful.
93. Browser usage statistics (from Google Analytics) indicate that the CLAV is being accessed monthly by 70-90 users, from 25-30 countries, attesting its usefulness. Notwithstanding, considering its potential to help in the fight against IUU fishing, it could be better promoted across t-RFMO member states and other relevant organizations, and the ABNJ Tuna project could and should have invested more efforts towards that aim. There was also the intention to integrate the CLAV into FAO's Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels (GVR), but this could not happen since the GVR has not yet been fully developed/implemented.
94. Although much of the work of updating and automatizing data-uploading to CLAV has already been done, maintenance of the CLAV system requires continuous effort to keep the data up-to-date and validated, and for its further improvement. Despite the CLAV is presently hosted in the IOTC headquarters, in Seychelles, it is not clear how committed IOTC is to keep it up and running, nor of the required budget for that task. However, the costs for maintaining a server for such a small database are not large and can be easily incorporated into other functions of any of the t-RFMOs. Difficulties related to the slow connection/low bandwidth in Seychelles have also been noted but it would be very easy to transfer the database to the server of one of the other four t-RFMOs.
95. Output 2.2.4. - CDS design options analysed with recommendations to improve existing systems - resulted in the publication, in 2016, of an FAO Fisheries and Aquaculture Technical Paper, with more than 500 copies already distributed and a similar number of downloads. This publication was useful and, in a way, complementary to the FAO Voluntary Guidelines for Catch Documentation Schemes (FAO, 2017c), negotiated in a series of meetings at FAO headquarters, from the expert consultation, held in July 2015. The author of the ABNJ Tuna project publication (Mr. Gilles Hosch) participated as a "resource person" to its adoption by the FAO Conference in July, 2017, including three technical consultations in April and July 2016, and in April 2017.

¹² <http://clav.iotc.org/browser/search>

96. Even after the adoption by FAO of the CDS Voluntary Guidelines, the document produced by the ABNJ Tuna project continued to be useful as a capacity building tool, and as an important reference for establishing CDS schemes in t-RFMOs.
97. In the revised project results framework, the end-of-project target of Outputs 2.1.1 (MCS best practices), 2.1.4 (PSM legislation template), 2.1.5 (CLAV), and 2.2.4 (CDS), clumped together under the new IO5 was: improved data quality in the CLAV (duplicates eliminated, increased completion of minimum data requirements); PSMA legal templates published and widely used in FAO PSMA-related capacity building; and design options for development of catch documentation schemes published. The correspondent indicator was: strengthened MCS toolbox (including improved CLAV, PSM templates, CDS design options, MCS best practices) to fight IUU promoted across tuna RFMOs. Considering that all those outputs were properly achieved, a rating of Highly Satisfactory (HS) is applicable to IO5.
98. Output 2.2.1. - Pilot trials of Electronic Observer Systems (EOS), aboard tuna longline vessels successfully completed in Fiji with lessons learned and best practices disseminated to subregional organizations and t-RFMOs for upscaling, was led by FAO and Fiji. Its objective was to demonstrate the feasibility and the derived lessons learned from the use of image equipment installed on board longline fishing vessels to enhance their compliance with existing national and regional regulations.
99. Electronic monitoring systems are increasingly being used in fisheries worldwide, not only as a compliance monitoring tool, but also to improve quality and quantity of fisheries data. In some cases, they allow a much more accurate record of catches, including very precise geographical position, hook position on the gear/depth of capture, and size distribution for target species, in a continuous manner, throughout the entire fishing trip. They have also become particularly important to assess the amount of catches of bycatch species, many of which are not properly recorded in fishing logbooks, for instance, or are difficult to be identified to species level. In that sense, one of the great advantages of the EMS/EOS for scientific purposes is to provide an independently verifiable source of data, allowing, for instance, for the species identification of a given specimen to be double-checked afterwards. EMS/EOS can supplement existing human observer programmes with highly valuable information or even substitute them where limited space on board or safety issues make it impractical to deploy human observers. Some of the tasks usually carried out by physical observers, such as the collection of biological samples, can't surely be done by EOS, and so, ideally, they should be complementary.
100. The importance of EMS/EOS for compliance purposes shouldn't be underestimated; in many aspects, it is more advantageous than physical observers, since they are on duty 24/7 and cannot be bribed, threatened or pressured into misreporting. Besides, the produced footages, given the appropriate legal framework, is hard evidence that can be used in court of law.
101. The ABNJ Tuna project funded three pilot EOS, one for the longline fisheries in Fiji, led jointly by FAO and the Government of Fiji, addressed under this Output (2.2.1), and two others, led by WWF, in purse seine fisheries developed in Ghana and Seychelles, addressed, respectively, under Outputs 2.2.2. and 1.1.2. All EOS trials started late because of contracting and procurement issues, a problem already noted in the mid-term evaluation.

102. The procurement to install the EOS in Fiji was completed in August 2015 and from October 2015 to December 2018, 48 longline fishing vessels from Fiji Fishing Industry Association had been installed with EOS equipment. By the time of the evaluation field trip to Fiji in early November 2019, 50 longliners were equipped with EOS and seemed to be working well.
103. One of the key elements for the success of these pilot trials was the direct involvement and support from the private sector, including both boat owners and crew. Since the start of the project it was agreed that all the data/images generated by the pilot EOS would not be used for compliance purposes, i.e. any infraction detected would not result in penalties, at least during the first years of the pilot phase. This was done through a memorandum of understanding between respective government agencies and the fishing industry to ensure their engagement. Although the adequacy of such strategy was questioned by some of the interviewees, the evaluation considered it to appropriate and necessary, at least for the first stages of use of this new technology to ensure cooperation from the boat owners and crew.
104. Difficulties arising from the relationship between the private sector and the Government throughout the years of the pilot trial have been one of the main hindrances the project has faced in Fiji.
105. Actually, problems started long before the project even begun to be implemented, due to a lack of participation by the private sector in the decisions that were made in preparation for the pilot trials, at least from their perspective. One of the main complaints is that only one company was hired to provide the service, the Spanish Satlink, making them, in a way, hostage to the price and conditions imposed by that service provider. In their team's view, if there were at least two companies, they could have a choice and competition would not only reduce the cost charged for the service, but also improve its quality. In this regard, they resented that a feasibility study had not been done before the project started.
106. On the other hand, however, the pilot itself should be understood as a feasibility study; although it would be practical to hire two different companies simultaneously, this would be quite complex from an administrative and bureaucratic point of view, quite likely resulting in further delays in the procurement process. A further complication would be the difficulties in analysing the images with two different systems with different equipment and software. The supplier limitation must be understood as an intrinsic consequence of the initial stages of development of EOS/EMS technology, not only in Fiji, but worldwide.
107. The lack of consultation over the EMS pilots at the design stage also created difficulties, at the beginning, with the Secretariat of the Pacific Community, which, however, became fully engaged in the project later on, incorporating highly valuable EOS data into their database. By the end of 2019, data from over 300 trips done by Fijian longliners had already been incorporated into the SPC regional observer database.
108. Another complaint was the need for all the images acquired by the EOS to be first sent to Satlink for decoding, before becoming made available to the Government of Fiji. This, however, was a necessary procedure for preventing the footages from being tampered during the fishing cruise.
109. A very serious, still unsolved problem is the inaccessibility of the boat owners to the images captured in their own boats. When the project started, the fishing companies were quite

enthusiastic about the prospects of using EOS on their boats, since it would allow them to assess several aspects of the fishing operation crucial to their performance, such as the way the hooks were being baited before thrown in the water, the way fish was being handled on board, the working hours and even the way the crew was being treated. According to them, the quality of the fish, as well as the productivity of the fishing operations, varied widely from one boat to another and even from one trip to another on a same boat, so they considered the opportunity to actually see what was happening on board as highly valuable, being, in fact, the main incentive for their engagement in the project. Another incentive was to have better control of the catch, since some of the fishing companies suspected fishers could be stealing part of the catch by transshipping to other boats, prior to going back to port. Many considered even more important to ensure their prompt access to the images from their own boats even more than the waiver on penalties that might arise from compliance issues detected by the EOS. For this reason, it was also explicitly included in the memorandum of understanding.

110. Despite of the explicit requirement in the memorandum for the Government to ensure the fishing companies prompt access to the images generated by the EOS installed in their own boats, this had not happened after five years from the start of the project, causing great dissatisfaction, disappointment and frustration with the project among the fishing industry. The reason for such failure is unclear and difficult to understand. The Government of Fiji alleged legal and bureaucratic difficulties, despite their willingness to provide the images, but why such impediment has lingered on for five years lacks a reasonable explanation.
111. The data provided back to the fishing companies so far have been only those from trips that already had all images processed and analysed by the Government. Nevertheless, processing and analysis of the images of each trip usually takes more than one month and since the number of monitored boats is about five times the number of land-based observers: all trips of every boat are being analysed, and trips that being scrutinized now are from several months ago. For instance, by the time of the evaluation field trip in November 2019, the first fishing trips done in 2019 were only starting to be analysed, causing almost a year lag. By then, evidently, much of the value of these data for the fishing companies had already been lost.
112. Another argument raised by the boat owners to justify their unwillingness to bear the costs of the EOS on their boats, besides not having access to the images, was the low economic returns they have been having from the longline fishing in recent years, hardly allowing them to break even, a statement that has been substantiated by a business case commissioned by the ABNJ Tuna project. In this regard, they also made the point that in the case of Fiji, differently from more developed countries where the cost of labour is more expensive, it was cheaper to pay for physical observers on board, than for the EOS, which was also important from a social perspective. As noted by the mid-term evaluation, there have also been difficulties in retaining land observers, since they prefer to work at sea as they receive a better salary when working as on board observers than on land.
113. It is important to recall that presently all EOS available do require the work of land-based observers to go through all the images collected by the cameras on board and to identify and quantify the species caught, detect compliance issues, etc. This task may be overtaken in the future by artificial intelligence software, but this is not yet the case.

114. Another very important point is that instead of having 100 percent of the fishing trips analysed at the cost of lagging several months behind, as is done presently, a much better strategy would be to reduce the coverage of image analysis to 20 percent of the recorded trips, for instance, in a randomized manner, but keep the analysed trips updated, with a maximum of 30-day lag.
115. The EMS system installed in the 50 Fijian longliners is state-of-the art, providing highly valuable data not only for MCS purposes - even though it has not been used for enforcement yet - but for scientific objectives. The data provided by the system is much completer and more comprehensive than those obtained by physical observers. Despite the issues related to the sustainability of the EOS in Fiji, addressed in the specific item, the quality and quantity of data generated by it is highly valuable, and even if it is not maintained after the GEF financing is discontinued, it has already greatly helped to contributed to showing the importance of EMS as a complementary tool for physical observers in any MCS system, and to popularizing and to disseminating this kind of innovative tool, in the Pacific Ocean and in the world.
116. All t-RFMOs are presently engaged in developing EOS/EMS, including by defining minimum standards for their use (e.g. ICCAT Rec. 17-08, specifically mentions the presence of an EOS as an alternative for a physical observer on board; IATTC study on electronic monitoring options for the tuna purse seine fishery in the eastern Pacific Ocean; FFA regional longline fisheries electronic monitoring policy; WCPFC Concept Note on EMS; IOTC Minimum Standards for EMS, etc.).
117. Like Output 2.2.1, Output 2.2.2. - Pilot trials of electronic monitoring systems for tuna purse seine (Ghana and Seychelles) vessels undertaken with lessons captured, led by WWF - aimed at demonstrating the feasibility and derive lessons learned from the use of electronic monitoring systems installed on board purse seine fishing vessels to enhance the compliance of these vessels with existing national and regional regulations, in Ghana. Despite the mention to Seychelles in the title of this output, it has been included under Output 1.1.2, as noted above.
118. Differently from Fiji, in the case of Ghana, besides the aspiration to improve the quality and quantity of the data collected on its purse seine fisheries, both for scientific and compliance reasons, the threat of a 'yellow card' from the European Union due to alleged illegal, unreported and unregulated fishing that was applied during the early stages of the project was also one of the main incentives/drivers for its adoption, both by the Government and by the fisheries sector.
119. The memorandum of understanding between vessel owners and the Fisheries Commission of the Ghanaian Government was signed in December 2015 and the pilot project was officially launched in Tema, on 1 September 2016, with the presence of the Ghanaian administration, FAO, WWF, ISSF, Satlink and representatives from the Ghana Tuna Association. As for Fiji, the memorandum not only ensured that boat owners should have prompt access to the data/images generated by the EOS, but it also prevented the use of data generated by the system for compliance purposes/imposition of penalties.
120. By December 2018, 15 vessels (100 percent of the purse seine fleet) were equipped with EOS, 233 fishing trips had already been monitored and 213 had been analysed, covering over 5 000 fishing days, with a total catch of about 200 000 t of skipjack, yellowfin tuna and

- bigeye tuna. The project, therefore, did succeed in gathering an enormous amount of highly valuable data on Ghanaian purse seine catches, in unprecedented quality and quantity.
121. It also helped to improve compliance and even change legislation. In one occasion, a Ghanaian purse seine vessel was recorded transshipping at sea to a pole-an-line vessel to get the better price that the European markets pay to the fish coming from that kind of fishing method. This practice ended with a new legislation that was passed, partly due to the evidence provided by the EMS pilot
 122. In early 2019, after financing from the ABNJ Tuna project was discontinued, the EOS ceased its operation. Political changes in the Government and in the ownership of the purse seine vessels resulted in a lack of commitment to keep the EOS running, particularly due to economic reasons, despite the relatively lower costs of EOS for purse seiners, when compared to longliners.
 123. Another activity foreseen under Outputs 2.2.1 and 2.2.2, in both Fiji and Ghana, was a change in legislation of both countries, requiring, for instance, the presence of EMS on board as a condition for the issuing of fishing licenses to their domestic tuna fishing fleets. Despite some efforts in that direction, including a review of the fisheries legislation in both countries, no such requirement has been so far materialized.
 124. The first intermediate outcome indicator for IO5 in the revised project results framework was a percentage of fishing operations in target countries covered by fully functioning EMS, with end-of-project targets of 100 percent for the fishing operations of Ghanaian tuna purse seiners and 50 percent for the fishing operations of Fijian tuna longliners. While these percentages have been attained during the implementation of the ABNJ Tuna project, due to the sustainability problems highlighted in the specific section, it is unlikely they will continue at that level, at least in the near future.
 125. The second intermediate outcome indicator for IO5 in the revised project results framework was the inclusion of requirements for EMS in fishing license conditions for targeted domestic fleets in pilot countries, with an end-of-the project target of EMS required in at least one country. Due to the same reasons stated above, this outcome indicator will not be achieved in the near future.
 126. Output 2.2.3. - Integrated MCS system in FFA, led by FFA, aimed at increasing capability at national and regional levels to conduct fisheries intelligence analyses. It included support for the establishment of an integrated MCS system intelligence unit in FFA and assistance to national MCS officers in the region. The intelligence unit was established and a manual of best practice and guidelines for a model data analysis unit was created. The ABNJ Tuna project supported these efforts, helping to improve MCS data collection and analysis on a regional scale (Western and Central Pacific), and to integrate MCS intelligence information from multiple sources, such as fisheries observer reports and vessel monitoring system, into a Regional Information Management Facility. Analysis of observer/MCS data for the identification of IUU incidents by members have been facilitated by the National Information Management System and access to the SPC TUBs and TUFMAN II databases. National MCS officers are in direct contact with MCS analysts at the Regional Fisheries Centre, at Honiara, Solomon Islands, and intelligence reports are forwarded to members, with detailed analysis and investigation briefs on possible IUU cases. The Regional Fisheries

- Surveillance Centre has also developed standard operating procedures (SOPs) for officers to follow through when accessing and using the system programmes and tools for MCS data analysis.
127. The project also supported the training of almost 100 MCS officers from FFA member countries in MCS data analysis, including their participation in regional surveillance operations (FFA/QUAD). This activity was somehow linked to the USP Certificate IV Fisheries Enforcement and Compliance Course addressed in Output 2.1.3, discussed below.
 128. Finally, the ABNJ Tuna project also supported the consultations for drafting the IUU National Plans of Action through workshops conducted in six countries in the region: Fiji, Marshall Islands, Federated States of Micronesia, Nauru, Solomon Islands and Tuvalu. According to the last PSC meeting report, the national plans of action were successfully completed and members are now encouraged to implement their respective plan.
 129. By June 2019, over 1 000 observer reports had been analysed, resulting in over 1 200 incident reports with possible infringements. Almost 10 000 fishing vessels were detected in surveillance operations, with 47 potential infringements being reported to members for further investigation.
 130. From the above information, available from the last PSC report and confirmed through interviews with FFA members, it is very clear that a quite significant cooperation effort on MCS is happening in FFA, with a very important contribution to prevent and deter IUU fishing activities in the Western and Central Pacific Ocean. It is also certain that the ABNJ Tuna project has contributed to this effort. Notwithstanding, it is not clear, nor is it possible to quantify from the information available to the evaluation team, how important this contribution was.
 131. One remaining challenge detected by the mid-term evaluation and recognized in the PSC meeting report has been the lack of feedback from members as a follow-up on the initial FFA analysis on possible IUU infringements.
 132. IO5 in the revised project results framework related to this specific output was the number of observer incident reports generated by FFA regional surveillance and the number of vessel of interest reports identified through different sources of information, with end-of-project targets respectively equal to 400 and 100. The numbers discussed above clearly show that both targets were largely surpassed.
 133. IO5 - Improved operational capabilities through improved MCS tools and better intelligence integration, covering Outputs 2.1.1 (MCS best practices), 2.1.4 (PSM legislation template), 2.1.5 (CLAV), and 2.2.4 (CDS), clumped together, as well as Outputs 2.2.1 (EOS n Fiji), 2.2.2 (EOS in Ghana) and 2.2.3 (MCS in FFA) - achieved most of the objectives, with only minor shortcomings, as the issues related to sustainability in Outputs 2.2.1 and 2.2.2. The evaluation considered the rating for IO5 as Satisfactory (S).
 134. The only output under the revised IO6, was Output 2.1.3. - Ten coastal developing countries national fisheries offices effectively implement and enforce national and regional MCS measures through training in a new competency-based certification programme by 160 national fisheries staff from all regions, led by FAO. It consisted basically in supporting the Pacific Islands Forum Fisheries Agency and the University of the South Pacific to carry out the Certificate IV in Fisheries Enforcement and Compliance Training Course.

135. Achievement under this specific output was the target of one of the two case studies done by the evaluation (Annex 2) and therefore will not be addressed here in much detail. The initial idea was to develop a curriculum on basic MCS skills, complemented by regional issues (such as the various conservation and management measures adopted by the different RFMOs) that could be offered globally to MCS officers. It was not possible to achieve this goal due to health issues faced by the consultant hired to undertake this task.
136. From 2015 to 2018, the Certificate IV in Fisheries Enforcement and Compliance Training Course was attended by 131 participants, 119 of which had successfully graduated by May 2019. Of these 131 participants, 35 (about 25 percent) were financed by the ABNJ Tuna project.
137. Despite the rather limited number of participants directly supported by the project, the case study clearly showed that the CEFC had a significant contribution for the achievement of Outcome 2.1, in the Western Pacific Ocean, the region where it has been implemented. According to the survey, the CEFC is highly relevant to develop and reinforce MCS capacities and skills of individuals that work in related activities, even for those with over ten years of experience. The participants were from 14 different countries and 90 percent of them were still working on MCS related activities by the time of the survey, evidencing a very good targeting strategy for student enrolment. As shown by the survey, 90 percent of respondents felt more confident working with fisheries MCS activities after the training, 58 percent were of the view that the CEFC had contributed a great deal to improve their respective countries' capacity to manage MCS activities, and 61 percent had the perception that the number of fisheries-related boarding and inspection activities had increased in their countries after CEFC.
138. The original end-of-project targets for this output were: i) a new competency-based certification programme established; and ii) 160 certified national fisheries staff from IOTC/WCPFC regions with increased capacities to effectively implement and enforce national and regional MCS. In the revised project results framework, these targets were subsequently changed to 70 staff certified, which was already surpassed.
139. In spite of the very good results achieved by the CEFC, under the revised IO 6 - Strengthened capacity of compliance officers in member states via capacity building and experience sharing, improved operational capabilities through improved MCS tools and better intelligence integration (IO6) - there were some major shortcomings regarding the implementation of some of the components (e.g. the elaboration of a curriculum on basic MCS skills was delayed due to the unexpected illness of the consultant hired for this task), justifying thus, in the view of the evaluation team, the rating of Moderately Satisfactory (MS) for IO6.
140. A business plan identifying potential financial backers for a global competency-based certification programme for tuna MCS, embedded in a university programme, including its agreement to host the course, with a commitment (and resources) to run it for five years was developed, but this has not been achieved and clearly will not be possible in the near future. Even though FFA presented a proposal for a follow-up to be extended to other regions, it is not clear how or if it will continue to support the participation of students in the CEFC after the ABNJ Tuna project ends.

