

HIGHLIGHT ON HARVEST STRATEGY DEVELOPMENT PROCESS

Presented by:

TRIAN YUNANDA

Kasubdit SDI ZEEI dan Laut Lepas

Workshop Implementasi Harvest Strategy Workshop Perikanan Tuna
di WPPNRI 713, 714 dan 715
Bogor, 21 – 23 November 2018



**Ministry of Marine Affairs and Fisheries
Republic of Indonesia @2018**



LEGAL ASPECT: **ADOPTION INTERNATIONAL RULES INTO NATIONAL LAW & REGULATIONS**



INTERNATIONAL RULES

UNCLOS 1982 (Article 64) ratified by Law No. 17/1984:

→ Underlines to cooperate in ensuring tuna conservation & utilization in EEZ & high seas thru an organization (tuna RFMO)

UNIA 1995 (Article 17: Para 2) ratified by Law No. 21/2009:

→ Non member state shall not authorize vessels for catching tuna which are subject to CMM established by an organization

FAO CCRF 1995:

→ Para 3 in Relation with other Int. Instrument: (3.2) tuna conservation & management implementation consistent with UNCLOS 1982

→ General Principles: Para 6.2: Ensuring conservation belonging to the same ecosystem

NATIONAL LAWS

FISHERIES LAW 30/2004 amended by 45/2009 (Article 10: Para 2):

→ Underlines to actively participate in RFMOs & International For a

OPERATIONAL BASIS:

→ IOTC: Presidential Reg. 9/2007 (5 March 2007)

→ CCSBT: Presidential Reg. 109/2007 (6 Dec 2007)

→ WCPFC: Presidential Reg. 61/2013 (28 Aug 2013)

→ IATTC: as CNM (June 2013), shall be proposed each year for its renewal

Note: INDONESIA has ratified & adapted International Tuna Rules into National Law and Regulations

IMPLEMENTING REGULATIONS

Ministerial Decree of MAF 107/2105:

- Tuna, Skipjack and Neritic Tuna Fishery management Plan: a direction and guidance for central and regional government for tuna conservation & management implementation in Indonesia (Revised every 5 years)

Ministerial Regulation No. 30/2012 jo. 26/2013 jo. 26/2015:

- Regulate capture fisheries business, fishing license, Database Sharing System, and others: all catches shall be landed at port

Ministerial Regulation No. 12/2012:

- Regulates vessel operating in EEZ & high seas

Other Ministerial Regulations, i.e.:

- VMS Installment
- Fishing Logbook & Observer
- FAD Control Regulation
- Tuna Moratorium at Banda Sea
- CPIB & SHTI
- Transshipment Prohibition and etc.

LEGAL BASIS : DEVELOPING HARVEST STRATEGY/HARVEST CONTROL RULE in Indonesia FMA 713,714 and 715



Ministerial Decree of MAF 107/2105:

Tuna, Skipjack and Neritic Tuna Fishery management Plan: a direction and guidance for central and regional government for tuna conservation & management implementation in Indonesia

