



BFAR/FAO/GEF/SEAFDEC/REBYC-II CTI PROJECT

Report on the Technical Working Group Meeting/Workshop on the 1st Drafting of the Samar Sea Fisheries Management Plan (SSFMP)

**REBYC II-CTI (GCP/RAS/269/GFF)
February 25-27, 2015, Catbalogan City**

SUMMARY REPORT

BACKGROUND / RATIONALE

1. The Meeting/Workshop was convened at the Regional Fisheries Training Center 8 Conference Room, Samar State University, Mercedes Campus, Catbalogan City. It was attended by the National Project Coordinator, National Technical Officer, Municipal Agriculturists and LGU Technologists for fisheries from 11 municipalities bordering Samar Sea who are in charge of socio-economic survey as well as the Project TWG Members and Project Technical Staffs (**Annex 1**).
2. The Meeting/Workshop was conducted primarily to further review and provide inputs and text for the draft Samar Sea Fisheries Management Plan (SSFMP), review the initial result of trawl socio-economic survey as one of the baseline information in the finalization of the proposed management plan, prepare the socio-economic survey guide for other fisheries and tasking among participating in the survey.
3. The expected outputs were : summarized comments and suggestions on the zero draft of management plan presented during Quarterly Meeting of Alliance of LGUs of Samar sea, reviewed and agreed necessary information that would be incorporated in the management plan, evaluated initial results of the socio-economic survey, and 1st draft/text of the management plan.

OPENING PROGRAM

4. In opening the workshop, Training Center Director Norberto T. Berida, BFAR Regional Fisheries Training Center welcomed and acknowledged the participant efforts which are important in the conservation and management of resources in Samar Sea. He encouraged them to be diligent in providing input and text of the SSFMP and thank them for their support and attendance.
5. Dr. Jonathan O. Dickson, the Project National Technical Officer, mentioned the preparations by the RFU/SEAFDEC-Training Department for the Project Steering Committee. He informed that among the REBYC II-CTI participating countries, the RFU considers the Philippines as leading in implementation and development of management plan. He reiterated that the output of socio-economic survey should be finished by the end of April so that data can be analyzed and to be presented as model during the proposed Regional Workshop on socio-economic in May 2015. Lastly, he stressed on the importance of the active participation of TWG Members in meetings and consultations conducted by the project.
6. Mr. Rafael V. Ramiscal, National project Coordinator and Officer-In-Charge, BFAR-Capture Fisheries Division, delivered the background and rationale of the consultation meeting. He

informed the Meeting that there is ongoing discussion with Atty. Maria Generosa T. Mislang of Tanggol Kalikasan to prepare a policy review on trawl fisheries. He then recognized that the meeting/workshop participants represent various stakeholder-groups that are essential when developing a management plan and in applying the concept and process of the Essential Ecosystem Approach for Fisheries Management (E-EAFM). He encouraged the group to discuss and substantiate the salient parts of the zero draft of the SSFMP which will be presented to the Local Chief Executives (LCE) during the next Alliance meeting for their review. The management plan will be presented to the Alliance for their comments and suggestions.

7. In addition, the NPC requested the groups to consider the outputs from the studies conducted by Samar State University (c/o Prof. Renato P. Diocton) on ichthyoplankton and trawl fisheries production, the municipal fishing gear inventory, critical habitat and fishing ground mapping and socio-economic survey on trawl fishing and other gears. Lastly, he instructed Mr. Lamarca to fast track the drafting of the management plan before the conduct of the Regional workshop as model in Calbayog City.
8. The Prospectus and Agenda of the Meeting/Workshop is attached as **Annex 2**.

WORKSHOP PROPER

9. The participants were divided into 4 groups to substantiate various parts/sections of the draft management plan as follows: a) Background of the Project and Fisheries Profile of Samar Sea, b) Current status of the fishery resources, c) Socio-economic benefits of the fishery, including postharvest, and d) Major issues for Management. Refer to **Annex 3** for the members of the groupings.
10. Each group presented their outputs and provided critics, comments and suggestions to incorporate in the plan. The groups output was consolidated by the National Technical Officer, Dr. Jonathan Dickson. The output/consolidated draft SSFMP is appended as **Annex 4**.
11. The participants reviewed the outputs of the trawl socio-economic survey where four (4) municipalities already submitted their initial outputs. However, it was noted that some relevant information was not reflected in the forms. The information included the monthly income of other household members and other sources of income of the respondent. It was emphasized that the respondent must always be the first in the list of household members.
12. Of the six (6) municipalities covered by the trawl socio-economic survey, the municipalities of Sta. Margarita and Tarangnan with 63 and 163 respondents, respectively, have completed the survey guide. Of the 102 target-respondents of Calbayog City, only 17 were completed or 16% accomplishment. Catbalogan City and Zumarraga had 44% and 17% accomplishment, respectively. The municipality of Daram surpassed the targeted 79 respondents for municipal trawl type with 130 respondents covered. However, the respondent for crew of the commercial trawl type was deficient by 5.
13. The size of sample respondents was proportionally based on the inventory of fishing gears. Based on the 913 total target respondents for other fishing gears, Calbayog City had the highest number of respondents (152), followed by Catbalogan City (140), Daram (139), Zumarraga (83), Tarangnan (82), Sto. Nino (79), Sta. Margarita (61), Gandara (50), Pagsanghan (47), Tagapul-an (44), and Almagro (35). The commercial ring net and modified Danish seine had 50 and 20 respondents, respectively. The common types of municipal gears are bottom set gill net which has the highest respondents (85), followed by drift gill net (81), and the man push net with the lowest respondents (17).

14. The Project technical staff provided a standard data base format (Pivotable Excel format) to encode and analyze the data. During the initial encoding process, the accomplished survey forms found out that there were missing information. It reiterated to interviewers the need to include important data that are essential information to the socio-economic study analysis.
15. Dr. Dickson reiterated the deadline of submission of the completed data and forms for trawl not later than March 16, 2015 to be consolidated by Mr. Juan P. Meniano.
16. Mr. Efren V. Hilario, REBYC-IICTI Technical Staff presented the "Socio-economic survey of other fishing gears form". He explained that the guide for other gears basically adopted the forms for trawl, with minor revision. He reiterated some important information, tips and other points to consider during interview. It was agreed that not to leave blanks on the survey form as much as possible.
17. MAOs/MAs and ATs for fisheries were briefed on the socio-economic sample procedure for gears other than trawl. They requested the Secretariat to reproduce and send the survey forms as soon as possible to start the data gathering.
18. The participants agreed that the submission of the completed Socio-economic survey guide for other Fisheries should be on the last week of April 2015.

RECOMMENDATIONS:

19. The analysis of socio-economic should be added as one (1) chapter of the Samar Sea Fisheries Management Plan.
20. The experience of the developing the management plan will be showcase during the Regional Workshop on Socio-economic workshop.
21. Completion of the filling up the survey form to maximize the important data and information needed for the socio-economic analysis.

Annex 1. Attendance to the TWG Workshop/ Writeshop to prepare the full text of the Draft Samar Sea Fisheries Management Plan

NAME	ADDRESS	OCCUPATION	CONTACT NUMBER
1. Renato C. Diocton	SSU-Mercedes Campus, Catbalogan City	Head Researcher	0918-3800833
2. Norbertto T. Berida	RFTC 8, Catbalogan City	Center Director	0906-2438382
3. Angelica T. Realino	CAO-Calbayog City	Sr. Agriculturist	0909-3888785
4. Marcos A. Sabido	CAO-Calbayog City	Agricultural Technologist	0935-1854666
5. Juan P. Meniano	OPA-Samar	PAFC Coordinator	09209682241
6. Daniel S. Daguman	CAO-Catbalogan City	City Agriculturist	0917-3061417
7. Cecilio N. Talagon	Diocese of Calbayog City	Program Coordinator	0906-2059703
8. Dionisio N. Balili	Calbayog City	PFARMC Chairman	0905-3432706
9. Apolinario J. Catarus	Calbayog City	President, Commercial FB Operator	0906-1545164
10. Rodolfo S. Ybanez	Catbalogan City	President, Commercial FB Operator	0919-9527048
11. Maridel M. Bulawit	Sta. Margarita, Samar	Small Scale Trawl operator/ Fish trader	0919-9527048
12. Rolando C. Ay-ay	Catbalogan City	Provincial Fishery Officer	0908-3144863
13. Marcelo C. Camarines, Jr.	Sta. Margarita, Samar	MAFC-Chairman	0906-1168060
14. Simon C. Conejos	Catbalogan City	AT for Fisheries	0917-3237655
15. Bernardo R. Meniano, Jr.	Catbalogan City	PFO Samar Staff	0915-8679356
16. Wilmar L. Orbita	OMA-Daram, Samar	Agricultural Technologist	09123829035
17. Gilbert T. Sarco	OMA-Tagapul-an, Samar	Agricultural Technologist	09069052288
18. Alejandro F. Bitbit	OMA-Zumarraga, Samar	Municipal Agriculturist	09199951590

19. Argie L. Muncada	OMA-Sto. Nino, Samar	Agricultural Technologist	09155432901
20. Quintin R. Guindatuan	OMA-Gandara, Samar	Agricultural Technologist	09195921420
21. Danilo O. Maraya	OMA-Pagsanghan, Samar	Agricultural Technologist	09264668832
22. Constantino C. Ginay	OMA-Sta. Margarita, Samar	Agricultural technologist	09264104495
23. Jonathan O. Dickson	BFAR-FAO/GEF REBYC II-CTI, Ph	National Technical Officer	0917-8588404
24. Rafael V. Ramiscal	BFAR-FAO/GEF REBYC II-CTI, Ph	National Project Coordinator	0917-5898799
25. Napoleon SJ. Lamarca	BFAR-FAO/GEF REBYC II-CTI, Ph	Project Technical Staff	0915-4334504
26. Efren V. Hilario	BFAR-FAO/GEF REBYC II-CTI, Ph	Project Technical Staff	0908-9371535
27. Myrna B. Ramos	BFAR-FAO/GEF REBYC II-CTI, Ph	Project Technical Staff	0621-3291309

BFAR/FAO/GEF/SEAFDEC/REBYC-II CTI PROJECT

TECHNICAL WORKING GROUP (TWG) AND KEY STAKEHOLDERS WORKSHOP ON THE PRELIMINARY DRAFTING OF THE SAMAR SEA FISHERIES MANAGEMENT PLAN (SSFMP)

Catbalogan City, February 25-27, 2015

PROVISIONAL PROSPECTUS

1) BACKGROUND / RATIONALE

REBYC II-CTI Project “Strategies for trawl fisheries bycatch management” aims to contribute to the more sustainable use of fisheries resources and healthier marine ecosystems in the Coral Triangle and Southeast Asia waters by reducing bycatch, discards and fishing impact by trawl fisheries. The project intends to achieve this goal through the formulation and implementation of a trawl fisheries bycatch management plan in each pilot site in the five (5) participating countries including the Philippines.