141. As noted above, Outputs 1.1.2 and 2.1.2 were not included under any of the revised intermediate outputs.
142. Output 1.1.2. - Increased capacity of ten coastal developing states to comply with t-RFMO member states obligations - transferred from Outcome 1 to Outcome 2, upon a recommendation from the mid-term evaluation, became pretty much a basket for unclassified activities, including: i) compliance support missions in the IOTC; ii) the development of electronic monitoring and reporting information system in IOTC (e-Maris); iii) ICCAT Fisheries Online Reporting System (FORS); iv) EMS on purse seine vessels, in Seychelles; v) support for the t-RFMO Kobe Process FAD meeting; and vi) support for the participation by developing states in t-RFMO technical meetings.
143. Aiming at strengthening the implementation of IOTC CMM, the ABNJ Tuna project supported two compliance support missions to Maldives, in August 2015, and to Mozambique, in June 2016. No further details have been provided on those missions, so it was not possible to evaluate them further.
144. The objective of the support to the development of IOTC e-Maris was to provide a more efficient way to monitor compliance through an interactive platform for CPCs' reporting obligations. With that purpose, a consultation/validation workshop was held in October 2017, in Cape Town, South Africa, to evaluate a first prototype of the electronic platform, which was then presented and opened for comments, questions and suggestions, that will be taken into account to update the e-MARIS specifications to their final version. Participants, including not only IOTC officers, but the ICCAT head of compliance, fully endorsed the initiative and strongly encouraged the IOTC secretariat to move forward on the next phase of the development of e-MARIS as soon as possible. A further meeting of t-RFMOs data managers and officers responsible for compliance was organized in February 2018, through the TCN.
145. A similar initiative was also supported by the project in the Atlantic Ocean: the development by ICCAT of a prototype Fisheries Online Reporting System, aiming likewise to improve not only the timely reporting of data, but their quality and completeness. A first prototype, developed by two consultants, was presented at the ICCAT SCRS meeting in September 2017 and was received with great enthusiasm. Elements of the FORS have been incorporated into the ICCAT online statistical validation system, now under development at the ICCAT secretariat, and was trialled with selected CPCs in 2018. This is now being incorporated into the ICCAT Integrated Online Management System (IOMS), which will initially allow for online reporting of annual reports and will evolve gradually in the next few years (adopting a modular development approach) with the integration of additional modules.
146. During the last ICCAT commission meeting, held in Palma de Mallorca in November 2019, a budget of EUR 200 000 was allocated for 2020 and 2021 (totalling EUR 400 000) for the continued development of the electronic monitoring system, which by itself testifies the level of priority given to that task by the Commission. Indeed, some of the delegations who intervened during discussion of the budget highlighted the importance of the IOMS to improve compliance, particularly because of the excessive number of reporting obligations required by the Commission.

147. Both the IOTC e-MARIS and ICCAT-FORS have the potential to drastically increase the level of compliance of several members. ICCAT has about 170 reporting obligations and IOTC 70. It is extremely difficult for compliance officers to keep track of all forms and deadlines. By having an online system that indicates immediately what is missing, the level of errors and omissions is expected to drop significantly.
148. Besides the pilot EMS/EOS initiatives developed in Fiji and Ghana, discussed above, upon a request from the Seychelles Fishing Authority (SFA), in 2015, the ABNJ Tuna project also supported EMS trials on purse seiners operating in the Indian Ocean, in collaboration with the tuna boat association OPAGAC, and Satlink-DOS (the provider of the EMS equipment and services in both Fiji and Ghana). Like in Fiji and Ghana, the objective of the pilot was also to test the feasibility of using EMS as a new tool for collection of scientific data, as well as for MCS purposes. It included not only the installation of all the required equipment in two purse seiners, but also capacity building for SFA staff regarding EMS data analysis.
149. EOS started to operate by June 2016, after the installation of equipment and the training of SFA MCS personnel had been completed. From June to December 2016, 10 fishing trips, including 333 sets, were electronically observed, covering the capture of 191 148 tunas and 3 270 specimens of bycatch species, of which 10 442 tunas and all bycatch specimens were sampled for size frequency. A thorough analysis of all the data collected from all sources under this pilot was undertaken in collaboration with the University of Alicante, as a MSc. Thesis of a Seychellois student.
150. Besides the activities described above, under Output 1.1.2, the ABNJ Tuna project also supported participation by developing states in t-RFMO technical meetings, including four ICCAT meetings, one IATTC meeting and four IOTC meetings. The project also supported the joint t-RFMO FAD working group meeting, held in Madrid in April 2017, including the participation of 38 participants (11 female) from developing states.
151. Besides Output 1.1.2, Output 2.1.2 was not included under any of the revised intermediate outcomes either. The main achievement of Output 2.1.2. - IUU reporting capacity of MCS practitioners is enhanced through training in regional cooperation, coordination, information collection and exchange of 100 MCS professionals - was the establishment of the Tuna Compliance Network, a subnetwork of the International Monitoring Control and Surveillance Network¹³ This is in conformity with the approach decided during the project inception workshop to ensure a better focus on tuna fisheries.
152. FAO and IMCSN, who led the implementation of this output, succeeded in establishing an IMCS sub-network devoted exclusively to tuna fisheries, the Tuna Compliance Network.¹⁴ The TCN is organized around a core group of compliance officers from the five t-RFMOs, and an extended group of experts in compliance and MCS, who participate in the exchange of information for specific projects. The main goals of the TCN include: i) facilitating communication and information exchange; ii) fostering joint efforts, including the development of common tools and procedures and best practice compliance methodologies; iii) enhancing opportunities for sharing technology and technology transfer; iv) improving awareness of new and existing measures, procedures and

¹³ <https://imcsnet.org/>

¹⁴ http://www.fao.org/fileadmin/user_upload/common_oceans/docs/web_i8146E.pdf

technologies within RFMOs; and v) identifying and coordinating capacity building and training opportunities.

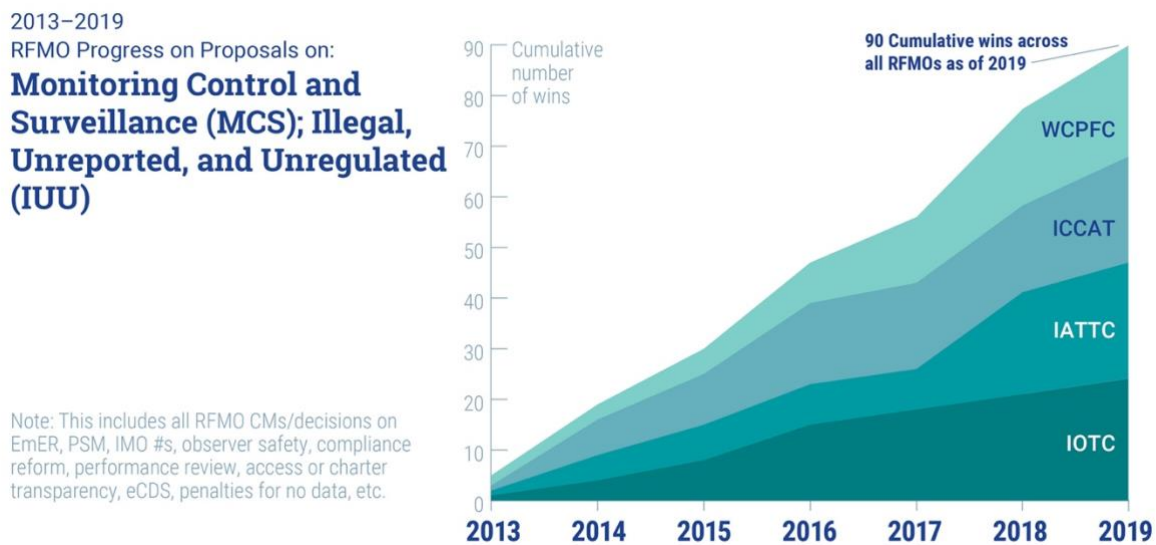
153. The TCN already held three workshops: the inception workshop in March 2017, in Vigo Spain, followed by the second meeting in Honiara, Solomon Island, in February 2018, and the third in Thailand, in conjunction with the 6th Global Fisheries Enforcement Training Workshop (GFETW), in February 2019. Besides the physical meetings, the TCN has also set-up an online communication tool (Basecamp), where members can share experiences, lessons learned, information and documents. The TCN has greatly improved cooperation among t-RFMOS on MCS, opening an avenue for coordination that did not exist before the ABNJ Tuna project. To begin with, compliance officers of the five t-RFMOs had never gathered to discuss strategies for cooperation before.
154. The original end-of-project target for Output 2.1.2 aimed at having 100 MCS specialists having developed enhanced networks, tools and best practices for detecting IUU fishing, through their participation in two workshops. This target activity, from inception, was replaced by the establishment of the IMCSN-TCN. Nevertheless, the revised project results framework strangely does not even mention the TCN. This is an omission that should be rectified, considering the relevance of the TCN for project objectives.
155. The activities of 2.1.2 were also linked to 2.1.1, since the TCN did participate in the review of the draft MCS best practices overview paper and the four implementation sheets. As noted by the mid-term evaluation, it should also have interacted more closely with Output 2.1.3, on the MCS Certificate IV Course on Fisheries, Enforcement and Compliance, which does not seem to have happened, probably because this output was largely restricted to the FFA/WCPFC. The TCN also does not seem to have interacted much with the MCS intelligence unit established in FFA under Putput 2.2.3, at least this is not clear from any of the reports, neither has it been mentioned by any of the interviewees.
156. Following a recommendation from the mid-term evaluation (2.i), a business case for the TCN (not available in the website), to secure core funding for its continuity after the end of the letter of agreement with IMCSN, was completed by the end of 2018. According to the 6th PSC meeting report and the report of the 3rd TCN meeting, the TCN was able to secure funding to continue its work after the project ends through support by the tuna RFMOs to individually fund travel by their officers to the TCN workshops, as well as to host a yearly or biennial workshop in one of their headquarters. Although the IMCSN has confirmed that they will be able to continue its support to the TCN, they are planning to do that by adding the TCN coordinator function to the executive director. Although this might not be ideal, it does ensure long-term sustainability of the initiative.
157. The revised indicator for the achievement of project objectives of Component 2 was the overall compliance in IOTC, ICCAT and WCPFC (CCSBT and IATTC do not produce overall compliance scores), with an end target of improved overall compliance. Despite the great vagueness of the target, the evaluation considers it safe to rate the achievement of project objective under Component 2 as Satisfactory (S).
158. The Tuna Compliance Network undoubtedly improved coordination among compliance officers of t-RFMOS, although it is impossible to measure how this has affected the level of compliance/reduction of IUU fishing. In the case of the CEFC, however, the case study has clearly shown it significantly improved the capacity of MCS officers in FFA/WCPFC to

combat IUU fishing. Regarding the PSMA, even though it is not possible to assess the number of countries and RFMOs that have actually used the template in developing legislation to implement the Port State Measures Agreement, it has become a very important tool not only as a legal guide but as a capacity building tool. The CLAV is also helping, on a daily basis, to prevent IUU fishing products to enter the seafood market, including by its use from fishing companies and wholesale distributors to ensure the legality of the fish they trade.

159. Overall, it is clear that the ABNJ Tuna project has strengthened and harmonized MCS systems over all five t-RFMOs, although not in a similar manner, with a greater emphasis in the Pacific (FFA/WCPFC MCS capacity building), and Indian Oceans (PSMA), than in the Atlantic Ocean. How this has actually enhanced MCS capacities is, again, not clear or directly measurable.
160. The number of conservation management measures related to MCS adopted by the five t-RFMOs has increased sharply during the project implementation, from about 20 to more than 70 (Figure 4), clearly showing a much stronger commitment to MCS by contracting parties. Therefore, even if the exact contribution from the ABNJ Tuna project to this increase can't be measured, it certainly helped to propel this process.
161. During the past five years, t-RFMOs significantly improved their standards for electronic monitoring and related MCS (Figure 5), including:¹⁵
 - i. by 2016 IMO numbers were required by all RFMOs;
 - ii. in 2018, two RFMOs required IMO numbers for all fishing vessels > 12m;
 - iii. in 2016, IOTC and ICCAT endorsed minimum standards for electronic monitoring on PS vessels;
 - iv. in 2018, WCPFC adopted e-reporting standards for at-sea transshipment and is developing minimum standards for longline electronic monitoring;
 - v. in 2019, IATTC adopted a work plan for the development of electronic monitoring standards across fleets;
 - vi. IATTC and ICCAT have adopted reforms to their vessel monitoring system programmes and are developing EMS standards;
 - vii. IATTC, IOTC and ICCAT have strengthened their IUU vessel lists;
 - viii. IOTC is developing a regional observer programme and strengthening its vessel monitoring system;
 - ix. ICCAT, IATTC, WCPFC and IOTC have strengthened their compliance processes.
162. During the period of the ABNJ Tuna project implementation, the number of initiatives related to electronic monitoring systems and electronic reporting systems, such as the IOTC e-MARIS and the ICCAT FORS, quintupled. Even if the initiatives in Fiji and Ghana are discontinued, they had a very important role to push EMS in RFMOs beyond the point of no return.

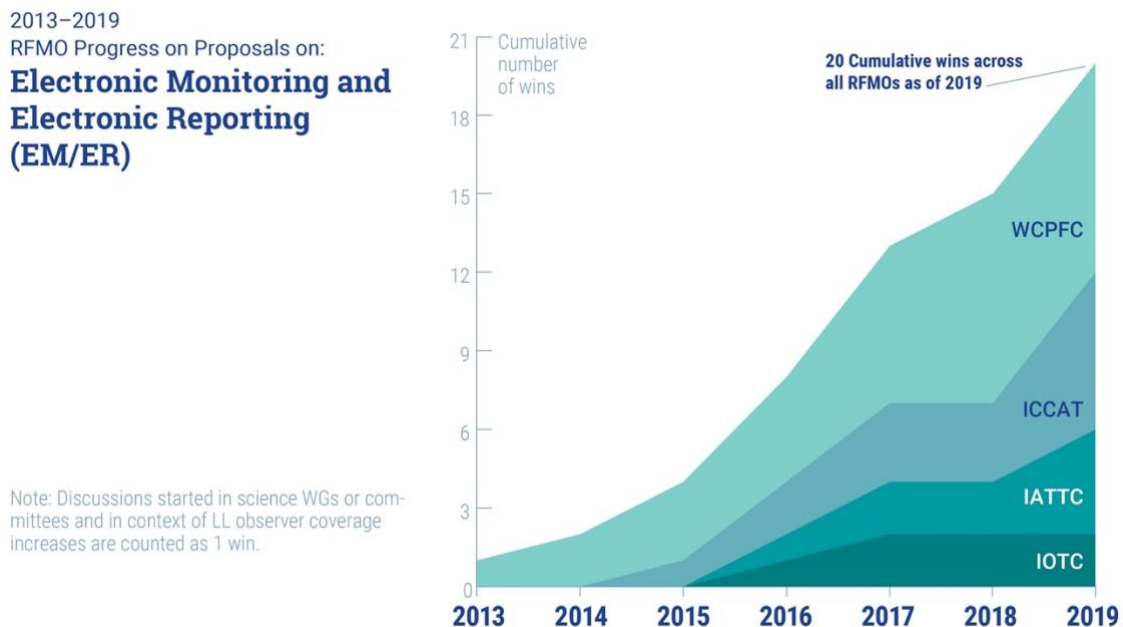
¹⁵ List provided by the ISSF.

Figure 4: Number of conservation management measures related to monitoring, control and surveillance adopted by the five t-RFMOs, in the past five years, during implementation of the ABNJ Tuna project (2014-2019)



Source: MCS IUU ISSF 2019

Figure 5: Number of conservation management measures related to electronic monitoring system and electronic reporting system adopted by the five t-RFMOs, in the past five years, during implementation of the ABNJ Tuna project (2014-2019)



Source: EMER ISSF 2019

Note: Conservation management measure includes endorsement or adoption of standards and discussions started in science working groups or committees and in context of LL/PS observer coverage increases (from ISSF).

Component 3. Reducing ecosystem impacts of tuna fishing.

EQ 05. How has the Tuna project contributed to reduce the impact of tuna fisheries on bycatch species and in the marine ecosystem?

Finding 5. Overall, it is unquestionable that the ABNJ Tuna project did succeed to promote a transformational change in the way bycatch issues are managed by t-RFMOS, in a global scale, significantly reducing the impact of tuna fisheries on bycatch species and in the marine ecosystem. The most important achievements are:

- i. In the past five years, the data available on sharks, sea turtles and seabirds in t-RFMOS were not only integrated in various ways, but greatly enhanced, including by the gathering of new information.
- ii. The status of several shark stocks was successfully assessed, based on data provided entirely or partially by the project, as well as the impacts of tuna fisheries on sea turtle and seabird conservation, at a global level, for the first time, including confidential data that had never been available before.
- iii. During the period of the project, several CMM related to the conservation of bycatch species were adopted by t-RFMOS, some of them directly stemming from results accomplished by the project. These are:
 - the project contributed to greatly improve the quality of data on the tuna gillnet fishery in the Northern Indian Ocean, allowing an estimation of the bycatch, which was found to be at about 12 000 cetaceans and 29 000 sea turtles caught every year. Based on the data generated by the project, the introduction of gear modifications in this fishery resulted in a significant decrease of cetacean, sea turtle and shark bycatch.

Finding 6. The ABNJ Tuna project entailed a degree of international and inter t-RFMO cooperation unprecedented in the management of bycatch, from data gathering and stock assessment, to the adoption of mitigation measures. The amount of this progress that can be attributed to the project cannot be objectively measured. Nevertheless, at least in the Pacific Ocean, the ABNJ Tuna project was undoubtedly the main driver behind these changes.

Finding 7. Engagement of the private sector, mainly through the ISSF, in the ABNJ Tuna project was unparalleled, greatly contributing to the adoption of best practices for bycatch mitigation by tuna fishing boats worldwide.

163. Component 3 had originally two expected outcomes:

- i. Outcome 3.1. - WCPFC and IATTC integrate improved bycatch mitigation technologies and practices into their regular management planning process at regional and national levels.
- ii. Outcome 3.2. - Bycatch mitigation best practices adopted by at least 40 percent of the tuna vessels operating in the two t-RFMOS' areas.

164. In the revised project results framework, the intermediate outcomes were changed to:

- i. Outcome 3.1. - Improved shark fisheries management framework (proposed) across the Pacific (IO3).
- ii. Outcome 3.2. - Bycatch mitigation best practices adopted by RFMOs and/or targeted tuna vessels (IO4).

165. The revised Outcome 3.1. (IO3) narrowed its focus considerably to address exclusively shark bycatch, while Outcome 3.2 (IO4) dropped a specific percentage (40 percent).
166. The objective of the first output of Outcome 3.1/IO3, Output 3.1.1. - Improved bycatch data for sharks from WCPFC and IATTC regions generated, including a t-RFMO shark data inventory and data improvement field studies, led by WCPFC and IATTC - was to work towards developing a practical and consistent approach to monitoring the status of sharks caught by ABNJ tuna fisheries. It focused on identifying data deficiencies which make management challenging and on proposing strategies to obtain more data through field studies and better information from fisheries.
167. It involved a series of activities: i) Pan-Pacific Coordination; ii) Global shark inventory; iii) Bycatch Data Exchange Protocol (BDEP) and other data improvement work; iv) Shark Post-Release Mortality Tagging; v) IATTC Capacity Building and Database Development; and vi) IATTC Central American Port Sampling.
168. The Pan-Pacific coordination to improve data on the sharks caught by the tuna fisheries managed by WCPFC and the IATTC included the creation of two main coordination bodies: the Sharks and Bycatch Consultative Committee (SBCC), involving the executive directors of WCPFC and IATTC (or their proxies), and the Pan-Pacific Technical Steering Group (PPTSG), comprising representatives from IATTC, Australia, United States, SPC and FFA. The SBCC met four times, in December 2014 in Samoa (WCPFC11), in December 2015 in Bali (WCPFC12), in December 2016 in Fiji (WCPFC13), and in December 2017 in the Philippines (WCPFC14). The PPTSG met five times, always electronically, in November 2015, February and May 2016, April and June 2017.
169. According to all interviewees, the role played by the Technical Coordinator for Shark and Bycatch (TCSB), Dr. Shelley Clarke, was crucial for boosting coordination and cooperation between IATTC and WCPFC, in particular during the two and a half months she was stationed at the IATTC secretariat.
170. One of the most important results of the Pan-Pacific coordination on shark bycatch was the completion, by 2016, of the baseline shark data inventories, by both IATTC and WCPFC. Such activity has been instrumental for the attainment of a few other activities under this same output, such as the Bycatch Data Exchange Protocol and the IATTC Central American Port Sampling, as well as under other outputs, such as the assessment of shark stocks (3.1.2), and the t-RFMO shark browser, a component of the Bycatch Management Information System (BMIS). The IATTC inventory of existing data (metadata), together with an assessment of sampling constraints, was also critical for the approval in IATTC of Resolution C-16-16, on conservation measures for shark species, with emphasis on the silky shark, as well as for the initiative to establish an IATTC field office in Costa Rica, not yet concluded.
171. With the cooperation from the SPC, the project has also helped to advance a Bycatch Data Exchange Protocol, based on a CCSBT model, which has been populated by WCPFC and IOTC, with data available in the public domain in a digital form. CCSBT and IATTC shark data were also made available in the public domain in a BDEP-like format. In the future, the BDEP might serve as a potential basis for standardization and sharing of bycatch information across t-RFMOs, possibly under the BMIS (Output 3.1.3). Progress has also been achieved in establishing minimum standards and reporting requirements for longline

observer programmes, harmonization of data collection for manta and mobulid rays, and shark identification guides and training materials. Harmonization of bycatch condition codes and operational planning for the collection of shark biological samples were attempted but not fully accomplished. As already noted by the mid-term evaluation, the BDEP represents a platform to share data between t-RFMOs, offering an important opportunity for t-RFMOs to collaborate on bycatch issues.

