

White Paper

Fishery: Snappers Nei and Groupers Nei (Java Sea – FMA 712)

Country: Indonesia

Purpose: The purpose of this white paper is to engage buyers, their suppliers, and other potential participants or supporters in improving the snapper fishery. It has been developed as preparation for a possible Fishery Improvement Project (FIP). The paper states problems in the fishery as related to sustainability and proposes solutions to address the problems identified.

1. Overview

1.1 Identification of the fishery

Snappers and grouper are demersal fish which snappers are part of family Lutjanidae and groupers are part of family Serranidae [Fish Source, 2014 a and b]. In Indonesia Capture Fishery Statistics, snappers caught in Indonesia are identified as Red Snapper / Kakap Merah / Bambang. In term of groupers, MMAF identified groupers in Indonesia into 5 species, i.e. Blue Lined Seabass *Cephalopholis boenak* (Kerapu Karang), Humpback Hind *Cromileptes altivelis* (Kerapu Bebek), Honeycomb Grouper *Epinephelus merra* (Kerapu Balong), Greasy Rockcod *Epinephelus tauvina* (Kerapu Lumpur), and Leopard Coral Grouper *Plectropomus leopardus* (Kerapu Sunu) [MMAF 2014].

Snappers and groupers are found throughout Southeast Asia and Western Central Pacific. The species inhabits both coastal and offshore reefs with depth range from about 12 to 100 m. Large aggregations are often observed around coral reefs, rocky areas, estuaries, and mangrove habitats but also in the steep slope waters. The Indonesian snappers fishery covers vast areas of the archipelago from North Sumatra to West Papua (the Indonesian portion of New Guinea).

Fishing gears for both fisheries that commonly used in Java Sea are hooks and lines (not specified), handlines hand operated, and bottom longlines [Fish Source, 2014 a and b]. The of handlines and bottom longlines have very low impact on the habitats [Chuenpagdee et al., 2003].

In the Java Sea (FMA 712), a study was conducted by the MMAF and the Ministry of Research and Technology on CPUE (catch per unit effort) of demersal fisheries. This area includes the northern coast of Java, the southern coast of Borneo, and the eastern coast of Sumatra. The area includes relatively shallow seas, because FMA 712 is part of the Sunda Shelf. Because this area is shallow (around 70-80 m depth) and many rivers run into the seas there, it has become a good source of demersal fish. As Java is the most populated island in Indonesia, overfishing of snapper has occurred in this area since 1997, and the snapper populations stayed depleted until 2005. By 2007-2008, these populations became stable again, although not as much as in 1997 [Badrudin, 2010].



Figure 1. Java Sea

1.2 Current and historical catch / landings numbers over time

Total landing of snappers in Indonesia was 123,416 tonnes in 2013, with Cendrawasih Bay and Pacific Ocean region being the major fishing grounds for this species, contributing 26 percent of the total catch; followed by Makassar Strait, Bone Bay, Flores Sea, and Bali Sea region (16 %); Karimata Strait, Natuna Sea, and South China Sea (15 %); Aru Bay, Arafura Sea, and Eastern of Timor Sea (9 % - 11.380 tonnes); and Java Sea regions (9 % - 11.069 tonnes) [MMAF,2014].

Total landings of snappers in Indonesia shows on Table 1. The increasing average of snappers production from 2005 – 2013 was 3,22 %.

Table 1. Total Landings of Red Snapper in Indonesia Over Years

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013
Production (tonnes)	97.044	109.312	116.994	109.299	115.523	123.827	118.608	119.088	123.416

Source: MMAF 2014

Fishery Management Area 712 consists of 8 provinces. The snappers production data of the 8 provinces are recorded from 2005 until 2013, with West Java and East Java as main snappers landing , starting in 2005 (Table 2).