The project pilot site in the Philippines is Samar Sea and national project activities since it started in 2013 have been undertaken in accordance with the process for the development and implementation of a fisheries management plan in the pilot site. The project Technical Working Group (TWG) with members representing the various stakeholders in the pilot site has been instrumental in the formulation and implementation of the project activities. Various stakeholders consultation/meetings on project issues, objectives and activities have been conducted as well as generating data and information to lay the foundation and steps for the establishment of a fisheries management plan in the project pilot site. The activities of the project included data & information collection on boat & gear inventory, fishing gear catalogue, fishing ground & critical habitat mapping, ichthyoplankton and bycatch& trawl catch survey and socio-economic.

2) OBJECTIVES

The TWG and stakeholders workshop is to discuss the comments/suggestions on the presented zero draft of the Samar Sea Fisheries Management Plan in the Quarterly Meeting of Alliance of LGUs of Samar Sea on January 22, 2015 in Calbayog City. Through this workshop, other relevant data and information that were suggested during the meeting will be reviewed and considered in the preparation of the plan. Also the results of the project activities as well as the initial results of the socio-economic survey will be reviewed as one of the baseline information in the finalization of the text of the management plan. Likewise, the MAOs/MAs and ATs will be briefed on the socio-econ sample procedure for other gears and discuss the schedules for the submission of the complete trawl surveys and other gears.

3) EXPECTED OUTPUT

- a) Consolidated and summarized the comments and suggestions on the zero draft of management plan presented in the Quarterly Meeting of Alliance of LGUs of Samar Sea on January 22, 2015 in Calbayog City.
- b) Reviewed and agreed necessary information that would be incorporated in the management plan. Reviewed results of project activities.
- c) Evaluated initial results of socio-economic survey.
- d) Substantiated text/drafted SSFMP.
- e) Briefed MAOs/MAs/ATs on socio-economic survey sample procedure for other gears.
- f) Finalized Socio-Economic Survey Guide for other Fisheries

4) PROCESS

- a) Comments and suggestions on the presented zero draft of the management plan in the quarterly meeting of alliance of LGUs of Samar Sea in Calbayog City will be reviewed and discussed. The TWG and stakeholders will agree on the necessary information that will be incorporated in the plan.
- b) Present initial results of the socio-economic survey, and evaluate/identify the weak spots in the conduct of the survey
- c) Concerned project staff will prepare all results of project activities for the text/outline of the plan.

5) DATE AND VENUE

- a) Inclusive dates: February 24-27, 2015
- b) Venue: RFTC8 Conference/Training Hall, Catbalogan City

6. PARTICIPANTS (20)

- a) (15) Project Technical Working Group (TWG) members
- b) (5) Rapporteurs/Secretariat

7) CONTACT PERSONS

Dr. Jonathan O. Dickson

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Mr. Rafael V. Ramiscal

National Project Coordinator

REBYC II-CTI Project

Tel : 09998847635 rv_ram55@yahoo.com

PROVISIONAL AGENDA

Feb 24 (Tue)	Arrival of participants	
Feb 25 (Wed)	Opening Program	
08:00-09:00	Registration	Secretariat
09:00	Invocation/National Anthem	Secretariat
	Welcome Remarks	N Berida, TWG Chair
	Message	J Dickson, NTO, REBYC-II CTI
	Photo ops	
09:30	Adoption of Workshop objectives and agenda	R Ramiscal, NPC, REBYC-II CTI
10:00	Updates on Quarterly Meeting of Alliance of LGUs of Samar Sea	J Meniano, TWG member
10:30	Briefing on Zero Draft Management Plan	R Ramiscal
12:30	Lunch break	
13:30	Review comments/suggestions on the zero draft management plan	TWG
15:00-1700	Workshop to consolidate necessary data/information for the management plan	TWG
Feb 26 (Thu)		
Socio-economic survey		
08.30	Recapitulation	TWG
09:30	Updates on the initial results of economic-survey	E Hilario/J Meniano
10:30	Coffee break	
11:00	Identify weak spots in the survey	TWG
12:30	Lunch break	
Review of project activities & outputs		
13:30	Updates on Ichthyoplankton survey	R Diocton
14:00	Review results of critical habitat and fishing ground mapping	N Lamarca/E Hilario
14:30	Revision of the Trawl Fisheries Socio-Economic Survey Guide to include other Fishing Gears/Fisheries TWG	JO Dickson
15:00	Coffee break	
Review of project activities & outputs.....Cont		
15:15	Socio-Economics indicators & Gender	J Meniano
15:45	Bycatch& trawl catch assessment	R Diocton
16:15	Inventory & catalogue of fishing gears	N Lamarca
Feb 27 (Fri)		
08:30	Briefing with MAOs/MAs and AT's on Socio-econ sample respondent for other gears	R Ramiscal/TWG
09:30	Preparation of the Socio-Economic Survey Guide for other Fisheries	
10:30	Coffee break	
11:00	Briefing (cont'd) Assignment of Enumerators for the Socio-Economic Survey of other Gears by municipality and schedule	
12:00	Lunch break	
13:30	Workshop to identify text/outline of the management plan	Facilitator/TWG
16:00	Open forum/Discussion	
17:00	Tasking(Assignment of MAOs/ATs) on the Continuation of the Trawl Fisheries Socio-economic Survey and the preparation of the Socio-economic Survey Guide For Other Fisheries	Facilitator: TWG Chair / NTO
Feb 28 (Fri)	Departure	

Annex 3. Worskhop group for the drafting of SSFMP

Group 1:Background of the Project and Fisheries Profile of Samar Sea

1. Prof. Renato Diocton
2. Napoleon SJ. Lamarca
3. Marcus Sabido
4. DionisioBalili
5. Bernardo Meniano, Jr.
6. Simon Conejos

Group 2:Current status of the fishery's resources

1. Rafael Ramiscal
2. RudolfoYbanez
3. Simon Conejos
4. MaridelBulawit

Group 3:Socio-economic benefits of the fishery, including postharvest, and

1. Apolinario J. Catarus
2. Juan P. Meniano
3. Napoleon SJ. Lamarca
4. Marcelo C. Camarines, Jr
5. Simon C. Conejos
6. Cecilio N. Talagon
7. MaridelBulawit

Group 4: Major issues for Management

1. Jonathan O. Dickson
2. Efren V. Hilario
3. Norberto T. Berida
4. Angelina T. Realino
5. Eng. Rolando C. Ay-ay

Annex 4: The consolidated workshop output (draft Samar Sea Fisheries Management Plan)

TITLE :SAMAR SEA FISHERIES MANAGEMENT PLAN

GOAL :A SUSTAINABLE AND EQUITABLY-SHARED SAMAR SEA FISHERIES THROUGH DYNAMIC MANAGEMENT

BACKGROUND :

Many names (Samal, Ibabao, Tandaya) were given to Samar Island prior to the coming of the Spaniards in 1596. The name Samar was derived from the local dialect “samad”, meaning wound or cut, which aptly describes the rough physical features of the island that is rugged and deeply dissected by streams.

During the early days of Spanish occupation, Samar was under the jurisdiction of Cebu. In 1735, Samar and Leyte were united into one province with Carigara, Leyte as the capital town and again Samar became a separate province in 1768.

Samar island occupies the eastern portion of the Philippines. It lies southeast of Luzon and occupies the northernmost section of Eastern Visayas. It is separated from Luzon on the north by San Bernardino Strait and from Leyte on the southwest by the narrow San Juanico Strait. It is bounded on the east by the Pacific Ocean, on the south by Leyte Gulf and on the west by the Samar Sea.

The province of Samar comprised the whole Samar Island before the approval of Republic Act 4221 on June 19, 1965 which divided the island into three provinces: Northern Samar, with Catarman as capital; Eastern Samar, with Borongan as capital; and Western Samar (officially known as Samar) with Catbalogan as capital. Eastern Samar and Northern Samar bound the province of Samar on the east and north, respectively, Leyte Gulf on the south and the Samar Sea on the west. The province of Samar is composed of two (2) congressional districts, twenty four (24) municipalities and two (2) cities (Catbalogan and Calbayog). It has a total of nine hundred fifty two (952) barangays.

First District	Second District	
1. Almagro	1. Basey	11. San Jose de Buan
2. Calbayog City	2. Calbiga	12. San Sebastian
3. Gandara	3. Catbalogan City	13. Sta. Rita
4. Matuguinao	4. Daram	14. Talalora
5. Pagsanghan	5. Hinabangan	15. Villareal
6. San Jorge	6. Jiabong	16. Zumarraga
7. Sta. Margarita	7. Marabut	
8. Sto. Niño	8. Motiong	
9. Tagapul-an	9. Paranas	
10. Tarangnan	10. Pinabacdao	

FISHERY AND AQUATIC RESOURCES

Fishing Ground

- Samar Sea (198km².)
- Tinambacanpt (Calbayog) to Buad Is (Zumarraga)

- SS – 150 sq m
- Ave depth 15 fm

No. of fisherfolks based on FishR

LGU (Samar)	No of fisherfolks
Almagro	654
Calbayog	4,135
Catbalogan	5,331
Daram	3,536
Gandara	398
Pagsanghan	528
Santa Margarita	523
Santo Nino	1,269
Tagapul-an	1,019
Tarangnan	3,521
Zumarraga	2,379
Grand Total	23,293

Fishing Boat & Gears

Inventory on fishing boats and gears was conducted in 2013. The total number of fishing boats and fishing gears was 10,938 and 13,971, respectively. Of the total fishing boats, 6,424 were motorized and 4,514 were non-motorized. Of the total 13,971 fishinggears, 13,875 or 99% were carried out onboardmunicipal type boat, on the other hand, only 96 or 1% were carried out onboardcommercial type. The dominant fishing gearswere Bottom set gillnet (*Palubog*) with 3,422 units or 24.6% of the total municipal type, followed by Simple handline(*Kawil*) with 1,403 units or 10%, Bottom set longline (*Kitang*)with 1261 or 9%, Crab pot (*Panggal*) 1,198 or 8.6%, Multiple handline(*Ondak*), 1,169 or 8.4, and Crab gillnet (*Pang-alimasag*), 1,030 or 7.4%. In order of quantity, other municipal types i.e. Baby trawl (*Galadgad, Panghipon*), 753; Fish pot (*Bubo*), 708; Trammel net (*Triple*), 489; Troll line (*Lambo, Rambo*), 384; Spear fishing (*Pana*), 368; Squid jig (*Sanit*), 272; Modified Danish Seine(*Pahulbot, Palusot, Liba-liba*), 241; Shrimp gillnet (*Pang-alimasag*), 236; Fish corral (*Bunoan*), 229; Drift gillnet (*Barangay, Pamo, Kurantay*), 16;, Ringnet (*Ligkop*), 154; Pushnet (*Sudsod*), 142; Squid pot (*Pang nooks*), 57; Lift net (*Paarak*), 22; Beach seine (*Baring*), 4; Bagnet , 2; and other miscellaneous fishing gears, 19 units.

