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2019 MAY PSMB MEETING

DOCUMENT N° 9:

REVIEW OF THE FISHERIES MODULE

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This paper was prepared by the Fisheries, Aquaculture and Marine Ecosystems (FAME) Division of the Pacific Community (SPC).

The objective of this paper is to provide feedback to improve how fisheries data, which are captured through household income and expenditure surveys, can be improved. The recommendations and feedback are provided below.

Inconsistency between P902 and P907:

No fisher reported using more than 3 fishing methods, yet there are a lot of differences between P902 (number of hours for the last 7 days) versus the sum of P907 (number of hours for method for the last 7 days). There should be a rule that the $\text{Sum}(P907) \leq P902$ and possibly that they $P902 \leq 1.1 \text{Sum}(P907)$ [10% margin for an extra 4th method].

Examples of problems

HH	Person	
93-72-41-03	3	P902=45, sum(P907)=11
04-21-19-51	2	P902=30, sum(P907)=6
23-11-12-36	1	P902=1, sum(P907)=12

⇒ **Add cross checking rule**

Inconsistency between P924 and P923:

A fisher might not sell more than his/her catch so $P923 \leq P924$.

Example of problem

HH	Person	
93-72-41-03	3	P923=20, P924=125

⇒ **Add cross checking rule**

Inconsistency between sum(P923) and sum(P909):

When provided, the sum of weights from catch detail for the last 7 days (P923) should match more or less the sum of weights by method for the last 7 days (P909) especially as they report no more than 3 methods & 4 species in the sample.

HH	person	MethodWeight Sum(P909)	CatchDetailWeight Sum(923)
98-51-27-48	2	10	250
13-29-57-06	1	1	15
79-87-53-18	1	8	105
59-74-70-31	2	5	36
23-22-13-81	4	20	80
64-08-37-76	1	13	45.5
34-65-44-93	1	32	100
33-93-96-77	1	20	51.5
35-03-98-21	1	5	12
90-22-83-27	1	20	45
51-07-91-11	1	100	212.5

⇒ **Add cross checking rule (with tolerance if needed)**

It can be very inconsistent when comparing data from various questions.

98-51-27-48/2: She declares using handline on the outer reef and fishing 10lb, then in catch she gets 250lb of tuna during the last 7 days (and doesn't sell any, she must like tuna very much).

She also spends \$915 in various gears, ice etc during the last 7 days...

50-47-69-20/1: He declares fishing with a net, fished during the last 7 days 2lb (method) or 10lb (catch), but spent \$455 in gears...

Quantity sold (P924) = 0 of no information

A lot of records show a quantity sold of 0lb, even for people declaring catch of hundreds of pounds.

If the information is not provided, it should be blank, not 0 and you would need to seriously question a fisher who reports fishing 200lb of herbivorous fishes during the last 7 days and selling none.

Number of hours and nb of trips

At the moment there is a question on the number of hours spent using a fishing method (P907) and the usual number of hours for a typical trip engaging in the method (P908)

Example	Method	Nb hours 7 days	Typical nb hours / trip
1	Net (beach seine gill cast)	13	1
2	Spearfishing night	2	2
3	Handline (drop stone pole fishing rod & reel)	2	2
4	Spearfishing night	20	20
5	Net (beach seine gill cast)	12	1
5	Spearfishing night	12	1

How should it be interpreted? Does that mean that fisher 1 made 13 trips during the last 7 days, or that the trips he made were very unusual? What about fisher 5? Did fisher 2 and 4 only fished one time with that method during the 7 day period?

Maybe add a question on the number of trips for the last 7 days with that method and if the nb of hours is very different from nb trips * nb hours/trip, question the person...

⇒ **Add question on nb of trips for the last 7 days**

Quantities

P909 (total catch for the last 7 days for method) is often rounded (10, 20, 30) likely up. The quantity caught is likely overestimated.

Some quantities are 0, which would mean no catch. It is important to make sure this is really a no catch and not absence of data.

⇒ **Differentiate 0 (no catch) from 0 (no data)**

Inconsistency in months vs time of survey

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	0	0	0	0	0	0	0	1	1	0
0	0	0	0	0	0	0	0	0	1	1	0
0	0	0	0	0	0	0	0	0	1	1	0
1	0	0	0	0	0	0	1	0	0	0	1
0	0	0	1	1	0	0	0	0	0	1	0
0	0	0	0	0	1	1	1	0	0	0	0

P905: Fishers report fishing with that method at various time of the year, but at the same time they all report using the method and catching fish (providing nb hours & total weight) during the last 7 days. Unless the HIES was conducted on a whole year for various respondents, this is inconsistent.

If a fisher says he fish for certain months only, then the months at the time of survey (period covering 7 days before) need to be included if he reports catch and nb of hours fished for the last 7 days. Of this mean there is a misunderstanding of the questions.

Note this also raise the issue of under-reporting of seasonal fishing in the HIES (as it focus only on the last 7 days).

Method vs species

Some fishing method reported (P903) have no corresponding catch (Catch details). Maybe add a P903 question to the Catch details block to ease cross checking?

Example of problem

HH	Person	
79-87-53-18	8	Reports using net, handling and gleaning. Catch of pelagic, herbivorous and carnivorous fishes but no invertebrates.
96-47-07-42	1	Catching tuna with a beach seine or gillnet or cast net. Very dubious.
94-49-75-00	3	Gleaning herbivorous and carnivorous fishes... He must glean them at the market ;-)

- ⇒ **Train the surveyors**
- ⇒ **Add P903 multi-check for catch details**

Method vs Location

HH	Person	
45-09-40-18	1	Reports trolling on reef flats.

Quite dubious

- ⇒ **Train the surveyors**

Double counting

Group of people from the same household claiming the same catch. It is likely that they are fishing together, and bringing together the claimed quantity and that it is double counting.

HH	People	
99-26-05-66	1 & 2	Report both spearing 40 kg/week. It is likely that they are fishing together, and bringing together 40 kg of fish.

- ⇒ **Train the surveyors**

Age

HH	Person	
58-90-72-63	5	7 years old...

Not necessary an error but dubious.

Comparison of Laura data with PROCFish survey for Laura

Nb of fishers & gender disaggregation

HIES only 5 out of 57 HH report fishing (9%) vs PROCFish/C: 17 out of 24 households (HH) report fishing (50%). Note out of the 17 procfish HH, only 4 report that fishing is their 1st source of income, and 6 as their 2nd source of income.

Possibly the question 901 is too restrictive (P901. In the last 7 days, did [interviewee] engage in fishing, hunting, or seafood collection?). When the answer is “no”, no more data has been provided. It would possibly miss a lot of people fishing for subsistence, especially if the weather was not very good at the time of survey.

⇒ ***Is there any way to compare the HIES with the agriculture section of the Census 2011 survey for corresponding enumeration areas? Question A1, A4, A5, P21, P23?***

HIES reports 8 male fishers (no female fishers) for Laura vs 3 female fishers and 35 males for PROCFish/C

Fishing habits

Time spent fishing per week: 3.5 Hrs (HIES) vs 10.7 (PROCFish/C)

Targeted habitats: Coastal, lagoon and outer reef (PROCFish/C) vs All Lagoon and 1 reef flats (HIES)

CPUE for Laura fishers: Procfish/C: 1.1 Kg, HIES: 4.3 Kg