



Food and Agriculture
Organization of the
United Nations



“Strategies for Trawl Fisheries Bycatch Management”
GCP/RAS/269/GFF

REBYC-II CTI INDONESIA

Expert Meeting and Workshop for Shrimp Fishing Technology

Denpasar, Bali
25 – 28 October 2016

Directorate General of Capture Fisheries
Ministry of Marine Affairs and Fisheries
2017

1. Background

In Indonesia, the issuance of Ministerial Decree No.2/PERMEN-KP/2015 on Prohibition of the use of Trawls and Seine Nets (trawl ban) dated 9 January 2015 has gradually stopped trawl fishing. According to this decree, the licenses for trawl and seine net gears that had been issued before the decree, were still valid until the license expired. The main goal of this Degree is to reduce the use and practices of destructive fishing gears in Indonesian waters. At present, the trawl and seine net fishing ban has completely taken place as all existing fishing licenses had expired on 9 January 2016. It is strongly believed that the shrimp resources have started to recover.

Furthermore, based on Ministerial Decree No.56/PERMEN-KP/2014 of 3 November 2014 on Moratorium for Fishing Vessels Built Abroad up until 30 April 2015 which was extended up until 31 October 2015 under Ministerial Decree No. 10/2015, less vessels are fishing in Indonesia waters. These two consecutive decrees completed a one year cycle of licensing system in Indonesia. Thus, there is currently no built-abroad vessels operating in Indonesia waters.

Consequently, Indonesia is facing challenges of finding alternative fishing technology for local vessels, especially to exploit shrimp resources. The initial idea of developing "Low Impact & Fuel Efficient (LIFE)" fishing gears has arisen lately. A comprehensive project to elaborate alternative LIFE fishing gears as well as other approaches to exploit shrimp resources is expected to start soon in Indonesia.

Indonesia is also promoting best practice for managing shrimp fisheries in Aru and Arafura Sea in order to ensure sustainable shrimp fisheries by managing fishing vessels activities in Aru and Arafura Sea based on fishing capacity.

There are many fisheries certification schemes globally. Each certification has a different purpose and own criteria, principles and procedures such as certification for environmental protection, IUU fishing, fisheries management, and protection of endangered, threatened and protected (ETP) species. The principal expected impact of these certifications is to encourage sustainable fishing practices by giving incentives in the form of price and market access.

To accelerate the steps in developing capacity of stakeholders on fishery certification and to obtain the information on certification and also for promoting LIFE fishing gears and other alternative approaches in Indonesia, a technical meeting was needed.

2. Objectives

The Experts in the technical meeting were to define best alternative fishing gears to exploit shrimp resources and the opportunity to implement fisheries certification for ensuring sustainable shrimp fisheries in Aru and Arafura Sea. More specifically the meeting was to:

1. Review the literature on LIFE fishing practices worldwide;
2. Adopt and adapt the ideas of global LIFE fishing practices which aligns with Indonesia waters;
3. Materialize the ideas of global LIFE fishing practices implementable in Indonesia and describe its characteristics:
 - Biologically, sustaining the target species (shrimp and other demersal species)
 - Ecologically, conserving the target species' environment and their ecologically related species
 - Socially, conforming with other major fishing gears operated by fishermen
 - Economically, generating high value produces of target species (shrimp and other demersal species)
4. Define some potential alternative fishing gears;
5. Disseminate the recommended fishing gears and other alternative approaches to communities;
6. Recommend a draft of new regulations;
7. Review the literature on fishery certification;
8. Identify the principles and procedures of certification;
9. Adopt and adapt the principles and procedures of certification;
10. Identify the fishery certifications that are implemented in Indonesia and globally;
11. Identify constraints in implementing the certification in Indonesia.