Of the total 96 commercial types, Trawl (*Palupad*) had the highest quantity with 40 units or 41.6%, followed by Ring net (*Ligkop*) with 38 units or 39.5%, and Modified Danish Seine (*Pahulbot*) with 18 units or 18.7%.

Generally, handline fishing is carried onboard either non-motorized banca with an average gross tonnage of 0.2 or motorized banca with an average gross tonnage of 0.6 usually powered by 7 HP Kenbo gasoline engine.Larger motorized bancas used in gillnet fishing had an average 1.5 GT powered by 14 HP Briggs and Stratton gasoline engine. The common commercial types of fishing gears i.e. Modified Danish Seine (*Holbot-holbot*), Ring net (*Ligkop*) and Trawl (*Palupad*) are carried out onboard motorized banca with an average 12 GT, powered by 150 HP Mitsubishi 6D15 automotive diesel engine.

						4"E	
Canahauan	Catbalogan City	fringing	1998	4.511	Tandaya Foundation	Lat.11°50'00 N Long. 124°41'24"E	55
Magcasunyo	Catbalogan City	fringing	1997	0.598	PBSP	Lat.11°48'58 N Long. 124°49'03"E	33
Taruncay	Catbalogan City	fringing	1997	1.237	PADEO,PBSP	Lat. 11°45'24" N Long. 124°51'06"E	27
Cabugawan	Catbalogan City	fringing	1997	4.678	CMPC,PBSP,SRSF	Lat. 11°48'36" N; Long. 124°49'00"E	25
Marisan	Catbalogan City	barrier	1997	2.671	SRSF,PBSP	Lat. 11°47'30" N Long. 124°49'18"E	34
Rama	Catbalogan City	fringing	1998	3.267	TANDAYA	Lat.11°49'18 N Long. 124°41'51"E	33
Monbon	Catbalogan City	fringing	1998	4.667	SERCFI	Lat.11°49'18 N Long. 124°41'51"E	34
Irong-irong	Catbalogan City	fringing	1998	8.897	PBSP,SRSF	Lat. 11°50'54" N; Long. 124°49'54"E	26
Bitaug	Daram, Samar	barrier	1996	2.923	WESAMAR	Lat.11°39'10 N Long. 124°48'08"E	33
Rizal	Daram, Samar	fringing	1997	4.563	PO	Lat.11°42'25 N Long. 124°26'43"E	35
Vallesbello	Daram, Samar	fringing	1997	2.422	TANDAYA	Lat.11°41'54 N	34

						Long. 124°44'5 7"E	
Iquiran	Daram, Samar	fringing	1998	3.613	TANDAYA	Lat.11°31' 42 N Long. 124°29'0 6"E	54
Cantilang	Daram, Samar	barrier	1995	4.517	CERD	Lat.11°43' 32 N Long. 124°44'2 9"E	45
Tawid	Zumarraga,Sama r	fringing	1998	5.231	WESAMAR	Lat.11°39' 25 N Long. 124°49'4 5"E	33
Talib	Zumarraga,Sama r	barrier	1998	3.134	WESAMAR	Lat.11°39' 33 N Long. 124°53'3 7"E	45
Lunud	Talalora, Samar	fringing	1998	3.561	CARITAS	Lat.11°31' 42 N Long. 124°29'0 6"E	25
Sulop	Talalora, Samar	fringing	1997	2.331	CARITAS	Lat.11°30' 54 N Long. 124°49'5 0"E	33
Puro	Talalora, Samar	barrier	1997	4.561	CARITAS	Lat.11°44' 32 N Long. 124°53'5 1"E	25

Source: Technical Report submitted to Philippine Business for Social Progress, New Mahayag, Catbalogan City,2003

Status in 2003 against current number of MPAs;

CRITICAL HABITAT SURVEY AREAS

The critical habitat survey conducted has a total of 19 common coral reef areas, with an estimated total area covered of 8,500 M² of the actual assessment using the transect line method. The surveyed coral cover area estimated of about 30% and the estimated total fish density per square meter is 0.43 fish/m². The types of substrate observed in the areas surveyed were dominated by live corals, next are dead corals caused by illegal use of fishing methods and practices, eaten by predators, siltation especially near the mouth of big river and affected by climate change.

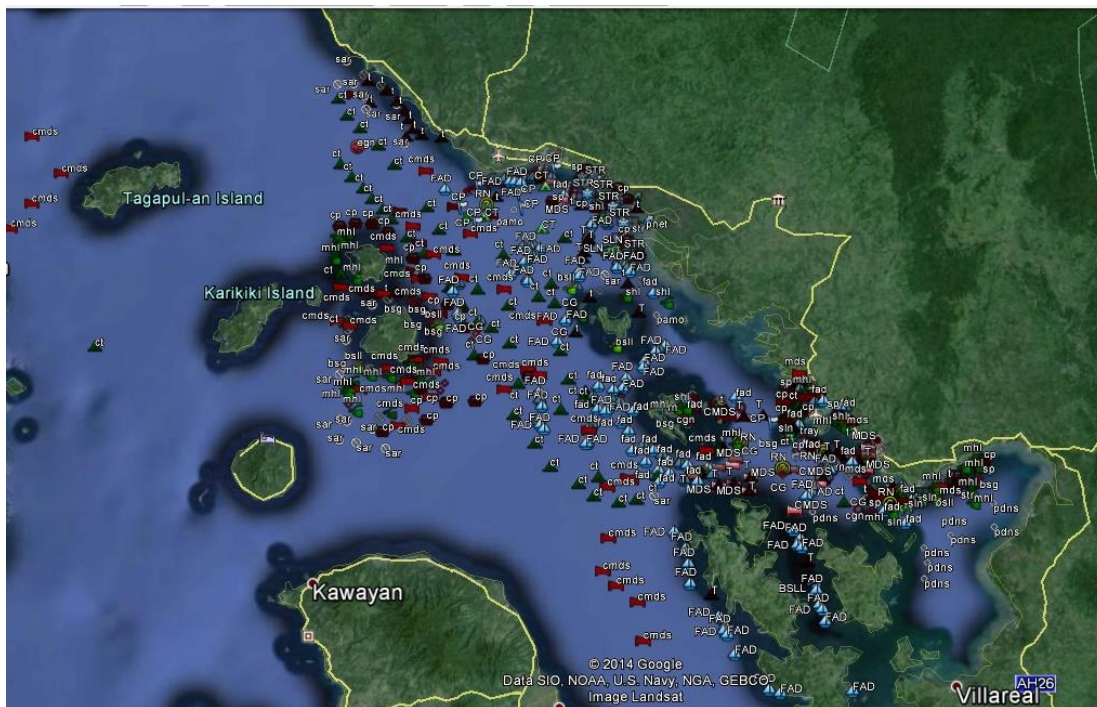
The coral reef areas are far from the people's community where basically devastated by illegal use of fishing methods and practices, affected by phenomenal situation that causes the physical destruction and

bleaching of corals in the area. The surveyed areas with good coral conditions were Ilijan Cove (Sto. Nino), LibucanDacu, Napalisan Island which reveals a potential management area and as a pilot site for fish sanctuary in the future.

The reef areas are communal fishing ground for spear fishing, pots fishery, line fishing, gillnets, and other gears to utilized its resources both resident and transient species.

Municipality	Site	Site Total Area (has)	Transect Area (m²)	Coral cover (%)	Est. fish density (fish/m²)
Almagro	Poblacion	5	500	15.0	0.0
Almagro	BgyMalobago	6	500	25.0	1.0
Almagro	Cabilosan Is. (lighthouse)	40	500	35.0	0.7
Calbayog	Salhag Point		250	30.0	0.2
Calbayog	Punta Tinambacan	-	250	30.0	0.2
Calbayog	Tinambacan reef	-	250	25.0	0.1
Calbayog	Malajog point	-	250	15.0	0.2
Calbayog	Binaliw			0.0	
Calbayog	Daraga Is-Malajog			0.0	
Catbalogan	Lutao reef	10	500	25.0	0.3
Catbalogan	Sampotan Island	9	500	30.0	0.8
Catbalogan	CanhawanGoti Is	2	500	45.0	0.6
Tagapul-an	BgyLipotbaybay	6	500	45.0	0.4
Tagapul-an	BgyLabangbaybay	6	500	35.0	0.3
Tagapul-an	BgyBaquiw	4	500	40.0	0.4
Tagapul-an	BgySugod	-	500	45.0	0.0
Sto Nino	BgyBaras	4	500	25.0	0.9
Sto Nino	Ilijan Cove, BgyIlijan	100	500	20.0	0.6
Tarangnan	Libucandaco	6	500	30.0	0.5
Tarangnan	SitioBaras, Bgy. Rama	2	500	15.0	0.2
Tarangnan	TigdaranawGoti Is.	18	500	40.0	1.1

Source : Project critical habitat survey, 2013-2014



FISHING GROUND MAPPING

Regardless of types and sizes of fishing gears, fishing activities in Samar Sea are being carried out in a shared fishing area. The numerous fishing operations of municipal Trawlers are being carried in muddy areas at a depth ranges from 10 to 20 meters about 5 kilometers from the shorelines of Calbayog City, Sta. Margarita, Pagsanghan, Tarangnan, and Catbalogan City. There are also some municipal trawl fishing operations in Zumarraga channel and Daram channel. Municipal trawl fishing is best possible at night time particularly during bright phases of the moon. The fishing operation is a year round with a peak season from December to January except during typhoons. On the other hand, the usual fishing operations for commercial types of trawlers are carried out farther at about 7 kilometers from the shorelines of Calbayog City to Catbalogan City, and some are carried out west of Sto. Niño at a depth of more than 30 meters. Commercial Trawl fishing is possible either at night time or day time throughout the year except typhoons.

The Bottom set gillnet or locally known as *Palubogis* the most dominant type of fishing gear in Samar Sea. The fishing gear is set at a depth ranges from 10 to 18 meters when catching *Alumahan* while it is set at deeper areas at a depth ranges 18 to 50 meters for *Hasahasa*. Fishing operation is being carried out during the period from October to March.

Another important fisheries in the area is the simple hook and line, it is placed second in number of units to Bottom set gill net. The vastness of fishing activities is being carried out at about 5 kilometers from the shorelines of Calbayog city down to Catbalogan City. There are also some fishing activities carried out near Libucan and Canahauan islands. The Multiple Hook and line or locally known as *Ondak* is usually carried out in deeper areas at an average depth of 50 meters during the end of NE monsoon up to the start of SW monsoon. The fishing areas included Sto. Nino, Camandagisland, Libucan island, Tarangnan and Catbalogan City.