1.2.2.1. Objective 1 Point 3

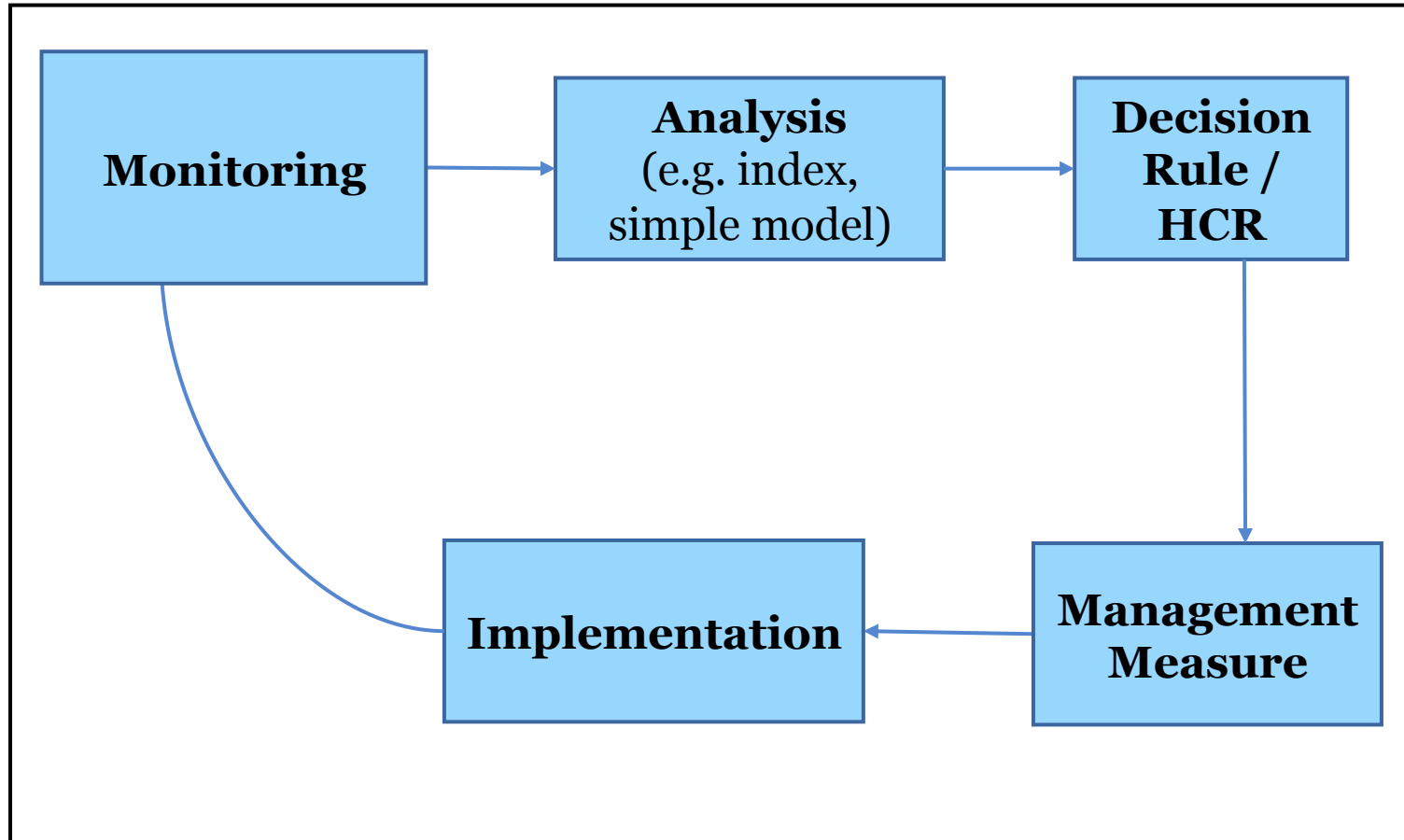
Availability of harvest control rules and 100% of tuna and skipjack stock keys indicator data in 2016

Responsible working unit:
“DGCF dan BRSDMKP”

An agreed basis for ***monitoring*** and ***assessing*** a fishery **AND**;
adjusting the level of fishing;
using a specified ***management measure***,
BASED ON the ***harvest control rule***
to meet specific ***objectives***

- Best-practice approach in fisheries management decision making process.
- Proactive, adaptive and to include a framework to collect a **best information** on tuna stocks;
- As an evidence in implementation of risk-based approach in number of fish could be harvested (harvest level).
- Harvest strategy is to ensure that decision making process in fisheries management of specific stock is consistent, predictable and transparent.
- Consist of management action to achieve determined goals (Biology, **Ecology**, **Economy and Social**).
- Contain an appropriate process to conduct an assessment of biology, ecology, economy and social condition in fisheries.
- Adopt interim harvest control rules (if necessary) in managing a specific stock in order to achieve determined goals.