3. Summary of activities and outcomes

- 1) The Expert and Technical Meeting was held 25 – 28 October 2016 at Ramada Bintang Bali Resort, Bali. The meeting was opened by the Deputy Director of Fishing Vessel and Labour as the National Project Coordinator of REBYC-II CTI and attended by participants from Marine Life Conservation Unit (LIPI Ambon), Fish Quarantine and Inspection Agency (BKIPM), members of National Working Group (Agency for Marine Affairs and Fisheries Research, Fishing Technology Development Center Semarang, Bogor Agricultural University, Jakarta Fisheries University, Diponegoro University, WWF Indonesia), members of Local Consultative Group (Ambon Fishing Port, Sorong Fisheries Academy), academics (Brawijaya University, Jenderal Soedirman University, Hasanuddin University), representatives of Echelon II of DG of Capture Fisheries (Directorate of Fishery Resources, Directorate of Fishermen, Directorate of Fishing Port), COREMAP CTI of the DGCF, Pengembangan fishing port, Indonesian Shrimp Association, Indonesian Tuna Longline Association, and fishing gear manufacturers (Arida Pty. Ltd, Indoneptune Pty. Ltd);
- 2) There was first a presentation by the NPC of REBYC-II CTI project on trawl fisheries management policy covering: overview of regulations on the management of trawl fishing and the impact of the regulations, issues of world fisheries, lessons learned from the REBYC-I project and the outcomes achieved by the REBYC-II CTI project, and the concept of MGT Scheme's fisheries management (Mapping, Gear type selection and TAE Management);
- 3) Presentations by resource-persons regarding the alternative fishing gear for the utilisation of shrimp resources as well as the fishery certification followed. These presentations included:

a. Marine Life Conservation Unit – LIPI Ambon:

- The influence of monsoons were very dominant, upwelling occurs during the northeast monsoon and down welling occurs during the southwest monsoon at Aru and Arafura Seas;
- Abundance of chlorophyll at Aru and Arafura Seas and along the West Coast of Papua indicates that these waters are very fertile throughout the year;

b. Academic scholars (STP, POLTEK Sorong, IPB, UNIBRAW, UNSOED, UNHAS):

- API trammel net is an alternative for shrimp-catching. In some areas shrimp fishing is carried out around the coast. Total catches (share) of shrimp varies between 1-33%;
- In southern part of Java (Cilacap and Pangandaran) trammel net is operated by twisting from half-circle to full-circle. This method is known by the fishers as *jaring ciker/trammel* nets;
- The fishers began to use liftnet in the waters of Kaimana since the prohibition of trawling and seine nets;
- The proposed alternative fishing gear to exploit fish resource in Aru and Arafura Sea includes purse seine, long bag set net (LBSN) and fish traps (*bubu*). Purse seine and LBSN are not appropriate with National Standard/SNI fishing method. The fish traps need to be tested further to determine their effectiveness;
- To assess the fuel efficiency, there is a need to calculate between the total shrimp catch and the total use of fuel, or the index rate of catch divided by time unit;

c. *Balitbang KPI* Agency for Marine Affair and Fisheries Research and *BBPI*/Fishing Technology Development Centre:

- All types of shrimp fishing gear has its own qualities. The process of releasing the shrimps from the gear (e.g. trammel net) may take a long time and prudence is required to avoid physical damage. The fishers may even have to cut their nets in the process to maintain the quality of shrimps. This can be a factor causing deterioration of shrimp quality;
- The length of time taken for passively operated trammel net may cause shrimps to die;
- Trammel net may be used in deep waters (up to 60 meters) by changing the method of operation from passive to active, by way of rotating the gear from half to full circle. There should be further study conducted before it can be implemented in Aru and Arafura Seas;
- The trammel net (*jaring ciker*) may be developed for small fishing boat (<10 GT) and medium scale fishing boat (10-20 GT). Its operation on the small vessel uses 2 sets x 10 pieces of webbing (300 m/set) and the medium scale vessel uses 2 set x 30 pieces of webbing (900 m/set);

- On a small scale fishing boat, the setting up of *ciker* net or *jaring ciker* will require \pm 5-7 minutes, \pm 60 minutes for rotating and \pm 10-15 minutes for hauling, then after the gear is on the deck, the shrimps are removed from the net which takes \pm 45 minutes;
- For small-scale fishing vessels that catch and utilize the shrimp resource there is potential as well in maintaining the quality of the catch in the Arafura Sea, provided the vessels should be equipped with a winch and cold storage
- The quality of shrimp can be maintained by improving the storage facility such as cool box in the fishing boat. If the fishing areas are far from base camp/port, it should be supported by a carrier vessel which is equipped with a contact plate freezer and cold storage at temperatures below -18° C;