Another variation of hook and line is the Bottom set longline or locally known as *Kitang*. It is operated during the period from October to March when NE monsoon prevails. Fishing operation is carried out about 3 kilometers off Sta. Margarita waters and in deeper areas during the period from April-June at depth ranges 80-100 meters in Sto. Nino area.

Modified Danish Seine (*Pahulbot*) is one of the most efficient fishing gears in Samar Sea. It operates during daytime throughout the year in deeper waters east of Sto. Nino, west of Calbayog City, and northwest of Daram, some fishing activities were also observed in the islands of Libucan and Canauan; and Maqueda bay competing with gill netting and handlining operations. Another efficient fishing gear is the commercial type

Ring net that operates during daytime with the aid of Fish Aggregating Devices (FADs) and in night time by the aid of light attraction. Fishing operation is usually carried out nearby Tarangnan, Catbalogan City and Zumarraga channel where other smaller fishing gears operate. FADs are deployed all over Samar Sea particularly waters off Tarangnan and Catbalogan City; and some are deployed waters off Calbayog City.

Other important fisheries like Crab pot (*Panggal pang-alimasag*) and Crab gill net are operated nearshore at a depth ranges from 4 to 18 meters. The frequent fishing activities of Crab gill net are being carried out either day time or night time nearshores of Calbayog City, Tarangnan, Catbalogan City, and Sto. Nino. However, fishermen preferred day time to avoid conflict with commercial Trawl activities. On the hand, the crab gillnet (*Pang-alimasag*) fishing is very frequent in Catbalogan City, and some activities are observed in Calbayog City, Tarangnan; and few in Sto. Nino.

A few units of Fish corrals are set at the shallow waters of Sta. Margarita and Catbalogan City and Maqueda Bay. Fishing operation is possible only during NE monsoon. There are also some fishing operations of commercial encircling gill net or locally known as *Bulitsihan* in the waters off Calbayog City. Fishing operation is carried out by searching of fish school during night time when the moon is dark.

History of fishing and management

- a. WESAMAR
- b. Samar Sea Maqueda Bay Mgt Council
- c. South Maqueda Bay Fish Network
- d. Samar Sea Alliance

Most of the studies conducted in Samar Sea was focused on stock assessment on demersal stocks starting with the work on Warfel and Manacop, 1950, Villosa, 1980, Armada, 1984.,Silvestre, 1986;Abdurahman, 1988 and Mines, 1995. In 1950, the Theodore N. Gill otter trawl survey operate near Catbalogan, Samar, from the six complete drags made average catch per hour was 92 pounds of marketable fish. The highest yield was 248 pounds in one hour, was obtained on the 20 fathom contour. Consisted of cutlass fish, turbot, nemipterids, lizard fish, crevalles and insignificant amount shrimp. In 1979, the mean biomass was found to be 1.52t/km² found in all depth according to Saeger,1981. In Southeast Asia, the biomass of virgin or untapped fishing grounds ranges generally 5.0 and 6.0t/km² in the continental region.

Legasto, delMundo and Carpenter, 1976 conducted trawling experiment near Maqueda Bay reported that 50 minutes of dragging caught 3.19 kilos catch with glassfishes, squids, grunt, slipmouth, shrimps, slipmouth and crabs as common catch. In 1976, approximately 27,000 metric tons of fish and other fishery products were landed from this area. About 22% of this quantity from commercial vessel (BFAR,1976). Villosa and Hermosa, 1980 have identified a total of 226 species, belonging to 132 genera and 82 families of demersal trawl survey. Abdurahman made a study on the fishing ground as well as Danish seine test fishing and gain popularity thereafter(1988). This small version of the trawl is made of six panels of multifilament polyethylene netting making up the three part of the net: wings, body and cod end. The entire gear has a total length of 14 to 23 meter. It is dragged by a motorized fishing boat and the mouth of the net is kept open by the pair of rectangular otter boards, each measuring 0.40 m long , 0.28 m wide and 0.025 m thick.

The VD trawl are operated in shallow fishing grounds particularly on the myddy bottom around the coastal area of Maqueda Bay, Daram, Buad island and coastal areas from Tarangnan to Sta Margarita. The primary target species the shrimps. A total of 203 VD trawl were and considered the most dominant among the active fishing gear used in the area. These gear are mini-otter trawl used in the municipal waters of Zumarraga, Catbalogan, Daram and Tarangnan. In some cases, they encroached into shallower waters of San Sebastian, Jiabong, Calbiga, Pinabacdao and Villareal. They are operated year round to target highly price penaeid shrimps/prawns, blue crabs, squids and octopus.

Mean municipal landing of shrimp trawls for the period of 1992 to 1995 was about 812.25 tons/year (Mines, 1995). This implies that each shrimp trawl landed about 40.0 tons/year on the average or 0.333 tons/month or 15.16 kg/day. During the survey, seven species of shrimps belonging to three genera, i.e., *Penaeus*, *Metapenaeus* and *Trachypenaeus*, were identified of high commercial value. The *Penaeus merguensis* locally known as “puti” were the most abundant and dominated landing among the genus *Penaeus*. The catch per unit effort of 1.39 kg/haul for this species was already at low level. Other penaeid shrimps identified were the *Penaeus semiculcatus* (bulik), *P. latisulcatus* (tigbason), *P. monodon* (lukon), *Metapenaeus* (guludan), *Metapenaeus endeavouri* and *Trachypenaeus fulvus* (bangkigan). The by-catch of demersal fin-fishes consisted 7.35% of the total catch. These include common slipmouth (sap-sap), common whiting (aso-os), goat fish (ti-ao), sole fish (palad), threadfin breams (sagisi-on), eel (obod), cardinal fish (moong), goby (manloloho), lizard fish (talho), soldier fish (baga-baga), group (tingag), theraponids (bagaong), mojarras (baisa), flathead (sunog), black pomfret (sandatan), carangids and malavar cavalla. The by-catch is usually used for food consumption by the fishes and operator. However, there is also a large portion of by-catch in small sizes of fin fishes and fishers call them as “rejects” (trash fish, which is basically juvenile and immature fin-fishes) which comprised about 39% of the total catch.

STATUS OF THE FISHERY’S RESOURCES

The state of the demersal fish stocks in the Philippines including Samar Sea is generally considered overfished fisheries (Barut et al 2004; Armada & Campus 2004; Stobutzki et al). Various trawls surveys indicated declining biomass primarily due to excessive fishing (Table 2). Declining catch rates and major changes in species composition, particularly increase in squids, shrimps, anchovies and herrings and declines of large commercially valuable species like snappers, sea catfish and Spanish mackerels are also indicative of overfishing in major trawl fishing grounds like San Miguel Bay, Lingayen Gulf, Visayan Sea and Manila Bay (Barut et al 2004; Armada et al 2004; Green et al. 2004).

More recent conducted in Samar Sea also indicate a biomass of about 2.88t/km², and catch belonging to 107 Genera. Current estimate also indicates an improved state compared to 2 decades ago (see Armada, 1983) as well as a higher biomass compared to adjacent Visayan Sea. It is however noticeable that the number of genera has declined in Samar Sea and diversity is comparatively inferior in contrast to the high diversity observed in Visayan Sea (MV DA-BFAR, 2013). The escalation fuel in recent years have reduced fishing effort, particularly reduction of about 20-25% for trawls (Ybanez, pers comm., 2015).

- Strengthened law enforcement; migration of hulbot2.
- Conversion to ringnet

Table 1. Biomass estimates based from various demersal (trawl) survey

FGround	Year	Biomass (t/km ²)	Authors/Source
Lingayen Gulf	1978-79	1.33	Villoso and Aprieto, 1983
Lingayen Gulf	1987-88	0.57	Ochavillo et al, 1989
San Miguel Bay	1979-80	2.13	Vakily, 1982
San Miguel Bay	1992-93	1.96	Cinco et al, 1995
Ragay Gulf	1981-83	1.58	Federizon, 1993
Manila Bay	1949-52	4.61	Silvestre et al, 1987

Manila Bay	1968-72	1.71	Silvestre et al, 1987
Manila Bay	1992-93	0.47	Armada et al, 1994
Samar Sea	1979-80	1.88	Armada et al, 1983
San Pedro Bay	1994-95	1.73	Armada et al, 1996
Turtle Is (Tawi-tawi)	2008	2.35	MV DA-BFAR
Visayan Sea	2003	2.08	MV DA-BFAR, GTZ
Visayan Sea	2007	1.63	MV DA-BFAR, UPV
Visayan Sea	2013	2.46	MV DA-BFAR
Samar Sea	2013	2.88	MV DA-BFAR
Leyte Gulf	2014	1.72	MV DA-BFAR

