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**Update on Capacity Building and Stakeholder Engagement Activities for WCPFC Harvest
Strategies**

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Executive Summary

The Western and Central Pacific Fisheries Commission (WCPFC) has agreed to a workplan for the adoption of harvest strategies for skipjack, bigeye, yellowfin, and South Pacific albacore tuna. To support this workplan, the Pacific Community (SPC) has conducted workshops and consultation sessions that aimed to equip stakeholders with the knowledge necessary to make informed, science-based decisions, thereby empowering them to drive the harvest strategy development process. Since 2018, 33 workshops and consultation sessions were delivered at regional and national levels, engaging over 450 participants from fisheries departments, industry, and non-governmental organizations.

Feedback from WCPFC members indicates that capacity building remains a high priority and is essential for progressing the harvest strategy workplan. Additionally, the focus of the capacity building and stakeholder engagement activities has evolved as the development of the harvest strategies has progressed.

This report, accompanying the previous capacity building reports ([Scott et al., 2023](#), [2022a](#), [2021](#)), describes the stakeholder engagement and capacity building activities undertaken by SPC since 2018 and updates the latest activities and proposed improvement.

We invited WCPFC to:

- Support the capacity building and stakeholder engagement activities performance by SPC.
- Provide feedback on SPC's capacity building and stakeholder engagement activities.

1 Introduction

The Western and Central Pacific Ocean (WCPO) contributes more than half of the global tuna catch (Hare et al., 2023). The tuna fisheries in this region not only generate substantial revenue but also sustain the livelihoods of Pacific Island Countries and Territories (PICTs). To ensure long-term sustainability and security of these fisheries, the Western and Central Pacific Fisheries Commission (WCPFC) has launched a work plan aimed at developing a harvest strategy approach for four key tuna species: skipjack (*Katsuwonus pelamis*), bigeye (*Thunnus obesus*), yellowfin (*Thunnus albacares*), and South Pacific albacore (*Thunnus alalunga*) (CMM2014-06, 2014; CMM2022-03, 2022). This initiative underscores the WCPFC’s commitment to establishing harvest strategies as a central mechanism for sustainable tuna fisheries in the WCPO, benefiting all WCPFC members and securing economic benefits for PICTs.

The successful development of a harvest strategy approach hinges on active stakeholder engagement and capacity building. Stakeholders must be confident in their ability to make informed decisions based on scientific data. As such, capacity building and stakeholder engagement are crucial elements for the adoption of harvest strategies. To support WCPFC members in developing these strategies, the Pacific Community (SPC) has conducted numerous workshops with a broad range of stakeholders since 2018. The primary goal of these workshops is to equip participants with the necessary knowledge to make informed, science-based decisions, thereby empowering them to drive the harvest strategy development process. Those SPC activities have a significant impact on both national and regional level and have led to significant achievement, including the adoption of the skipjack management procedure at the nineteenth WCPFC Commission meeting in Da Nang, Vietnam (CMM2022-01, 2022).

Despite these efforts, feedback from regional meetings highlights the ongoing need for capacity building and a deeper understanding of the harvest strategy approach. The need for continuous capacity building arises from stakeholders’ desire for a more profound understanding of the harvest strategy work, and the inherent complexities of the approach and related science.

To better understand the outcomes and identify areas for improvement, SPC conducted two surveys of workshop participants. The insights gained from these surveys have been invaluable in assessing the effectiveness of the workshops and suggesting potential strategies to enhance their impact. These findings will help refine the workshops to better meet the needs of all stakeholders involved.

2 Method

2.1 Workshop Format

The capacity building workshops provide foundational knowledge of the harvest strategy approach, enabling participants to engage in discussions within their organizations and at larger regional meetings. Typically conducted over 2 to 3 days, these in-person workshops combine presentations

with hands-on activities for effective learning.

During the COVID-19 pandemic, SPC adapted these workshops to an online format, with reduced materials and shorter duration to maintain participant engagement. Additionally, we introduced online consultation sessions focused on specific aspects of the commission process. These sessions, usually lasting a few hours, are designed to enhance decision-makers’ knowledge and support their decision-making processes.