d. BKIPM, ATLI and WWF Indonesia

- World shrimp market requires quality assurance and safety of fishery products through certification;
- The role of *BKIPM* is to provide quality assurance and safety of fishery products which currently have not been applied intensively at the supply side. However, the importing countries require health certificates (certification of quality and safety of fishery products);
- Some of the ATLI members have complied with norm on saving dolphin as required by export's market;
- WWF-Indonesia informed that none of the fishing groups in Indonesia have received certification from Marine Stewardship Council (MSC). The tuna fisher groups with hand line, pole and line (*huhate*), and fish trap are in the process towards full assessment for MSC certification. The result of joint study between WWF and research institute (*BALITBANG-KP*) in 2012 gave recommendations for six action plans on the implementation of the MSC standard for shrimp fishery in the Arafura Sea;

e. Based on HPPI's experiences it was shown that shrimp production from trawl fishery in Arafura Sea has the best quality in the world market as shrimps were already frozen in less than 2 hours at -18° C. After the trawl ban, the processing units of HPPI members were still operational and they collect shrimp from the small scale sector that uses trammel net operating around the region;

f. Inputs from FAO's Expert (REBYC-II CTI project) in the paper presented said that:

- All fishing gears (*API*) have advantages and disadvantages depending on fishing ground and target species;
- The effectiveness of the movement toward LIFE fishing is very much dependent on the community's acceptance of fishing technology and the incentives during the transfer of technology;
- Innovation of technology must be supported by regulations. It requires cooperation of all fisheries stakeholders to introduce and develop LIFE fishing by considering economic and social aspects of the community;

- g. The discussion forum discussed about the criteria of LIFE Fishing based on the FAO Code of Conduct for Responsible Fisheries (CCRF) with some additional criteria as found in the table below. Information on alternative gears can be found in the Annex.

Criteria used in ranking fishing gears

No.	LOW IMPACT	FUEL EFFICIENT	QUALITY OF CATCH	SOCIAL-ECONOMY ASPECT
1.	High selectivity	Ratio of shrimp /litre (fuel consumption)	Fishing gear results in high quality fish	Technology is acceptable to the community
2.	Not destructive for the habitat	fishing ground	Catches which are not harmful to consumers	Technology is not harmful to the fishers
3.	By-catch	Dimension (size) of vessel	The duration of time before the catches are carried onboard	
4.	Impact on biodiversity & security for protected species	Technical specification of the gear: length, depth, mesh size	Physical condition of the catch (no damage)	
5.	No harm to fish that are protected or endangered	The nature of the fishing gear	Value of catch	
6.	Main target Percentage of target			

4. Conclusions

- a. The recommended gear for shrimp should be tested in Aru and Arafura Seas and should be appropriate with the vessel unit scale (<10 GT, 10-30 GT and >30 GT). The trial will be conducted by BBPI Semarang;
- b. There should be monitoring and evaluation of shrimp resources after the prohibition of trawl, to be conducted by DGCF and relevant stakeholders;
- c. Based on the references, there are several alternative gears to catch shrimps on the seabed or in the water column. Current knowledge and experience indicates that the best productivity is obtained by using shrimp trawl which results in the good quality of shrimp and good performance;
- d. In order to maintain the continuity of shrimp exports, the certification of fisheries management and the implementation of MGT Scheme in Aru and Arafura Sea should be strictly applied.