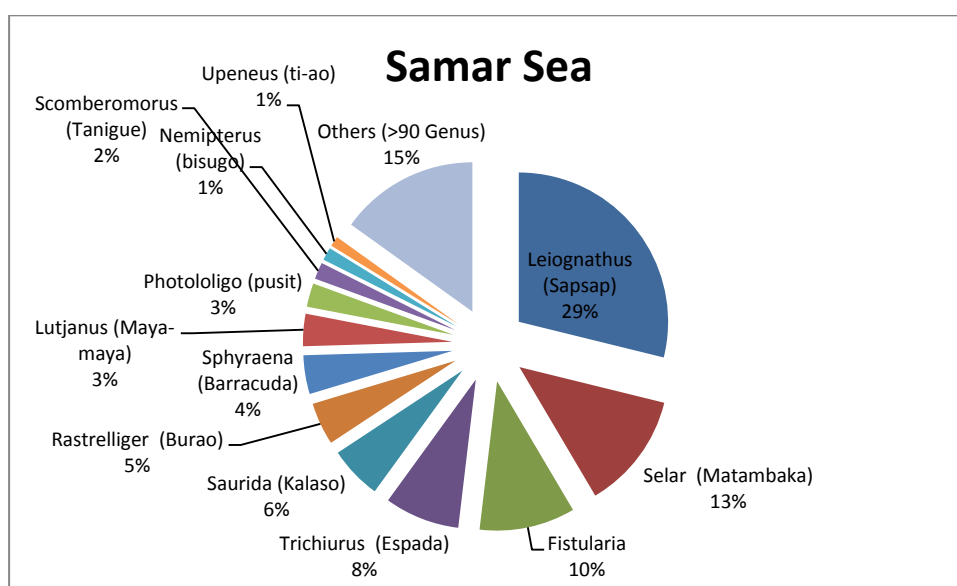


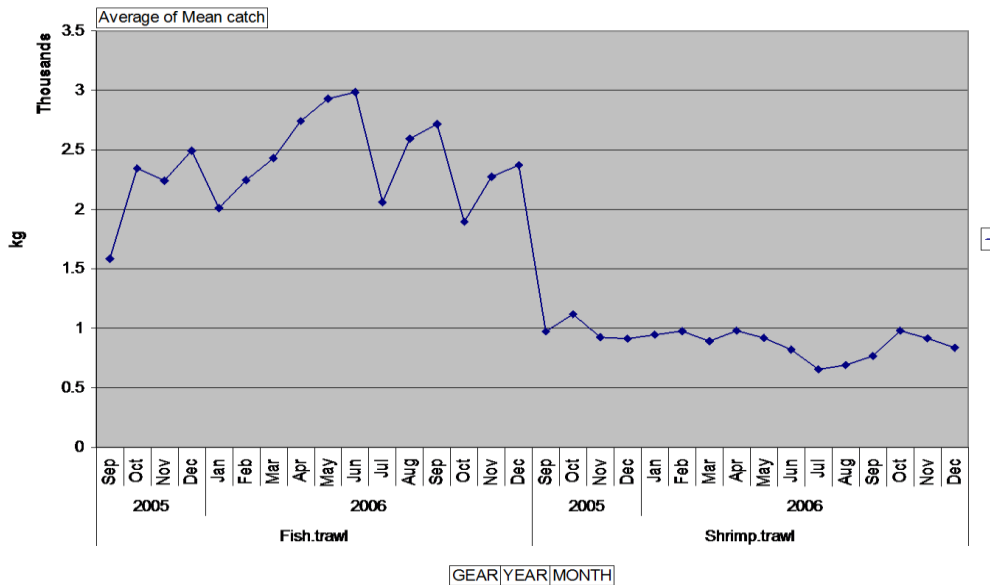
Figure 1. Species composition of trawl survey in Samar Sea, 2013 (MV DA-BFAR, 2013)

TRAWL CATCH AND COMPOSITION

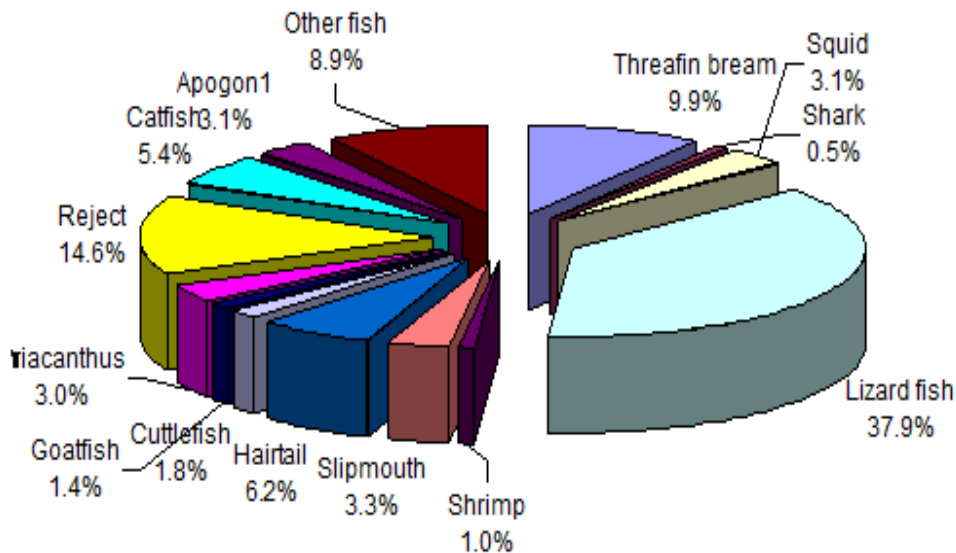
The Pilot implementation of the Juvenile and Trashfish Excluder Device (JTED) in Calbayog City provided most recent information on the catch of trawlers operating in Samar Sea (Dickson et. al 2008). For the period September 2005 to December 2006, the local fleet of 18 trawlers based in the City landed a total catch of 1,289 tons of fish from 991 fishing trips.

The average catch per-unit effort (CPUE) for shrimp trawl (panghipon) was just below 1 ton (0.94 tons) per 2 days-3 nights fishing trip while CPUE for fish trawl (palupad) was 2.4 tons per fishing trip. For shrimp trawl, peak months were indicated in the months of October and lean in July-August. For fish trawl, lowest

mean catch was observed in September and highest in June.



Catch rate of small commercial shrimp trawl, Samar Sea, Sep 2005-Dec 2006 (Dickson et al 2008)

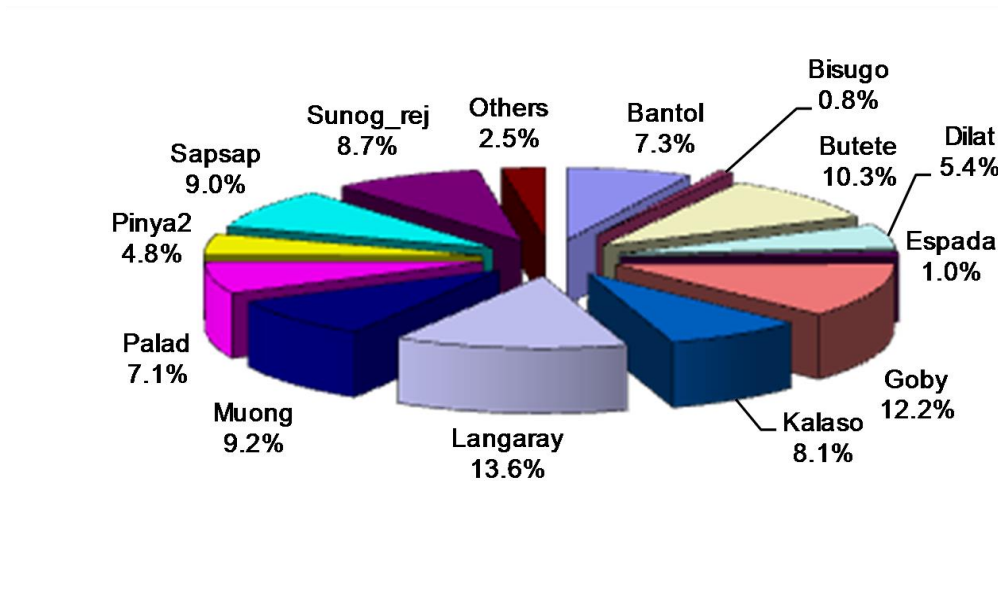


Catch composition of shrimp trawls, Samar Sea (Dickson et al 2008)

More than one third (37.9%) of the catch of shrimp trawls were lizard fish (*Sauridaspp*), followed by threadfin bream (*Nemipterus spp.* 9.9%). Shrimps which were considered as the target species were just about 1% of the total catch. The rejects which comprised of small-sized fish of low or no commercial value as well as the juveniles of commercially important species was 14.6% of the total landings (Figure 8).

The composition of rejects in shrimp trawl indicated high incidence of juveniles of commercially important species, among which were the lizard fish 8.1% (*Saurida spp.*), purple spotted bigeye 5.4% (*Dilat, Priacanthustayenus*), cardinalfish 9.2% (*Muong, Apogon sp.*, hairtail 1% (*espada, Trichiurus sp.*) Fig. 9).

For fish trawl, the catch was dominated by small pelagic species e.g. roundscad 47.8% (*GG, D. maruadsi*), sardines 10.8% (*tamban, Sardinellalongiceps*) and mackerel 7.8% (*agumaa, R. faughni*). Demersal fish which are the dominant catch for fish trawl constitute a small portion of the catch like lizardfish (kalaso) 0.4% and threadfin bream 0.3%. The reject portion of the catch was also comparatively lower, with only 4.2% of the total catch (Fig 10).



Composition of rejects (trashfish), shrimp trawl (Dickson et al 2008)

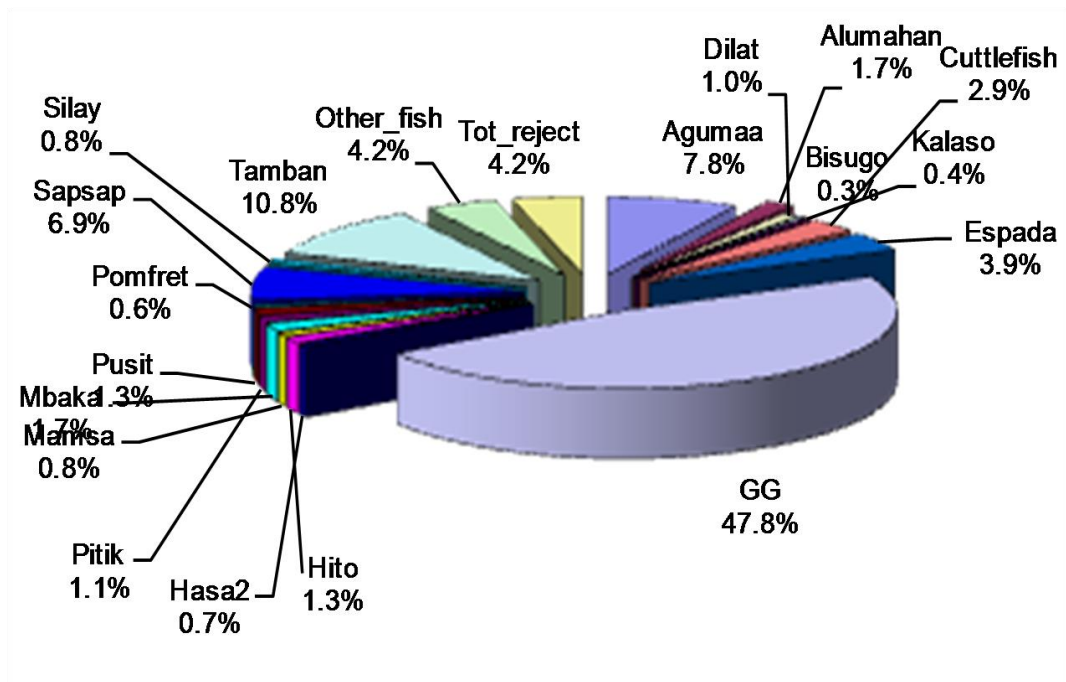


Figure 2. Catch composition of fish trawl, Samar Sea (Dickson et al 2008)

TRAWL CATCH AND BY-CATCH LANDING SURVEY (c/o Prof Diocton)

- Production estimate from trawl survey (Prof Diocton survey input)
 - Production estimate by gear type, species & size composition
 - Estimate proportion of bycatch, species and siBYCAze composition
- Refer to latest fisheries for the province of Samar

ICTHYOPLANKTON SURVEY

JUVENILE AND TRASHFISH EXCLUDER DEVICE (JTEDS)

The most recent initiative to reduce the impact of trawl was the project on the Juvenile and trashfish excluder device (JTEDs) to address problem of incidence of juveniles and trashfish in trawl fisheries. The project was implemented under the FAO/GEF REBYC I (Dickson et al 2008).