Table 2. Red Snapper Production by Province in FMA 712 (tonnes)

Province	Year								
	2005	2006	2007	2008	2009	2010	2011	2012	2013
Lampung	458	420	420	455	4	-	121	72	-
Banten	612	616	653	669	668	686	684	3	16

DKI Jakarta	4.011	2.514	2.366	2.380	1.451	1.392	674	481	380
Jawa Barat	2.741	2.526	3.325	3.699	3.734	4.151	4.951	5.591	3.859
Jawa Tengah	466	466	672	582	515	1.288	928	835	1.058
Jawa Timur	4.427	3.356	3.431	4.871	5.427	2.572	2.229	2.664	2.925
Kalimantan Tengah	467	603	1.140	1.009	526	455	355	705	1.095
Kalimantan Selatan	3.219	1.385	261	327	344	1.176	1.667	950	1.024

Source: MMAF 2014

Total landing of groupers in Indonesia in 2013 was 99.922 tonnes. The biggest volume was contributed by Blue Lined Seabass (53.274 tonnes), followed by Leopard Coral Grouper, Humpback Hind, Greasy Rockcod, and the smallest volume was Honeycomb Grouper (Table 3) [MMAF, 2014].

Table 3. Total Landing of Groupers in Indonesia by Species Year 2013

Rank	Species	Volume (tonnes)
1	Blue Lined Seabass	53.274
2	Leopard Coral Grouper	18.925
3	Humpback Hind	11.123
4	Greasy Rockcod	9.782
5	Honeycomb Grouper	6.818

Source MMAF 2014

Detailed groupers production data in FMA 712 (2013) shows in the table below. Groupers production from the 8th provinces in 2013 was 6.199 tonnes. East Java was

Table 4. Groupers Production by Province in FMA 712 Year 2013 (tonnes)

Province	Species					Sum
	Blue Lined Seabass	Humpback Hind	Honeycomb Grouper	Greasy Rockcod	Leopard Coral Grouper	
Lampung	99	0	0	56	140	295
Banten	453	0	0	0	0	453
DKI Jakarta	1	0	0	122	0	123
Jawa Barat	1.196	0	0	0	0	1.196
Jawa Tengah	1.084	0	0	0	18	1.106
Jawa Timur	1.383	193	19	528	12	2.135
Kalimantan Tengah	0	0	0	0	0	0
Kalimantan Selatan	891	0	0	0	0	891
Total						6.199

Source MMAF 2014

1.3 Current and historical stock status

Snappers are categorized as the most important fisheries groupings by Indonesia's Commission for Stock Assessments in 2011 [MMAF, 2011]. Based on data from the Ministry of Marine Affairs and Fisheries (2011), snappers and groupers overexploitations occurred at FMA 712.

1.4 Description of management system and regulations

There are currently no management measures applied exclusively to red snapper in Indonesia. As with other fisheries in Indonesia, the management of snappers and groupers (demersal fisheries), is mainly by input controls through licensing, implementation of a log book system, installation of a vessel monitoring system, and institutional strengthening.

The majority of snapper fishing operation in Java sea is small-scale fisheries (SSFs), in which the management is in under the responsibility of the District Governments (Fishery Law No.45/2009). To date the SSFs is still unregulated (e.g. no control over the SSFs fleet capacity, no fishing licences, fishers allowed to operate almost anywhere inside the Indonesian EEZ), and unreported.

1.5 Uses of harvested product

In general, the chain of custody in Indonesian snappers involves six components. They are: 1) fishermen; 2) traders / collectors / suppliers / middlemen; 3) processor / exporter; 4) importer / wholesaler; 5) retailer / restaurant; and 6) end user / consumer.

Snappers products from Java Sea are consumed for domestic and International markets. The seafood processing companies in Java mainly export snappers in the forms of frozen whole round and frozen fillet.

1.6 Market information

1.6.1 Export market, volumes, and value

In general export volume of snappers from Indonesia fluctuated and ranged from 1,5 to 2,7 thousands tonnes per year, with main markets in the United States, EU countries, Japan, Hong Kong, Taiwan, Singapore, Malaysia, South Korea, Australia, Thailand, and the Middle East [MMAF, 2010].

United States has been important market for frozen fillet snappers from Indonesia. Indonesia has been the second biggest frozen snapper supplier to US market. Contributing to 18 % of total frozen imported snapper, following Brazil (42 %). Data from NOAA 2012 shows that US snappers imports from Indonesia has decreased from 952,2 thousand kilos in 2010 to 787,93 thousand kilos in 2012, but the value increased from USD 5 million in 2010 to 6 million in 2012.

