SCIENTIFIC COMMITTEE

THIRTEENTH REGULAR SESSION

Rarotonga, Cook Islands

9-17 August 2017

Development of Guidelines for the Voluntary Submission of Economic data to the Commission

WCPFC-SC13-2017/ST-WP-09

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Introduction

While work utilizing economic data has previously been presented to the Commission and subsidiary bodies[2] the data utilised in this work has been collected by individual CCMs, regional and other organisations or researchers rather than by the Commission or through a Commission based process. The Commission's current and proposed future work will require economic data as an input. The collection of this economic data can be done in a number of different ways including establishing a process through which CCMs can submit economic data to the Commission. The establishment of such a process is intrinsic to SC12's recommendation, that:

> "*SC13 considers guidelines for the voluntary submission of economic data to the Commission by CCMs, recognizing the value of economic data to the work of the Commission*" (SC12 Report Paragraph 177. c)).

This paper seeks to provide SC13 with a discussion on some of the issues related to the establishment of a process under which CCMs can voluntarily submit economic data to the Commission. First and primarily, it addresses issues related to content, that is, the type of economic data that the Commission may seek from CCMs and the form in which will be sought. Second, it notes some process issues that the SC will need to consider.

Content

From the perspective of many CCMs a central issue with regard to providing the Commission with data is likely to be the type and form of data that the Commission seeks and the form in which it is to be submitted. As the SC12 recommendation refers to "*voluntary submission*" simply identifying what data needs to be provided and then listing that data may prove problematic, in that many CCMs may simply choose not to provide the data, particularly given the sensitive nature of some economic data. Further, a particular area of work may be able to utilize different types of economic data. As such, any guidelines with regard to the economic data that the Commission will seek needs to account for likely differences in CCMs ability and willingness to provide different data types. It is important to also note that the utility of the different data sets will vary but that, nonetheless, it will likely be worth obtaining some data of lower utility than no data of higher utility.

Current work of the Commission requiring economic data

The Commission has agreed to undertake work in a number of areas for which economic data will be required. The clearest examples of these are work in relation to the evaluation of harvest control rules and management strategy evaluation.

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[2] For example: **1)** Arita, S. and Pan, M. 2009, "Cost-Earnings Study of the American Samoa Longline Fishery: Based on Vessel Operations in 2009", WCPFC-SC9-2013/MI-WP-06, WCPFC Scientific Committee 9th Regular Session, Pohnpei, FSM, 6-14 August; **2)** Kirchner, C., Berger, A., Banks, E., Reid, C., Hampton, J., Pilling, G. and Harley, S. 2014, "Developing a bioeconomic model for WCPO tuna fisheries to assess potential economic outcomes under alternative management options", WCPFC-SC10-2014/MI-IP-04, WCPFC Scientific Committee 10th Regular Session, Majuro, RMI 6-14 August. **3)** SPC-OFP, 2015. "Potential Target Reference Points for South Pacific Albacore Fisheries", HSW-WP-05. WCPFC Harvest Strategy Workshop, Bali, Indonesia, 30 November – 1 December; **4)** Williams P. and Terawasi P., 2016. "Overview of Tuna Fisheries in the Western and Central Pacific Ocean, including Economic Conditions – 2015", WCPFC-SC12-2016/GN WP-1, WCPFC Scientific Committee 12th Regular Session, Bali, Indonesia, 3-11 August, and;. **5)** Skirtun, M. and Reid, C., 2016. "Analyses and projections of economic conditions in WCPO fisheries", WCPFC-SC12-2016/ST-WP-04, WCPFC Scientific Committee 12th Regular Session, Bali, Indonesia, 3-11 August.

The Commission has "accepted the suggested initial list of performance indicators for tropical purse-seine fisheries as developed by the Small Working Group on Management Objectives at WCPFC13 for the purpose of the evaluation of harvest control rules" noting that "SPC is requested to continue the work on HCRs based on the suggested indicators here as much as possible. Short-, medium-, and long-term calculation results would be provided, if possible." In addition it was emphasised that "**the list is interim and should be reviewed and may be revised when further information is available"** (All quotes taken from the Report of WCPFC13, Attachment N, emphasis in original).

The initial list of performance indicators includes:

1. In relation to the management objective of "Maximising economic yield from the fishery" the performance indicator was given as "Predicted effort relative to E_{MEY} (to take account of multi-species considerations SKJ, BET and YFT; may be calculated at the individual fishery level). B_{MEY} and F_{MEY} may also be considered at a single species level."
2. In relation to the management object of Proxy: average value of SIDS/non-SIDS catch.

Also provided by the Small Working Group on Management Objectives at WCPFC13 for each management objective are monitoring strategies. For the management objective of "Maximising economic yield from the fishery" the monitoring strategies listed are "Observed rent from the fishery relative to MEY" and "Observed effort in the fishery relative to E_{MEY}".