Various JTED designs were the subject of practical demonstrations in the major fishing grounds in the country to demonstrate to stakeholders the available technologies that deal with bycatch and discards and thereby increasing their awareness on the relevant issues.

The project led to the implementation of the JTED Pilot Project in Calbayog City (Samar Sea) which conducted a limited industry adoption of the device. The pilot implementation also intended to conclude identification of the most appropriate designs and learn from the experience in its implementation. It was carried out as a technical component of the Coastal Zoning Project of the LGU-Calbayog City.

The project resulted to the formulation of a Fisheries Administrative Order requiring all commercial trawlers in the Philippines to use the V12 or H15 JTEDs. The Order has undergone the process of approval including series of stakeholders' consultations at various local and national levels. It is now in the course of approval of the Secretary of the Department of Agriculture.

Useful and practical experiences were learned. It generated a pioneering approach in reducing conflict among resources users/stakeholders by delineating fishing grounds, prescribing technical measures to reduce the impact of their fishing, continuous dialogue/consultation among stakeholders, strengthening law enforcement and the importance of an operational/acceptable implementation/management plan.

SHRIMP TRAWL

More than one third (37.9%) was comprised of lizard fish (*kalaso*, *Sauridaspp*), followed by threadfin bream (*Nemipterus spp.* 9.9%). Shrimps which were considered as the target species were just about 1% of the total catch. The rejects which comprised of small-sized fish of low or no commercial value as well as the juveniles of commercially important species and are commonly used as aquaculture feed was 14.6% of the total landings (Dickson et al, 2008)

The composition of rejects in fish trawl indicated high incidence of juveniles of commercially important species, among which were the lizard fish 8.1% (*Saurida spp.*), purple spotted bigeye 5.4% (Dilat, *Priacanthustayenus*), cardinalfish 9.2% (Muong, *Apogon sp.*, hairtail 1% (espada, *Trichiurus sp.*) (Dickson et al, 2008)

SOCIO-ECONOMIC BENEFITS OF THE FISHERY, INCLUDING POSTHARVEST:

(Pol, JOHN, NAP, RAMIR, SIMON, CECIL, MARIDEL)

- Provincial profile
- **POL C**
- **Of the six (6) provinces of Eastern Visayas, in terms of national fish production, Samar contributed a total of 31 MT in municipal sector, while 10 MT for commercial sector.**
- **Of the total population of Samar Sea, ___ or 33% are involved in fishing and other related activities.**
-
- **The bulk of the high value catch (70%) is transported to Metro Manila, Cebu and some are exported to other countries. 25% is sold to local traders, and 5% is used as food consumption. On the other, 40% of the total low value catch is sold to local processors, 30% is transported to key cities and markets, local market (27%), and 2% is used for food consumption.**
-

- **At present, there are 15 proposed Community Fish Landing Centers i.e. Marabut, Basey, Pinabacdao, Calbiga, Paranas, Motiong, Catbalogan City, Daram, Zumarraga, Tarangnan, Pagsanghan, Gandara, Calbayog, Almagro, and Tagapul-an.**
- Prepare a template (fill in the blanks) for the initial results of the socio-econ survey (on trawl & other gears)
- Food & nutrition & employment

FISHERIES

- **3rd in industry contribution (Samar)**
- **33% of Catbalogan economy**
- **Use Socio-econ survey to estimate (coming)**
- **Fish processing (Rene)**
- **Fish processing (Rene)**

Existing fish processing industry in Samar generally comprises of some export oriented and domestic traditional fishery products. Dominant processing activity was iced fish caught from various fishing gear landed in major fishing port particularly Catbalogan City and Calbayog City with minor landing point like BrgyBurabod, Sta Margarita and Brgy Cal-apog in Catbalogan City. The extracted adductor muscle from pen shell (“tinga”) *Pinna vexillum*, and peeled shrimps production (“hebe”) *Metapenaeusensis* from small trawl by-catch in Catbalogan important export-oriented products.

Dried fish and squids are dominant products followed by fermented small rock oyster (“sisi”) *Sacosstreaacucullata*. Two important exportable products, i.e. dried sea cucumber (“balat”) and pen shell and surf clam (“mayahini”) *Paphiaundulata* largely produce in Catbalogan and Daram. Blue swimming crab meat and dried seahorse are mainly produce specifically in San Sebastian, Villareal and Catbalogan City while shrimps paste fermentation (*Acetesspp*) mainly is Sta Margarita and Hinabangan. Green bay mussel (*Pernavirides*) was observed in Jiabong, Zumarraga, Daram and Catbalogan but is sold fresh in local markets.

a. Export-oriented fishery product

- **Abductor muscle (tinga)**
- **Dried sea cucumber (balat)**
- **Seahorse (korokabayo)**
- **Surf clam (mayahini)**
- **Live lapu-lapu**
- **Mud crab**
 - **Salted jelly fish**

b. Domestic traditional fishery products

- peeled shrimps (hebe)
- crab meat
- fermented small rock oyster
- fermented intestine mackerel
- fermented shrimps paste
- dried by-catch (dyako)
- dried fish

STAKEHOLDERS

Table below shows the stakeholders that likely to be most affected by the planning process of the management plan. The stakeholders were identified according to their importance and influence in the EAFM process.

Name of Stakeholder	Office
<i>High Importance/High influence</i>	
1. Edgardo Goya	City Environment Officer, Catbalogan City
2. VirgilioTomnob	CE Assistant, Calbayog City
3. Hon Billy Martinez/AttyCasurao	Chair CCAF, Calbayog City
4. Hon MaximoPescos	Chair CCAF, Catbalogan City
5. Hon Allan Diomangay	SP 1 st District, Vice Chair Agriculture Committee
6. Hon Alvin Abejuela	SP 2 nd District
7. Gerry Malinao	Fisherfolk
8. Small Trawler Operator	Tarangnan, Samar
9. Small Trawler Operator	Sta. Margarita, Samar
<i>High Importance/Low Influence</i>	
1. GenalynLuaton	Women fisherfolk
2. GavinaDublon	Women fisherfolk
3. Cana Papuran	Fish vendor, broker
4. LolitCupido	Processor
5. Salvador Cruz	United fishpond operator
6. Marcelo Camarines	Gillnetters/hook and line
<i>Low Importance/High Influence</i>	
1. NimfaQuirante	PIA
2. FRMD	BFAR8
3. Ronald Ricafort	CTO-Calbayog City
4. Raul Reyes	CTO-Catbalogan City
5. Ocean Harvest representative	
6. Vicente Chabic	Business
7. Chief of Police	Calbayog City
8. Chief of Police	Catbalogan City
9. PCG	Catbalogan City District
10. Nestor Bangcale	BD Calbayog City
11. Juanito Basal	BD Catbalogan City

- **Municipal fisheries/fishermen, a variety of gears, mainly hook & lines, gillnets and traps; trawls & Danish seine are also prevalent**
- **Small scale commercial, mainly trawls, ringnets and Danish seine**
- **Traders & vendors**
- **Processors (smoked, dried)**
- **Aquaculturist/fish growers**
- **LCE/LGUs**
- **Local FARMCs**
- **Local AFC (Agriculture & Fisheries Councils)**
- **Law enforcers (BantayDagat, PNP, PCG, BFAR)**
- **Local NGOs**
- **National & Local Govt Agencies**
-

MAJOR ISSUES FOR MANAGEMENT (JOD, RONI, ANGIE, ENGR AI2, EFREN)

MANAGEMENT OBJECTIVES, BENCHMARKS AND PERFORMANCE MEASURES

ISSUES	Objective/s	Indicator	Benchmark	Management actions
1) Illegal fishing				
Poor law enforcement	<ul style="list-style-type: none"> Strengthen law enforcement 	<ul style="list-style-type: none"> No FLET conducted No MCS plan Incentive scheme adopted No. Cyanide lab established 	<ul style="list-style-type: none"> Base: poor Target : Improved law enforcement 	<ul style="list-style-type: none"> Provision of patrol boats & sustained logistics Strengthen community / barangay law enforcement (including awareness building; Conduct regular awareness building fora between fisherfolks& law enforcers); Institutionalize incentives & protection to fishery law enforcers Provide alternative livelihood Establish cyanide laboratory in Samar Enforcement @Alliance level(unified enforcement)
Lack of cooperation among people themselves regarding enforcement of fishery laws	<ul style="list-style-type: none"> Improve cooperation among stakeholders on enforcement of fishery laws 	<ul style="list-style-type: none"> # IEC for a conducted 	<ul style="list-style-type: none"> Base: Low interest Target :Increased interest / cooperation 	
Dynamite / cyanide fishing/DSeine	<ul style="list-style-type: none"> Eliminate dynamite fishing 	<ul style="list-style-type: none"> % of dynamite & cyanide fishing 	<ul style="list-style-type: none"> Baseline : rampant Target = 20% annual reduction 	
Slow prosecution of fishery law violators	<ul style="list-style-type: none"> Expedite prosecution 	<ul style="list-style-type: none"> % of cases resolved annually % of case pursued 	<ul style="list-style-type: none"> Base : Slow Target : Speed up resolution of cases 	
2) Ineffective fisheries management				
Inappropriate fisheries management plans	<ul style="list-style-type: none"> Implement a doable mgt plan 	<ul style="list-style-type: none"> Acceptable & implementable policy/mgt measures 	<ul style="list-style-type: none"> Base : Some regulations are not followed Target : 	<ul style="list-style-type: none"> Formulate & adopt an Samar Fisheries Management Plan through EAFM process, that includes livelihood, sources funds, responsibilities of different govt agencies &

			Adopt the plan in 2015	fisher groups, etc.
Lack of alternative livelihood	<ul style="list-style-type: none"> Identify & suitable alternative livelihood 	No of fisherfolk provided with suitable alternative livelihood	<p>Base :</p> <p>Target: Suitable alternative livelihood are available upon implementation of the plan</p>	<ul style="list-style-type: none"> Provision of alternative livelihood component of the mgt plan and mechanism (including financing) for its implementation
Lack of funds / Financial access difficulties	<ul style="list-style-type: none"> To provide financing & facilitate access 	No of fisherfolks provided financial assistance	<p>Base : Very difficult to avail/access fisheries credit/financing</p> <p>Target:</p>	
3) Overcapacity / overfishing / bycatch				
Overfishing	<ul style="list-style-type: none"> To reduce fishing capacity 	<ul style="list-style-type: none"> biomass stock to indicator Number of boats CPUE Species composition 	<p>Base; biomass stock 2.88 t/km²</p> <p>Species co. (Rene)</p> <p>No. of commercial/municipal (Nap)</p>	<ul style="list-style-type: none"> Exclusive fishing rights for Samarenos only Moratorium on the number of boats (replacement allowed without scale up) Close season (cite science basis) <ul style="list-style-type: none"> Ringnet = Mar -May Trawl (pakayod) –Sep-Dec Trawl (norway) = Mar-May Fishing ground zones (cite result of fishing ground mapping) <ul style="list-style-type: none"> Fishing highway (8 km for shore) No active gears within 5 km from mainland Samar Is. Strengthen management of existing MPAs (see attached list by municipalities) Establish control/inspection mechanism at LGU level for active gears (enhanced effort control) Establish fishing color coding scheme Strict compliance to technical measures (i.e.