172. A crucial information to assess the effectiveness of conservation and management measures aiming at shark conservation, particularly those requiring the release of all sharks caught, presently in force for many species in various t-RFMOs, is the post-release mortality, since many of the sharks which are still alive by the time they are set free from the fishing gear, die shortly after or even after several days. This information is also crucial for stock assessment, due to its impact on the assessment of fishing mortality.
173. Under this output, with partial support from the project (see below), but using European Union funds, IATTC was able to tag, in 2017, 109 silky sharks with electronic tags, to estimate post-release mortality (40 off Ecuador and Costa Rica, and 69 off Mexico).
174. Also in 2017, WCPFC using funds both from the ABNJ Tuna project (USD 250 000) and from the European Union (EUR 400 000), was able to tag 117 mako and silky sharks, in New Zealand (n=35), Fiji (n=58), New Caledonia (n=10) and the Republic of the Marshall Islands (n=14), with only seven of the used tags failing to transmit. Both efforts combined resulted in over 200 sharks being tagged electronically, an unprecedented research effort on those shark species in the Pacific.
175. To support the development of the survey design for these ABNJ and European Union-funded shark post-release mortality, including the definition of best practice principles covering equipment selection, statistical stratification and deployment, a preparatory expert panel, composed of academic, government and non-government scientists from around the world, was convened in January 2017. Subsequently, a joint analysis workshop was held in June 2019 in Wellington, New Zealand, to analyse and interpret the data, including data from observers and other tagging studies. Although these two workshops were included under Output 3.1.3, they were directly related to the post-release mortality studies covered under this output and should have been placed here.
176. Capacity building efforts under this output in IATTC included a shark data collection workshop in May 2015; a workshop to develop a pilot study for a shark sampling programme in Central America in September 2017; a workshop on analytical methods for data-poor shark stocks, also in September 2017; and a workshop to strengthen and harmonize shark fishery data collection in Puntarenas, Costa Rica, in July 2018.
177. As a result of the workshops done by the ABNJ Tuna project, a directed port-sampling effort was developed under this output to estimate shark catches in Central America. Until June 2019, 1 333 surveys on catch and effort to estimate shark landings had been carried out, in 339 fishing localities, including 1 458 landing sites for artisanal boats. In a parallel effort, aimed at larger vessels based in Costa Rica and Panama, 8 549 fish were sampled, 3 781 of which were sharks (44 percent).
178. The amount of data available on sharks, mainly in WCPFC and IATTC, but also in CCSBT and IOTC, were not only integrated in various ways, but greatly enhanced, including by

generating new information not available before, such as the one originated by the Central America Port Sampling and on post-release mortality. This activity was crucial to the following one on the assessment of the stocks of shark species. It also had some immediate consequences for the conservation of shark species, such as the adoption of Resolution C-16-06 on Conservation Measures for Shark Species, with emphasis on the Silky Shark (*C. falciformis*) by IATTC, in July 2016.

179. The second output under the intermediate Outcome 3.1/ IO3, led by WCPFC, was Output 3.1.2. - Four t-RFMO shark species assessments delivered (including species risk assessments). Its objective was to identify risks and priorities for shark conservation through assessment, using new data generated under Output 3.1.1 and improved tools developed under this component as appropriate. It also aimed at evaluating the existing management framework, in order to develop measures to strengthen shark management by t-RFMOs.
180. A critical aspect of this output was that each of the four assessments needed to be Pacific-wide, i.e. not just within the jurisdiction of WCPFC or IATTC. This required a lot more coordination, data access and review/approval procedures.
181. The activities under this output also included the review and development of methods for assessing shark populations, particularly for data-poor shark stocks (e.g. maximum impact sustainability threshold - MIST).
182. The status of four shark stocks were successfully assessed under this output: i) the porbeagle shark, in the Southern Hemisphere; and, through a joint cooperative effort by IATTC and WCPFC, the Pacific Ocean stocks; ii) the bigeye thresher; iii) the silky shark; and iv) the whale shark. Blue and shortfin mako shark data from the Chilean swordfish fishery were also processed for stock assessment and an assessment of the Western and Central Pacific Ocean oceanic whitetip shark through alternative methods was also completed. With the cooperation of the Commonwealth Scientific and Industrial Research Organisation, shark-specific limit reference points, related to Output 1.1.1. and 1.1.4, on harvest strategies, were also developed.
183. Among the conservation management measure and data rules adopted by t-RFMOs as a result of this output are the changes to the regional observer programme/minimum data standards and fields, the designation of manta and mobulid rays as key species, and safe release guidelines for sharks and rays, including whale sharks, following a proposal based on an analysis of whale shark interactions in the Western and Central Pacific Ocean done by the ABNJ Tuna project, all of them adopted by WCPFC; as well as IATTC Resolution C-16-16, on the conservation of shark species, with emphasis on the silky shark, which also had a critical contribution from the project.
184. Together with Output 3.1.1., which was more focused on the gathering and harmonization of data, the results achieved in 3.1.2, including the stock assessments of four of the main species of sharks caught in the Pacific Ocean, plus data preparation for blue and mako shark assessments, as well as the efforts to develop data-poor methods for species, such as the oceanic whitetip, together with the limit reference points for sharks, are outstanding results achieved by the project that transformed the management and conservation of shark species caught in association with the tuna fishery. They also entailed a degree of international and inter-RFMO cooperation unprecedented in the management of these

- species. These two outputs have significantly helped to improve shark fisheries management across the Pacific.
185. Activities carried out by the project under the two outputs covered by the revised IO3 (3.1.1 and 3.1.2), were quite diverse and ample, as well as very innovative. They have helped not only to develop new methodologies for assessing data-poor shark stocks, for instance, but also to establish new ways of international cooperation between t-RFMOs, ranging from data sharing mechanisms under quite sensitive confidentiality issues, to cooperative analyses.
186. The indicator of IO3 was improvements in management of shark bycatch issues in the two Pacific tuna RFMOs (and beyond, if the project was involved), having as the end-of-project target two new processes, initiatives and guidelines addressing shark bycatch issues in the two Pacific tuna RFMOs, which was clearly surpassed, justifying the rating of Highly Satisfactory (HS) for IO3.
187. The original targets in the project document for these two outputs were: i) WCPFC and IATTC implement Pan-Pacific shark management plan for tuna fisheries; ii) bycatch data standards harmonized for sharks from IOTC and WCPFC; iii) four new Pan-Pacific species assessment (including species risk assessments); iv) conservation management measures drafted for sharks; and v) detailed inventory of t-RFMO shark data and an assessment methods catalogue. It is clear in this case that the activities carried out under these two outputs were much more aligned with the original targets than with the revised ones. The assessment of Highly Satisfactory would also hold for the original formulation of both outputs, as well as to Outcome 3.1. WCPFC and IATTC - integrate improved bycatch mitigation technologies and practices into their regular management planning process at regional and national levels.
188. In the past five years, at least seven shark stocks were assessed based on data provided entirely or partially by the ABNJ Tuna project. The impact of the longline fisheries on sea turtle conservation was also assessed at a global level for the first time, including confidential data that had never been available before. The significant improvement on the quality and quantity of data available on the impact of tuna fisheries on sharks paved the way for the adoption of conservation management measures needed for their conservation. During the period of project implementation, about ten conservation management measures related to the conservation of sharks and turtles were adopted by t-RFMOs.
189. In some cases, the adoption of a conservation management measure was greatly motivated by the results achieved by the ABNJ Tuna project, such as in the case of silky sharks in IATTC, and sea turtles in WCPFC. Such impact, however, spreads to all t-RFMOs, since the conservation management measures adopted in one t-RFMO in many instances sets a precedent, making the adoption of similar measures by other t-RFMOs much easier and likely.
190. The revised IO4. - Bycatch mitigation best practices adopted by RFMOs and/or targeted tuna vessels, had originally only two outputs:
- i. Output 3.2.1 - Longline seabird mitigation measures piloted with outreach activities.

- ii. Output 3.2.2 - Purse Seine shark and small tuna bycatch mitigation measures piloted with outreach activities.
191. Upon a recommendation from the mid-term evaluation, Output 1.1.3. - Catch and bycatch data improved for Northern Indian Ocean gillnet fishery and promotion of alternative gear to reduce bycatch, originally from Outcome 1, was moved to IO4, as well as the output 3.1.3. Bycatch Management Information System relaunched and data coverage expanded to cover global level. These four outputs will be addressed here in the same order of the PSC meeting report: 3.1.3, 3.2.1, 3.2.2, and 1.1.3.
 192. Output 3.1.3. - Bycatch Management Information System relaunched and data coverage expanded to cover global level, led by WCPFC with SPC, aimed at collating, catalyzing and disseminating new information to direct effective management to mitigate impacts on bycatch species, including sharks, seabirds, sea turtles and cetaceans. The objective was to reduce technical uncertainties across a range of stakeholders, allowing t-RFMO discussions to focus on management issues, such as cost and feasibility. Its core activity, stated in its title, was to redesign and update the BMIS.¹⁶
 193. As stated in its website, BMIS is an open resource useful for fishery managers, fishers, scientists, observers, educators and anyone with an interest in fisheries management and bycatch. As a reference and educational tool, BMIS aims to support the adoption and implementation of science-based management measures so that bycatch is managed comprehensively and sustainably. BMIS mainly focuses on highly migratory species with low reproductive rates, including seabirds, sharks and rays, sea turtles and marine mammals.
 194. Despite an initial delay of almost a year, BMIS was publicly re-launched in May 2017, holding presently almost 2 000 curated references, from all oceans, species identification and safe release guides, a bycatch bytes news feature and a Twitter feed. It has been widely used by more than 14 000 users who have viewed more than 50 000 pages. The number of visitors per month increased from about 280 to 900.
 195. Besides supporting the revamping of BMIS, the ABNJ Tuna project promoted a training and problem-solving workshop, held in Noumea, New Caledonia, in May 2018, centred on using BMIS, but covering a variety of issues related to bycatch, such as the use of circle hooks and finfish bait to reduce sea turtle interactions; the use of hook shielding devices to reduce seabird interactions; the development of safe release guidelines for sharks and seabirds; and improvements to collection of data relevant to sea turtle interactions.
 196. The improvement work done in the BMIS is continuing through technical fixes, feature enhancements (e.g. addition of a shark tagging meta-data module,¹⁷ loading of newly published papers and grey literature content), and upgrading, as recommended by peer reviews.
 197. A second core activity under this output was the evaluation of the effects of different fishing gear configuration and methods (e.g. large circle hooks, finfish bait, fishing gear design, such as the removal of the first or second shallowest hooks in each basket etc.) on sea turtle

¹⁶ <https://www.bmis-bycatch.org/>

¹⁷ In the end, this was not accomplished by SPC. However, they did manage to launch a prototype bycatch species data link which is a "viewer" with maps (see <https://data.bmis-bycatch.org/>).

bycatch in the longline fishery, as well as the possible impacts of applying these mitigation measures. That was achieved through two workshops, both held in Honolulu, Hawaii, in February and November 2016, attended by representatives from 21 countries.

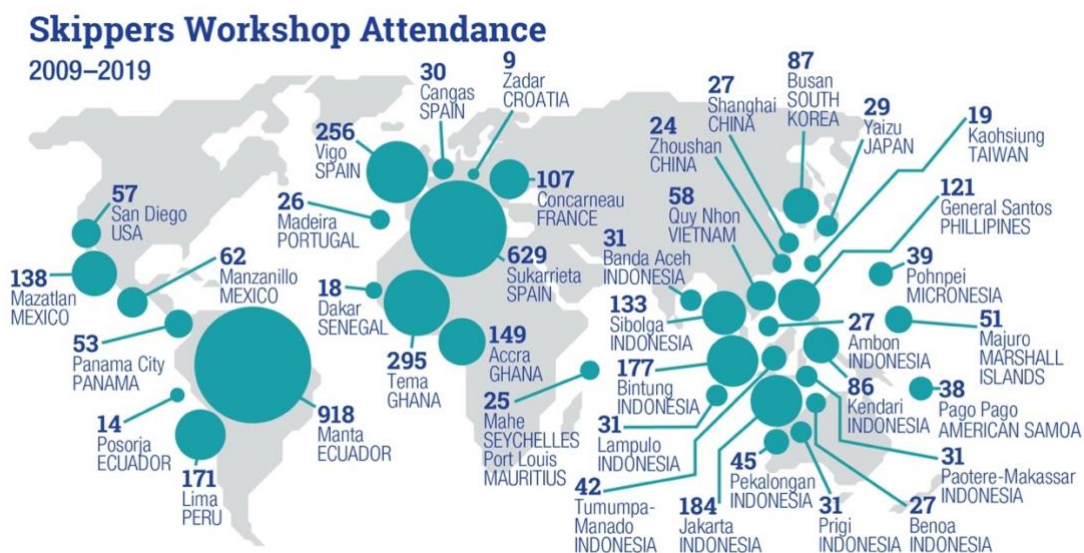
198. During these two meetings, confidential data from 2 300 sea turtle interactions with the longline gear, caught by 31 fleets, between 1989 and 2015, were made available for the first time ever, through time-limited confidentiality agreements, allowing for an unprecedented understanding of both the dimension of sea turtle bycatch in the longline fishery and the potential effectiveness of different mitigation measures. Partly as a result of this effort, WCPFC adopted, in 2018, a new sea turtle conservation management measures.
199. Although to gather these data might look rather simple *prima facie*, the magnitude of this achievement can't be overstated. As already noted by the mid-term evaluation, t-RFMOs have different confidentiality policies and arrangements, which reflect the great reluctance the fishing industry, and consequently the member states to whom they belong, has to disclose this information, fearing they could result in the adoption of severe restrictions to their fishing activity. Even when they are available, the catch data are usually gathered at a rather large scale (50x50), impeding much needed finer assessments. Access to these confidential data achieved by the project not only for sea turtles but also for sharks and seabirds, is an outstanding result, because of the analysis these data have allowed, but also, and much more important, because of the change of paradigm it entailed.
200. The two workshops related to the studies on shark post-release mortality were misplaced under this output, while they should have been addressed under Output 3.1.1, as already noted.
201. Other capacity building activities conducted under this output included a shark and sea turtle bycatch mitigation presentation, during an annual training course for fishers, held in Suva, Fiji, in December 2016; a paper on mitigation options for sharks, at the request of CCSBT, presented at the Ecologically-Related Species Working Group, in March 2017; a presentation on BMIS during the International Whaling Commission's Workshop on Bycatch Mitigation Opportunities in the Western Indian Ocean and Arabian Sea, in May 2019; and a paper in response to a mid-term evaluation recommendation (3.ii), entitled "Strengthening Bycatch Management in Global Tuna Fisheries: Obstacles, Opportunities and Outcomes", still unpublished.
202. Beyond the usefulness of the BMIS, the sea turtle bycatch mitigation workshops allowed a level of cooperation among scientists and t-RFMOs, including the use of confidential data, that was also unprecedented, setting a new *modus operandi* that may be replicated in the future for other bycatch species. One of the practical consequences was the adoption by WCPFC of a sea turtle conservation management measure in December 2018.
203. The objective of Output 3.2.1. - Longline seabird mitigation measures piloted with outreach activities, led by Birdlife - was to support the demonstration, refinement and promotion of at-sea bycatch mitigation techniques in fisheries for which there are high risk of interactions and for which there is a high potential for propagating successful techniques beyond the vessels immediately involved in the demonstrations. The project outreaching activities focused mainly on longliners operating from Suva, Fiji, and Cape Town, South Africa.

204. The main activities carried out under this output were: i) national awareness workshops; ii) observer training workshops; iii) at-sea demonstrations; iv) port-based outreach in Suva, Fiji; v) port-based outreach in Cape Town, South Africa; and vi) seabird bycatch assessment. Pilot EMS initiatives in South Africa and Brazil that were initially planned, were dropped early in project implementation, due to lack of engagement from local governments and fishing industries. Activities under this output were much delayed, nevertheless because Birdlife South Africa failed a mandatory fiduciary assessment required by FAO to qualify as an executing body.
205. Thirteen national awareness workshops were organized in Brazil (1), China (2), Indonesia (1), Korea (3), Malaysia (1), Mozambique (1), Namibia (2), South Africa (1), and Seychelles (1), with the participation of 279 people (21.5/WS), 79 of whom were women. During these events, representatives from the Government and the fishing industry were informed on seabird bycatch issues and mitigation measures, including the measures in force by t-RFMOs. Besides serving as a means for outreaching and capacity building, these workshops were also valuable to approximate the several stakeholders involved with seabird bycatch, from governments, the fisheries sector and NGOs.
206. Four observer training workshops were organized in Indonesia, Korea, Namibia, and South Africa, with 45 participants (11/WS), including 12 women. With a more practical approach, these workshops aimed at informing about seabird bycatch issues, implementation of bycatch mitigation measures and at-sea data collection.
207. About 40 at-sea demonstrations were done, in Indonesia, Korea, Namibia and South Africa (more than half). During these at-sea demonstrations, best practice mitigation measures and data collection, including seabird species identification, were conducted by observers onboard.
208. The port-based outreach work in Suva, Fiji, started in January 2018, with a focus on the Chinese longliners. More than 200 visits were done to vessels that entered the Suva fishing port, but the actual number of vessels visited could not be assessed, since many vessels were visited more than once. During the visits, always facilitated by an interpreter, informative material was distributed, with information on the seabird bycatch problem and the mitigation measures available.
209. The port-based outreach work in Cape Town, South Africa started in 2016, with almost 100 visits to foreign longliners done until 2018, when this activity was discontinued. even though fishing masters generally had a robust understanding of the obligations related to seabird bycatch mitigation measures, there was a wide variation in the level of actual use of the required measures.
210. Like for the case of sea turtles, one of the greatest breakthroughs of the ABNJ Tuna project regarding seabird bycatch was the global assessment done with data coming from various sources, overcoming previously unsurmountable confidentiality issues. The final seabird bycatch assessment done in South Africa, from 25 February to 1 March 2019, was preceded by six preparatory meetings: two regional pre-assessment workshops, held in February and April 2017; two meetings, in Korea and Japan, in January 2018, to discuss data arrangements; a global data preparation workshop, held in Cusco, Peru, in February 2018; and a small working group meeting, also in Peru, in late May, 2018.