While these outcomes specifically address the tropical purse seine fishery, similar work is planned for other fisheries/species by the Commission. The WCPFC Science Services Provider provided a paper in response to the small working group's suggestion that it undertake a similar process for the southern longline fishery and this be considered by SC13.

To evaluate HCRs for a fishery using the outlined performance indicators and to monitor the fishery's performance using the outlining monitoring metric, economic (and other) data will be required that allows for:

1. The estimation of fishery revenue, costs and profitability at observed effort levels.
2. The estimation of fishery revenue, costs and profitability at maximum economic yield (MEY).
3. The estimation of the level of effort associated with MEY.
4. The estimation of fishery revenue, costs and profitability under different effort level and management arrangements.

The work previously undertaken on the implications of different TRPs for albacore and different trajectories to achieve a given TRP similar work also required data that allow for the estimation of fishery revenue, costs and profitability under different effort level and management arrangements. Any continuation of this work will be facilitate by the provision of additional and more current economic data.

Other work that requires the input of economic data includes analyses and projections of economic conditions in WCPO fisheries, such as the work presented to SC12 and annual updates as were requested

at that meeting[3]. This work requires economic data that allows for the measurement of changes in fish prices and fishing costs over time as well as catch and effort data.

Finally, for the Commission to meet its obligations in considering new proposals under CMM 2013-06 to assess its impact CCMs and in particular, SIDS development opportunities, where economic impacts are likely to occur economic data is likely to be required although the data required will be dependent on the nature of the proposal.

Economic data to facilitate the work of the Commission

To undertake the work outlined in the previous section data is required, at least, on vessel revenue and costs and/or on vessel outputs and inputs and their associated prices. These data can be obtained through a number of processes including;

1. The collection of vessel/company level financial data (for example, audited profit and loss statements and balance sheets).
2. Reports on the financial/economic performance of a fleet or a sub-category of a fleet. Examples being, *Cost-earnings Study of the American Samoa Longline Fishery based on Vessel Operations in 2009 and Recent Trend of Economic Performance* (2017) and *Review of financial and economic performance of the Fijian offshore longline fishery* (2016).[4,5]
3. The collection of "representative" data for a fleet or a sub-category of a fleet. That is, data which is not specific to a particular vessel but reflects revenues and costs of vessels in a particular fleet or a sub-category of a fleet. It would also be important that the characteristics of the "representative" vessels are also provided.
4. The collection of data on input usage (e.g. fuel usage, crew numbers, etc.) and output produced (catch) and input/output prices (e.g. unit prices for fish, fuel and crew) or some proxy of these for example, crew wages as a percentage of vessel revenue or fuel as a percentage of vessel costs).

While the provision of these data will facilitate the work of the Commission there is likely to be significant variations in the ability and willingness of CCMs to provide the respective data both within and across the categories listed. For example, rates of submission of operational level catch and effort data suggest that privacy constraints would likely prevent several CCMs from submitting vessel level financial data. On the other hand CCMs may be more able and willing to provide data on inputs and outputs data and their associated prices. In order to maximise the utility of the economic data set that is to be collected by the Commission the best approach may be to allow CCMs the opportunity to provide economic data in any of the listed forms. This could be achieved by simply listing all the data types in any guidelines with regard to the content of the data that can be provided.

With regard to the form of the data, it is expected that for the first two types of data listed, CCMs would simply provide the Commission with data/reports that they have collected which would then need to be

[3] See, Skirtun, M. and Reid, C., 2016. "Analyses and projections of economic conditions in WCPO fisheries", WCPFC-SC12-2016/ST-WP-04. Thet request for this paper to be presented at future meetings of SC is provided in para. 22 a) of the SC12 "Summary Report".

[4] Pan, M., Arita, S. and Bigelow, K. 2017, "Cost-Earnings Study of the American Samoa Longline Fishery: Based on Vessel Operations in 2009 and Recent Tend of Economic Performance", Administrative Report H-17-01, NOAA.

[5] Skirtun, M. 2016 "Review of financial and economic performance of the Fijian offshore longline fishery, Forum Fisheries Agency.

compiled in some form. In the case of vessel/company level financial data the CCMs would be free to remove or redact any information as they saw fit. This could also be achieved by providing copies or links to publicly available reports providing assessments of the financial/economic performance of a fleet. If the report was not publicly available CCMs could provide a copy of the report and once again remove or redact any information as they saw fit. With regard to the "representative" and "input/output" data it may be worth providing a template data submission form that CCMs can use when submitting data. Attachment A and D provide, for illustration purposes only, examples of template data submission forms for both of these types of data.

