



Tuvalu Fisheries Department:
Coastal Section Team
Trip Report

Niutao, Nanumea and Nanumaga September 24th – 14th October 2017



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1 Summary

On the 24th of September to 14th October 2017 6 fisheries officer were involved in completing metronome 7. The involved officers included 5 coastal fisheries officers namely; SFO Lale Petaia, FO Maani Petaia, FO Hetoa Taula, FO Simeona Italeli, FO Paeniu Lopati and Librarian Matelina Stuart from the administration division. The purpose of the trip was to at least spend 5 days on each island carrying out fisheries support activities that specifically targets communities, fishermen and Primary school students.

The main datasets collected and activities completed were:

1. Ciguatera poisoning cases;
2. Creel surveys of fishers' catches;
3. Build up knowledge capacity of local communities, fishers and primary school students on fisheries related issues.
4. Strengthened collaboration between the TFD and outer islands Kaupule in carrying out overlap duties and responsibilities.
5. Build the capacity level of outer island data collectors in doing creel survey
6. Collect, scan and store fisheries related papers or documents for archive

All parts of the work requiring data collections were facilitated by the use of formal datasheets (from SPC designed particularly for creel survey) and data will be entered into the Coastal Fisheries Database (CFD) for later analysis.

The planned out activities on the outer islands (mainly creel survey) were disrupted by the unexpected insertion of public holidays. Fishers who normally would fish on that particular day were obligated to participate in the community's festive activities hence no creel results was gathered on these particular dates (2nd, 3rd and 10th October 2017). The team concluded the Coastal Fisheries' activities on Nanumaga Island. The team was initially scheduled to be picked up by RV Talamoana on the 13th October however due to unanticipated mechanical failures to RV Talamoana the coastal team were required to board MV Nivaga 3 which fortunately was berthed in Nanumaga waters at the time.



2 Introduction

Metronome trips are regularly undertaken by TFD staff mostly Coastal Sections, however for metronome 7 an additional staff was included from the administration section. The trip consisted of 5 days spent on Niutao Island, 7 days on Nanumea Island and 6 days on Nanumaga Island. The metronome 7 trip to the northern islands was funded by Pacific Regional Oceanscape Program (PROP). As planned in the AWP metronome 7 will be the final metronome trip for the year 2017.

The purpose of the trip to the Northern islands mainly focuses on:

1. Ciguatera poisoning cases, if any, on the island;
2. Creel surveys of fishers' catches;
3. Awareness workshop with the community
4. School awareness
5. Fishermen awareness
6. Collect, scan and store fisheries related papers or documents for archive
7. Hapai fish survey (D-UVC)

3 Methods

The mission was run between the dates of 24th September to 14th October 2017, using the Fisheries Research vessel, the RV Talamoana and RV Manui. Five days were planned for each island, allowing sufficient time for 6 people to carry out all parts of the survey, meetings and awareness workshop on Niutao, Nanumea and Nanumaga.

The Health staffs were asked to find out the number of cases of ciguatera or other types of seafood poisoning since the last Metronome Trip to their islands. An affected person would be approached and interviewed by a fisheries staff if there are CFP cases on the island.

Creel surveys were made easier on each island as most landing were at the main channel, However there were collected samples from fishers who fish on reef crest. For each catch landed, data samples that were collected included costs of fishing (fuel, time, and other costs), fisher's perceptions and length and weight of all seafoods landed. Target species were reef fish, however pelagic species and invertebrates were also considered.

Comprehensive and detailed awareness program were conducted on each islands to build fisheries capacity level within community members, Primary school students and local fishermen, the target ranges of students were from form 1 to form 3.

4 Results & Data storage

4.1 Ciguatera

Only one case was found on Nanumea Island, reef fish species involved in this case was *Hipposcarus longicep*.