2.2 Workshop Content

SPC workshops feature a series of short presentations introducing key terms and concepts, supplemented by educational practical tools to help participants grasp the basics of the harvest strategy approach. These tools provide insights into the Management Strategy Evaluation (MSE) process, illustrating hypothetical impacts, modeling mechanics, uncertainties, and trade-offs among management objectives. Practical activities include the ‘Alice chart’ ice-breaker to gauge participants’ initial and final understanding. R Shiny applications for interactive exploration of harvest control rules and performance indicators (Table.1, details see [Scott et al. \(2022b\)](#)). Participants also engage in an ‘Objective Exercise’ to develop their own management objectives, translating them into measurable metrics (performance indicators), and the ‘Floor Maps’ exercise to arrange and explain the steps involved in developing a harvest strategy. To encourage questions, a ‘Cup of Questions’ allows anonymous submissions, and each workshop concludes with a ‘Fun Quiz’ to review and reinforce the material covered.

| Names of R shiny applications | Address |
|--|---|
| Introduction to Harvest Control Rules | https://ofp-sam.shinyapps.io/AMPLE-intro-hcr/ |
| Introduction to Performance Indicators | https://ofp-sam.shinyapps.io/AMPLE-measuring-performance/ |
| Comparing Performance of Management Procedures | https://ofp-sam.shinyapps.io/AMPLE-comparing-performance/ |
| PIMPLE | https://ofp-sam.shinyapps.io/PIMPLE_WCPFC19 |
| SPAMPLE | https://ofp-sam.shinyapps.io/SPAMPLE/ |

Table 1: List of R shiny applications developed by SPC.

2.3 Science-Management Dialogue

In addition to capacity building workshops and consultation sessions, SPC has also conducted seminars and prepared documents to support the Science-Management Dialogue (SMD). The purpose of the SMD is to ensure a consistent understanding of the harvest strategy approach among WCPFC members, initiate discussions, and facilitate the Commission’s decision-making on harvest strategies development.

The first SMD was held in August 2022, following SC18 ([WCPFC, 2022](#)). This meeting provided essential input for the selection and development of candidate management procedures(MPs) for skipjack. The second SMD is scheduled in September 2024, after SC20, and will focus on developing harvest strategies for south Pacific albacore.

2.4 Supplementary Materials

The supplementary materials, including presentations, cheat sheets, reports, and a glossary, have been developed and hosted on the SPC Moodle site. (<https://spc.learnbook.com.au/login/index.php>). Additionally, videos explaining various aspects of the harvest strategy content are available on SPC's YouTube channel (<https://youtube.com/playlist?list=PLCq-WnF3HdrjCtkevYvru-OeiMOxD4oZn&si=-VyU0Z4o5o650m6U>). These materials are accessible to everyone.

2.5 Post-Workshop Survey and Tracer Survey

A post-workshop survey is conducted at the end of each training session to gather feedback on the workshop's content, participants' perceived knowledge increase, relevance to their needs, and overall satisfaction. In contrast, a tracer survey is conducted six months or more after the workshop to assess the practical application and retention of knowledge and any changes in participants' context. Four training events from 2022 and 2023, targeting 44 participants, were selected for this survey. A mixed-method approach was used: most participants completed the survey online, while others responded via a call. These surveys provide insights into the training's long-term effectiveness and areas for improvement.

3 Results

3.1 Impacts of the Capacity Building and Stakeholder Engagement Activities

Since 2018, SPC has conducted 33 workshops and consultation sessions at both regional and national levels, engaging over 450 participants from fisheries departments, industry, and non-governmental organizations across WCPO stakeholders (Table.2, complete list see supplementary materials Table.3). These workshops have contributed to significant achievements, including the adoption of the skipjack management procedure at the nineteenth WCPFC Commission meeting in 2022 in Da Nang, Vietnam ([CMM2022-01, 2022](#)).

| Workshop Category | Participant Numbers |
|--|---------------------|
| Number of harvest strategy workshops and consultation sessions conducted | 33 |
| Number of national harvest strategy workshops conducted | 18 |
| Number of regional harvest strategy workshops conducted | 6 |
| Number of consultations sessions conducted | 9 |
| Number of countries and territories that have received national harvest strategy workshops | 15 |
| Number of participants that attended the workshops and the consultation sessions | 459 |

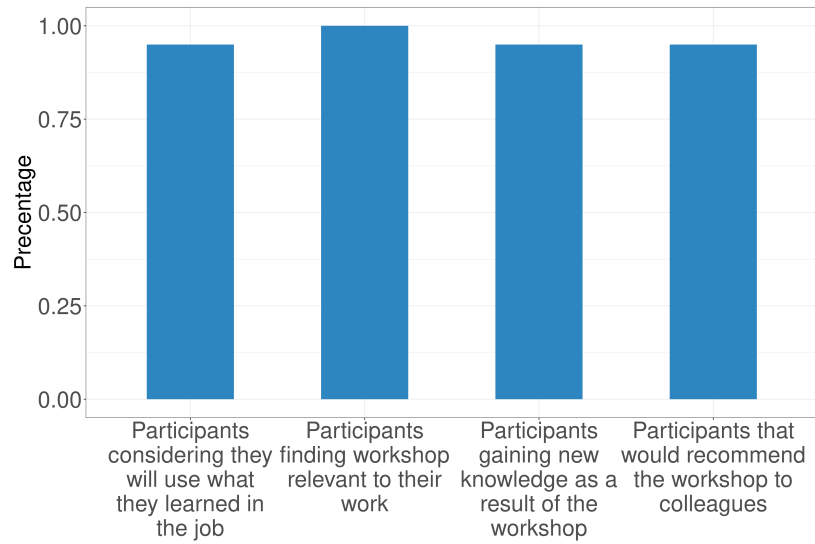
Table 2: Summary statistics of the harvest strategy workshops, and consultation sessions conducted by SPC from 2018 to 2023.