				JTED) & other relevant regulations <ul style="list-style-type: none"> • Promotion / provision of alternative livelihoods <ul style="list-style-type: none"> ○ From active to passive gear ○ From capture to aquaculture
4) Conflict among fishing sector				
Conflict of fishermen	<ul style="list-style-type: none"> • Reduce resources users conflict 	<ul style="list-style-type: none"> • No. of conflicts incidence 	Base: Frequent Target: reduce	<ul style="list-style-type: none"> • Establishment of fishing zones • Establish a Forum under the Samar Sea Alliance to foster collaboration among fisherfolks finding win-win solution • LGU requirement to establish and register fisherfolks/associations; strengthen existing association (FishR / BoatR) •
5) Science and monitoring need / (Information gaps)				
Knowledge gap Poor agriculture-fishery data	To provide sustainable science based for fisheries management	No. of fish stock assessment conducted	Base : no updated assessment conducted Target: continuous data collection and assessment	Immediate implementation BFAR NSAP in Samar Sea FishR&BoatR implementation
Low EAFM awareness	To increase awareness of stakeholders on the importance of EAFM	No. of EAFM- based plan adopted	Base: no EAFM- based plan Target: EAFM-based plan is adopted asap	Conduct stakeholder orientation on EAFM specially LCEs Formulate the SSFMP in the context of EAFM

Management Measures

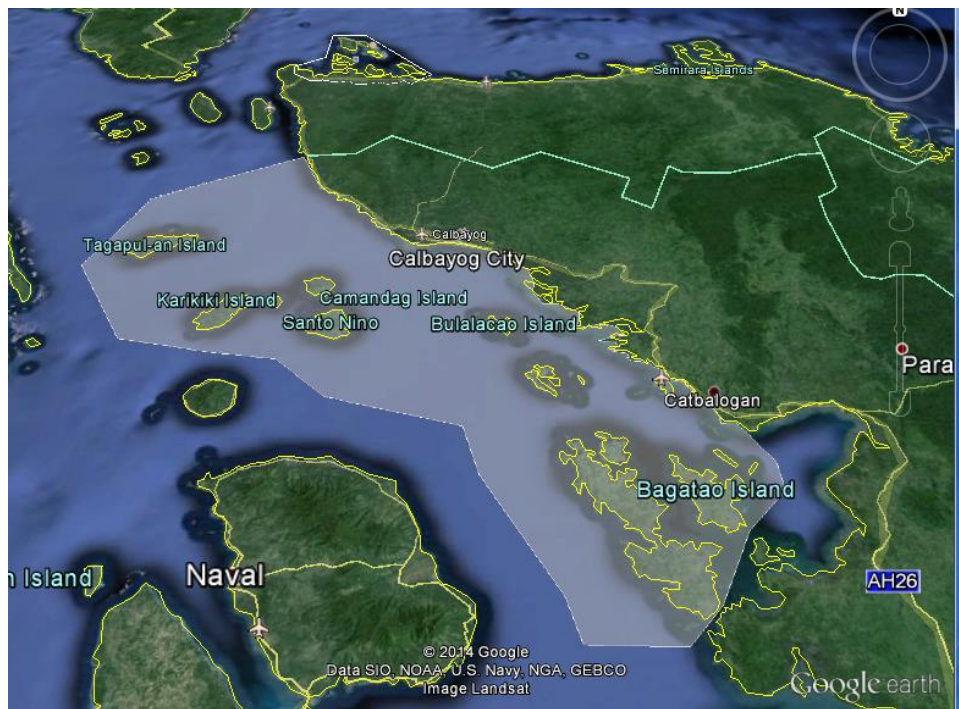
These are the key ingredients of the Plan (i.e. the actual business end of the whole exercise) because this section describes each of the management measures that will be implemented to achieve the objectives listed above. This should therefore be the largest part of the Management Plan and will be an assemblage of measures along the lines of those listed in the Tables 8 and 9 in Section 5 of these guidelines.

For each measure, one should specify:

- (i) the time frame(s) by which it will be implemented;
- (ii) performance milestones by which one can assess such implementation;
- (iii) descriptions of agreed performance indicator(s) of its success/failure; and
- (iv) the data and information required to monitor these indicator(s).

As described in Section 5, examples of measures might be the nature, extent and timing of spatial closures to trawling to achieve objectives concerning artisanal conflicts, bycatch issues, etc.; the design of gear modifications designed to reduce discarding or interactions with TEP species; the design of a capacity reduction scheme; and/or a fishing effort limitation program, etc.

IMPLEMENTATION ARRANGEMENT



This section of the Management Plan will describe the steps involved in putting the Plan into place. It will cover elements like: legislative requirements; resourcing and funding needs and sources; the structures of steering committees, advisory committees, consultative committees and their various roles and responsibilities; the memberships of these committees and the roles and responsibilities of each member; the responsibilities of the various agencies, governments and institutions involved; training and education requirements and how to deliver them; data

collection and MCS requirements and responsibilities (i.e. the information outlined in Sections 6 and 7 of these guidelines); and the frequency, nature and format of ongoing and periodic reviews, feedback loops, audits and updates of the Plan.

This section would also include a description of any communication strategy concerning the Plan and/or the management of the fishery, including details of outreach mechanisms, roles and responsibilities of individuals with respect to media liaison, and the associated resourcing requirements.

MANAGEMENT FRAMEWORK (Major issues for management)

Samar Sea is one of the major fishing grounds in the country which produces a variety of commercially important fish species and ecosystem is very unique. This ecosystem has a very important role in the life cycle of every marine biodiversity such as breeding ground, spawning and nesting ground, and nursery areas for commercially important species.

Samar Sea has experienced a significant degradation of marine fishery resources that is even characterized as "[ecocide](#)". Before 1981, there were 50 commercial fish species, but after a decade, it was reduced to only 10 due to [overfishing](#) with the use of destructive fishing methods such as improvised explosives (dynamite) and cyanide fishing. The average daily catch has reduced from 30 kg/day in the 1960s to 8 kg/day in 1981 and to 3.5 kg/day in 1991 according to *J. Saeger, 1993*.

The major issues for management in Samar Sea Fisheries were identified during the EAFM Workshop and TWG and Stakeholders meetings. (**Annexes _ & _**). Such issues were prioritized and developed corresponding management actions and measures. In order of high likelihood of occurrence and high impact or those that require direct management, the issues are as follows: conflict among fishing sectors, overcapacity, unprofitable trawl sector, growth overfishing, various bycatch issues, habitat impacts, ecosystem impacts, illegal unreported unregulated (IUU) fishing, ghost fishing, improvised explosives, cyanide fishing and other cryptic mortalities.

The objectives of the management were to develop and implement a doable management plan; to eliminate or reduce by 50% of illegal fishing practices in Samar Sea; to improve law enforcement capacity of law enforcers; to reduce and manage IUU fishing in Samar Sea; to reduce conflict among users between commercial and municipal fishers; to provide sustainable science based for fisheries management; and to increase awareness of stakeholders on the importance of EAFM concept.

Conflict among fishing sector

The most common issue at the local level is the preferential rights on the use of fishing ground which creates problem among the fishers. This problem always exists because of weak fishery law enforcement, obscure municipal water boundaries/ jurisdictions. The priority issues are as follows:

I. Illegal Fishing

One of the common reasons of illegal fishing at local level are lack employment, weak fishery enforcement, and poverty coastal villages which force the fishermen to conduct illegal fishing even they know it is prohibited and dangerous.

~~Facilitate the implementation of registration of fishing boats, gears and fisherfolk in compliance to fishery laws and regulations.~~

~~Enforcement of banning and prohibitive fishing gears (i.e. FAO 155-1, 222, 237, and 246).~~

a. Weak/Poor fishery law enforcement

- In order to strengthen the law enforcement, the management will look into onproviding trainings, patrol boats, and sustained logistics.
- Provide incentives such as social security, medical health card& incentives tofull time and volunteer fishery law enforcers.
- Strengthen cooperation among people/organization themselves regarding enforcement of fishery laws.
- Improved the percentage of apprehension fee to apprehending officers to encourage volunteer bantaydagat and apprehending officers to do their job holistically.

b. Lack of cooperation among people themselves regarding enforcement of fishery laws.

- Create an Alliance of fishery law enforces of Samar Sea wide.
- Provide capacity building among fishery law enforcers in all cities and municipalities within Samar Sea in quarterly basis.
- Strengthen community / barangay law enforcement (including awareness building; Conduct regular awareness building fora betweenfisherfolks& law enforcers).

c. Dynamite/ Cyanide fishing/ Danish Seine

One of the problems in coastal areas was the unabated operations of illegal fishing activity that causesloss of biodiversity and damage to fishery resources which mainly affected the food cycle. To be able address these problems a solution is proposed are as follows:

- Strengthening the community / barangay law enforcement and regulate the sources of materials for dynamite and cyanide. Provide special trainingsand support (patrol boat, insurance, etc.) for the members community / barangay law enforcementto ensure proper management and protection of the Samar Sea fisheries and aquatic resources.
- Awareness building(IEC) on the conservation of fishery resources and habitat. Provide available materials (video, pamphlets and posters) for the conservation of fishery resources.

- Regulate the sale of materials/ ingredients like fertilizer, ammonium nitrate, piston into illegal fishing (for dealers). The agriculture office to issue/ provide certification or receipt for fertilizer, ammonium nitrate, piston to be use as materials/ ingredients for dynamite and cyanide fishing.
- Provide alternative livelihoodto illegal fishers. Provision of livelihood program such as responsible aquaculture such as green mussel, oyster and seaweeds farming with full starting inputs were identified.
- To reduce percentage of dynamite & cyanide fishing. To reduce 50% annually on the number of illegal use of fishing methods and practices in Samar Sea.
- Established fish examination laboratory in Samar. A satellite fish examination laboratory to conduct actual examination and testing of fish samples will be based in BFAR Provincial Office,Catbalogan City where apprehended fish caught using explosives and cyanide fishing. The permanent laboratory building will be constructed with the majority decision ofthe LCEs in the future.

d. Slow prosecution of fishery violators

- In order to expedite prosecution and fastrack the apprehension proceedings and documentations, a legal fishery officer were provided to assists and handle fishery law enforcement cases. The legal fisheryofficer is the one incharge of filing cases to violators and attends hearings on filed cases on the court.