4.2 Creel Survey

There were 19 creel samples collected on Niutao, 27 on Nanumea and 20 on Nanumaga Island. The planned out activities on the outer islands (mainly creel survey) were disrupted by the unexpected insertion of public holidays. Fishers who normally would fish on that particular day were obligated to participate in the community's festive activities hence no creel results was gathered on these particular

dates (2nd, 3rd and 10th October 2017). In order for the team to successfully gain the targeted amount of collected samples of creel data per island the team had to add an extra day to the initial planned out 17 days to the trip.



4.3 Other work

There was an additional activity which was added to the initial plan. The requested activity was to investigate on how to remove the excess algae that is currently growing and dominating the natural flora in Hapai. The survey took place on Monday the 9th of October, apart from the predominant species of *Oreochromis mossambicus* also known by its common name Tilapia Mozambique there were 11 other species that were also found or introduced in Hapai.

1. *Acanthurus triostegus (manini)*
2. *Caranx melampygus (aseu)*
3. *Lutjanus casmira (savane)*
4. *Ctenochaetus striatus (poneuli)*
5. *Naso hexacanthurus (pokapoka)*
6. *Lutjanus quinquelineatus (savane black spot)*

7. *Kuhlia mugil* (safole)
8. *Lutjanus monostigma* (taiva)
9. *Chelonia mydas* (green turtle)
10. *Myripristis adusta* (malau fagamea)
11. *Myripristis kuntee* (malau puku)

Community Awareness

Creel Results were presented to both communities by TFD and there was great interest showed by the community members. Not only to inform them on the creel results but also to build up the knowledge capacity of the communities by providing technical advices. The three island communities strongly supported the Creel Survey Programme to be run on each island with the understanding that these data are useful for developing fisheries management plans. CFP was also included within the community awareness program; the session with CFP was more of building the capacity level of the community in terms of identifying the impacts of CFP. The team also pointed that such data like creel and CFP can contribute in creating and developing a fisheries management plan for each island. Planning the awareness program for each island became difficult with the insertion of an additional public holiday. Nanumaga had to delay the awareness programs four days after arriving on Nanumaga shores because of the additional public holiday. Usually the awareness programs would commence on the first available working day, however in this case the team had to postpone the awareness programs due to unavailability of the community at that certain time.



Community data collector/ local assistant and R2R Officer

The Outer island data collectors and R2R were included in introductory meetings with Kaupule members. The reason to involve the outer island data collector and the R2R officer was to discuss with Kaupule members on ways to improve their performance in terms of creel survey. Issues were raised during the meeting with Kaupule members regarding the lack of involvement of the Kaupule members in terms of aiding the Outer Island data collectors work, there was also a concern on the island of Nanumea and Nanumaga particularly on the commitment level of R2R officers to the creel survey. It was evident that the Nanumea and Nanumaga R2R officers' involvement towards creel survey was minimal. Consequently the team reminded the R2R officers on Nanumea and Nanumaga Island to make an effort and reinvigorate the bond which was assured by R2R and TFD in terms of creel survey.

Collecting Fisheries Papers for Archive

The fisheries librarian was enthusiastic to make use of this short trip as a starting point of undertaking her tasks in the Outer islands. During this trip, none of any fisheries black and white was found on Niulakita and 6 papers were collected on Nukulaelae Island.



5 Issues

Several issues were encountered on the islands and/or during the trip as follows:

- Catching undersize fish on Niutao
- Insertion of extra public holidays/ interrupted planned out activities loss of working days.
- TFD coastal staff who initiated Metro 7 did not properly consult with Kaupule on Trip dates.
- Cost of outer islands services differ from that of the prepared TOR making financial management on the outer islands a challenge.
- Different explanations/information delivered to communities by R2R Project and Fisheries Department on the biology of marine resources
- No by-laws on Nanumaga
- Poor internet connection on all of the northern islands
- Poor coordination/communication between R2R and DC during creel days
- Poor commitment of R2R officer towards creel survey on Naumea and Nanumaga



- Poor management of the TFD's RV vessels in terms of committing to the charter.
- Handing over of MOU with Kaupule was not clear in the first time
- No FADs remaining on Niutao Island
- Climate change being the cause of declining fish catches
- Sudden change of TOR on the very last day and adding unnecessary activities to the initial TOR without notifying the travelling team about sudden changes.

