Date of Activity/Field Work: 21st February till 9th March 2018

Venue: Abemama Island

Key Stakeholder: Fishermen (reef and lagoon fishers) and fish sellers

Name of person compiling report: Rateiti Vaimalie

A. Nature of Activity Undertaken

List of sub-activities leading to this Activity undertaken on site

i. Conduct creel survey targeting reef fishers on Abemama Island
ii. Conduct training on creel survey for Fisheries Extension Assistant (new recruit)
iii. Carry out biological sampling for bonefish

B. Objective(s)

Creel surveys

Creel surveys at Abemama focused on fishers fished at coastal sites principally those that use gillnetting, handlining, spearfishing, deep bottom fishing and other fishing methods. The objectives of the creel survey were to meet with fishers returning from fishing and document their demographics and fishing behavior (fishing sites, distance travelled, etc), catch (including weight and length for all individual catch), effort (time spent for fishing, fishing gear used) and fishers perception on the status of marine resources

Training of Fisheries Extension Assistant (FEA)

The team also conducts training on creel survey to Fisheries Assistant (FA) and Fisheries Extension Assistant (FEA). The main objective of the training was to familiarize and capacitate FA and FEA with creel survey so that they could continuously conduct the survey as part of their data collection.

Biological sampling of bonefish

Bonefish was one of the most important marine resources on the island as it used for both subsistence but mostly for commercial purpose. Biological sampling was also performed for 81 bonefish in which samples (otolith and fin) for determining fish age (age and size relationship) were collected and to be send to SPC for lab analysis.

RESULTS ACHIEVED

Creel survey

A total of 18 surveys conducted on the island targeting fishermen from Kabangaki, Baretoa, Kauma/Tekatirirake and Tabiang. As obtained from the survey, 89% used gillnetting whereas 11% for other fishing methods such as handlining, trolling and deep bottom fishing. It was also found that catch for gillnetting dominantly comprised of bonefish (*Albula glossondonta*) and some of other fish species including trevallies, emperorfish, snappers, mullet, parrotfish and surgeonfish. In addition, most of fishermen reporting that there was a decline in resources (catch) compared to previous years (5 to 10 years ago). Data analysis would be included in the full report.

Table 1 Fishermen (lead fishers) from different villages interviewed for creel survey

Village	***Name of Fisherman***	***Age***	***Fishing method***
Kabangaki	Tabokai Irauea	50	Gillnetting
	Taboia Tebakaia	64	Deep bottom fishing and Trolling
Baretoa	Namoata Kiiba	45	Gillnetting
Kauma / Tekatirirake	Marae Mwarietoa	59	Gillnetting
Tabiang	Nooa Ruka	45	Gillnetting
	Temaro Tata	31	Gillnetting

Figure 1 *member of team interviewing Marae (wearing green sulu)*

Figure 2 *measuring of fish length and size by team team members*

Training of FEA

The training on creel survey for FEA was started straight after the recruitment was done by Extension team. We spend two days conducting training as first part include theory or familiarizing of FEA and FA with survey form (questions/contents) and then carry on with practical part in which they carried out survey for Kabangaki fishermen.

Biological sampling of bonefish

As mentioned above, a total number of 81 bonefish purchased from different fishermen were sampled and these samples were to be sending to SPC for laboratory analysis. Results would be included in the full report.

Figure 3 *collecting otolith from fish*

Figure 4 *observing fish gonad for determining maturity stage*

C. Budget spent:

Actual expenditure Abemama				
	QTY	**No. of days**	**Rate**	**Total**
Air fare	2 staffs		$ 108.00	$216.00
DSA	2 staffs	17	$ 70.00	$ 2380.00
Airport tax	2 staffs		$ 20.00	$ 40.00
Transport (airport/hotel/airport)		2	$ 50.00	$ 100.00
Motorbike	2	16	$ 20.00	$ 640.00
Fuel	2Ltr/ motorbike/ day	16	$ 1.20/Ltr	$ 38.40
Bonefish (biological sampling)	81			$ 140.00
Total costing				**$ 3554.40**

Note: Research staffs joined LDCF team to Abemama using chartered plane (AKL) and costing mentioned above shows for return airfare only.