II. Ineffective Fisheries Management

a. Inappropriate Fisheries Management Plan

- The development of Samar Sea Fisheries Management Plan through EAFM process, which includes livelihood, responsibilities of different government agencies, LGUs& fishers group, and other stakeholders.
- Institutionalized the Management Body for Samar Sea

The Alliance of Samar Sea as institutional body will be in-charge of adoption, implementation and provide direction of the plan in terms of policy, administration, bureaucratic processes that need to take action in order to achieve adequate level of performance. The Alliance will ensure the effective operation of the office, monitoring and reporting.

The consultative body. The consultative body will provide, suggest fishery scientific, technical and management recommendations to the Alliance.

- Create a Technical Working Group (TWG) as oversight committee for the implementation of the Samar Sea Management Plan where this committee

b. Lack of Alternative Livelihood

The provision of livelihood programs to small scale fishermen is vital in the implementation of the management plan. The projects are limited to culturing of high valued species and seaweeds farming, where BFAR will provide available technologies to identified local fishers.

c. Lack of Funds/ Financial Access Difficulties

The ways and means committee will scout/find a reliable government and private financing institution to provide easy processing of loan for affected fisherfolks in Samar Sea.

III. Overcapacity/ Overfishing/ Bycatch

- Moratorium on the number of municipal fishing boats and gears. A moratorium on the issuance of new municipal fishing boat and gear license will be established to maintain the current level of fishing effort operating in Samar Sea. In case of replacement if the boat has been damaged or sink because of accident, it is allowed to replace but not scaled up.
- Spatial and Temporal measures (Zoning and Close season). The alliance will establish spatial and temporal measures (close season and area) in order to conserve the important resources and limit the access of traditional fishing ground. The municipal government, in consultation with the FARMC, has jurisdiction over the establishment of closed seasons and closed areas within municipal waters, while the BFAR, with the concurrence and approval of the affected LGU and FARMC, may do so in waters beyond municipal boundaries. The result of studies conducted for enforcing close seasons during spawning and juvenile period are as follows: Ringnet operations from the months of March, April and May; Shrimp Trawl (Pakayod) from the months of September, October, November and December; and Fish Trawl (Norway) is from March, April and May.
- Zoning of operations. The area and resources identified by the Ichthyoplankton study will be consider for the management plan for different species and the identified resources caught by trawls at different depths.
- The establishment of fishing ground zones. The alliance will re-establish a fishing highway for commercial fish trawlers which established during the administration of Mayor Mel Senen I. Sarmiento in consultation with both commercial and municipal fishermen, which consider as a win-win solution for the problem of both. The fishing highway is gentlemen agreement at both sector measuring 8 kilometers from the shoreline.

No active fishing gears allowed within 5 kilometers zone from mainland Samar Island thru a unified fishery ordinance executed by the local chief executives (LCE).

- Establish and strengthen fisheries management area. Establish andstrengthen existingmarine parks, fish refugia, Marine Protected Areas (MPAs) in coastal areas for spawning and nursery grounds.The management areas which initiated by peoples organizations or associations and supported by BFAR will provide capacity building and technical capabilities in terms of management, maintenance and rehabilitation.
- Reduce fishing effort and limit the number of fishing trips per month. The management establish a scheme to reduce fishing effort by establishing and limiting the number of days per trip and trips per week and/or trips per month of every fishing boat for the sustainability of resources in Samar Sea.

- Establishment of fishing boat color coding scheme for the operation of fishing gears in a specific zone. The establishment of color coding scheme is efficient in identifying fishing boats for every members of the Alliance and to registered municipal fishing boats to control the encroachment of non-fishers from Samar.
- Strict compliance to utilization of bycatch reduction devices (*i.e.* JTED for trawl, square mesh window (if there is available studies), and increase mesh size) & other relevant regulations. The implementation of proven technologies and studies on reducing the impact of utilization of juveniles of commercially important species, adopt and implement the Fisheries Administrative Order (FAO) 237 “Regulation on the use of Juvenile and Trashfish Excluder Device (JTEDs) in the Philippine waters” and FAO 246 on the Banning of Modified Danish Seine.
- Promotion / provision of alternative livelihoods to the affected fisherfolk at coastal villages. Provision of livelihood program such as responsible aquaculture such as green mussel, oyster and seaweeds farming with full starting inputs were identified will identify the gears that are active in fishing operation and shifted to passive gears which are eco-friendly and sustainable fishing practices. The technical assistance and support will be provided by the Bureau.
- Establish control mechanism at LGU level for all types of fishing gears. Every local government unit will established a unified control mechanism for fishing boats operating in Samar Sea to enhance effort control for all types of fishing gears and methods.
- The BFAR existing measures on regulations relevant to bycatch management and discards especially on trawls is very important to the sustainability of resources nationwide.

IV. Conflict Among Fishing Sector

The utilization of municipal waters or within 15 km causes conflict among the municipal and commercial fishing sector. The continued operations of commercial fishing like trawl, ringnet and modified Danish seine in municipal waters are likewise create issues with the artisanal fishermen. The trawl operations in municipal waters obstruct the operations of gillnets, multiple hook and lines, traps and other gears, or resort to the damage of the municipal fishing gears. To address such issue, the following measures may be adopted:

- Establishment of fishing zones. It is very important to define the no fishing zones, protected areas and fishing ground allocated for municipal fishermen and commercial fisheries to minimize the conflict. The protected areas were MPAs, fish sanctuary, and fish refugias both established by the LGUs and NGOs. The allocated fishing zone for both sectors determined by the Alliance, which area is for municipal fishers and fishing highway for commercial fishers.
- Establish a forum under the Samar Sea Alliance to foster collaboration among fisherfolks finding a win-win solution. Two (2) seats are made available for both artisanal (municipal) fishermen and commercial fisheries to sit down and attend regular and/or special meetings conducted by the Alliance. The representatives of artisanal and commercial fishermen should be the Chairman of the Samar Sea Wide fishermen association and the representative of commercial fishing should be the representative of commercial fishing association.

- LGU requirement to establish and register fisherfolk associations. The establishment and registration of individual fisherfolk and fisherman association membership should require an association that they are registered in the national program of BFAR such as the national Boat Registration (BoatR) and Fisherfolk Registration (FishR) and/or either of the two.
- Co-management on the use of fishing grounds among the end users. The formulation of any management measures at the municipal waters and/or Samar Sea should involve the important players in the planning, development and consultation at municipal level and Samar Sea fisheries management plan or any fisheries management. Other local government agencies that are mandated to implement relevant management/conservation of aquatic resources are the Department of Environment and Natural Resources (mangrove habitats, protected areas, endangered species and biodiversity), the Department of Trade and Industry (regulates fisheries business), and the Maritime Authority (MARINA) on the regulation of fishing boats/vessels.

V. Science and Monitoring

The BFAR and Samar State University are the primary agency/institution and universities in handling monitoring, active research programs on fisheries and marine sciences.

- a. Knowledge gap Poor agriculture-fishery data
 - Immediate implementation BFAR National Stock Assessment Program (NSAP) in Samar Sea. BFAR RFO 8 should implement the NSAP for the Samar Sea in order to institutionalize the generation of reliable time series data that can be used in fisheries management and development strategies in fisheries management.
 - Implementation of FishR&BoatR. Adapt the BFAR program in the implementation of Fisherfolk and Boat Registration nationwide and in support to the fishing boat and gear inventory conducted by the REBYC-II CTI Project.
- b. Low Essential Ecosystem Approach for Fisheries Management (E-EAFM) awareness
 - Conduct stakeholder and LCE orientation on EAFM. The conduct orientation on the concept of Essential Ecosystem Approach for Fisheries Management with the stakeholders and the local chief executives (LCEs) to enhance their knowledge and understanding on the importance of EAFM process in developing a management plan.
 - Adapt the SSFMP in the process of EAFM concept. The Alliance will adapt the management plan according to the mandates and programs of the Alliance in the management of Samar Sea.

Management Measures

V. Implementation Arrangements

The Samar Sea Alliance, is the primarily responsible for the development, conservation, management and utilization of fisheries and aquatic resources of Samar Sea. Among its major

functions are to prepare and implement a comprehensive development plan, to formulate implementing rules and regulation on the utilization of fishery resources and operations of municipal and commercial fishing boats/vessels, to provide guidelines on the development of support services in all aspect of fisheries production primarily to fish and fishery producers, LGUs, FARMCs, fishermen's organizations/cooperatives and to formulate unified ordinances governing the conservation and management of fishery resources in Samar Sea except in the national waters which is the jurisdiction of the National government.

The Alliance headed by the Chairman with the support of the Local Chief Executives (LCEs), NGOs, Governing Board of Directors, and technical working group (TWG) for the Samar Sea Fisheries Management Plan.

The Chairman of the Alliance will be selected by means of voting thru secret ballot or raising hands. He/She will direct and manage the implementation of the Samar Sea management plan.

The Governing Board of Directors are composed of the LCEs or Mayors of Member of Samar within Samar Sea.

The Technical Working Group (TWG) are organized group that comprises fisheries related NGOs, academe, BFAR Province and LGUs, law enforcers, commercial and municipal fishers. The TWG will be chaired by the Chairman of the Alliance and the members will provide scientific and technical inputs, and advisory and consultative body to the Alliance.

The committees are of the following such as; appropriation, ways and means, trainings and education, coastal fisheries resource management, and fishery law enforcement.

1. Committee on Appropriation will be headed by one of the Board of Director which will undertake the drafting and passing local ordinances and funding of every projects or activity of the Alliance.
2. Committee on Ways and Means will be headed by one of the Board of Directors, all matters directly and principally relating to the fiscal, monetary and financial affairs of the Alliance including solicitation, borrowing, credit and bonded indebtedness.
3. Committee on Training and Education will be headed by one of the Board of Directors, to overseethe educational needs of the members, creating educational programs to the constituents, professional development (fishery related and business) and teaching, and training and logistical on fishery law enforcement to the volunteer fishery law enforcers.
4. Committee on Coastal Fisheries Resource Management will be headed by one of the Board of Directors, they are the ones who will determine and take actions on all fishery development and utilizationof coastal marine fishery resources, address pollutions, and stock assessment.
5. Committee on Fishery Law Enforcementwill be headed by one of the Board of Directors, they incharge of the coastal and marine resource protection within Samar Sea.

The management measures in the plan will be implemented by the members of the Alliance thru Unified Municipal Ordinances where assistance coming from the REBYC-II CTI Technical Working Group (TWG) and BFAR Regional Office No. 8.