211. Despite the variety and amplitude of activities carried out under this output, except for the global seabird bycatch assessment, which yielded a very concrete and positive result, it is very difficult to assess the actual impact the outreaching activities had in the sea. In this regard, the project should have devised some sort of feedback assessment on the actual changes in behaviour, such as the level of implementation of mitigation measures by longliners, for instance, resulting from the outreaching efforts. To the very least, some assessment of the level of awareness before and after the capacity building efforts should have been done, to allow an assessment of their effectiveness.
212. The national awareness workshops, however, seem to have been important for awareness raising among compliance officers, who were not much aware of the seabird bycatch problem before. Like in the case of Output 3.1.3, one of the main achievements of Output 3.2.1 was the assessment of seabird bycatch in the Southern Hemisphere, including, for the first time, confidential information, with an unprecedented level of cooperation among t-RFMOs, which set a new standard on how to work collaboratively on a global scale.
213. Similar to 3.1.3, although activities carried out by the project are likely not to continue after its termination, the results achieved by this output clearly demonstrated how the t-RFMOs can become much more efficient in their efforts to mitigate the impacts of the tuna fisheries on bycatch, if they work cooperatively. Even considering that the global seabird assessment, for instance, did not produce any specific recommendations to managers about data improvement or mitigation needs, it produced invaluable estimates of the number of birds killed that were not available before and would not be made available in the near future, were not for the efforts conducted by the ABNJ Tuna project.
214. Output 3.2.2 - Purse Seine shark and small tuna bycatch mitigation measures piloted with outreach activities, was led by ISSF. The objective was to support the demonstration, refinement and promotion of at-sea bycatch mitigation techniques in fisheries for which there are high risk interactions and for which there is a high potential for propagating successful techniques, beyond the vessels immediately involved in the trials. The output focus was on purse seine mitigation techniques to reduce the bycatch of small tunas and sharks, in the Atlantic, Indian and Pacific Oceans. The effort targeted at carrying out at least 180 days of sea trials and holding 12 skippers training workshops.
215. The cumulative number of days employed in sea trials to test various bycatch mitigation methods, from the start of the project to June 2019, was 640, more than three times the number originally planned. These sea days were undertaken in 25 sea trials, 15 of which under the ABNJ Tuna project, some of them in cooperation with t-RFMOs, such as the IATTC. The experiments run by ISSF investigated the behaviour of tunas around fish aggregating devices, including the influence of different types and depths of FADs, acoustic target strength for different tuna species (for identification of the species before encircling, thus reducing bycatch), biodegradable FADs, shark bycatch mitigation methods, etc. A compendium on at-sea bycatch mitigating activities, including the 15 trials conducted under the ABNJ Tuna project, was prepared and is available online.
216. These experiments have produced some very good results in various areas, some of which were already included in the capacity building efforts achieved through the skippers' workshops. Unfortunately, due to procurement problems, material for biodegradable FADs to be tested in Ghana did not arrive in due time, so at-sea trials will not be possible before the end of the project.

217. Until the end of 2019, ISSF had conducted about 100 skippers' workshops, with more than 1 000 participants, including skippers, boat owners, crew members, operators, etc. About 60 of these workshops were done in conjunction with the ABNJ Tuna project (five times more than initially planned), eight of which with financial resources made available through a letter of agreement between FAO and ISSF. These workshops have provided a very good opportunity for fishers and scientists to share views and learn with each other on bycatch mitigation measures and best practices for tuna purse seiners. Participants came from more than 20 countries, from all over the world (Figure 6). Although it is difficult to assess how these workshops have actually contributed to change the behaviour of skippers, the increase in skippers' acceptance of non-entangling FADs, for instance, suggests a significant improvement (Figure 7), indicating they are helping to change skippers perception and attitude towards bycatch.

Figure 6: Geographical distribution of participants in the skippers' workshops, promoted by the International Seafood Sustainability Foundation, as a capacity building tool to reduce bycatch in the purse seine fishery



Source: ISSF maps

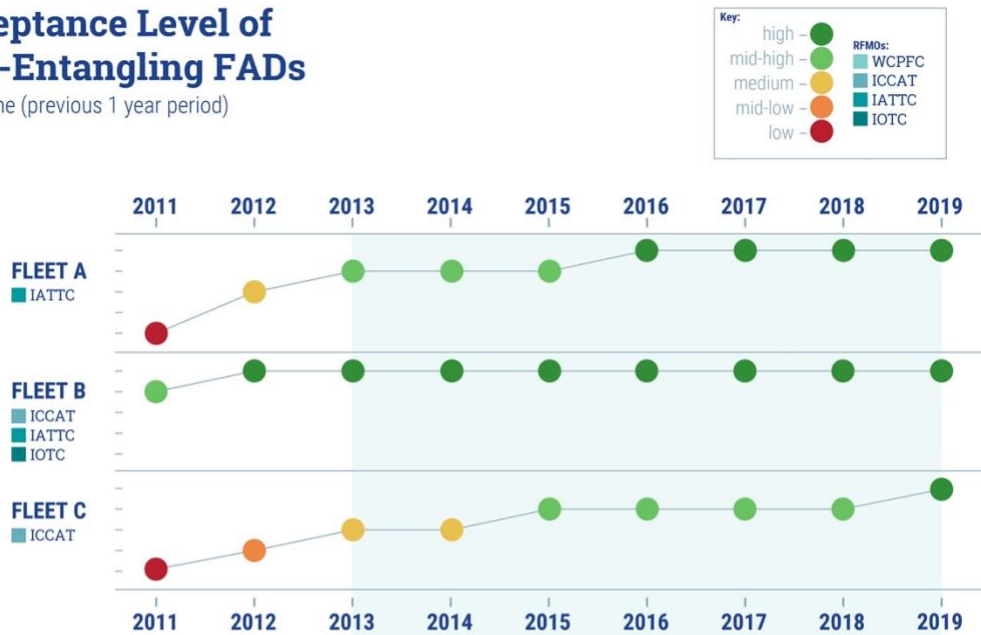
Corresponds to United Nations World map, February 2020

218. ISSF's participation in the ABNJ Tuna project represents, by far, the main engagement of the private sector. Although not directly related to project activities, the ISSF ProActive Vessel Register (PVR), which grew significantly in the past five years (Figure 8), certifies vessels that are committed to apply the best practices adopted by the foundation, which is in line with Outcome 3.2. Although the increase in the number of vessels in the PVR can't be attributed to the ABNJ Tuna project, efforts conducted under this output, particularly the support for skippers' workshops, certainly had a catalyst effect in promoting the PVR. The awareness-raising efforts done by ISSF were not dependent on ABNJ Tuna project and are, therefore, expected to continue after its termination.
219. The number of measures adopted by t-RFMOs on FAD regulation (Figure 9), including the mandatory use of non-entangling FADs, is another indication of real progress happening in the real world, partially due to the efforts of the ABNJ Tuna project. In 2019, 99.8 percent of the 554 purse seine vessels listed in the PVR were committed to implementing ISSF conservation measure 3.5 on non-entangling FADs, which became effective in October 2017, requiring transactions only with vessels that use non-entangling FADs.

Figure 7: Acceptance level of non-entangling fish aggregating devices, by skippers participating in the skippers’ workshops, promoted by the International Seafood Sustainability Foundation, as a capacity-building tool to reduce bycatch in the purse seine fishery

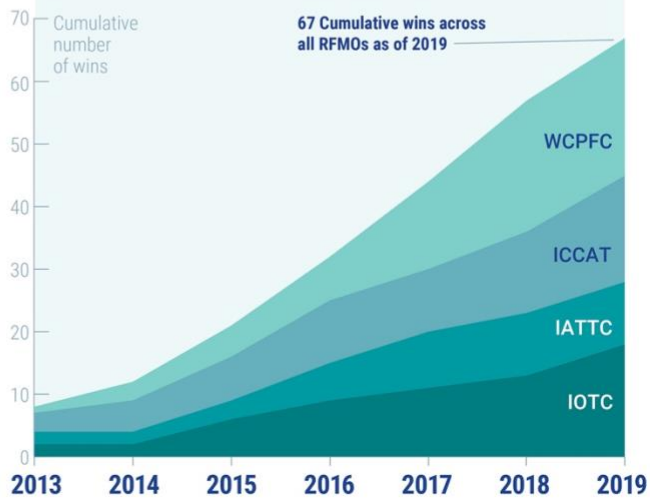
Acceptance Level of Non-Entangling FADs

Over Time (previous 1 year period)



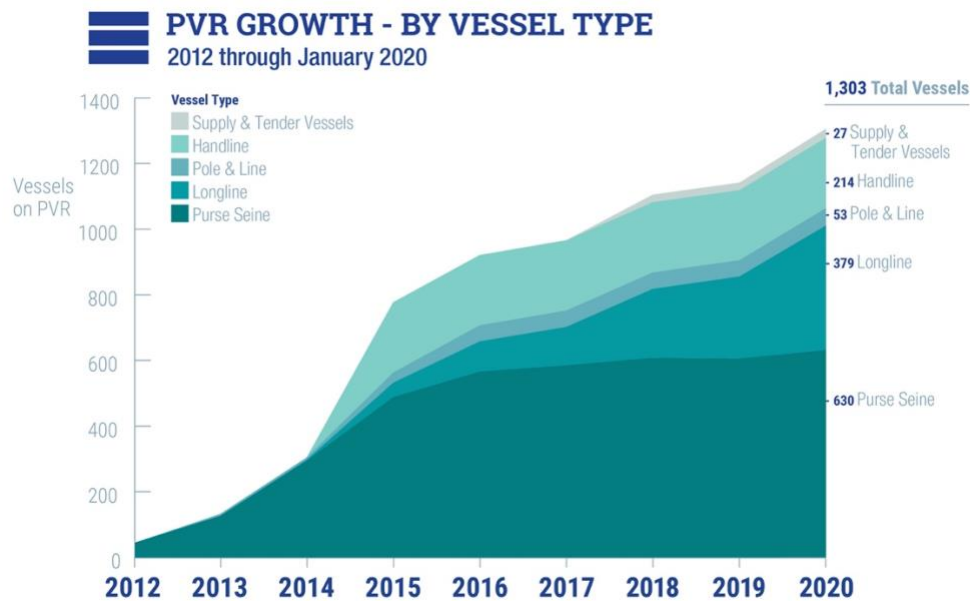
2013–2019 RFMO Progress on Proposals on: Fish Aggregating Devices (FADs)

Note: FAD data collection, FAD management, the FAD working groups, supply vessels, and non-entangling FADs are counted as separate wins.



Source: ISSF

Figure 8: Number of vessels enrolled in the the International Seafood Sustainability Foundation ProActive Vessel Register, by vessel type¹⁸



Source: ISSF

Figure 9: Number of management measures or decisions taken by t-RFMOs to regulate the use of FADs in the purse seine tuna fishery¹⁹



Source: ISSF

220. The last output under IO4. - Bycatch mitigation best practices adopted by RFMOs and/or targeted tuna vessels - was Output 1.1.3. - Catch and bycatch data improved for Northern

¹⁸ To be included in the PVR, tuna vessel owners need to commit themselves to apply meaningful sustainability efforts, such as implementing specific best practices, which are periodically audited.

Indian Ocean gillnet fishery and promotion of alternative gear to reduce bycatch. Originally placed under Outcome 1.1, it was transferred to Outcome 3.2., upon a recommendation from the mid-term evaluation, since it was much more related to the reduction of bycatch than to management strategies.

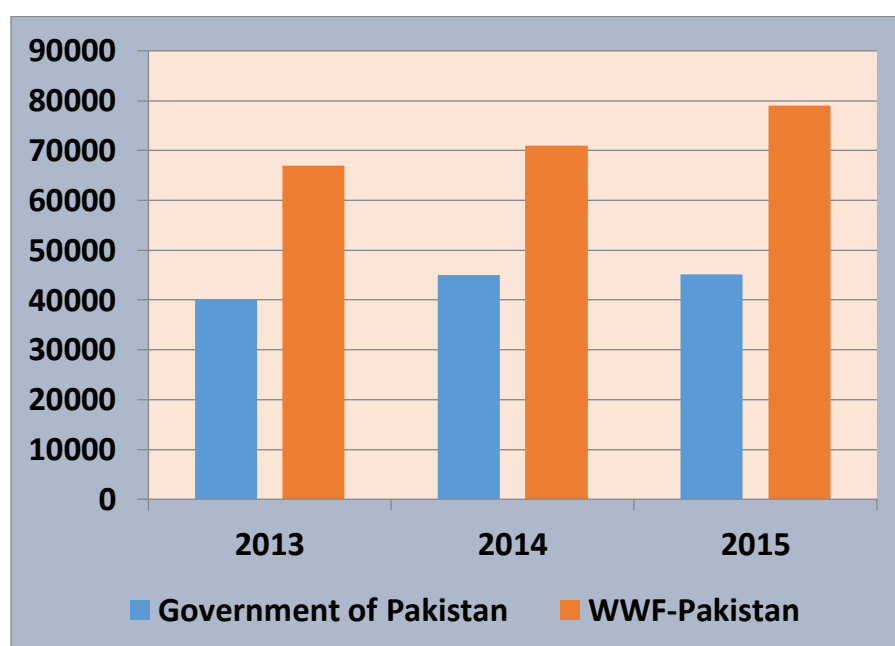
221. Having WWF Pakistan as the leading agency, the objective of Output 1.1.3. was to obtain estimates of catch by species (include bycatch species) in the gillnet fisheries of the Northern Indian Ocean through crew observers and to raise the awareness of the fishing communities about the ecological impact of the gillnet fishing gear, including trials of modified gear. It had six main activities: i) capacity building workshops; ii) a compliance programme, including a crew-based observer programme; iii) evaluation of alternative gear configuration; iv) awareness campaigns; v) stakeholder consultations; and vi) synthesizing data to t-RFMO (IOTC).
222. Four capacity building regional workshops were held, as originally planned in the project document. The first one in Karachi, Pakistan, in March 2016, on the development of national plans of action - Sharks; the second one also in Karachi, in May 2017, on transparency and traceability of tuna fisheries in the northern Indian Ocean; the third in Muscat, Oman, in January 2018, to develop a bycatch regional strategy for mitigation of cetacean interactions with pelagic fisheries, particularly in the tuna gillnet fisheries; and the fourth again in Karachi, in December 2018, on the IOTC Regional Observer Scheme (ROS), in collaboration with the Commission. Besides these four workshops, two National skipper workshops were also held in Jiwani, Pakistan, in January 2019, and in Karachi, Pakistan, in August 2019.
223. The second activity was related to the need to improve compliance by Pakistan and other countries in the Northern Indian Ocean with data reporting obligations established by the Indian Ocean Tuna Commission. The main tool used to improve data collection was the so-called Crew-based Observer Programme (CBOP), which is actually a programme to pay a trained crew member to fill in a fishing logsheet. Despite its simplicity, this initiative had a huge impact on the amount and quality of the data collected by the Pakistani tuna gillnet fishing boats with two dramatic consequences.
224. The first result of the CBOP was the realization, for the first time, of the actual dimension of the bycatch problem in this fishery, which is not restricted to Pakistan, but is widespread in the region, since Iran, Oman, Yemen and Somalia are also engaged in this fishery. Based on the data from the CBOP, the annual number of bycatch species captured, and mostly killed, by the almost 700 gillnet fishing boats operating in the country alone was in the order of 12 000 cetaceans and 29 000 sea turtles. The second impact was the almost doubling of the amount of annual tuna catches reported by Pakistan to the IOTC (Figure 10).
225. By the end of 2019, 75 trained observers (crew member) were embarking regularly in the gillnet tuna fishery operating from Karachi, Pakistan, resulting in about 15 percent observer coverage. The data usually collected by the CBOP include not only information on catch, effort and size distribution of tunas, the main target species, but also of bycatch specimens,

¹⁹ Includes measures or decisions related to FAD data collection, FAD management (like a closure), the FAD working groups, supply vessels limits and/or data collection rules or observer data, and bio-FADs, deployment limits, set limits, definitions, FAD recovery policies, FAD marking and NE FADs as separate wins. Wins can be a measure or the start of a working group to develop recommendations, etc. Also, if a measure that includes FAD elements was rolled over, it was included as wins (from ISSF).

including endangered, threatened or protected (ETP) species such as marine turtles, whale sharks and cetaceans. The CBOP observers collect data and take photos and short movies, with mobile phones, including of safe releases of ETP species, helping to disseminate best practices. The data collected by the CBOP programme have helped to fill in many gaps in the information pertaining to catches of tuna and tuna-like species, as well as of bycatch species, contributing to fulfil Pakistan reporting obligations with IOTC. As a direct result of the CBOP, Pakistan compliance score in IOTC grew from less than 10 percent to over 60 percent during implementation of the ABNJ Tuna project.

226. Another very positive side effect from the CBOP was the drastic improvement in the relationship between WWF Pakistan and both government authorities and the fisheries sector. Met with great suspicion and distrust, at first, the activities developed by WWF Pakistan in the context of the ABNJ Tuna project were instrumental to forge a very strong and trustworthy partnership among all stakeholders, with many benefits for both conservation and sustainable fisheries development. Accordingly, the Government of Pakistan gradually changed its position from confronting and denying the data generated by the project, to embracing and fully endorsing them, thus significantly strengthening Pakistani political standing in IOTC.

Figure 10: Data on the landings (t) of large pelagic fish species caught by Pakistani tuna gillnet fishery, from 2013 to 2015²⁰



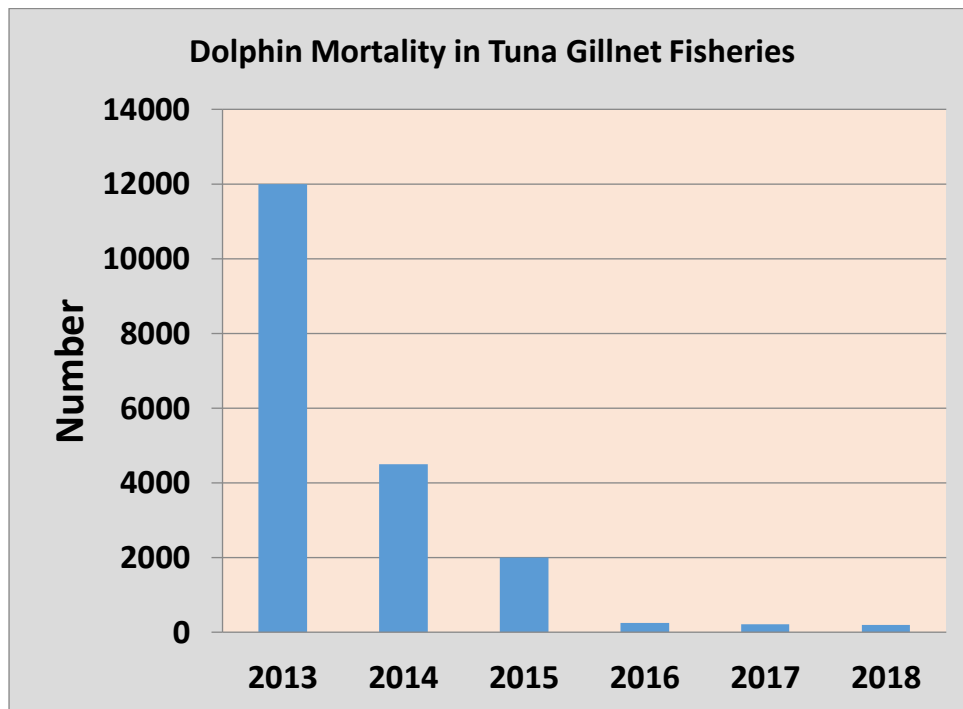
Source: WWF Pakistan

227. The ABNJ Tuna project has played an important role in reinforcing the links between WWF-Pakistan and IOTC, as well. Sample data from the CBOP was first shared in connection with the joint mission ABNJ/IOTC in December 2018, as well as cooperation on issues related to data quality review, databases, documentation of review criteria, etc.

²⁰ Officially presented by the Government of Pakistan to IOTC and estimated by WWF Pakistan, from the data collected by the Crew-based Observer Programme, maintained by the ABNJ Tuna Project.