3.2 Surveys Results

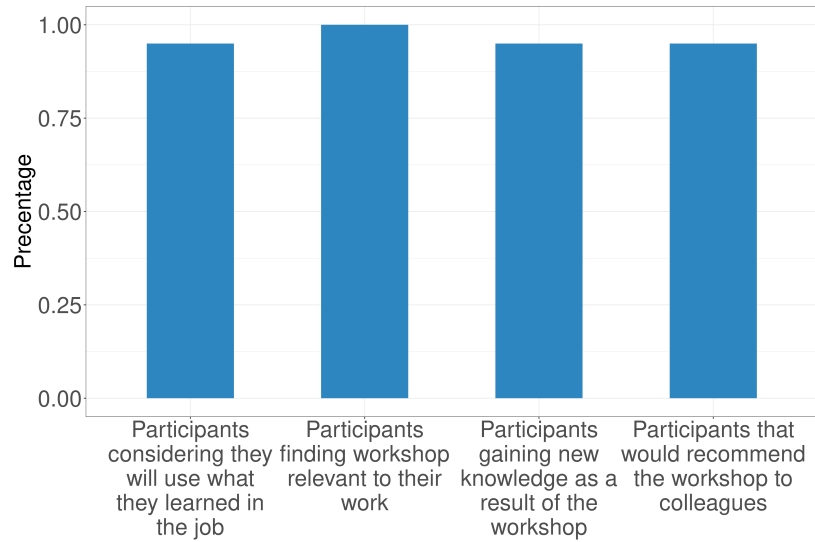
Feedback from the post-workshop survey was highly positive, with participants rating the content at an average of 4.6 out of 5. Additionally, 95% reported gaining new knowledge, 91% intended to

apply it in their work, and 95% would recommend the training to colleagues (Figure.1a).

In contrast, the tracer survey revealed inconsistencies: while 94% acknowledged improved understanding, only 35% had applied their learning in their work. Additionally, 71% shared their learning, 69% faced learning challenges, and only 35% used the supplementary materials (Figure.1b). Participants identified technical complexity, specialized terminology, and insufficient workshop duration as barriers to fully grasping the topics.



(a) results of the post-workshop survey



(b) results of the tracer survey.

Figure 1: Summary of the survey results.

4 Discussion

The development of fisheries harvest strategies has underscored the need for fisheries co-management and driven a renewed focus on capacity building. Capacity building is essential, with stakeholders often reluctant to proceed without a thorough understanding. Our efforts in this area have contributed to a significant outcome in 2022 with the agreement on a management procedure for the WCPO skipjack fishery, though further engagement and focus on individual tuna harvest strategies is important and necessary.

Both post-workshop and tracer surveys were used to measure the effectiveness of the workshop. The post-workshop survey gathers immediate feedback on content and knowledge gained, while the tracer survey, conducted six months later, assesses practical application and knowledge retention. This approach helps identify areas for improvement and ensures participants have the resources needed to apply their learning.

The tracer surveys revealed a gap between initial intentions and actual application of knowledge, highlighting the technical complexities and limited scientific capacity at the national level. Despite these challenges, raising broader awareness and fostering professional relationships are crucial for mainstreaming the harvest strategy approach.

Approximately 67% of participants faced learning challenges due to the technical nature of the content. To address this, we review stock assessment fundamentals in the workshop and seek collaborations with other workshops and organisations. Simplifying jargon and providing a glossary of terms also help improve understanding.

Participants often find the current workshop duration insufficient, suggesting more frequent, longer sessions. However, logistical challenges and participants' busy schedules complicate this approach. We are exploring multiple mini-workshops and improving online resources to offer more flexible learning opportunities.

Furthermore, engaging key decision-makers is challenging due to their schedules. Shorter, focused online consultation sessions have proven effective for involving decision-makers in the development process. Feedback suggests these sessions could complement broader in-person workshops.