Processes

There are a number of process related issues that the SC may wish to consider, including:

- That under the Rules and Procedures for the Protection, Access to, and Dissemination of Data Compiled by the Commission economic data has been classified as non-public domain data (appendix 2, Item 11) but has not been assigned a risk classification (Table 1). Given this, the SC may wish to consider assigning a risk classification to economic data, whether as a single set or assign different risk classifications to different data types.
- The frequency at which the data would be sought. Given the benefits of developing a time –series of the data and the likely on-going nature of the monitoring strategy regular submission, for example, annually, would be beneficial.
- The compilation and storage of data and who will undertake these roles.
- How any guidelines on the content of the data that the Commission is seeking form is recorded. For example, one option could be to make any such guidelines an Annex to the document "Scientific data to be provided to the Commission".

Discussion

This paper provides a discussion of the work of the Commission that would be facilitated by the provision of economic data, the type of economic data required and ways in which these data could be collected, including through the use of data templates. Also noted are a number of process related issues that the SC may wish to consider. It is anticipated that at SC13 a SWG will further discuss these matters including potential templates for the voluntary provision of economic data by CCMs to the Commission.

Recommendations

To initiate discussion amongst members of the SC, the following basic framework is proposed for the submission of economic data:

1. Any submission is voluntary, but all CCMs with fishing vessels, or who license fishing vessels that are required to provide some form of economic data as part of the license application process, are encouraged to provide some level of information, and to update that information periodically.
2. Submissions will provide the information detailed in the four categories described above.
3. Templates for voluntary submissions will be agreed to ensure as much consistency as possible.
4. Data will be considered non-public domain and the Commission will agree risk levels for the different categories.

5. Data will be held by WCPFC (either directly or through its contracted data management provider)
6. Over time the Commission will amend the Scientific Data Rules to also cover this voluntary information.

Attachment A: Template for submission of economic data for a "representative" purse seine vessel

1. Collation Details	
1 Flag State:	2 Currency used:
3 Period covered:	4 Date of submission:

2. "Representative" vessels characteristics	
1 Year Built:	2 GRT:
3 Length (LOA in metres):	4 Engine Horsepower:
5 Trips per year:	6 Presence of ULT Freezers: (Yes/No)
7 Total catch:	8 Percentage of catch transhipped:
9 Total days per trip (incl. steaming):	10 Fishing days per trip (days fished or searched):
11 Number of FADs deployed:	12 Crew Size:

3. Revenue (answer one or both columns)		
Revenue breakdown	In nominated currency	As percentage of total revenue
Fish Sales		
Other		

4. Operating Costs (answer one or both columns)		
Cost item	In nominated currency	As percentage of operating costs
Fuel and oil		
Transshipment and freight		
Repairs and maintenance		
Helicopter		
Crew (Percentage of ☐ operating costs/☐ total revenue)		
Port charges		
Insurance		
Management/Administration		
Provisions		
Access fees		
Observer		
Other		

5. Other costs (in nominated currency)	
Depreciation	
Interest on Loans	
Dry-docking costs	
Licenses/Permits/Registration fees (excl. access fees)	

6. Capital Values (in nominated currency)	
Vessel depreciated value (i.e. if vessel is to be sold in its current condition)	
Vessel Replacement cost (i.e. if the same vessel is to be purchased brand new)	

7. Additional data submission (if only percentage column is answered in 3. Revenue)			
Revenue-side information	Skipjack	Yellowfin	Bigeye
Metric tons of tuna species landed			
Value composition (as a percentage of total revenue)			

Attachment B: Template for submission of input and output data in relation to purse seine vessels

1. Collation Details	
1 Flag State:	2 Currency used:
3 Period covered:	4 Date of submission:

2. "Representative" vessels characteristics	
1 Year built:	2 GRT:
3 Length (LOA in metres):	4 Engine Horsepower:
5 Trips per year:	6 Presence of ULT Freezers: (Yes/No)
7 Total catch:	8 Percentage of catch transhipped:
9 Total days per trip (incl. steaming):	10 Fishing days per trip (days fished or searched):
11 Number of FADs deployed:	12 Crew Size:

3. Output			
In metric tons	Skipjack	Yellowfin	Bigeye
Total catch			
– Of which are MSC certified			
– Of which are Purse Seine Special			
Unit price (Specify currency)	Skipjack	Yellowfin	Bigeye
Average across total catch			
– That for MSC certified			
– That for Purse Seine Special			

4. Inputs		
Fuel	In metric tons	Average unit price (per mt)
Usage per year		
Usage per trip		
Fuel cost as a percentage of operating costs		
Fuel cost as a percentage of total revenue		