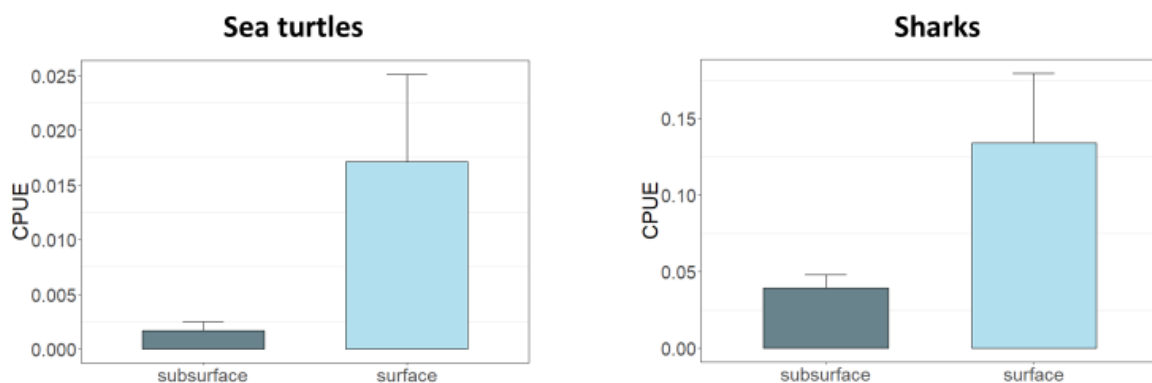
228. The good results achieved by the CBOP in Pakistan has raised the interest of other countries in the region, such as Sri Lanka and the Maldives, to follow a similar track. A paper on the crew-based observer scheme (IOTC-2018-WPDCS14-32) was already presented to the IOTC Working Party on Data Collection and Statistics, in November 2018, which made a recommendation to the Scientific Committee to consider adoption/validation and verification of using alternate data collection mechanisms, such as CBOP, port sampling, and e-monitoring for small-scale vessels.
229. Presently (by the time of the visit of the evaluation team in November 2019), a software is being produced, with support from the IOTC secretariat, for an online database to be developed for improving the data sharing mechanisms with both the Government of Pakistan and the IOTC Secretariat.
230. In addition, a data validation system is also being introduced through the coupling of technologies. A targeted 5 percent of the vessels having on board observers were selected for the installation of electronic monitoring systems. Six automatic identification system (AIS) units were installed on the observer vessels for the piloting of the electronic monitoring of the fishing areas of the vessels, together with affordable closed-circuit tv (CCTV) cameras and a Shellcatch camera to validate the catch by species. According to one of the interviewees, despite the project strongly recommended the use of these much cheaper solutions, unfortunately, the procurement launched did not result in these providers (e.g. ShellCatch, Flywire) bidding for the contract.
231. Although they were not yet available by November 2019, the data generated by these electronic gears, much simpler and cheaper than the EOS system used in Fiji and Ghana, will be extremely important to independently validate the data being collected by the CBOP.
232. The third activity under this output - evaluation of alternative gear configuration to reduce the bycatch impact of the tuna gillnet fishery - was, in a way, a direct consequence of the second activity, becoming particularly urgent once the staggering data on cetacean and sea turtle bycatch became available. The reduction of the bycatch impact was pursued through two parallel initiatives: i) changes in the design and operation of the gillnets used to catch tunas; and ii) the introduction of longline fishing technology.
233. At the very early stages of the ABNJ Tuna project implementation in Pakistan, WWF-Pakistan introduced the use of subsurface gillnetting as a possible means for reducing the entanglement and consequent mortality of cetaceans, sea turtles and pelagic sharks in the tuna gillnet fishery. Indeed, a very simple change in the fishing method, by placing the gillnet about 2 metres below the surface, proved to be extremely successful in reducing the amount of bycatch, while, at the same time, increasing the catches of the main target species, particularly of yellowfin, longtail and skipjack tunas (by 30 percent to 40 percent). Although catches of some important species, such as billfishes and dolphinfish, substantially decreased, the increase in catches of the target species more than compensated for those losses. As a direct result of the subsurface gillnetting, entanglement and resultant mortality of cetaceans decreased from an estimated 12 000 in 2013, to mere 186 in 2018, a reduction of 98.5 percent (Figure 11). Quite significant reduction in the catches of sea turtles and sharks were also observed (Figure 12).

Figure 11: Number of cetaceans entangled per year, from 2013 to 2018, in the Pakistani tuna gillnet fishery (up to 2013: 100 percent surface gear; from 2016 on: 100 percent subsurface gear)



Source: WWF Pakistan

Figure 12: Catch per unit of effort of sea turtles and pelagic sharks caught in the Pakistani tuna gillnet fishery²¹



Source: WWF Pakistan

234. According to fishers, the gains resulting from the reduction of the labour and operation time required to disentangle bycatch specimens were also a very important complementary driver for the overall adoption of the subsurface operation. The operation of subsurface gillnetting is also comparatively hassle-free because the chances of fouling during deployment and retrieval are reduced. Consequently, all the gillnet fishing boats of Pakistan shifted from surface to subsurface gillnetting within a span of two years. They started

²¹ With surface gear (used up to 2013) and subsurface gear (used from 2014 on, with 100 percent usage from 2016 on).

- adjusting the gillnets by August 2014 and by the end of 2016 the entire fishing fleet had already converted their fishing gears.
235. This method of fishing seems to be getting popular in other countries in the region as well. Observers from the CBOP have reported that the success attained by the Pakistani fleet has induced fishers from other countries, such as India and Iran, with whom they have regular interaction, to also adopt this methodology. According to them, the entire Iranian fleet has already modified their gillnet to subsurface mode, as also already done by part of the Indian fleet based in Gujarat State. This information, however, could not be independently verified.
236. The lack of independent ways to verify such outstanding reductions of bycatch from the Pakistani tuna gillnet fleet also raises concerns on its veracity, strongly recommending the urgent use of independent methods of verification, such as the cheaper electronic equipment described above. According to one of the interviewees, although delayed, procurement of EMS was launched and ready in early 2019. The problem was that the bidders were the same as the ones used in Fiji and Ghana, which were much more expensive (e.g. Satlink) and would not have resulted in a sustainable solution. In agreement with WWF-Pakistan, it was then decided that alternative cheaper solutions should be sought. However, all these processes should have happened much earlier in project implementation, considering the relevance of the results achieved for the ABNJ Tuna project.
237. The reduction in the catch of cetaceans, for instance, has not been validated by independent means, while the data provided to compare the catch per unit of effort of sea turtles and sharks have not been standardized, raising questions on their validity. A serious effort to independently verify and analyse all the data available on these reported bycatch reductions should be done by the ABNJ Tuna project as a matter of urgency, considering their relevance to the objective of the project. In fact, this should have been done much earlier in the implementation of the ABNJ Tuna project, being a serious and unfortunate oversight, within this potentially outstanding success story.
238. It is also difficult to understand why these results were only marginally mentioned in project reports. The only mention in the last PSC meeting report, for instance, was: The project team has also encouraged observers to continue the use of sub-surface fishing gear and the results are expected to be shared with IOTC secretariat in the upcoming meetings.
239. According to the project coordination, however, they were carefully seeking independent verification before communicating this success, which is understandable and commendable. Notwithstanding, these data are presently being collected by 75 different crew members from over 100 different boats, who have been providing similar results for the past three years, reducing, thus, the likelihood of falsehood.
240. Results/findings from the experiments/trials have been reported to several forums, including the International Conference on Marine Mammal Protected Areas (MMPA), held in Greece in April 2019, and the International Whaling Commission's Bycatch Mitigation Initiative workshop, held in Kenya in May 2019.
241. The second initiative aimed at reducing the impact of the Pakistani gillnet fishery on bycatch species was the introduction of longline fishing technology, not yet popular in Pakistan. The conversion of the gillnet vessels to longliners was envisaged as a possible

- option for a more selective and eventually even more productive way of catching tunas, while reducing the bycatch of non-target species. Besides being more selective, the use of longlines to catch tunas would also significantly improve the quality of the fish caught, increasing their market price. The project aimed at converting 13 wooden boats (<24m), currently using 6-12 km-long gillnets for tuna fishing, to longlining. The project would train skippers in catch management, data recording (catch per unit of effort, composition, bycatch species etc.), finding of fishing grounds, etc., for at least six fishing trips.
242. By the time the evaluation team visited Pakistan in November 2019, despite good intentions the fishing gear (including lines, hooks, hydraulic winch, etc.) had not yet arrived, due to procurement problems, within the responsibility of FAO. According to the information provided by WWF Pakistan, all the bureaucratic and administrative procedures had already been concluded so that the delivery of equipment was being expected by the end of December 2019. It is not clear to the evaluation team if it has finally arrived or not.
243. The difficulties faced by FAO with the procurement process have been an overall complaint in the ABNJ Tuna project, with at least two serious delivery failures within the project: the buying of material for the biodegradable FADs in Ghana and the longline fishing gear in Pakistan.
244. Some trials with the use of LED in the gillnets were also done, as an attempt to reduce bycatch, but the results achieved were not promising. Alternative fishing for the purpleback flying squid is also being evaluated and encouraged.
245. The fourth activity under this last output of Component 3 was the awareness-raising campaign. It involved the preparation and translation of identification guides in Arabic, Urdu and Persian, for ample distribution, which was accomplished. A short documentary on the main achievements by the project was also prepared and should be ready for distribution shortly.
246. The fifth activity was the establishment of a process for stakeholder consultation, particularly by the creation of the Marine Plan Advisory Committee (MPAC), which met five times, until November 2019. It has 16 members, including representatives from the federal and provincial government, academia, private sector (only the fisheries export association), and NGOs (International Union for Conservation of Nature (IUCN) and WWF-Pakistan). A strange and grave omission in MPAC composition is the lack of any representative from the fisheries sector (boat owners and fishers). The need to improve stakeholder consultation, including with fisher communities, was also recommended by the mid-term evaluation (Recommendation 3.v).
247. The sixth and last activity under Output 1.1.3 of Component 3, was to synthesize the Pakistani data on tuna fisheries for their proper delivery to the IOTC. As discussed above, the advent of the CBOP allowed a significant improvement of the information available on the Pakistani tuna gillnet fishery, resulting in a significant revision of the fisheries statistics provided by Pakistan to IOTC. Since project inception, a dozen reports/papers were prepared and submitted to the IOTC. Amendments to the fisheries legislation have also been made for conservation of sharks by the provincial governments of Balochistan and Sindh, due to the project.

248. To sum it up, the Crew-based Observer Programme in Pakistan has greatly improved the quality of the data collected on the Pakistan gillnet fishery, not only allowing a much more accurate estimation of the amount of tunas and bycatch species captured (almost double of previous Government estimates), but also significantly improving compliance with IOTC (from 6 percent to 53 percent). The data also indicated a large incidence of bycatch (about 12 000 cetaceans and 29 000 sea turtles per year). Based on the data from the CBOP, however, the introduction of the subsurface gillnet, largely driven by the ABNJ Tuna project, resulted in a decrease of cetacean catch by 98.5 percent, dropping from 12 000 in 2013, to 186 in 2018. The bycatch of sea turtles and sharks has also shown a significant reduction, while the catch of the main tuna species (yellowfin, longtail and skipjack) increased from 30 percent to 40 percent. Although these data have not been validated by an independent method, such as cameras on board, they were consistent among the 75 observers, reducing the chances of false reporting. These results are one of the greatest, if not the greatest, successes of the ABNJ Tuna project.

3.3 Efficiency, project implementation and execution

EQ 6. How efficiently did the project perform regarding implementation and execution?

Finding 8. The project had a satisfactory (timely and within budget) record of completion, despite some administrative difficulties related to procurement policies and procedures, such as travel limitations for the Project Management Unit staff, that are impediments to the efficient implementation of projects in FAO.

249. There was also very little involvement of the FAO country or regional offices, not only during the design phase, but during project implementation. That problem was detected by the mid-term evaluation and confirmed by the final evaluation. The FAO Fiji Office, for instance, were not much aware or involved in project implementation.
250. Besides the deficiencies experienced by the project in its design and planning phase, the project suffered from administrative deficiencies/bureaucratic hurdles stemming from FAO institutional structure/administrative procedures. These included mainly: i) a failure of some key partners to pass FAO fiduciary assessments, significantly delaying the execution of at least two outputs (such assessments should have done well before project implementation and not after the project implementation had already started); ii) FAO procurement processes were extremely cumbersome, as already noted, with some procurements not yet over, even more than five years after the project started; and iii) the limitation of travel days per year by the Project Coordinator and other Project Management Unit staff, an internal rule of FAO that really call into question its ability to implement a project of such a magnitude. The long delays by FAO in executing letters of agreement with executing partners was also a complaint by several interviewees, which delayed the initial phase of implementation and the mobilization of efforts by partners.
251. As noted in the final evaluation at the programme level, several FAO reviews and evaluations, the latest being the 'Evaluation of FAO's Strategic Results Framework', 2019, have pointed out inefficiencies in FAO's contracting and procurement procedures, which lag behind other comparable agencies. A revision of corporate policies and guidelines has been proposed in these assessments for consideration by management.

252. Despite these limitations, the Project Management Unit is to be commended for the excellent work it has done to keep such a complex and multifaceted project, with close to 20 partners and outputs, running simultaneously and delivering top quality results. The vast experience and professional skills not only of the staff directly involved in the Project Management Unit, but also of some of the consultants hired, was key for this success. The fact that much of the staff in the Project Management Unit was hired early in project implementation was also very important, despite some handicaps, such as the limited time the Project Coordinator had at the beginning (since he was accumulating two different jobs), and the late hiring of a communication professional, due to budget limitations.
253. The ample partnership built in the project has been one of its strength, mainly due to the great experience of partners and their relevance for the objective of the project, such as the t-RFMOS and the ISSF, which was a crucial bridge to catalyse participation by the fishing industry, as well as NGOs, in addressing the bycatch issues (e.g BirdLife International, WWF, etc).
254. The total GEF contribution to the ABNJ Tuna project was USD 30 million. However, USD 2 476 322 was deducted as GEF project fee to FAO, while another USD 350 000 was used for the ABNJ Tuna project. Thus, USD 27 172 936 remained for the implementation of project activities. Of that amount, by the end of January, the total delivery (actuals+ commitments) was USD 25 244 088 (93 percent of allocated budget), while the project had delivered most of the committed outputs. At least part of the balance of USD 1.9 million will be used to serve as a bridge to a possible follow-on project, besides documentation and dissemination of the project achievements and lessons learned, so it can be said that the ABNJ Tuna project had a very satisfactory record of completion, both timely and within budget. Therefore, overall, despite some evident deficiencies during project identification and preparation, and delays resulting from FAO administrative and bureaucratic procedures, the final evaluation considered the overall rating for efficiency as Moderately Satisfactory (MS).

3.3.1 Monitoring and evaluation

EQ 7. How efficient has been the design and implementation of project monitoring and evaluation?

Finding 9. The original M&E design of the tuna project was inadequate, lacking a theory of change and having confusing outputs and indicators, forcing a significant restructuring, following the mid-term evaluation. Despite this shortcoming, the progress reports were timely, very well-designed, and quite useful for tracking the progress achieved by the project.

255. In line with GEF guidelines, the programme monitoring and evaluation system was assessed and rated on 'M&E design', 'M&E plan implementation' and 'Budgeting and funding for M&E activities'. In this regard, 'M&E plan implementation' was considered a critical parameter for the overall assessment of the M&E system, with the overall rating for the M&E systems not being higher than the rating on 'M&E plan implementation'.

3.3.1.1 Monitoring and evaluation design and start-up

256. The M&E design is described briefly in the project document (item 4.5- Monitoring and Reporting), with the indication that the Tuna project is an integral part of the "Global

Sustainable Fisheries Management and Biodiversity Conservation in the ABNJ” Program, and that, as such, the project monitoring and evaluation system and activities should constitute a “module”, self-standing but fully integrated into the overall M&E system put in place at the programme level. For the project level, outputs were to be evaluated for the degree to which they contributed to expected outcomes and ultimately to the programme’s goal.

257. As noted in the inception report, the project, as approved in 2014, did not have a theory of change, since it was not required for FAO-GEF projects at that time. Notwithstanding, despite the project strategy was largely set out in the original results framework, project outcomes and the final desired impact was only partly described, besides being unclear and confusing in many places. These limitations were recognized by the Project Steering Committee, in July 2015, as well as by the mid-term evaluation, which noted the very large set of indicators (47), including 34 indicators at output level, to measure project progress and impact, many of which were poorly designed and not SMART (Specific, Measurable, Assignable, Realistic, Time-bound). Besides, many of the project indicators at output-level were actually indicators for outcomes and not linked to delivery of the output itself, while in other cases the indicators were confused with sources of verification. Other indicators sought to measure conditions for which the project could not collect data directly or which were not readily available, such as the percentage of fishing vessels engaged in illegal, unreported and unregulated fishing. Many of the targets set for the indicators were also unrealistic. In addition, there was little or no baseline available for many of the indicators at inception. These were major weaknesses in the M&E design of the Tuna project.
258. In the absence of a theory of change, the mid-term evaluation reconstructed one, based largely on a review of the various components/elements of the project and other sources, with additional feedback on an initial draft TOC from the Project Management Unit staff. In a parallel initiative, during the fifth Meeting of the Common Oceans ABNJ Program Global Steering Committee, held on 9 July 2016, following the Tuna project 2015 PSC meeting, a programmatic TOC, aimed at providing the basis for a programmatic evaluation framework, was developed retroactively, with inputs from the projects and also relying on the experiences from the Coastal Fisheries Initiative where the programmatic TOC was central during the design of the projects. Finally, a revised project results framework was developed, with many changes in the proposed outputs and outcomes, as well as in the expected targets by the end of project implementation.
259. Due to all the shortcomings indicated above, the evaluation team considered the **rating of M&E design at start up as Moderately Unsatisfactory (MU)**.

3.3.1.2 M&E plan implementation

260. The M&E plan requested the preparation of several specific reports: i) project inception report; ii) results-based annual work plan and budget (AWP/B); iii) project progress reports; iv) annual project implementation review; v) technical reports; vi) co-financing reports; vii) GEF biodiversity and international waters tracking tools; and viii) terminal report. These reports were prepared and distributed to the tuna Project Steering Committee and ABNJ Global Steering Committee.
261. All the progress reports were properly prepared and submitted, as scheduled, for the appreciation of the Steering Committee meetings and submitted to GEF SEC as required. They were overall timely, very well-designed and quite useful for tracking the progress

achieved by the project. Despite their high quality, however, there was generally little feedback from partners, a problem already detected by the mid-term evaluation. The evaluation team considered the rating of M&E plan implementation as Satisfactory (S)

3.3.1.3 Budgeting and funding for M&E activities

262. As required for all GEF full-sized projects, the Tuna project had mid-term evaluations in 2017, funded with its own budget. The whole budget for the Tuna project M&E plan was close to USD 800 000, but most of these resources were to cover the salary of the M&E expert, consultants and travel, with no funds explicitly dedicated to collecting information for reporting purposes.
263. Due mainly to the shortcomings related to the M&E design, the overall rating for M&E was considered as Moderately Satisfactory (MS).

3.3.2 Project coordination and management

EQ 8. How efficient has project coordination and management been?

Finding 10. The Project Management Unit was very efficient and highly qualified. The competent management and coordination of project activities by the Project Management Unit was undoubtedly one of the main drivers for the success of the project.

264. There are two different aspects that should be highlighted regarding "Project Coordination" of the ABNJ Tuna project. The first, more related to management, was the coordination effort conducted by the Project Management Unit in FAO, to ensure that all activities undertaken by each of the 20+ outputs, including the utilization of financial resources, were conducted in a timely manner to achieve the expected results. In this context, as already noted, the work done by the Project Coordination team, despite some initial limitations (i.e. in the early stages of the project, the Project Coordinator had to work part time only, because of his dual role as Project Coordinator and Executive Secretary of the IOTC), was outstanding and highly efficient and should be commended.
265. The Project Management Unit team is very experienced, with an excellent network within the tuna fisheries, with longstanding relationships with many of the partners and stakeholders, an asset to the project that can't be overestimated. The Project Management Unit administrative capacity and creativity were particularly important to mitigate, to the extent possible, the many deficiencies stemming from FAO administrative processes, such as burdensome procurements and the limitation in the number of travel days for FAO staff, as already noted.
266. A second aspect of coordination, more related to internal communication, was the coordination of activities between the different outputs of the three project components. In this regard the project was much deficient, since the activities of the different outputs were largely conducted as as totally independent projects, a situation that was also mimicked at the programme level, with many opportunities for synergic gains between different outputs, at project level, and between the different projects, at programme level, being certainly lost. Coordination and communication do not happen spontaneously, they need to be carefully planned and enough resources (human, financial and technical) must be devoted to these activities. This has not been the case at the project level, nor at programme level.

267. The poor knowledge and understanding of different parts of the project and their linkage within the group of project partners and stakeholders was already highlighted by the mid-term evaluation. As noted by many interviewees, the only opportunity they had to be informed and interact with the other project participants engaged in the other outputs was during the annual Project Steering Committee meetings. Notwithstanding, a very limited number of people actually involved in the various activities conducted by the project had the opportunity to attend those meetings. Such a shortcoming also compromised the level of ownership and sense of belonging by many stakeholders.

3.3.3 Knowledge management and communications

EQ 9. How efficiently has the project handled knowledge management and communication?

Finding 11. The project generated an enormous amount of knowledge, but it did not have a structured lessons learning, nor an efficient communication strategy, targeted at specific interest groups and stakeholders, such as t-RFMOs and their member states. External communications focused more on passive consumption (social media and web-based information) than on the active engagement of key stakeholders.

Finding 12. Communication, integration and consequent interactions between the various components of the ABNJ Tuna project were very limited, resulting in a loss of opportunities for synergic gains.

368. Most of the issues related to communication and knowledge management discussed here were also common to the Deep-Sea project, as well as to the programme as a whole. An enormous amount of knowledge and experience has been generated by the ABNJ Tuna project, and many of the results had a practical effect, having been put to good use on the water. However, the project did not have mechanisms in place for systematically integrating the acquired knowledge into the daily work of t-RFMOs and for ensuring their needed appropriation by them.
369. In the case of the ABNJ Tuna project, the main target of communication efforts was clearly the t-RFMOs and their member states. Although it is important to publicize project results to a broad audience, an aspect particularly relevant for the donor agency, for the sake of transparency, in the case of the Tuna project the general public should not be the main target of the communication efforts. Therefore, although making reports available in the project website and having a good visibility of the results promoted in social media are important, a more direct approach addressed specifically to t-RFMOs would have been crucial for a successful communication of the project. As well noted in the Deep-Sea final evaluation report, writing reports and convening workshops is not enough to publicize project achievements. The results that might be useful have to be actively "sold" to those who could benefit from them.
370. In the evaluation's view, communication efforts by the ABNJ Tuna project were much more for passive consumption, lacking a more active engagement with key stakeholders, such as the t-RFMOs. The evaluation believes that the rather generic and 'passive' outreach tools used by the project were not sufficiently effective, and that additional, more proactive tools should have been sought for.
371. One of the impediments for developing such activities, as pointed out by the Project Management Unit, was the limitation for FAO staff in the number of travel days in a year.