ANNEX 1. Participants List

No	Name	Institution
1.	Agustinus Anung Widodo	BALITBANG KP
2.	Mahiswara	BALITBANG KP
3.	Dicky Gamawan Eko Priambada	Dit. Kenelayanan
4.	Aris Budiarto	Dit. Pengendalian Sumberdaya Ikan
5.	Q Muhammad Royhan	CORMAP CTI DJPT
6.	Chandra Nainggolan	STP Jakarta
7.	Ronny Irawan Wahyu	IPB Bogor
8.	I Gst Ngr Merthawibawa	HPPI (PT. Tri Graha Kusuma)
9.	Sidik Dwi Sugiharto	HPPI (PT. Tri Graha Kusuma)
10.	Tri Antoro	HPPI (PT. DBU)
11.	Suhariyanto	BBPI Semarang
12.	Widodo	BBPI Semarang
13.	B. Candra Pratiwi	BBPI Semarang
14.	Faik Kurohman	UNDIP
15.	Abu Darda Razak	Akademi Perikanan Sorong
16.	Muhamad Ali Ulat	Akademi Perikanan Sorong
17.	Augy Syahailatua	LIPI AMBON
18.	Tri Djoko Lelono	Universitas Brawijaya
19.	Endroyono	Dit. KAPI
20.	Imron Rosyidi	Dit. KAPI
21.	Mas Umamah	Dit. KAPI
22.	Jainur Manurung	Dit. KAPI
23.	Lingga Prawitaningrum	Dit. KAPI
24.	Elwidya Bastian	Dit. KAPI
25.	Vitri Yanti	Dit. KAPI
26.	F Eko Dwi Haryono	Universitas Jendral Sudirman, Purwokerto
27.	Cholik Syahid	PPN Ambon
28.	Najamuddin	Universitas Hasanuddin
29.	Agung	Dit. Pelabuhan Perikanan, DJPT
30.	Irawan MP	PT. Arida (fishing gear manufacture)
31.	Asep P	PT. Indoneptune (fishing gear manufacture)
32.	Wahyu Teguh Prawira	WWF Indonesia
33.	M. Maskur T	WWF Indonesia
34.	R. Gatot Perdana	BKIPM
35.	Ni Ketut Erlina Efendi	PPN Pengambangan
36.	I Wayan Suartana	PPN Pengambangan
37.	I Nyoman Sudarta	ATLI
38.	Sudiro	ATLI
39.	Buguh T	WWF Indonesia

Annex 2: Expert Meeting Agenda

Date/Time	Agenda	PIC/Remarks
25 October 2016		
09.00 – 14.00	Travel to Denpasar	Participants
14.00 – 17.00	Check in and Registration	Administrative
19.00 – 20.00	Opening of Meeting <ul style="list-style-type: none"> ▪ Welcome Remarks by NPC ▪ Opening Remarks by Director of Fishing Vessel and Gear 	Facilitator
20.00 – 21.00	Review of trawl fisheries current policies and regulations	NPC
26 October 2016		
09.00 – 10.00	Characteristics of habitat, biology and fishing ground in Aru and Arafura Seas	LIPI Ambon (Marine Life Conservation Unit)
10.00 – 11.00	Fishing ground and season of shrimp	HPPI
11.00 – 11.15	Coffee Break	
11.15 – 12.00	Alternative fishing gear to exploit shrimp resources with high quality and good product performance (1)	1. Agency for Marine Affairs and Fisheries Research 2. BBPI Semarang
12.00 – 13.00	Alternative fishing gear to exploit shrimp resources with high quality and good product performance (2)	3. University <ul style="list-style-type: none"> - Bogor Agricultural University - Brawijaya University - Jakarta Fisheries University - Jenderal Soedirman University - Trunojoyo University
13.00 – 14.00	Lunch Break	
14.00 – 15.00	Alternative fishing gear to exploit shrimp resources with high quality and good product performance (3)	4. University <ul style="list-style-type: none"> - Hasanuddin University - Patimura University - Sorong Fisheries Academy
15.00 – 16.00	Low-Impact and Fuel-Efficient (LIFE) Fishing	LTO / FAO HQ / NPC
16.00 – 16.15	Coffee Break	
16.15 – 17.00	Summary of day 1	NTO
27 October 2016		
09.00 – 10.30	Implementation fisheries certification in Indonesia	1. BKIPM 2. Directorate of Fishing Port
10.30 – 10.45	Coffee Break	
10.45 – 12.00	Principles, procedures and minimum requirement to implement fisheries certification	WWF Indonesia
12.00 – 13.00	Lunch Break	

13.00 – 14.30	Management of controlling and reporting for fisheries certification	Organization of Fisheries Certification
14.30 – 14.45	Coffee Break	
14.45 – 16.00	Eco-labelling of fish and fishery products : challenging in Indonesian fisheries sector	ATLI
16.00 – 17.00	Summary of day 2	NTO
28 October 2016		
09.00 – 10.00	Summary and recommendation on best practice for alternative fishing gear and fisheries certification	NTO
10.00 – 10.30	Closing of Meeting	NPC
12.00 –	Travel to Jakarta	Participants

Documentation