COMPONENTS OF A HARVEST STRATEGY



STEPS IN THE MANAGEMENT STRATEGY EVALUATION (MSE) PROCESS

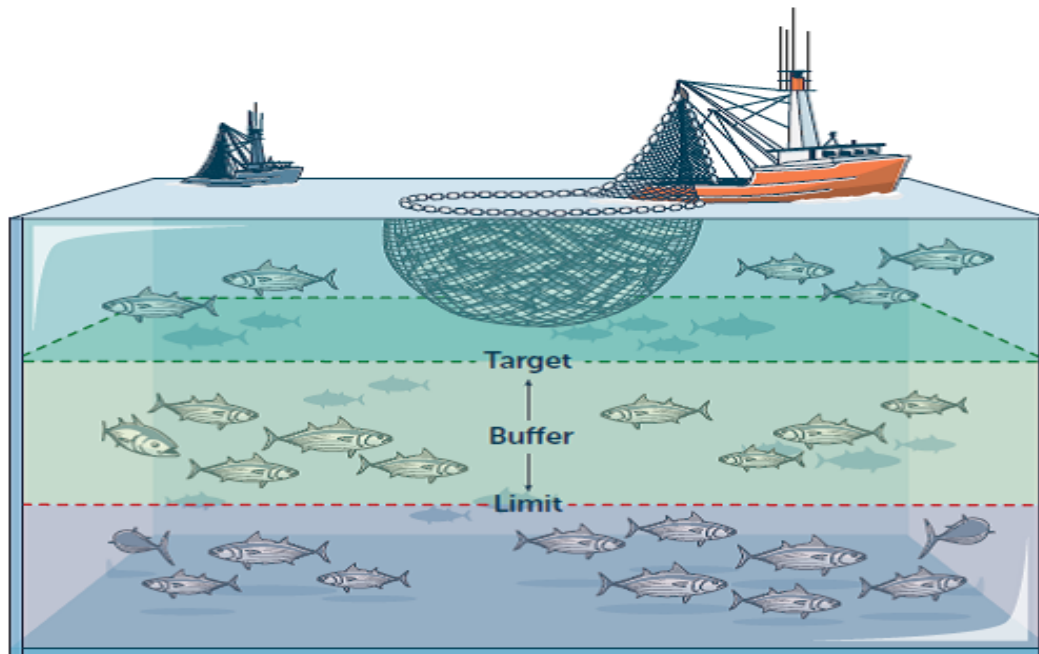


1. **Design OM** based on what you know (and don't know) about the system and data
2. **Detailed analysis** of available data to **understand** sources of bias and observation **uncertainty**
3. Identify **plausible management measures** for fishery
4. Design different **plausible Harvest Strategies**
5. Do initial MSE → to **identify candidate Harvest Strategies**
6. **Iterative dialogue** with stakeholders and managers to select and refine **most appropriate HS based on performance.**

- Reference points are benchmark.
- We can indicate the stock status easily based on the reference point.
- Reference Points in Harvest Strategy:
 - **Target Reference Point (TRP)**
 - **Limit Reference Point (LRP)**