Other great difficult was the very limited budget allocated to communication, with an expert dedicated to this task being hired very late in project implementation. So, for a long time, as noted by the mid-term evaluation, the project not only lacked a communication plan, but also had very limited financial and human resources working on communication and outreach.

372. Finally, as noted in the ABNJ Program final evaluation report, there was no provision for structured lessons learning and experience-sharing between project partners and interested groups, identification of good practices, development, dissemination and feedback on communication products, a problem that was identified both at project and programme level. As noted by the mid-term evaluation, the project lacked a coherent framework for capturing lessons learned, and despite the ABNJ programme had a Common Oceans Communication Strategy to support the project, its inputs were very limited as there was no dedicated project to implement the strategy, and it did not cater to the project's varied audience.

3.3.4 Co-financing

EQ 10. How has the project fared regarding the level of co-financing?

Finding 13. The project mobilized much more than the targeted magnitude of co-financing required, from various partners. The vast majority of co-financing was as in-kind contribution; composition and details of specific utilization remained unclear and somewhat opaque, raising the prospect of inflated estimates.

Finding 14. The project did not identify nor secured commitments towards recurrent expenditures, which are an important form of co-financing with significant implications for sustainability.

268. Co-financing of the Tuna project was already addressed, together with the other child projects, in the programme evaluation and, therefore, it will be presented here in a rather summarized manner.
269. The ABNJ Tuna project was implemented globally, covering all four oceans of the world: Atlantic Ocean, Indian Ocean, Pacific Ocean and Southern Ocean. The project was implemented by FAO, together with several executing agencies, having a budget of USD 27 172 936. During the project preparation phase, a very large amount of co-financing, close to USD 150 million, was committed, largely as in-kind. The final co-financing declared by executing partners, however, was much higher, approaching USD 265 million. This amounts to a proportion very close to 1:10, which is much higher than the targeted magnitude of co-financing required for a GEF project.
270. Notwithstanding, in-kind contributions represented, by far, the largest share of co-financing in the Tuna project, but details of specific utilization remained unclear (a black box, according to the framework evaluation). The evaluation was unable to obtain breakdowns of in-kind resources in terms of human resources; contribution to infrastructure, equipment and hard assets acquired in the project; and administrative overhead counted towards ABNJ co-financing. Responses were somewhat ambiguous as to how co-financing was actually interpreted; whether additional staff were recruited for the Tuna ABNJ project activities; and whether the project activities added to the expenditures of the entities or were the co-financing values merely extracted from existing

expenditures. In the absence of specific and stringent guidelines on detailing of co-financing estimates, the evaluation notes a risk of mechanistic and potentially inflated estimates of contributions, which defeats the purpose behind co-financing requirements.

271. Proper co-financing is particularly relevant for sustainability of results, in the case of recurrent expenditures. One such example is the EMS in Ghana. Despite the success of the project, it has been discontinued (suspended as of December 2019) due to the lack of funds, since the government of Ghana had not budgeted recurrent expenditures, including budgets for human resources, operating and maintenance costs for the infrastructure and hard assets, etc. that were so far funded by the GEF project.

3.3.5 Factors affecting performance

EQ 11. What factors have affected the delivery and results of the project and how can the delivery be improved in a next phase?

Finding 15. The factors that supported or hindered the effectiveness of project delivery included both enabling and hindering factors. Enabling factors: domain leadership, comparative advantage and credibility of implementing agencies and executing partners; effective partnership management; and strong institutional commitment by environmental NGOs and the fisheries sector. Hindering factors: under-resourced knowledge management and communication; and cumbersome FAO operational/administrative procedures.

373. The ABNJ Tuna project constituted a complex, multi-disciplinary, multi-year, multi-regional intervention with global, regional and national dimensions. The evaluation identified the following factors of performance that supported or debilitated delivery effectiveness.

Enabling factors

374. **Domain leadership, comparative advantage and credibility of implementing agency (FAO) and executing partners.** Project success is rooted in the authoritative stature of FAO. Its global mandate, domain leadership and institutional networks in the fisheries sector make it the best placed if not the only intergovernmental agency to lead a project such as the ABNJ Tuna project, with its strong fisheries governance orientation. Its experience of managing large global projects enable it to effectively trouble shoot and steer the project to satisfactory levels of delivery. The individual capacity of staff in the Project Management Unit, including its vast experience and profound knowledge of the fisheries sector was also instrumental for the success of the project.
375. **Effective partnership management.** The effective management of diverse profiles of partner institutions without any adverse developments were key to the project numerous achievements. Key partners delivered well against their expected deliverables and managed the institutional relationships rather well, improving trust and mutual perceptions among NGOs, intergovernmental agencies and state governments.
376. **Strong institutional commitment by fisheries sector institutions and private sector.** The fisheries sector institutions – t-RFMOs as well as the fishing industry – made stellar co-finance contributions to the project and engaged actively in the project components to implement the transformational changes ideated in the project document. Without the commitment and ownership of the private sector industry and of the t-RFMO secretariats, the project would have not been able to demonstrate the impacts that made it a success.

Debilitating factors

377. **Under-resourced knowledge management and communication.** The human and financial resources available for knowledge management and communication were way shorter than what would be needed for a project of such a magnitude.
378. **FAO operational procedures.** FAO's institutional administrative procedures has been a subject of concern to several partners and has featured in several thematic and corporate evaluations. Administrative procedures slowed execution of letters of agreement and issue of tenders for procurement of goods and services. Lack of corporate operational mechanisms and tools for transfer of resources to execution agencies also affected FAO's role as GEF implementing agency. FAO's Operational Partners Implementation Modality (OPIM) facility became available when the project was already under implementation. These causes were beyond project influence.

3.4 Cross-cutting issues

3.4.1 Stakeholder engagement and partnerships

EQ 12. To what extent has the project partnership approach contributed to the project's delivery of outcomes and outputs?

Finding 16. The large number of partners, with many different backgrounds, most of which with a vast pre-existing experience in the fisheries management sector, was one of the strengths of the project, significantly contributing to the delivery of project outputs and to co-financing. Most partnerships have endured and are likely to continue in future initiatives - as evidenced by the proposals already emerging for a follow-on project.

Finding 17. The large number of partners, however, also made the coordination of the various activities very complex, resulting in poor integration and communication among project participants, an issue already noted in the communication section. This was aggravated by poor planning during the project design phase, resulting in deficient consultation with stakeholders.

272. The ABNJ Tuna project was executed by a pool of almost 20 different partners, including the five t-RFMOs, member states (Ghana, Fiji, USA, European Union), intergovernmental organizations (FFA, OSPESCA, PNA, SPC) and NGOs (WWF, BLI, ISSF). Such a diversity and large number of partners was considered by many interviewees to be, at the same time, one of the greatest strengths of the project, but also one of its main weaknesses.
273. The strength was in the diversity and vast experience of the partners, many of which already had solid connections and working relationships well before project implementation, facilitating cooperation and communication. On the other hand, to manage and to coordinate such a complex array of partners presented a huge challenge to the Project Management Unit and despite their outstanding efforts and success to ensure the proper undertaking of the several activities under the 20+ outputs, as already commented, communication, interaction and integration between the different activities under the three components were very weak.
274. The design of the tuna project, including project identification, concept building, appraisal, preparation, approval and start-up suffered some major shortcomings, the most important of them being the lack of a proper consultation with stakeholders. The main reason for that, however, was the very small amount of funding available for the main design period, which was reduced by half by the GEF secretariat, from the originally planned amount, to

only USD 350 000. As noted in the mid-term evaluation, this resulted in a lack of proper understanding of project objectives, confusion over roles and responsibilities of different participants, disagreement over budgets, etc.

275. The deficiencies of the consultative process had a direct impact on the ownership of the project by participants who questioned, in some cases, the adopted priorities. It also affected communication among participants of different outputs that, to a large extent, functioned as they were completely independent projects. Many of the interviewees stated that the only occasion they had the opportunity to become aware of what was going on with the other outputs was during the PSC meetings, but even so in a very brief and fragmented way. A similar disconnection/lack of communication was also felt at the programme level, which greatly resented from a lack of integration between the different projects.
276. The changes that GEF made to the project at a very late stage, after much of the consultative process was already over, such as adding the development of harvest strategies at national level, and the insistence on keeping rights-based management-related outputs, only aggravated the already weak ownership of the project by participants.
277. Another direct consequence of an inadequate consultative process was the lack of a proper theory of change by the time of project design, as well as the need to adjust/change most of the outcomes and some of the outputs, later. Following the mid-term review, a new theory of change was developed, and Outputs 1.2.1 and 1.2.2 (rights-based management system in at least one RFMO) were dropped entirely. Output 1.1.2 (a mix of activities, much more related to MCS than to management) was moved from Component 1 to Component 2, while Output 1.1.3 (on bycatch in the tuna gillnet fishery in Northern Indian Ocean) was moved to Component 3. Following the revision of the project results framework, most of the intermediate outcome indicators, as well as the end-of-project targets for each of the outputs were significantly changed as well.
278. As already noted by the mid-term evaluation, one of the reasons for the lack of a closer interaction between the several partners was the lack of a well-structured partnership strategy to guide project interactions with partners and stakeholders (the project document only has a list of stakeholders and an outline of their potential role in the project).
279. One of the consequences of the lack an appropriate consultation was a much stronger focus on the RFMO secretariats than on member states, which led to perceptions of non-transparency and insufficient consultations, although the trade-off involved in engaging member states, obtaining consensus and implementing technical activities can be difficult for an RFMO secretariat. The evaluation received specific feedback on the need for more consultations with members on the design of future phases. Another weakness, as covered in the communications and knowledge management section, was the lack of engagement of stakeholders in developing and disseminating key messages, and the lack of feedback channels on the external communications.
280. On the other hand, the partnerships brought together complementing skills and advantages: the field networks of private sector actors and foundations, the institutional entry points in regional fisheries management organizations, networks of influencers and negotiators connected to global negotiations on ABNJ issues, the scientific knowledge of research institutions, policymakers and governments. In this regard, the involvement of the

private sector, especially the strong support from vessel owners, skippers and processing industry, has been fundamental to achieve a transformational impact.

281. One of the very positive side effects of the high partnership diversity was the opportunity for many of the participants to work cooperatively together for the first time, helping to change their mutual perception, i.e. participants seen more as adversaries before project implementation, became good cooperating partners. The project helped to improve mutual understanding and build trust among various partners; particularly between RFMOs and conservationists; and between governments and environmental NGOs. Two ground-breaking examples that the evaluation came across are: the progressive change in attitudes of several RFMO secretariats to work along with WWF as a project executing agency and as a member of the Project Steering Committee; and the strong partnership evolved between the Government of Pakistan and WWF in implementing the bycatch component, including acceptance by the Government of Pakistan of WWF data on both bycatch and target catch, for policy decisions and compliance purposes in t-RFMOs (IOTC). ISSF's strong connection with the private sector, as well as the long-standing relationships between FFA and SPC with member states were also seen as great assets of the ABNJ Tuna project. The large number of partners also contributed significantly with the commitment of a quite large co-financing, such as those from ISSF and National Oceanic and Atmospheric Administration, and from t-RFMOs, as well.
282. Another very important role of the ABNJ Tuna project in terms of strengthening partnerships, was its contribution to revitalize the Kobe Process among the t-RFMOs, focusing much on the coordination of technical aspects, such as harvest strategies, bycatch mitigation (e.g. working group and fish aggregating devices) and ecosystem approach to fisheries management, as the Kobe Process was originally envisaged for. The CLAV and the IMCS Tuna Compliance Network were also examples of such an important cooperation and coordination among t-RFMOs, greatly facilitated by the project. Initial difficulties between the Project Coordination and the ICCAT secretariat, stemming mainly from the failures in communication during the project preparation phase, was resolved in more recent times, resulting in a much stronger and committed engagement by that t-RFMO.
283. Most partnerships have endured and are likely to continue in future initiatives - as evidenced by the proposals already emerging for a follow-on project. The evaluation also noted that new partners are willing to join the project, including reputed charitable and private foundations (such as Pew Charitable Trusts and Walton Foundation) and private sector players (OPAGAC, Thai Union, International Pole and Line Foundation).
284. In the view of the evaluation, the overall rating for partnerships and stakeholder relationships in the ABNJ Tuna project is Satisfactory (S).

3.4.2 Environmental and social safeguards

EQ 13. To what extent have environmental and social safeguards been considered by the project?

Finding 18. Environmental and social impacts were assessed at project design and found to be minimal or none, requiring no further assessment. The overall improvement in the condition of tuna stocks, in MCS measures and in the reduction of bycatch attest that the ABNJ Tuna project was successful in achieving its main environmental objectives.

Finding 19. Due to the absence of targeted socio-economic indicators, it is more difficult to estimate the socio-economic impact of the project. Nevertheless, these environmental benefits are expected to also improve the socio-economic conditions in the target countries, enhancing food security and nutrition.

285. Environmental and social safeguards were not covered in detail by the final evaluation. The design team did apply FAO's Environmental Impact Assessment Guidelines for Field Projects, to perform an environmental review and concluded that the relevant environmental category was C, defined by minimal or no adverse environmental or social impacts, requiring no further assessment.
286. Environmental safeguards were a key part of the project, particularly in Component 3, which had the objective of reducing the impact of the tuna fishery in bycatch species and in the marine environment, being, therefore, much more a central focus, than a cross-cutting issue.
287. According to the project document, the global environmental benefits expected from the project were mainly an overall improvement in the status of tuna stocks in the areas under the jurisdiction of the five t-RFMO and a reduction in the threats to bycatch species caught by the tuna fishing, such as sharks, seabirds, sea turtles and small tunas. The overall improvement in the condition of tuna stocks, covered by Component 1, in the strengthening of MCS measures, by Component 2, and in the reduction of bycatch, by Component 3, attest that the ABNJ Tuna project was successful in achieving its main environmental objectives.
288. Due to the absence of targeted socio-economic indicators, it is much more difficult to estimate the socio-economic impact of the project. Nevertheless, the strengthening of responsible fisheries management and practices, the reduction of IUU fishing and the mitigation of negative effects of the tuna fishing on bycatch species are expected to lead not only to improved status of biodiversity, but also of socio-economic conditions, including by reducing the loss of income/wealth due to illegal, unreported and unregulated fishing activities and increasing the socio-economic contribution of the tuna fishery, enhancing food security and nutrition in the target countries.

3.4.3 Gender

EQ 14. To what extent have gender issues been considered by the project?

Finding 20. Only limited action was taken to address gender issues during project implementation. There were no gender specific targets in the results framework of the project, nor a specific policy or proactive measures for gender equality in the selection of participants and beneficiaries from the project capacity development activities. Some efforts to address gender issues were, however, noted in Fiji and Ghana, by the hiring of women in the electronic monitoring system.

289. Gender equality and equity were not adequately addressed in project design. A specific reference to "gender" appears only six times and in three generic sentences in the project document. Notwithstanding the assumed commitment, only limited action was taken to address gender issues during project implementation.
290. This omission, however, is partially understandable, considering that the tuna fishing industry is largely dominated by males. Despite the expressive participation of women in

tuna processing plants and trading (where they are usually the majority of the work force), which were not covered in the project, pretty much all fishers and skippers are male.

291. Consequently, the gender issue in the project was almost exclusively addressed by recording the number of females participating in workshops, trainings and capacity building initiatives, which were largely dominated by males. Notwithstanding, there were no gender specific targets in the results framework of the project (not in its original format, nor in the revised version). The evaluation could not find any specific policy or proactive measures for gender equality in the selection of participants and beneficiaries from the project capacity development activities.
292. The mid-term evaluation referred to efforts to address gender issues in Ghana, such as giving women access to jobs and learning opportunities within the project's framework, attempting to ensure an equal number of women and men were trained on the electronic monitoring system and hired as team members for the land-observers team, but this could not be directly verified by the final evaluation team. A similar effort, however, was noted by the evaluation, during the field mission, in the employment of women observers in Fiji's vessel monitoring systems.

3.4.4 Capacity development

EQ 15. How has the project contributed to build capacity at individual and organizational level?

Finding 21. ABNJ t-project contribution to capacity development was broad and highly diverse, ranging from capacity building for human resources (individual level), to infrastructure improvement, and innovation in practices and processes (organizational level).

379. The project had a very strong emphasis on capacity development, with many capacity building activities at individual level being undertaken in all components and almost all outputs. Almost 100 workshops (not counting the skippers workshops) and meetings were held with full or partial support from the project. These included capacity building workshops on harvest strategies, on PSMA implementation, on compliance coordination (TCN), on data collection, on stock assessment methods, on bycatch mitigation awareness raising, on EAFM, etc. A similar number of skippers training workshops (60 of which with partial funding from the Tuna project) were promoted by ISSF during project implementation. All these initiatives, unparalleled in quantity as well as in diversity in the realm of t-RFMOs, significantly contributed to develop capacity in the three components of the project.
380. Project support in capacity development in some key areas, such as the development of harvest strategies, both through direct training and by enhancing the dialogue between scientists and managers, was instrumental to its assimilation and dissemination in all t-RFMOs.
381. The project produced a significant amount of resource material to support a more sustainable tuna fishery, from brochures and leaflets on bycatch identification, mitigation measures and safe release guides, in several languages, to electronic tools, such as the BMIS and the CLAV. It also significantly helped to increase t-RFMO capacity to improve compliance, from the training of personnel, such as the Certificate IV Course on Compliance and Enforcement, to the development of online reporting systems in IOTC (e-Maris) and ICCAT (FORS).

382. Through the EOS initiatives, in Fiji, Ghana and Seychelles, the project helped to develop and disseminate technological capacity, showcasing an innovative and extremely useful tool, both for MCS purposes, as well as for the collection of invaluable scientific data, on target species and on bycatch species.
383. Many of the capacity development activities conducted by the ABNJ Tuna project contributed to promote transformational changes in the overall management of the tuna fisheries in the world and will, therefore, linger on after the project is discontinued. Capacity built in the scope of the project, either directly or indirectly, although intangible, is certainly one of its most important achievements.

3.5 Sustainability

EQ 16. How sustainable are the outputs and outcomes achieved by the Tuna project?

Finding 22. The ABNJ Tuna project has generated a multitude of results out of its 20+ outputs, each of them covering a variety of activities. While some results are sustainable without further programme investments, some do require continued funding for recurring costs and expansion of coverage. The most sustainable results were those related to institutional governance measures and adoption of standards and good practices by t-RFMOs, such as harvest strategies, monitoring and control systems, and bycatch management. The least sustainable were those depending on a continued investment from national governments, such as the EMS in Fiji and Ghana, and the Crew-based Observer Programme in Pakistan.

293. For the assessment of sustainability, the evaluation used the GEF interpretation: the continuation/likely continuation of positive effects from the intervention after it has come to an end, and its potential for scale-up and/or replication; interventions need to be environmentally as well as institutionally, financially, politically, culturally and socially sustainable.
294. The three main contributors to sustainability assessed by the evaluation were:
- i. legal instruments and regulatory frameworks representing global minimum standards on ABNJ governance;
 - ii. institutional capacities and mechanisms towards adoption of standards and good practices;
 - iii. resource mobilization for upscaling and expanding the initiatives introduced.
295. In this regard, sustainability was assessed for the overall results achieved by the project, for institutional, legal, financial and political aspects. The social and cultural aspects could not be evaluated due to the insufficient engagement by the project on these issues.

3.5.1 Sustainability of the main achievements (by outcomes)

296. **Component 1** of the ABNJ Tuna project included IO1 aimed at developing elements of harvest strategies for selected commercial tuna stocks, including the adoption and implementation of harvest strategies by t-RFMOs; and IO2, aimed at having roadmaps to operationalize EAFM/EBFM in t-RFMOs developed and submitted for adoption. The development of harvest strategies is already an ongoing processes in all t-RFMOs that will surely continue independently of the ABNJ Tuna project. Following that trail, the condition

of the tuna stocks will likely continue to improve as well. So, the evaluation rated the sustainability of Component 1 as likely (L).