D. Evaluation: Lessons learned/successes.

- Creel survey data collection required to be conducted twice a week by FA and FEA so that more data collected including other fishermen from other villages which are not included in this survey such as Tebwanga, Tabontebike and Abatiku
- Purchasing of portable weighing scale (max 20kg) for FEA since now they were using FA's scale

E. Attached Creel Survey Form as Annex 1

F. Attach Biological Sampling Fform as Annex 2

Annex 1 Creel Survey Form

Creel survey carried out by: [Enter organisation / department]			***Serial / ID Number:***
Type of creel survey: (if stratifying)			
Province / Island:			
Survey Time (Month / Year):			Currency used:
Survey Site:			
Date of this replicate:			
Interviewers / surveyors names:	1.		2.
Latitude (DD):		Longitude (DD):	

Slice C1 basic information on fishers

Lead Fisher's name:			
Date of Birth (DOB):		Gender:	
Address as Village / Town / City:			
Is the fisher with others?	Yes ☐ | No ☐		
→ (data on other fishers in the landing today)			
Number of fishers:			
Name of other fisher 1:		DOB:	Gender:
Other fisher 2:		DOB:	Gender:
Other fisher 3:		DOB:	Gender:
Other fisher 4:		DOB:	Gender:
→ (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 (not only this fishing trip)?		Method 1:	
Method 2:		Method 3:	
Method 4:		Method 5:	
Where else do you land your fish? What other locations? List by priority			
Other location 1: (most often)		How often? /month	
Other location 2:		How often?	

		/month
Other location 3:		How often? /month
Other location 4: (least often)		How often? /month
Why do you go fishing?	Subsistence ☐ | Income ☐ | Both ☐ | Other ☐	
Please provide details:		
About how much of today's catch will be eaten at home / sold?	%	%
What would you expect as income from today's catch overall?	Value:	
What is your eye-estimate of the total weight of the day's catch? (Estimated by you, not the fisher)		kg

C3 Species sizes and C4 Species weights										
Species name	All sizes in the catch in cm | All weights in kg (Separate by comma. Repeat species in a new line if you need more space)									
	Sz	**Wt**	**Sz**	**Wt**	**Sz**	**Wt**	**Sz**	**Wt**	**Sz**	**Wt**
Lutjanus gibbus	12.5	0.3	23.2	0.7						

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	No hours
e.g. Herbivores	*Spear fishing*	4
e.g. Carnivores	*Line fishing*	2
1.		
2.		
3.		
4.		

Did you have any gear losses during this fishing trip? What and how much to replace or repair?

Gear	What loss / damage?	Cost to replace / repair
1.		
2.		
3.		
4.		

Please list any other costs of this fishing trip. Include fuel, wages, ice, food, drink, any other items

Item	Purchase price:
1.	
2.	
3.	
4.	
What is the distance to the furthest site you fished in today?	Km

How many sites did you stop and fish in? Where are they?

Site	Location (on map, lat/long, or distance to each fishing ground) and reef type (back, lagoon patch, outer etc)
1.	
2.	
3.	
4.	

What kind of boat used today?

Construction:	Wood ☐ | Fibreglass ☐ | Plastic ☐ | Steel ☐ | Concrete ☐
Type of boat:	Canoe ☐ | Dinghy ☐ | Banana boat ☐ | Other ☐

If "Other", What kind of boat?

How is the boat powered?	Paddle ☐ | Sail ☐ | Inboard ☐ | Outboard: 2 stroke ☐ 4 Stroke ☐
Length (m):	Engine (hp):
What safety gear do you have onboard today? (tick all that apply)	Oars ☐ | Life jackets ☐ | Water ☐ | EPIRB ☐ | GPS ☐ | Flares ☐ | Bailer / Bilge ☐ | Extra fuel ☐

C6 Catch prices

Where will you use / sell this catch?	Home ☐ | Market ☐ | Buyer domestic ☐ | Buyer export ☐

How are the items sold (units of sale) and what prices can you expect?

Item / group	Unit of sale	No. Per unit	Price / unit of sale	Price / item
1. Crabs	*String*	*5*	*$25 / string*	*$5/crab*
1.				
2.				
3.				
4.				

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? Yes ☐ | No ☐	Describe:
Are you fishing in the same areas as 5 years ago? Yes ☐ | No ☐	Please explain:
Are you catching the same quantities as 5 years ago? Yes ☐ | No ☐	Please explain:
Are you catching the same size as 5 years ago? Yes ☐ | No ☐	Please explain:
If catches are different, what has changed?	
Do you have any concerns about the resources?	

Annex 2 Biological Sampling Form

BIOLOGICAL SAMPLING FORM														
SAMPLER NAME	COUNTRY	LOCATION		FISHER/VESSEL NAME		GEAR TYPE			DATE			PAGE /		
Latitude	Longitude	Site	Habitat	Fish ID	Species	Fork length (cm)	Total length (cm)	Weight (kg)	Sex	Maturity stage (I-VIII)	Gonad weight (g)	Otoliths (0, 1, 2)	Genetics (Y, N)	Comments
GENERAL COMMENTS:														