6 Recommendations

A number of recommendations are made on improvements for future outer islands trips as follows:

1. TFD to provide information cards/posters that will distinguish male from a female for all reef fish and also pelagic species
2. Need support on formulating management plans on all of the northern islands
3. Need a transport for Data Collector for all of the northern islands
4. TFD to provide walkie-talkies for OIIC Programme on all of the northern islands
5. TFD to share Creel Results to communities and Kaupule on a regular basis
6. TFD to provide more sea safety bags
7. Need to establish a good working relationship between R2R officer and OIIC
8. Kaupule need to inform community to report regularly to the OIIC after any fishing expedition for their catches to be sampled for creel survey.
9. TFD support through its media division (Matelina) on the regular dissemination of any new fisheries related issues to all islands.
10. Recommend for all sections of the Fisheries Department to be involved in metronome trips.
11. Recommend for PROP to fund the additional day added to the planned out days.

7 Appendix: Data Sheets

Type of Forms used during the Trip:

7.1 SPC Seafood Poisoning Report Form (SPC)



SPC Seafood Poisoning Report Form

This is an electronic form. Please fill the fields or check the boxes using your keyboard and mouse. Text fields will expand to accommodate any amount of text, so do not worry of the space for your answer seems small.

Report Form

Details of person filling in report form	
Name	Job/Position
Contact Address	
Date	Signature

Poisoned person's details		
Name	Sex (M/F)	Age (yrs)
Address		

Details of the seafood that caused the poisoning (tick all that apply)				
Type of food	Where caught	How preserved	What eaten	How eaten
Fish <input type="checkbox"/>	River <input type="checkbox"/>	Fresh, no ice <input type="checkbox"/>	Head <input type="checkbox"/>	Raw <input type="checkbox"/>
Crab <input type="checkbox"/>	Mangrove <input type="checkbox"/>	Fresh, iced <input type="checkbox"/>	Flesh <input type="checkbox"/>	Marinated <input type="checkbox"/>
Lobster <input type="checkbox"/>	Beach <input type="checkbox"/>	Frozen <input type="checkbox"/>	Skin <input type="checkbox"/>	Cooked <input type="checkbox"/>
Other crustacean <input type="checkbox"/>	Patch reef <input type="checkbox"/>	Salted <input type="checkbox"/>	Liver <input type="checkbox"/>	
Gastropod <input type="checkbox"/>	Lagoon <input type="checkbox"/>	Dried <input type="checkbox"/>	Roe <input type="checkbox"/>	How many others:
Bivalve <input type="checkbox"/>	Outer reef <input type="checkbox"/>	Smoked <input type="checkbox"/>	Other <input type="checkbox"/>	Ate this meal?
	Ocean <input type="checkbox"/>	Pickled <input type="checkbox"/>	Specify:	Felt sick?



Other mollusc <input type="checkbox"/>	Other <input type="checkbox"/>	Other <input type="checkbox"/>	Specify:	Were admitted to hospital?
Specify:	Specify:	Specify:	Specify:	
Unknown <input type="checkbox"/>	Unknown <input type="checkbox"/>	Unknown <input type="checkbox"/>	Unknown <input type="checkbox"/>	Unknown <input type="checkbox"/>
What is the local name of the seafood?				
What is the English name of the seafood?				
Name of vendor or restaurant (if bought)				
Name of the place it was caught (if known)				
When was the food eaten?		Date:		Time:
When did you first feel sick?		Date:		Time:

Symptoms (tick all that apply)