297. **Component 2** of the ABNJ Tuna project included IO5, aimed at improving operational capabilities through improved MCS tools and better intelligence integration. Sustainability of this outcome can be considered as Moderately Likely (ML), mainly because of the sustainability issues related to the EMS initiatives in Fiji and Ghana.
298. The second intermediate outcome, IO6, was devoted to strengthening capacity of compliance officers in member states via capacity building and mechanisms for knowledge, mainly by means of the MCS Certificate IV Course on Fisheries, Enforcement and Compliance, whose continuity is uncertain.
299. Most of the results achieved by the project under Component 2, however, included transformative governance measures such as: closer cooperation towards adoption and harmonization of monitoring, control and surveillance systems by all five tuna RFMOs; the automated CLAV system for registration of vessels and the mandatory IMO numbers for all vessels. Considering the individual sustainability of all outputs, as well as of Intermediate Outcomes (IO5 and IO6), the evaluation rated the sustainability of Component 2 as Moderately Likely (ML).
300. Among the important achievements under this component are the global best practices in MCS for tuna fisheries (Output 2.1.1), the Tuna Compliance Network, under the IMCS (Output 2.1.2), the drafting of a legislative template for the implementation of FAO PSMA (Output 2.1.4.), and the CLAV (Output 2.1.5), all of which did contribute for a transformational change in the t-RFMOs capacity to fight IUU fishing. The electronic reporting systems in the IOTC (e-MARIS) and ICCAT (FORS) (Output 1.1.2.) were already absorbed by both commissions and should continue independently from the ABNJ Tuna project, having, therefore, already become sustainable. The main problems faced under this component of the project in terms of sustainability were related to the electronic monitoring systems in Fiji and Ghana.
301. On the electronic monitoring of Fijian longliners (Output 2.2.1), it is not yet clear how the system is going to be maintained after the project ends. The reluctance expressed by the private sector to pay for the EOS was also shared by the Government of Fiji, raising serious concerns on the sustainability of the initiative so far paid by the ABNJ Tuna project. The Government commitment at lower administrative level seemed very strong, but not at the higher level, where financial decisions need to be made. Based on the views expressed by the Government authorities in Fiji to the evaluation team during the field trip visit in November 2019, including by the Minister of Fisheries himself, despite their enthusiastic support for the continuation of the EOS, it is very unlikely they will be able to cover the costs of the programme once financing from the ABNJ Tuna project is discontinued. As mentioned, a business case has been prepared, as recommended by the mid-term evaluation, to support the cost of using electronic monitoring as an MCS and data collection tool beyond the life of the Common Oceans ABNJ Tuna project, but its implementation is unlikely. Alternative funds are being sought with other donors.
302. During the 7th PSC meeting, held at the end of January 2020, representative from Fiji announced that the Cabinet had secured the resources needed to keep the system running. This information, however, still needs to be confirmed.

303. In the case of the electronic monitoring of purse seiners in Ghana (Output 2.2.2), in early 2019, immediately after financing from the ABNJ Tuna project was discontinued, the EOS ceased its operation. Political changes in the Government and in the ownership of the purse seine vessels resulted in a lack of commitment to keep the EOS running, particularly due to economic reasons, despite the relatively lower costs of EOS for purse seiners, when compared to longliners (such as in Fiji).
304. **On Component 3**, IO3 aimed at an improved shark fisheries management framework across the Pacific, by improving bycatch data for sharks from WCPFC and IATTC regions, and delivering stock assessments of four shark species, a target that was fully achieved. Even though some of the activities done by the project will not continue after it has ended, the management of shark species, from data gathering and harmonization to stock assessment, particularly in the Pacific Ocean, was definitely placed in a new standing, being, therefore, sustainable. Consequently, the sustainability of IO3 was rated as Likely (L).
305. IO4 aimed at bycatch mitigation best practices adopted by RFMOs and/or targeted tuna vessels, including the assessment of the impacts of tuna fishing on sharks, sea turtles, seabirds and cetaceans. Most of the results from bycatch mitigation practices and alternative fishing methods introduced in the project (e.g. Pakistan tuna gillnet fisheries) are expected to continue. The high involvement of t-RFMOs as well as the private sector (mainly through the ISSF initiatives) in the adoption and propagation of the good practices and innovative methods used to mitigate bycatch has been a key contributor for the sustainability of the results achieved, with very positive impacts on the commercially most important fish species globally, despite a few shortcomings (e.g. uncertainty on the continuation of the Crew-based Observer Programme in Pakistan). Consequently, the sustainability of IO4 was rated as Likely (L).
306. Considering the sustainability of Intermediate Outcomes (IO3 and IO4), the evaluation rated the sustainability of Component 3 as Likely (L).
307. Overall, considering the results achieved by the ABNJ Tuna project, including its three operative components, the evaluation rated its sustainability as Likely (L).

3.5.2 Institutional, legal, financial and political sustainability

308. **Institutional.** The project has resulted in a mix of institutional governance improvements – which are irreversible – and on ground investments in innovation and good practices, some of which require continuing investments (capital as well as operating expenditure) to be upscaled. However, several results are expected to continue after the end of the project.
309. **Legal.** The two major legal instruments to which the project has contributed in relevant ways were: the Port State Measures Agreement and the design options for catch documentation schemes. The project helped to promote PSMA implementation through a legislative template published in 2016, same year the agreement entered into force; and the guidelines for building a catch documentation scheme, which was also helpful for the process of negotiation of the FAO Voluntary Guidelines for Catch Documentation Schemes, starting with the expert consultation in 2015, and culminating with its approval by FAO Conference in July 2017. The project also helped to update and to automatize CLAV, for use by signatories to the PSMA.

310. **Financial.** The project financial resources - USD 27.2 million funded by GEF and USD 264 million provided by co-financing from the main stakeholders - enabled a significant engagement that has resulted in relevant transformational changes. However, upscaling and sustaining the results achieved, as noted, would require new forms of financing, especially investment mobilization to modernize fishing methods and induct innovative technologies for monitoring and surveillance. These investments need to come from commercial finance rather than development finance channels and should be aimed at the private sector more than intergovernmental channels. The growth and dissemination of sustainability certification schemes (Marine Stewardship Council, etc) is a positive indication of the increasing consumer demand for sustainably harvested fish. However, the financial sustainability of some of the components of the project, such as EMS in Fiji and in Ghana and the Crew-based Observer Programme in Pakistan, are not guaranteed by their respective governments.
311. **Political.** While the programme has effectively targeted institutional governance, the focus of engagement has been mainly on RFMO secretariats and not the member states themselves. The evaluation considers this a good risk management measure, as the RFMO secretariats are best placed to interface with the programme on behalf of a wider membership. This also ensures that only issues common to a large majority of members would be included in the programme. However, the evaluation also observed the potential risks of not engaging membership sufficiently in project design and on actions that may be agreed at RFM secretariats but need to be implemented by individual member countries, reducing ownership. In some instances, the t-RFMO members were not adequately apprised by the secretariat on engagements with the ABNJ Tuna project, including over preparations for a follow-on phase.
312. Considering all the above, the sustainability of the ABNJ Tuna project was rated by the evaluation as Likely (L).

3.6 Progress to impact, upscaling and replication potential

EQ16: To what extent can the project's current and potential results be upscaled, replicated or serve as a catalyst for future interventions centred on tuna and ABNJ, including in a next phase of the project?

Finding 23. Many of the results achieved by the project have already been replicated and upscaled, having had, in some cases, a significant catalytic effect in changing fishing practices and operating modes within t-RFMOs, with a tangible improvement in the overall sustainability of tuna fisheries worldwide.

384. The processes developed by the project to achieve many of the delivered products did inaugurate innovative ways of work and cooperation among t-RFMOs that have a great potential for replication.
385. An excellent example was the strategies followed to guarantee, for the first time ever, access to confidential data on sea turtle and seabird bycatch, allowing for the most comprehensive assessment of the impact of the tuna fisheries on these species to be successfully carried out to date. The development of data-poor methods for the assessment of shark stocks is another very good example.

386. Another important example was the way the project contributed for the revitalization of the Kobe Process, regarding coordination and cooperation among t-RFMOs on technical aspects, such as the development of harvest strategies, cooperation on compliance, through the IMCSN/TCN, and the experience-sharing on bycatch mitigation measures, including the development of best practices for the use of FADs.
387. Even in the cases when the implemented activity had problems related to sustainability, such as the EMS in both Fiji and Ghana, they contributed to raise considerable interest among the fisheries sector, having demonstrated the usefulness of such tools, not only to combat illegal, unreported and unregulated fishing, but to gather invaluable scientific data. Partly as a direct result of project action, many other countries in the Western and Central Pacific Fisheries Commission region and in the Pacific are now either implementing or planning to implement EMS, with similar processes happening also in the Indian and Atlantic Ocean.
388. Another good example is the use of the Crew-based Observer Programme initiated in Pakistan that is already spreading to other countries in the region, like Seychelles, as an efficient alternative to significantly improve the collection of both target and bycatch information, with the support of IOTC. The main gear modification introduced in the Pakistani tuna gillnet fishery, the use of subsurface gear, which resulted in a reduction of the cetacean bycatch of more than 90 percent (although independent verification is still pending) seems to be also spreading to India and Iran.

4. Lessons learned

Lesson learned 1. If a theory of change and a partnership strategy had been developed at the inception stage, as a result of a well conducted consultation process during project design, the weak ownership of the project by some stakeholders would have been largely minimized.

Lesson learned 2. One of the most crucial aspects to a successful communication strategy is to have a clear understanding of the target audience. Communication efforts need to be focused on those that are most likely to benefit from the information being provided and in a way that would help the project to achieve its objectives. Another important aspect of communication is to make sure that it is done in the language of the potential users.

Lesson learned 3. Good communication is crucial not only during project implementation, but also during the preparation of the project to ensure the engagement of all stakeholders. Otherwise, the sense of ownership and their consequent engagement are compromised, as they were in the preparation of the first phase, resulting in a very low/limited knowledge of the project, its scope, objectives and activities among t-RFMO member states and many stakeholders.

Lesson learned 4. Coordination and communication are closely linked – insufficient communication within the various components of a given project or between projects of a given programme are an impediment to good coordination.

5. Conclusions and recommendations

5.1 Conclusions

Conclusion 1. The ABNJ Tuna project gave a relevant contribution for the attainment of several UN SDG, GEF Strategic Goals, and FAO Strategic Objectives, as well as global and regional priorities of tuna RFMOs, and the international agreements and frameworks on the ABNJ. However, the emphasis of design and resource allocations was more on outcomes relating to sustainable fisheries sector governance - including biodiversity impacts linked to fisheries operation, and less on biodiversity conservation from a cross-sectoral perspective.

389. The ABNJ Tuna project was consistent with outcomes under the International Waters and Biodiversity focal areas.

Conclusion 2. The ABNJ Tuna project promoted important transformational changes in the management practices of the tuna fisheries, improving their sustainability, strengthening MCS capabilities of t-RFMOs and their members, and significantly reducing their impact on biodiversity.

390. The ABNJ Tuna project effectively contributed to the sustainability of the tuna fisheries in the World, by promoting harvest strategies and best practices, resulting in a reduced number of overfished stocks; by reducing the level of illegal, unreported and unregulated fishing in the tuna fisheries, through improved coordination, intelligence capabilities and MCS tools; and by improving the availability of data on bycatch species affected by the tuna fishery, as well as by promoting the adoption of best practices and mitigation measures.

Conclusion 3. The ABNJ Tuna project was well managed and implemented despite several hindrances linked to FAO administrative procedures, such as procurement policies and travel limitations.

391. Despite the complexity to implement a project with over 20 partners in multiple regions, and the difficulties associated with FAO financial and administrative procedures, implementation of the ABNJ Tuna project was largely successful.

Conclusion 4. Most of the results achieved by the ABNJ Tuna project are sustainable, despite some which would require continued funding for recurring costs and expansion of coverage. Even in these cases, however, results achieved were very relevant to showcase innovative tools for MCS, helping to promote and spread them in t-RFMOs around the globe.

392. The project's most sustainable results are those related to changes in institutional governance and to the adoption of standards and best practices, particularly those with stronger participation of the private sector.

393. The ABNJ Tuna project effectively contributed for a greater engagement of the private sector in the efforts to improve the sustainability of the tuna fisheries.

394. The ABNJ Tuna project also contributed to significantly improve the relationship between, NGOs, governments and the private sector, creating an enabling environment conducive to positive changes in the tuna fishery.

Conclusion 5. The ABNJ Tuna project generated an enormous amount of knowledge but lacked a proper structured mechanism and strategy to harvest and disseminate it.

395. The communication efforts did not target specific interest groups, relying much more on passive consumption (social media and web-based information) than on the active engagement of key stakeholders. Such a deficiency resulted in the loss of important opportunities for synergic gains.

Conclusion 6. GEF funding was instrumental to the achievement of several important results of the project in institutional/governance.

396. The institutional/governance additionality was the highest, given the common emphasis in all the projects on strengthening institutions of governance, especially RFMOs. The positive measures adopted by institutions to address sustainable management of fisheries and biodiversity conservation could not have been delivered without the ABNJ Program resources, which enabled a sustained four-year engagement with the governance institutions.

5.2 Recommendations

397. The evaluation took note of the preparations for a possible follow-on project, with several project/activity proposals having already been proposed by executing partners. The evaluation confirms the merit of a follow-on project with due incorporation of the important lessons learned from the implementation of the ending project. All recommendations presented here, in the context of the ABNJ Tuna project evaluation, are addressed to FAO, as the implementing agency, particularly to FAO Project Management Unit, as well as to all other executing agencies and project partners. Recommendations to GEF, to ABNJ Program Management Unit and other partners not included in the ABNJ Tuna project were addressed at the programme-level evaluation and will not be repeated here, except when relevant to the Project Management Unit.

5.2.1 General recommendations

Recommendation 1. (To GEF-FAO) The shortcomings observed during the project design and consultations held for the preparation of the project document for the first phase should be avoided and rectified in the preparation of the follow-on project. In particular, to ensure a proper consultation with key stakeholders, enough time and financial resources must be allocated to this task. Therefore, the financial balance of the project, close to USD 2 million, should be used mainly for this purpose. Furthermore, the consultation and engagement of stakeholders, to the extent possible, should go beyond the t-RFMOs secretariats, moving down to the member states and private sector. Proper consultation with national stakeholders (RFMO members) during the design phase should also help to leverage a proper allocation of co-financing.

Recommendation 2. (To the Fisheries Department senior management and FAO-GEF Coordination unit) It is recommended to stress the importance of implementing FAO's Strategic Results Framework (para 170. page 46) Recommendation 7 on an "administrative environment fit for purpose". This evaluation considers it essential for FAO, in order to continue to be able to fully implement and execute GEF project of this magnitude. In particular, the hard limits on the travels imposed on staff engaged in the coordination of such projects need to be waived.

Recommendation 3. (To the Project Management Unit) Linked to Recommendation 1, a proper theory of change should be constructed this time prior to the definition of the several outputs and activities to be undertaken by the project, in order to ensure they will be guided by and stem from the priorities identified in the TOC, to maximize the chances of achieving project outcomes and objectives, and not the other way around.

398. Suggestions:

- i. As pointed out by the ABNJ Program evaluation, before detailing individual projects, a programme partnership framework document, with an agreed programme theory of change to guide the selection of appropriate projects, should be developed first, to instruct the definition of activities, roles, responsibilities and mutual accountability arrangements among implementing agencies and executing partners.
- ii. Similarly, at the project level, as recommended by the mid-term evaluation (Recommendation 7.i), following the collective construction of the theory of change, a project partnership strategy (PPS) should be developed, setting out the roles and identifying the comparative advantages and specific responsibilities related to agreed activities and deliverables by each partner.
- iii. As also recommended by the mid-term evaluation (Recommendation 7.ii), the PPS should include specific roles and tasks to be undertaken by each of the five t-RFMOs, outlining not only their responsibilities, but also what support the project will provide to each of them. The PPS should also devise ways to promote integration and communication among the different partners and project stakeholders in a coherent manner.

Recommendation 4. (To the Project Management Unit) A proper allocation of financial and human resources to management and communication of knowledge should be ensured for the next phase, under formally, clearly established and interconnected lessons learned” and communication strategies.

399. Suggestions:

- i. The communication strategy should include the general public but should also have a clear focus on the main stakeholders, where the seeding of the information generated by the project will be much more likely to bear fruits. One alternative to achieve that would be, for instance, the introduction of a specific agenda item during the annual meetings of the t-RFMOs, both scientific as well as political, to provide an overview of the activities being developed and the results already achieved by the project. Another alternative to achieve this, understanding the tight time these meetings usually have, would be to hold side events, or to distribute communication materials (brochures and leaflets) targeting these specific audiences (i.e. more scientific or more political, depending on the audience).
- ii. The strategy should include showcasing the main results, advancements, innovations and overall achievements of the project during the scientific and political meetings of all the five t-RFMOs, either as an outstanding item in the agenda or by means of alternative strategies, such as devoted side events.

- iii. A lessons learned strategy should ensure that that lessons learned are fully captured and analysed in a structured, systematic and coherent manner, through exercises/workshops, during the entire project implementation, but particularly towards its ending phase.

Recommendation 5. (To the Project Management Unit) A much better communication, interaction and integration, not only between the different outputs/activities of the ABNJ Tuna project, but also between all the projects included in the Common Oceans Programme should be ensured, so that opportunities for synergic gains are not wasted. As already recommended by the mid-term evaluation (Recommendation 7.v), preparation for the next phase should include a review/evaluation on how the ABNJ Tuna project, together with all other projects, could better integrate their efforts to maximize their chances to achieve the ideated goals.

Recommendation 6. (To the Project Management Unit) In order to avoid some of the sustainability problems faced by the ending project, as recommended by the mid-term evaluation (Recommendation 8.i), during the next phase, a sustainability plan should be developed and formally included in the project, setting out project efforts to ensure the uptake and continued use of its results, after it finishes. As also noted by the programme evaluation, a co-financing strategy should be targeted to enhance sustainability, noting that recurring public expenditures hold the key to sustainability of technology and innovation funded by GEF grants. Therefore, in interventions that fund capital goods and assets requiring recurrent operational costs on part of beneficiaries, it is important to secure upfront commitments of recurrent public expenditure as a specific component of co-financing, before irreversible expenditures are undertaken.

Recommendation 7. (To the Project Management Unit) The ABNJ Tuna project for the next phase, as also recommended by the mid-term evaluation (Recommendation 6.v), should develop a gender action plan (GAP), together with all the executing partners, to enhance the contributions by the project to achievement of the objectives of the FAO Policy on Gender Equality. Implementation of the GAP should be closely monitored and reported. Project efforts in this regard should go well beyond just taking note of the number of women participating in project activities; the fact that the tuna fisheries is indeed strongly dominated by men should not be used as an excuse to waive such an obligation. On the contrary, it should prompt an even more proactive attitude by the project to rectify, to the extent possible, the serious problem of gender imbalance.

Recommendation 8. (To the Project Management Unit) The ABNJ Tuna project was developed in all oceans of the world, involving the five t-RFMOs, making, therefore, coordination of the different project/activities with a multitude of partners quite complex. Notwithstanding, the project should be very careful to ensure that the language problems faced during the first phase, such as in some of the harvest strategy workshops, are not repeated in the second phase, including by securing a proper budget to cover all the required languages in any project event.

Recommendation 9. (To the Project Management Unit) Recommendations on changes to or suggested follow-up actions needed on specific outputs, should they be continued in the second phase of the project (Table 3).