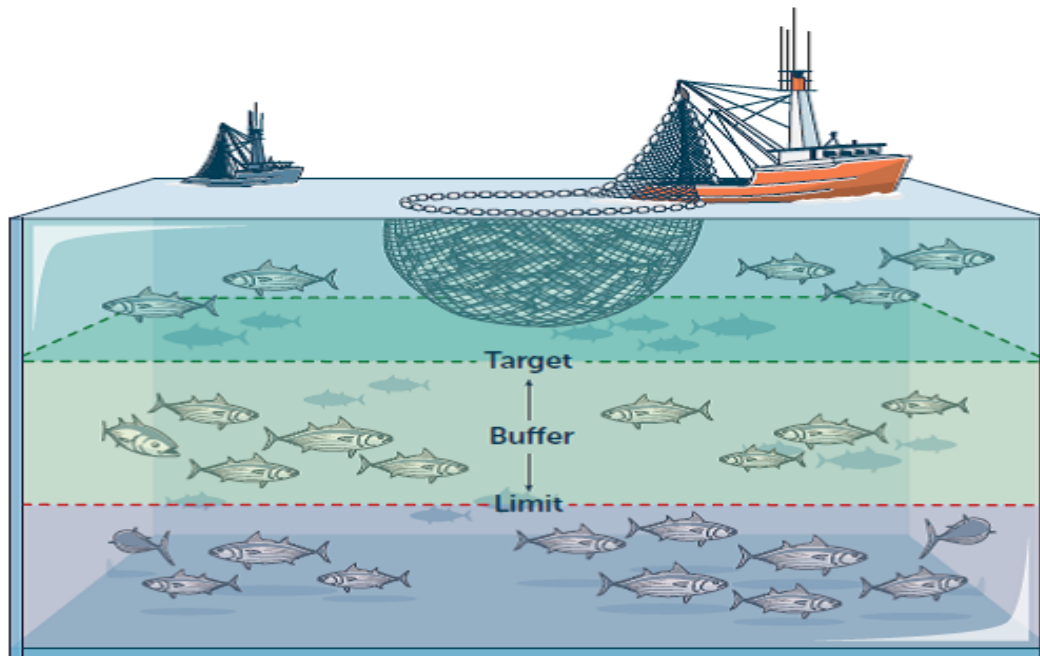
The need for Target Reference Point

- Identify the ideal level of fishing, using measure that can quantify catch or biomass and factor in a buffer to avoid the danger zone.
- The target should be based on the biology of the stocks, as well as ecological, social and economic consideration.



The need for Limit Reference Point

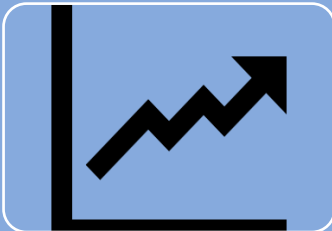
- Define the beginning of the danger zone for a stock, the point beyond which fishing is no longer sustainable, and therefore a state that should be avoided.



HARVEST STRATEGY DEVELOPMENT PROCESS & RESULT

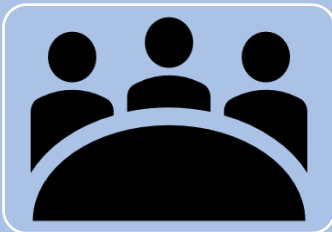


Several **WORKSHOP** have been conducted since 2014 supported by Local Governance, Fishing Ports, Association, Industries, NGOs and International Experts.



Technical Data Workshop (4 times)

4th Technical Data WS di Bogor, 30-31 October 2017



Stakeholder Workshop (7 times)

7th Stakeholder WS di Bogor, 1-2 November 2017

- A survey on perception from stakeholders was carried out at the 4th Stakeholder Workshop, 14-16 November 2016 in Bogor, to identify main pressures on tuna resources condition in Indonesia, particularly in Indonesia FMA 713, 714 and 715 which could threaten the sustainability are :
 1. Too much purse seine fleets;
 2. Too much deployed FAD;
 3. Destructive tuna fishing practices occurring
- Based on above opinion, there is a need to manage purse seine fishery and limit FAD deployment, including eliminate destructive fishing practices to ensure the sustainability of tuna resources in Indonesia FMA 713, 714 and 715.