Burning or pain when touching cold water <input type="checkbox"/>	Pin pricking sensation on touching water <input type="checkbox"/>	
Tingling or numbness <input type="checkbox"/>	Strange taste in mouth <input type="checkbox"/>	
Difficulty or pain urinating <input type="checkbox"/>	Skin itching or red <input type="checkbox"/>	
Difficulty breathing <input type="checkbox"/>	Excessive salivation <input type="checkbox"/>	Fever / chills <input type="checkbox"/>
Difficulty walking <input type="checkbox"/>	Excessive sweating <input type="checkbox"/>	Headache <input type="checkbox"/>
Difficulty talking <input type="checkbox"/>	Diarrhoea <input type="checkbox"/>	Joint aches <input type="checkbox"/>
Eye irritation <input type="checkbox"/>	Vomiting <input type="checkbox"/>	Muscle cramps <input type="checkbox"/>

Others:

History

Have you had seafood poisoning before? Yes | No

How many times?

Details	When?	Type seafood	Hospital?	How long to recover?
Case 1			Yes <input type="checkbox"/> No <input type="checkbox"/>	
Case 2			Yes <input type="checkbox"/> No <input type="checkbox"/>	
Case 3			Yes <input type="checkbox"/> No <input type="checkbox"/>	
Case 4			Yes <input type="checkbox"/> No <input type="checkbox"/>	
Case 5			Yes <input type="checkbox"/> No <input type="checkbox"/>	
Case 6			Yes <input type="checkbox"/> No <input type="checkbox"/>	

Anything you remember about past poisoning?

Medical data

Pulse:	Blood pressure: /	Pupils:
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In case of death



Date of death:
Autopsy findings:
Other information:

Local Knowledge and Background Data

Survey Questionnaire No. ____/____

Details of person filling out this form	
Name:	Job/Position:
Contact Address:	
Date:	Signature:
Details of the person interviewed (optional)	
Name:	Sex (M/F): Male <input type="checkbox"/> Female <input type="checkbox"/>



Age (years):	Ethnic Group:
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Questionnaire (tick the boxes where appropriate or fill in the blank spaces)

1. Are you aware of any previous cases of food poisoning from seafood products among your family and friends?	Yes <input type="checkbox"/> No <input type="checkbox"/>
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2. If so, could you give a rough estimate of the number of such cases of food poisoning? Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, how many?
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3. Have there been periods or years in which the number of cases has been higher? Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, when?

How would you explain this?

4. What are the most frequent symptoms of the people who have such food poisoning?

5. Which seafood products were supposed to have caused this seafood poisoning?
Fish <input type="checkbox"/> What type of fish?
Other <input type="checkbox"/> What type of seafood?
Don't know <input type="checkbox"/>

6. Where are the toxic seafood products most often caught? Ocean <input type="checkbox"/> Lagoon <input type="checkbox"/> Others <input type="checkbox"/> Specify:



[Empty rectangular box for form content]

Please return this form to: The Tuvalu Fisheries Department. Thank you.



7.2 Creel Survey (SPC)



Tuvalu Fisheries Creel Survey Data Sheets

Use ONE sheet for each landing met (replicate). This can be a boat or catch basket brought in by gleaners etc. Note that this is presented by slice, to show all the data so you can choose which parts of the information you want to collect.

Date:	Serial / ID Number:		
Island:	Village/Site:		
Surveyor 1:	Surveyor 2:		
Latitude (DD):	Longitude (DD):		
C1 Basic Information on Fishers			
Lead Fisher's Name:			
Date of birth:	Gender:	<input type="checkbox"/> Male	<input type="checkbox"/> Female
Address as Village / Town / City:			
Is the fisher with others?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
→ Data on other fishers in the landing today:			
#	Fisher's Name:	DOB (d/m/y)	Gender
1			<input type="checkbox"/> Male <input type="checkbox"/> Female
2			<input type="checkbox"/> Male <input type="checkbox"/> Female
3			<input type="checkbox"/> Male <input type="checkbox"/> Female
4			<input type="checkbox"/> Male <input type="checkbox"/> Female
5			<input type="checkbox"/> Male <input type="checkbox"/> Female
→ Back to Lead fisher:			
How often do you go fishing per month?			/ month
How many months a year do you fish (i.e. exclude closed months)			months fished