Repairs and maintenance	In nominated currency	As a percentage of operating cost
Cost of repairs and maintenance per year		
Average cost of a major refit		
Year since last major refit		
Marketing	In nominated currency	Average unit cost (per mt)
Marketing and commission		
Transshipment	In nominated currency	Average unit cost (per mt)
Transshipment cost per year		
Transshipment cost as a percentage of operating costs		
Transshipment cost as a percentage of total revenue		
Crew cost	In nominated currency	Average annual wage (per crew)
Crew cost per year		
As a percentage of (☐ operating costs/☐ total revenue)		
Number of crew on vessel		
Finance cost	In nominated currency	Interest rate p.a.
Interest costs		
Insurance as a percentage of total insured value		
Capital value	Depreciated value (i.e. current sale value)	Replacement value (i.e. value brand new)
Vessel (excl. helicopter, net and other gear)		
Helicopter		
Net and other gear		

Attachment C: Template for submission of economic data for a "representative" longline vessel

1. Collation Details	
1 Flag State:	2 Currency used:
3 Period covered:	4 Date of submission:

2. "Representative" vessels characteristics	
1 Year built:	2 GRT:
3 Length (LOA in metres):	4 Crew size:
5 Engine Horsepower:	6 Trips per year:
7 Total catch:	8 Total days per trip (incl. steaming):
9 Percentage of catch transhipped:	10 Fishing days per trip:
11 Onboard storage (tick appropriate box): ☐ ULT ☐ RSW ☐ Ice	

3. Revenue (answer one or both columns)		
Revenue breakdown	In nominated currency	As percentage of total revenue
Fish Sales		
Other		

4. Operating Costs (answer one or both columns)		
Cost item	In nominated currency	As percentage of operating cost
Fuel and oil		
Bait cost		
Transshipment and freight		
Repairs and maintenance		
Marketing and commission		
Crew (Percentage of ☐ operarting costs/☐ total revenue)		
Port charges		
Insurance		
Management/Administration		
Provisions		
Licence fees		
Other		

5. Other costs (in nominated currency)	
Depreciation	
Interest on Loans	
Dry-docking costs	
6. Capital Values (in nominated currency)	
Vessel depreciated value (i.e. if vessel is to be sold in its current condition)	
Vessel Replacement cost (i.e. if the same vessel is to be purchased brand new)	

7. Additional data submission (if only percentage column is answered in 3. Revenue)			
Revenue-side information	Bigeye	Yellowfin	Albacore
Metric tons of tuna species landed			
Value composition (as a percentage of total revenue)			

Attachment D: Template for submission of input and output data in relation to longline vessels

1. Collation Details	
1 Flag State:	2 Currency used:
3 Period covered:	4 Date of submission:

2. "Representative" vessels characteristics	
1 Year built:	2 GRT:
3 Length (LOA in metres):	4 Crew size:
5 Engine Horsepower:	6 Trips per year:
7 Total catch:	8 Total days per trip (incl. steaming):
9 Percentage of catch transhipped:	10 Fishing days per trip (days fished or searched):
11 Onboard storage (tick appropriate box): ☐ ULT ☐ RSW ☐ Ice	

3. Output

In metric tons	Bigeye	Yellowfin	Albacore
Total catch			
– Of which are fresh MSC certified			
– Of which are frozen MSC certified			
– Of which are fresh non-MSC certified			
– Of which are frozen non-MSC certified			
Unit price (Specify units)	**Bigeye**	**Yellowfin**	**Albacore**
Average across total catch			
– That for fresh MSC certified			
– That for frozen MSC certified			
– That for fresh non-MSC certified			
– That for frozen non-MSC certified			

4. Inputs

Fuel	In metric tons	Average unit price (per mt)
Usage per year		
Usage per trip		
Fuel cost as a percentage of operating costs		
Fuel cost as a percentage of total revenue		

Repairs and maintenance	In nominated currency	As a percentage of operating costs
Cost of repairs and maintenance per year		
Average cost of a major refit		
Year since last major refit		
Freight and marketing	In nominated currency	Average unit cost (per mt)
Sea freight per year (i.e. via reefer container)		
Air freight per year		
Packaging per year		
Marketing and commission		
Auction commission rate on final price		
Transshipment	In nominated currency	Average unit cost (per mt)
Transshipment cost per year		
Transshipment cost as a percentage of operarting costs		
Transshipment cost as a percentage of total revenue		
Crew cost	In nominated currency	Average annual wage (per crew)
Crew cost per year		
As a percentage of (☐ operating costs/☐ total revenue)		
Number of crew on vessel		
Finance cost	In nominated currency	Interest rate p.a.
Interest costs		
Insurance as a percentage of total insured value		
Capital value	Depreciated value (i.e. current sale value)	Replacement value (i.e. value brand new)
Vessel (excl. line and other gear)		
Line and other gear		