- A survey on opinion was carried out at the 4th Stakeholder Workshop, 14-16 November 2016 in Bogor
- A questionnaire was formed in order to gain the stakeholders' opinion regarding the potential management action for the harvest strategy of tuna fisheries in Indonesia.
- The questionnaire was consist of 3 (three) parts, hypothetical scenarios, the option of future fisheries management, and things that need to be discussed

- A risk based assessment was carried out at the 6th Stakeholders Meeting on 12-13 July 2017 to select potential management objective, operational objectives and management measures.
- A questionnaire was developed based on Article 3 Act No. 31 year 2004 which was amended by Act No. 45 year 2009 on Fisheries.

[Selected & Agreed] MANAGEMENT OBJECTIVES

- Ensure fish resources sustainability

[Selected & Agreed] OPERATIONAL MANAGEMENT OBJECTIVES

- Maintain spawning stock biomass (SSB) above the limit reference point (LRP) of $0.2 \text{ SSB}_{F=0}$, *at least 90% of the year during the 10 years projection period.*

[Selected & Agreed] MANAGEMENT MEASURES

1. FAD Limitation [number of FAD, fishing operation associated with FAD]
2. Spatial closures (of important spawning or nursery grounds) and temporal closures (during important events such as spawning)
3. Number of fishing days (per gear, for semi industrial and industrial vessels)
4. Number of vessels – limited entry (per gear; for semi industrial and industrial vessels through licensing, permits, taxing, royalties)
5. Total Allowable Catch (TAC) [or catch] limits per Fisheries Management Area

Harvest strategy candidates:

1. Harvest strategy based on Catch per Unit Effort (CPUE) indicator; and
2. Harvest strategy based on size distribution

Current project result for skipjack:

- CPUE trend for skipjack in Indonesia FMA 713, 714 and 715. is based on number of fishing days and mean length size of fish caught.
- Based on above harvest strategy candidates, the Trial Target Reference Point can be set to determine [interim] harvest control rules candidates or management measures for skipjack fisheries in Indonesia FMA 713, 714 and 715.

A prototype **operating models** (OMs) within the MSE has been developed to explore alternative management actions and their relative performance in meeting specific management objectives using two abundance indices, namely:

- standardized catch-per-unit-effort (CPUE); and
- mean length.

- The harvest strategy framework has been soft-launched at the 3rd Bali Tuna Conference on 31 May 2018.
- A paper has been submitted at the 14th Regular Session of Scientific Committee WCPFC on August 2018 in Busan to present the latest status of the framework development.

HARVEST STRATEGY DEVELOPMENT FOLLOW-UP ACTION

Management Strategy Evaluation

- Refining harvest strategy specification based on technical evaluation
- Provide conclusion to design adaptive management strategies (Implementation of Selected Measures/HCR) → time frame?
- Monitoring Series Data Collection (New Framework/Improvement)

Stakeholder Consultation

- Provide harvest strategy candidates to stakeholders for public consultation
- Considerate stakeholders' input for refining harvest strategy candidates and identifying prioritized action

Proposed documents to be legalized through Ministerial Decree:

1. Interim Harvest Strategy for Skipjack in Indonesia FMA 713, 714 and 715;
2. Interim Harvest Strategy for Yellowfin Tuna in Indonesia FMA 713, 714 and 715;
3. Harvest Strategy Policy.

REVISION OF NTMP for 2020-2024:



- **Ministerial Decree of MAF 107/2105:** Tuna, Skipjack and Neritic Tuna Fishery management Plan for 2015-2019. The NTMP need to be **revised** every 5 (five) years.
- In 2019: Drafting NTMP for 2020-2024:
 - The proposed revision will include the implementation harvest strategy and harvest control rules for tuna fisheries in Indonesia FMA 713, 714 and 715.
 - Limitation/Quota for each Regional/Each Fishery will be determined (Time Framework? 3 years?)
 - Defining Criteria for Allocation: Sustainability, Fairness, Compliance

- This workshop is seeking for response, support and engagement from all stakeholders for the applicability of harvest strategy candidates that will be presented later on.

THANK YOU

