

# **MODULE 6: SAMPLING METHODS FOR THE FISHERIES AND AQUACULTURE SURVEYS**

## **SESSION 6.1: FISHERIES AND AQUACULTURE SURVEYS**

Regional Training Course on Sampling Methods for Producing Core Data  
Items for Agricultural and Rural Statistics

Jakarta, Indonesia ,29Sep-10 October 2014.

# OUR COMMON LANGUAGE

**Catch:** Any activity that results in killing any fish or bringing any live fish on board a vessel.

**Yield:** Catch in weight. Catch and yield are often used interchangeably

**Discard:** To release or return fish to the sea, whether or not such fish are brought fully on board a fishing vessel

# OUR COMMON LANGUAGE

**Fishery:** The sum (or range) of all fishing activities on a given resource

**Fleet:** The aggregation of units of any discrete type of fishing activity utilising a specific resource

**Landings:** Weight of the catch landed at a wharf or beach

**Gear:** Any tools used to catch fish

# DATA ON FISHERIES AND AQUACULTURE

## Need to understand:

- ✓ Dynamics of the fish stocks
- ✓ Fishery operations
- ✓ Infrastructure
- ✓ Communities involved
- ✓ Environmental impacts

# FISHERIES AND AQUACULTURE SURVEYS

## Collect data on:

---

- ✓ Status of resources
- ✓ Yield
- ✓ Fishing controls
- ✓ Economic efficiency
- ✓ Social performance

## To Study:

---

- Exploitation of stock
- Fisheries performance
- Effect of management
- Micro/macro economic impact
- Fishing communities behaviour

# FISHERIES AND AQUACULTURE SURVEYS

## Collect data on:

---

---

## Possible statistical units:

---

---

- |                       |   |
|-----------------------|---|
| ✓ Status of resources | catch, effort,...                         |
| ✓ Yield               | landing, vessel, ...                      |
| ✓ Fishing controls    | fish, species, fisher, ...                |
| ✓ Economic efficiency | fisher, corporate,<br>operation, ...      |
| ✓ Social performance  | Fisher, community,<br>household, fleet... |

# FISHERIES AND AQUACULTURE SURVEYS

## Collect data on:

---

---

## some example indicators:

---

---

✓ Status of resources

catch per unit effort  
(CPUE), mean weight of fish

✓ Yield

Potential Yield

✓ Fishing controls

Fish size, species  
composition

✓ Economic efficiency

production, export values

✓ Social performance

employment, cultural values

# FISHERIES AND AQUACULTURE SURVEYS

## What variables to be collected?

- ✓ What is realistic and operational in terms of number of variables and mode of collection?
- ✓ In what frequency needed?
- ✓ Is the data reliable?
- ✓ Is there any standard for data collection?
- ✓ What type of analysis planned?



# FISHERIES AND AQUACULTURE SURVEYS

What indicators to be estimated?

Indicators often require combination of multiple variables

Certain variables play key role in many indicators  
*e.g. catch, effort, value*

# FISHERIES AND AQUACULTURE SURVEYS

What indicators to be estimated?

## Domain

## Statistical units

Indicator

1) Fishing & operational

2) Biological

3) Economic

4) Socio-cultural

1) Landing, effort, catch, operation, corporate,...

2) fish, species,...

3) Corporate,...

4) Fisher, community, HHs,...

## Group exercise:

Discuss in group and identify possible variables that need to be observed through sample survey, and statistical units

*Note: use the manual as a guide and add to it variables produced in your system which are not listed in the manual*