Balancing the amount of information provided is crucial. Overwhelming participants can be counterproductive, so tailored information that aligns with decision-makers' priorities is essential. Increased familiarity with the harvest strategy approach, such as the implementation of the skipjack management procedure has been a major step forward and indicates a growing confidence among the stakeholders.

5 Conclusion

Stakeholder involvement is crucial for successful harvest strategy development, making capacity building essential. Over the years, SPC has implemented and refined various approaches to this task. While progress has been made, there are areas that require improvement. Post-workshop and tracer surveys have been useful in identifying issues and evaluating effectiveness, providing insights into achievements and suggesting potential improvements.

5.1 Key Achievements

- Engaged over half of the members in the WCPO region, demonstrating significant outreach.
- Received positive feedback from participants for the quality and relevance of content delivered.
- Enhanced knowledge sharing among stakeholders, facilitating better informed and more confident decision-making.
- Acted as a key driver in the development of harvest strategies by the WCPFC membership.

5.2 Proposed Improvement

- Tailoring workshop materials to better align with the interest and needs of participants, particular higher-level managers, and decision makers.
- Incorporating one-on-one country-specific sessions in addition to national and regional workshops.
- Ensuring sustained engagement through follow-up activities and reinforcement.
- Reviewing terminology, participant profiles, workshop duration, and agenda based on feedback.
- Improving supplementary and preparatory materials based on review findings.

We invited WCPFC to:

- Support the capacity building and stakeholder engagement activities performance by SPC.
- Provide feedback on SPC's capacity building and stakeholder engagement activities.

For workshop requests or online consultation sessions on harvest strategies, please contact Nan Yao at SPC via email at nany@spc.int.

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7 Appendix

| Date | Workshop type | Country | Total participants | Male/Female |
|----------------|------------------------|------------------------------------|--------------------|-------------|
| July 2018 | In person full-length | Kiribati | 12 | 5/7 |
| October 2018 | In person full-length | Solomon Islands | 20 | 14/6 |
| March 2019 | In person full-length | Federated States of Micronesia | 16 | 15/1 |
| March 2019 | In person full-length | Marshall Islands | 26 | 20/6 |
| May 2019 | In person full-length | Cook Islands | 13 | 6/7 |
| June 2019 | In person full-length | PNA | 20 | 12/8 |
| September 2019 | In person full-length | Kiribati | 14 | 5/9 |
| February 2020 | In person full-length | Fiji | 21 | NA |
| March 2020 | In person full-length | Tonga | 20 | 12/8 |
| March 2020 | In person full-length | Papua New Guinea | 28 | 19/9 |
| July 2020 | Online consultation | Japan | 5 | 5/0 |
| October 2020 | Online full-length | Tuvalu | 10 | 6/4 |
| February 2021 | In person full-length | New Caledonia | 9 | 5/4 |
| May 2021 | Online full-length | Solomon Islands | 15 | 9/6 |
| June 2021 | Online full-length | Palau | 30 | 17/13 |
| May 2022 | Online consultation | Japan | 5 | 5/0 |
| May 2022 | Online full-length | French Polynesia | 7 | 2/5 |
| June 2022 | Online consultation | SMD seminar | 200+ | NA |
| June 2022 | Online consultation | Federated States of Micronesia | 4 | 4/0 |
| June 2022 | Online consultation | EU | 7 | 6/1 |
| June 2022 | Hybrid full-length | WPEA | 18 | 14/4 |
| June 2022 | Hybrid full-length | FFA | 51 | 34/17 |
| July 2022 | Online consultation | SMD seminar | 200+ | NA |
| January 2023 | Hybrid full-length | SPG | 10 | 4/6 |
| March 2023 | In person full-length | Samoa and Tokelau | 12 | 4/8 |
| March 2023 | In person full-length | WPEA | 9 | 5/4 |
| May 2023 | In person full-length | Kiribati | 10 | 4/6 |
| October 2023 | Hybrid consultation | French Polynesia and New Caledonia | 5 | 3/2 |
| November 2023 | In person consultation | New Caledonia | 4 | 3/1 |
| November 2023 | Online consultation | China | 2 | 2/0 |
| January 2024 | Hybrid full-length | SPG | 19 | 10/9 |
| March 2024 | In person full-length | Chinese Taipei | 27 | 13/14 |
| May 2024 | Online full-length | Fiji | 12 | 10/2 |

Table 3: List of the workshops and consultation events provided by SPC. Full-length workshop: a comprehensive event lasting two to three days. Consultation: a focused online meeting lasting two to three hours on specific subjects. NA: number of participants was not recorded for these events.