Table 5. US Snappers Import from Indonesia (2009 – 2015)

Year	2009	2010	2011	2012	2013	2014	2015
Fresh snapper (kilos)	30.051	52.890	68.517	100.653	62.510	27.116	35.267
Frozen snapper (kilos)	926.702	899.627	691.308	678.282	450.026	439.221	535.896
Value (US\$)	4.725.495	5.022.761	4.780.908	6.003.573	3.767.229	3.529.640	4.147.770

Source: NOAA website 2016 b

Table 6. US Groupers Import from Indonesia (2009 – 2015)

Year	2009	2010	2011	2012	2013	2014	2015
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Frozen grouper (kilos)	37.829	13.209	38.697	26.532	4.753	26.742	3.561
Fresh grouper (kilos)					556		
Value (US\$)	102.842	75.021	189.900	59.644	61.690	107.543	43.444

Source: NOAA website 2016 a

1.6.2 Domestic use and value

Local consumption of snappers and groupers in Indonesia is also high since the species is also popular seafood in Indonesia.

1.6.3 Fishery's contribution and national economy

Java Sea is the second biggest red snappers contribution fishing ground in Indonesia with 17% contribution of total red snappers landing in 2004, following the the first contribution from Arafura Sea, Aru Sea, and East Timor Sea (30 %) [SFP, 2009].

2. Key Issues / Challenges in The Fishery

Sustainability issues:

According to Indonesia's Commission for Stock Assessment (2011), snappers and groupers in the Java Sea (FMA 712) are classified as overexploited fishery commodity. Practically, there is no control and regulation on small-scale fisheries (SSFs) in Indonesia. The catch data collection applies only on vessel > 5 GT [Fish Source, 2014 a and b].

Snappers population study in 2012 was located in Brondong, Lamongan shows that the majority of snappers that were caught have not had time to do spawning. The exploitation level already reached the optimum stage, which threatens sustainability of snappers fishery [Wahyuningsih et al., 2013].

Financial issues:

Fishermen are mostly dependent to their middlemen / supplier / collector to provide logistic to go fishing (e.g. fuel, bait, etc).

There are a lot of middlemen / collector that do not have proper place that collecting fishes from the fishermen – the fishes are exported as fresh snapper to Malaysia, Singapore, Taiwan, and Hong Kong. They can offer higher price to the fishermen – they have very low operation cost (e.g. do not have the proper place – sometimes just rent a 'ruko' temporarily) – need to work with the government to standarize the supplier – minimum requirement for the supplier (need licence / certification).

3. Recommended Solutions

Develop the FIP with major snapper processors, with major activity including:

- Conduct study to better understand about the fishery, including to get more accurate information on fishing ground, supply chain, how the fishery business contributes to the local communities, etc.

- Develop catch data reporting to support the implementation of fishery management in the region.
- Train enumerators and local trader to record catch data using logbook.
- Compile all the information related to fishing license and documentation needed for export.
- Organise Stakeholder meeting, which invite provincial and district government to discuss issues face by snappers and groupers fishery including fishing license, standard / license for the suppliers, etc.

4. Stakeholder Summary and Roles

Stakeholder (company or organisation)	Stakeholder type	Potential role in FIP	Level of potential influence over fishing practices, policies, and/or research
Fishermen	Catcher	Comply to Collector's requirements for good prices.	Compliance to local regulation / requirement.
Collector / Middlemen	Suppliers	Influence the fishers to make simple improvement (i.e. environmentally-friendly or better fishing practices) for earning better quality. Many of small scale fisheries are very dependent to their middlemen (boat, supplies and logistic, loan, family relation, etc), not only to the exporter or companies, approach to the middlemen is also very significant.	Contribute to more reliable catch production data.
?	Processors / Exporters	Push the suppliers to make some improvement and setting up certain standard (i.e. only receiving a certain size).	Contribute to better management of snappers and groupers fisheries in the region, through improved catch record, support observer program.
Importers / Buyer in the US	Buyers	Push the processor / exporters to make some improvement	
Sustainable Fishery Partnership	NGO	Providing training and technical assistance, i.e. technical support and advice, training and capacity building.	
Yayasan LINI	NGO	Conduct capacity building on FIP development, field survey and fishery data collection, investigating supply chain on the ground.	

Fishery Office (Dinas Perikanan)	Government	Local regulation, providing more accurate fishery data within the area.	
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