What fishing methods do you usually use <i>(over the last year)?</i>		Method 1:	
Method 2:		Method 3:	
Method 4:		Method 5:	
Where else do you land your fish? What other locations? <i>(List by priority and use map)</i>			
Most often	#	Location	# trips/month
↓	1		
	2		
	3		
	4		
Least often	5		
Why do you go fishing?		<input type="checkbox"/> Subsistence <input type="checkbox"/> Income <input type="checkbox"/> Both <input type="checkbox"/> Other _____	
Please provide details:			
About how much of today's catch will be eaten at home / sold?		Home: _____ %	Sold: _____ %
What would you expect as income from today's catch overall?		\$ _____	
What is your eye-estimate of the total weight of the day's catch? <i>(Estimated by you, not the fisher)</i>		_____ kg	
C2 Species composition / counts			
What is the total count by species of all fishes / invertebrates / other landed?			
Species name / Group	Number	Species name / Group	Number



C3 Species sizes and C4 Species weights

Species Name All sizes in the catch in cm and all weights in kg
(Continue along rows for a species. Each row fits 5 fish. Repeat species in a new line if you need more space)

	cm	kg	cm	kg	cm	kg	cm	kg	cm	kg

C5 Effort data for CPUE



How many hours spent fishing today?			hrs
Fishing method / gears used for each species group (separate pelagic fish, reef fish, crabs, lobsters etc) and how much they cost the fisher to buy			
#	Species / Group	Methods / gears used	Cost buy
1			\$
2			\$
3			\$
4			\$
5			\$
Did you have any gear losses during this fishing trip? What and how much to replace or repair?			
#	Gear	What loss / damage?	Cost r/r
1			\$
2			\$
3			\$
4			\$
5			\$
Please list any other costs of this fishing trip. Include fuel, wages, ice, food, drink, any other items			
#	Item description	Price	
1		\$	
2		\$	
3		\$	
4		\$	
5		\$	
What is the distance to the furthest site you fished in today? <i>(ask person to show you on map and draw, we will extract coordinates later)</i>			km
#	Site name	Latitude (DD)	Longitude (DD)
1			
2			
3			
4			
5			
What kind of boat used today?			



Construction: <input type="checkbox"/> Wood <input type="checkbox"/> Fibreglass <input type="checkbox"/> Plastic <input type="checkbox"/> Steel <input type="checkbox"/> Concrete		
Type of boat: <input type="checkbox"/> Alia <input type="checkbox"/> Canoe <input type="checkbox"/> Dinghy <input type="checkbox"/> Punt <input type="checkbox"/> Skiff <input type="checkbox"/> Other <input type="checkbox"/> None		
If "other", what kind of boat?		
How is the boat powered? <input type="checkbox"/> Paddle <input type="checkbox"/> Sail <input type="checkbox"/> Inboard Outboard: <input type="checkbox"/> 2 stroke <input type="checkbox"/> 4 stroke		
Length:	m	Engine: hp
What safety gear do you have on board today? <i>(tick all that apply)</i>	<input type="checkbox"/> Oars <input type="checkbox"/> Life jackets <input type="checkbox"/> Water <input type="checkbox"/> EPIRB <input type="checkbox"/> GPS <input type="checkbox"/> Flares <input type="checkbox"/> Bailer / Bilge <input type="checkbox"/> Extra fuel <input type="checkbox"/> Others (specify):	
C7 Perceptions of fishers		
How long have you been fishing?		years
How long have you been doing this type of fishing?		years
What other types of fishing have you done in the past ?		
Do you do other types of fishing now?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Describe:		
Are you fishing in the same areas as 5 years ago?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Please explain:		



Are you catching the same quantities as 5 years ago?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Please explain:		
Are you catching the same sizes as 5 years ago?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Please explain:		
If catches are different , what has changed?		
Are you aware of any existing Fisheries Laws?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Please explain:		
Do you have any concerns about the resources?		
Thank you		