Table 3: Recommendation 9

Outputs	Change recommended	Justification
1.1.1 & 1.1.4	The activities covered under these outputs and related to the development of harvest strategy (HS) should be merged under a single one, with both strategies included in the activities foreseen, but with the workshops dedicated to member countries carried out in much closer cooperation/interaction with tuna RFMOs. Furthermore, the focus should gradually change from the promotion of the use of HS in the five t-RFMOs, to actually help in their scientific development.	Ensure higher effectiveness.
1.1.3	The possibility of upscaling the Crew-based Observer Programme (CBOP) to other countries in the region should be pursued in the next phase of the ABNJ Tuna project.	Given the positive impact of the CBOP to improve the data collected from the Pakistani tuna gillnet fishery and reported to the IOTC.
	The outstanding reductions of bycatch achieved in the Pakistani tuna gillnet fleet should be independently verified, as a matter of urgency, including by using simple electronic monitoring systems, such as affordable closed-circuit tv and/or shellcatch cameras. The purportedly spread of the bycatch reduction methods for neighbouring countries, such as India and Iran, should also be evaluated in the next phase of the project.	Considering its huge relevance for the attainment of project objectives, it is crucial and urgent to verify the veracity of this information.
	As it was already cautioned by the mid-term evaluation (Recommendation 3.v), the feasibility of the conversion of gillnets to longline fishing should be carefully pondered, before it is tried, including by considering alternative options, such as stationary fish aggregating devices (FADs), handline fishery, etc. The evaluation team strongly advises project coordination not to start such an experiment, unless proper financing in the second phase of the ABNJ Tuna project is secured.	The introduction of a new fishing gear and method is a tremendous challenge that goes way beyond the technological adaptation of the fishing gear in a boat. More than to just demonstrate how the equipment is operated, from a merely technological perspective, it requires profound cultural and behavioural changes by the fishers, which can only happen if given enough time to mature.
1.1.5	With respect to the promotion of the ecosystem approach to fisheries (EAF), in the next phase, the project should focus its efforts in continuing to enhance the dialogue and to developing the science required to its formal adoption/implementation in the future, including analyses on possible ways to incorporate socio-economic and governance dimensions.	Given the complexity of the issue, the paucity of data and the lack of capacity, time and priority in t-RFMOs to address this issue, it is unlikely that project efforts during the next phase will be able to culminate with a formal adoption by t-RFMOs of a structured plan for the implementation of the EAFM, as it was envisaged in the first phase.
2.1.5	On the development of the CLAV, the ABNJ Tuna project, in its next phase, should evaluate the possibility of developing a consolidated list of illegal, unreported and unregulated (IUU) vessels. This would require, among others, the need to secure agreement by all RFMOs to adopt or at least	Despite the complexity related to the political and legal implications, considering its potential to help in the prevention of IUU fishing, particularly in conjunction with the CLAV and as a support tool for the implementation of the

Outputs	Change recommended	Justification
	to endorse the IUU lists adopted by other RFMOs, which is far from simple.	Port State Measures Agreement (PSMA), it could be a quite promising new avenue to be pursued by the project in its next phase.
2.2.1	Regarding the pilot trials of an electronic observer system (EOS) aboard tuna longline vessels in Fiji, it is absolutely crucial and urgent that the private sector is given prompt access to the images acquired by the cameras installed in their boats. In the next phase, the project should make efforts in liaising with relevant government institutions to accomplish this.	This was agreed with the private sector, from the start, and, even preconized in the memoranda of understanding between the Government of Fiji and the Fishing industry. It has been, from the beginning, the main incentive for engagement of the private sector in the project.
	The land-based observers should not endeavour to analyse 100% of the trips. A much wiser strategy would be to cover only 20% or so of the recorded trips, chosen randomly, but having a much more up-to-date monitoring of the fishing operations.	To avoid lagging several months behind the trips covered.
2.2.1	If the FIJI EOS System continues to be supported by the project in its next phase, it is recommended to assign, for instance, extra points for suppliers that provide the image data in an easy-to-share format and use open-source software so that, for example, the cameras could be bought from one supplier and computers and processing software from another one. It would also be important that the EOS be combined with vessel monitoring systems, and with an electronic reporting system, all in one, with a significant reduction of costs and gains in efficiency.	It would be important to at least attempt to break the monopoly of the service provider in future procurements.
2.2.3	<p>In increasing monitoring, control and surveillance (MCS) capabilities at national and regional levels to conduct fisheries intelligence analyses, in Forum Fishery Agency (FFA) countries, previous shortcomings, related to the lack of a proper feedback mechanism should be addressed.</p> <p>Better coordination, interaction and cooperation between this MCS activity and the IMCS/TCN should also be pursued, as well as between the IMCS/TCN and the MCS Certificate IV course on Fisheries, Enforcement and Compliance.</p>	This is crucial to calibrate and guide the MCS efforts.

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The following documents were also consulted:

The Project Identification Form (PIF), the Project Document (ProDoc), the reports of the Inception Workshop and Program Steering Committee meetings (2014, 2015, 2016, 2017, 2018, 2019), the Program Implementation Reviews- PIR (2015, 2016, 2017, 2018), the Project Progress Reports- PPR (12, 2 for each year, from 2014 to 2019), the Midterm Evaluation Report, along with all the studies and reports funded by the project, as well as those used as the main source of information to support the M&E. These documents are: (i) Technical Reports and "Best Practices" for "on the water" pilots; (ii) t-RFMO Committee Reports and Annual Reports and papers presented to the t-RFMO Scientific Committees; (iii) Draft EAF Plans and Legislative Review Reports (iii); Workshop reports and lists of participants in trainings and workshops and science-management dialogues; (iv) Project Progress Reports prepared by the PMU with inputs from WWF and project partners; (v) consultant reports; (vi) mid-term and final impact and evaluation studies completed by independent consultants; (vii) financial reports and budget revisions; (viii) FAO supervision mission reports.

Appendix 1. People interviewed

Surname	First name	Position	Organization/Location
A. Razzaque	Shoaib	ETP Coordinator	WWF Pakistan
Adam	Shiham	Director General	Ministry of Fisheries and Agriculture, Maldives
Adams	Tim	Representative	Forum Fisheries Agency
Alder	Jacqueline	Officer	FIPM (FAO)
Ali	Wahid	Chair	Sea Quest, Fiji
Anganuzzi	Alejandro	Project Coordinator	FIDFD (FAO)
Anwar	Muhamad	Executive Director	CARD, Pakistan
Blankenbeker	Kimberly	Officer	NOAA/ USA
Braun	Geneviève	Officer	FAO/ DPID
Chavarría	Bernal	Representative	Secretaria de Agricultura y Ganadería, Honduras
Cheatle	Jenny	Compliance Department Head	ICCAT
Clarke	Shelley	Sharks and Bycatch Technical Coordinator	FAO/ ABNJ Tuna Project
Coelho	Rui	Officer	IPMA, Portugal
Compeán	Guillermo	Director	IATTC
de Bruyn	Paul	By-Catch Coordinator	ICCAT
De Fontaubert	Charlotte	Fisheries Specialist	World Bank
Dimmlich	Wetjens	Representative	Forum Fisheries Agency
Du	Xuejun	Chair	Golden Ocean Fisheries, Fiji
Fabra	Adriana	Coordinator Tuna Compliance Network	International MCS Network
Farmer	Tina	Officer	FAO/ DDND
Feleti	Teo	Executive Director	WCPFC
Fiorellato	Fabio	IT expert FIPS/ CLAV Coordinator	IOTC
Gutierrez	Nicolas	Consultant	FAO/ ABNJ Tuna Project
H. Severin	Christian	Environment Specialist	GEF
Hett	Kathrin	Monitoring and Evaluation Officer	FIDFD (FAO)
Hufflet	Charles	Chairman	Solander Group, New Zealand
Hunzai	Babar Khan	Officer	WWF Pakistan
Hurry	Glenn	FAO Consultant	MRAG Asia-Pacific
Iflikhar	Faisal	Seafood trader	Pakistan
Jackson	Susan	President	ISSF
Jarwar	Aslam	Director	Sindh Fisheries Department, Pakistan
Juan Jordá	Maria José	Consultant	FAO/ ABNJ Tuna Project
Kahn	Farhan	Office	Pakistan, Federal Government
Kazmi	Syed	Officer	WWF Pakistan
Kebe	Papa	Ghana ABNJ Tuna Project Coordinator	ISSF
King	Melanie	Foreign Affairs Specialist	NOAA/ USA
Kumar	Radhika	President	Fiji Fishing Industry Association
Leotte	Francisco	Representative	Thai Union
Mahmood	Khalid	Technical Manager	Fisheries Development Board, Pakistan
Manel	Camille	Executive Secretary	ICCAT

Appendix 1. People interviewed

Surname	First name	Position	Organization/Location
Melvin	Gary	Representative	Fisheries and Oceans, Canada/ ICCAT
Moazzam Khan	Muhammad	Technical Advisor	WWF Pakistan
Morán	Guillermo	Officer	Ministerio de Acuicultura y Pesca, Ecuador
Nagan	James	Consultant	Birdlife International, Fiji
Nawaz	Rab	Senior Director Programmes	WWF Pakistan
Neretin	Lev	Officer	CBC/FAO
O'Brien	Cristopher	Representative	IOTC
O'Malley	Rachel	Officer	NOAA/ USA
Obregon	Pablo	Officer	Conservation International
Obrien	Mark	Program Coordinator	Birdlife International
Ota	Shingo	Officer	Fisheries Agency, Japan
Raja	Nacem	Biologist	MPAC, Pakistan
Ram	Nilesh	Representative	Sunshine Fisheries Ltd, Fiji
Restrepo	Victor	Vice President, Science	ISSF
Rokosuka	Atelaite	Deputy Secretary for Fisheries	Government of Fiji
Santos	Miguel	Head Science	ICCAT
Scott	Gerald	Scientific Advisory Committee member	ISSF
Shahib	Umair	Representative	WWF Pakistan
Small	Cleo	Officer	Birdlife International
Spurrier	Lauren	Managing Director,	WWF
Stobberup	Kim	MSC Specialist	FAO Consultant
T. Koroilavesau	Semi	Minister of Fisheries	Government of Fiji
Tavaga	Netani	Project Coordinator	Government of Fiji
Taylor	Nathan	Officer	ICCAT
Tilton	Jessica	Officer	WWF/ USA
Tora	Nasoni	EM Analyst	Government of Fiji
Torovugalei	Lasarusa	Officer	Satlink, Fiji
Umer Khan	Jawad	Marine Program Coordinator	WWF Pakistan
Warner-Kramer	Deirdre	Officer	Department of State, USA
Watt	Petter	Fisheries Expert/ MTE team	FAO
West	Margaret	Director	BirdLife International, Fiji
Widodo	Augustinus	Researcher	Ministry of Marine Affairs and Fisheries, Indonesia
Wiley	Brad	Representative	IATTC
Young	Joann	Country Representative	FAOFJ
Zhami	Omar	Fisher	Pakistan

Appendix 2. GEF evaluation criteria rating table

FAO-GEF rating scheme	Rating	Summary comments
1) Relevance		
Overall relevance of the project	HS	The project was well aligned to and contributed to the attainment of GEF objectives and international priorities.
2) Effectiveness		
Overall assessment of project results	S	The Tuna project demonstrated overall effectiveness in achieving its results, with a great potential for impact.
3) Efficiency, project implementation and execution		
Overall quality of project implementation & adaptive management	MS	Despite some shortcomings related to bureaucratic/administrative procedures by the implementing agency (FAO), the Project Management Unit was able to overcome these institutional difficulties to deliver most outputs and outcomes in a timely manner.
Quality of execution (executing agencies)	S	The executing agencies delivered their outputs within reasonable limits, despite some initial difficulties.
Efficiency (including cost effectiveness and timeliness)	S	Most project outputs were completed in time with some adjustments. GEF grant utilization was beyond 90% (93%).
Overall rating of efficiency	MS	
4) Sustainability		
Overall sustainability	L	There is high likelihood of sustainability of the knowledge developed by the project, but upscaling and expanding depend on political initiative and continued funding by national stakeholders, which were beyond the scope of the project.
5) Factors affecting performance (M&E and stakeholder engagement)		
Overall quality of stakeholder engagement	S	The project managed a complex diversity of partners effectively, many of which were working together for the first time.
Overall quality of M&E	MU	The lowest of the two sub-component ratings below.
M&E design at start up	MU	Poor design during the planning phase resulted in a lack of clear indicators to report on, besides under resourcing of monitoring, evaluation and communication components.
M&E plan implementation	S	Monitoring reports were well prepared and provided in time.

Appendix 3. Rating scheme²²

Project results and outcomes

Project outcomes are rated based on the extent to which project objectives were achieved. A six-point rating scale is used to assess overall outcomes:

Rating	Description
Highly Satisfactory (HS)	<i>"Level of outcomes achieved clearly exceeds expectations and/or there were no short comings."</i>
Satisfactory (S)	<i>"Level of outcomes achieved was as expected and/or there were no or minor short comings."</i>
Moderately Satisfactory (MS)	<i>"Level of outcomes achieved more or less as expected and/or there were moderate short comings."</i>
Moderately Unsatisfactory (MU)	<i>"Level of outcomes achieved somewhat lower than expected and/or there were significant shortcomings."</i>
Unsatisfactory (U)	<i>"Level of outcomes achieved substantially lower than expected and/or there were major short comings."</i>
Highly Unsatisfactory (HU)	<i>"Only a negligible level of outcomes achieved and/or there were severe short comings."</i>
Unable to Assess (UA)	<i>The available information does not allow an assessment of the level of outcome achievements.</i>

During project implementation, the results framework of some projects may have been modified. In cases where modifications in the project impact, outcomes and outputs have not scaled down their overall scope, the evaluator should assess outcome achievements based on the revised results framework. In instances where the scope of the project objectives and outcomes has been scaled down, the magnitude of and necessity for downscaling is taken into account and despite achievement of results as per the revised results framework, where appropriate, a lower outcome effectiveness rating may be given.

Project implementation and execution

Quality of implementation and of execution will be rated separately. Quality of implementation pertains to the role and responsibilities discharged by the GEF Agencies that have direct access to GEF resources. Quality of Execution pertains to the roles and responsibilities discharged by the country or regional counterparts that received GEF funds from the GEF Agencies and executed the funded activities on ground. The performance will be rated on a six-point scale:

²² See instructions provided in Annex 2: Rating Scales in the "Guidelines for GEF Agencies in Conducting Terminal Evaluations for Full-sized Project", April 2017.

Rating	Description
Highly Satisfactory (HS)	<i>There were no shortcomings and quality of implementation or execution exceeded expectations.</i>
Satisfactory (S)	<i>There were no or minor shortcomings and quality of implementation or execution meets expectations.</i>
Moderately Satisfactory (MS)	<i>There were some shortcomings and quality of implementation or execution more or less meets expectations.</i>
Moderately Unsatisfactory (MU)	<i>There were significant shortcomings and quality of implementation or execution somewhat lower than expected.</i>
Unsatisfactory (U)	<i>There were major shortcomings and quality of implementation substantially lower than expected.</i>
Highly Unsatisfactory (HU)	<i>There were severe shortcomings in quality of implementation or execution.</i>
Unable to Assess (UA)	<i>The available information does not allow an assessment of the quality of implementation or execution.</i>

Monitoring and evaluation

Quality of project M&E will be assessed in terms of:

- i. Design
- ii. Implementation

Sustainability

The sustainability will be assessed taking into account the risks related to financial, socio-political, institutional, and environmental sustainability of project outcomes. The evaluator may also take other risks into account that may affect sustainability. The overall sustainability will be assessed using a four-point scale:

Rating	Description
Likely (L)	<i>There is little or no risk to sustainability.</i>
Moderately Likely (ML)	<i>There are moderate risks to sustainability.</i>
Moderately Unlikely (MU)	<i>There are significant risks to sustainability.</i>
Unlikely (U)	<i>There are severe risks to sustainability.</i>
Unable to Assess (UA)	<i>Unable to assess the expected incidence and magnitude of risks to sustainability.</i>

Rating of project objectives and results

Highly Satisfactory (HS): The project had no shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.

Satisfactory (S): The project had minor shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.

Moderately Satisfactory (MS): The project had moderate shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.

Moderately Unsatisfactory (MU): The project had significant shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.

Unsatisfactory (U) The project had major shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.

Highly Unsatisfactory (HU): The project had severe shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.

Please note: Relevance and effectiveness will be considered as critical criteria. The overall rating of the project for achievement of objectives and results **may not be higher** than the lowest rating on either of these two criteria. **Thus, to have an overall satisfactory rating for outcomes a project must have at least satisfactory ratings on both relevance and effectiveness.**

Ratings on sustainability

Sustainability will be understood as the probability of continued long-term outcomes and impacts after the GEF project funding ends. The Mid-term evaluation will identify and assess the key conditions or factors that are likely to contribute or undermine the persistence of benefits after the project ends. Some of these factors might be outcomes of the project, i.e. stronger institutional capacities, legal frameworks, socio-economic incentives /or public awareness. Other factors will include contextual circumstances or developments that are not outcomes of the project but that are relevant to the sustainability of outcomes.

Rating system for sustainability sub-criteria

On each of the dimensions of sustainability of the project outcomes will be rated as follows.

Likely (L): There are no risks affecting this dimension of sustainability.

Moderately Likely (ML). There are moderate risks that affect this dimension of sustainability.

Moderately Unlikely (MU): There are significant risks that affect this dimension of sustainability

Unlikely (U): There are severe risks that affect this dimension of sustainability.

All the risk dimensions of sustainability are critical. Therefore, overall rating for sustainability will not be higher than the rating of the dimension with lowest ratings. For example, if a project has an Unlikely rating in either of the dimensions then its overall rating cannot be higher than Unlikely, regardless of whether higher ratings in other dimensions of sustainability produce a higher average.

Ratings of project M&E

Monitoring is a continuing function that uses systematic collection of data on specified indicators to provide management and the main stakeholders of an ongoing project with indications of the extent of progress and achievement of objectives and progress in the use of allocated funds. Evaluation is the systematic and objective assessment of an on-going or completed project, its design, implementation and results. Project evaluation may involve the definition of appropriate standards, the examination of performance against those standards, and an assessment of actual and expected results.

The Project monitoring and evaluation system will be rated on 'M&E Design', 'M&E Plan Implementation' and 'Budgeting and Funding for M&E activities' as follows:

Highly Satisfactory (HS): There were no shortcomings in the project M&E system.

Satisfactory(S): There were minor shortcomings in the project M&E system.

Moderately Satisfactory (MS): There were moderate shortcomings in the project M&E system.

Moderately Unsatisfactory (MU): There were significant shortcomings in the project M&E system.

Unsatisfactory (U): There were major shortcomings in the project M&E system.

Highly Unsatisfactory (HU): The Project had no M&E system.

"M&E plan implementation" will be considered a critical parameter for the overall assessment of the M&E system. The overall rating for the M&E systems will not be higher than the rating on "M&E plan implementation."

All other ratings will be on the GEF six-point scale.

GEF Performance Description	Alternative description on the same scale
HS = Highly Satisfactory	Excellent
S = Satisfactory	Well above average
MS = Moderately Satisfactory	Average
MU = Moderately Unsatisfactory	Below Average
U = Unsatisfactory	Poor
HU = Highly Unsatisfactory	Very poor (Appalling)

M&E system rating descriptions

GEF Performance Description	Alternative description on the same scale
HS = Highly Satisfactory	There were no shortcomings in the project M&E system.
S = Satisfactory	There were minor shortcomings in the project M&E system.
MS = Moderately Satisfactory	There were moderate shortcomings in the project M&E system.
MU = Moderately Unsatisfactory	There were significant shortcomings in the project M&E
U = Unsatisfactory	There were major shortcomings in the project M&E system.
HU = Highly Unsatisfactory	The Project had no M&E system.

Appendix 4. GEF Co-financing table

Sources of Co-financing[1]	Name of Co-financer	Type of Co-financing	Amount Confirmed at CEO endorsement/ approval (million USD)	Actual Amount Materialized at 30 June 2019 (USD)
GEF Agency	FAO	Cash	5	4.757.236
NGO	WWF	Cash	6	7.978.160
GEF Agency	FAO	In-kind	20	20.725.142
NGO	WWF	In-kind	9	10.150.600
IGO	WCPFC	In-kind	6,3	7.964.470
IGO	ICCAT*	In-kind	4,3	4.334.000
IGO	IOTC*	In-kind	2,5	2.500.000
IGO	CCSBT	In-kind	1,3	1.252.848
IGO	IATTC	In-kind	6,3	6.548.150
IGO	FFA	In-kind	2	4.125.000
IGO	SPC	In-kind	0,2	186.000
IGO	PNA*	In-kind	0,4	370.000
NGO	BLI	In-kind	2,9	4.278.690
IGO	ACAP*	In-kind	1	992.500
Industry	ISSF	In-kind	2,3	6.031.348
Government	US NOAA	In-kind	45	74.282.569
Government	Fiji	In-kind	0,3	810.769
Government	Ghana	In-kind	1,2	1.261.066
Non-profit organization	MSC*	In-kind	0,15	150.000
Industry -	Fiji (FTBOA/FFIA)	In-kind	14,9	59.158.019
Industry	ISSA - Ghana MW Brands	In-kind	19,8	46.260.000
Government	European Commission - DG MARE - NEW Partner**	Cash	-	400.000
Government	Seychelles Fishing Authority – NEW partner*	In-kind	-	25.000
Industry	OPAGAC NEW partner	In-kind	-	86.120
		TOTAL	150,85	264.627.686

* Numbers are PMU estimates

** Cash contribution to WCPFC work

*** 2018 Information

Annexes

Annex 1. Terms of Reference

<http://www.fao.org/3/cb0505en/cb0505en.pdf>

Annex 2. Evaluation matrix and evaluation questions by area of analysis

<http://www.fao.org/3/cb0506en/cb0506en.pdf>

Annex 3. Case study: Certificate IV Fisheries Enforcement and Compliance

<http://www.fao.org/3/cb0507en/cb0507en.pdf>

Annex 4. Reconstructed theory of change for the ABNJ Tuna Project

<http://www.fao.org/3/cb0508en/cb0508en.pdf>

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