ASIA AND PACIFIC COMMISSION ON AGRICULTURAL STATISTICS

TWENTY-SEVENTH SESSION

Nadi, Fiji, 19 – 23 March 2018

Agenda Item 10

Indonesia Experience Sharing on Fisheries Statistics

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Law No.45 Year 2009 on Fisheries

Article 1, paragraph 7: “Fisheries management shall be all efforts, including integrated processes in the collection of information, analysis, planning, consultation, decision-making, allocation of fish resources, and the implementation and enforcement of legislation on fisheries, or other authority directed towards achieving the survival of the marine living resources productivity and agreed objectives’.

Article 7 paragraph 1: "In order to support the policy of fish resources management, the Minister shall determine the potential and allocation of fish resources in the fishery management area of the Republic of Indonesia”.

Objective:
To realize sustainable, just and responsible fisheries management.
“We do not want to repeat the old tradition where planning and budgeting are many and some are disconnected, out of sync... And this I emphasize, things like this should not happen again. Planning must be integrated, consolidated, organized, inter-sector, inter-regional, inter-regional and central, and there is no such thing as a sectoral ego...”

President Jokowi, April 13, 2016
Speech at a limited cabinet meeting on draft presidential instructions of synchronizing planning and budgeting of national development in the president's office
Ministerial Instruction of MMAF
No. 389/2016 on Information System Implementation in MMAF

MMAF Towards One Data!
One Data National Policy

1. Key to the integration of development
2. Welfare equitable
3. Inclusive economic development today and tomorrow

1. The Ministry of Marine Affairs and Fisheries
2. The Ministry of Energy and Mineral Resources
3. The Ministry Health
4. The Ministry of Higher Education and Research and Technology
5. The Ministry of Forestry and Environment
6. The Ministry of Culture and Education
7. National Development Planning Agency
One Data Challenge

- **Standard**
- **Metadata**

**Data and Information**

- **Stable network**
- **Security systems**

**Infrastructure**

- **Multi-Platform Application Access**
- **Integration**
- **One Data Portal**

**Application**

- **Competence**
- **Certainty Career**

**Human Resources**
Coverage

Capture Fisheries

- Marine
- Inland Open Water

Aquaculture

- Mariculture
- Brackishwater Pond, Freshwater Pond, Cage, Floating Net, Pen Culture, Rice Fish
Fisheries Statistics in Indonesia

DATA Collected by **Ministry of Marine Affairs & Fisheries (MMAF)**
- Capture Fisheries : Directorate General of Capture Fisheries
- Aquaculture : Directorate General of Aquaculture Fisheries

DATA Collected by **BPS-Statistics Indonesia**
- Regular Activity
- Ad-Hoc Activity
- Through Census of Agriculture
Flow of Data Collection
Methodology of Data Collection

**Capture Fisheries:**

- Fishery establishment is done by complete enumeration.
- Marine capture is collected through Fishery Landing Place (Fishery Port, Fishery Auction Place)
- For Fishery Household in areas which are no fishery port is done by listing all households and selecting household systematically.

**Aquaculture:**

- Using two-stage sampling method:
  1. Select village from fishery village frame.
  2. Select household or holding in each selected village
Cooperation between The Ministry of Marine Affairs and Fisheries (MMAF) and Statistics Indonesia are implemented with the signing of a Memorandum of Understanding on 10th September 2015.

The scope of the Memorandum of Understanding include:

1. Statistical methodology development of marine and fisheries
2. Implementation of the activities of collecting, processing, presentation, analysis and dissemination of statistics data of marine and fisheries
3. Use of data and statistics information on marine and fisheries
4. Capacity building of human resources marine and fisheries statistics
Improved Methodology of Aquaculture Data Collection

- One stage stratified sampling design
- As sampling frame is a list of aquaculture household at each subdistrict and each type of fish (for rising, hatchery, and ornamental fish)
- Every year, doing update for list of aquaculture household at each subdistrict and then draw a number of household as sample to get data for detail information
- Data from each subdistrict can be sum up to get data at district level, province level, and national level
Comparation of Methodology

<table>
<thead>
<tr>
<th>Item</th>
<th>Previous Method</th>
<th>New Method</th>
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<tbody>
<tr>
<td>Type of Aquaculture</td>
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<td>13</td>
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<tr>
<td>Sampling design</td>
<td>Two stage stratified, 1st, village-PPS</td>
<td>One stage stratified, Holding-sys, area as a implicit strat.</td>
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<tr>
<td></td>
<td>2nd, Holding-Sys</td>
<td></td>
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<tr>
<td># sample</td>
<td>10 each village of each type of</td>
<td>Depend on updating in each stratum à Slovin</td>
</tr>
<tr>
<td></td>
<td>aquaculture</td>
<td></td>
</tr>
<tr>
<td>Updating frame</td>
<td>Not every years</td>
<td>Every years</td>
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<tr>
<td>Level of est.</td>
<td>District</td>
<td>Sub district</td>
</tr>
<tr>
<td>Scope of comodities</td>
<td>Not all comodities</td>
<td>All comodities</td>
</tr>
<tr>
<td>Frame</td>
<td>Only by type of aquaculture</td>
<td>By type of aquaculture and comodities</td>
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</tbody>
</table>
Challenging

1. Enumerators in the sub district and operators of Data Statistics Centre shall be upgraded to comprehend new methodologies.

2. The capacity for data processing and analyzing in the district and provinces shall be enhanced.

3. The data communication to national data centre shall have capability of more than 90% uptime.
Questionnaires

Capture Fisheries: vessel ID, vessel location, vessel permit, etc support master data of fishing vessel;

Processing and Marketing: traceability from fish capture, fish landed into end user.
  • Government regulation: Kepmen/Permen for fishing capture: industry, semi industry, small scale.
  • Sample of supply chain: Tuna, Catch Documentation Scale → Log book
Structuring of Fishing Vessel Landing Process

Data Traceability

- Ship entering port and loading, unloading
- Fish weighed with online scales
- Fish put into the box car/truck and transported
- Weigh in data into Pusdatin data warehouse
- Cold Storage
- Market
- Fish Processing Unit
Data Flow Process With Online Scale

Implementation of the online scale system must go hand-in-hand with the fish landing process at the port which consists of several interconnected business processes.

The following show the process from the vessel entering the port until transporting the fish by truck.

For each weighing the following data is sent to Pusdatin's server:
- Vessel Identification (Name, Owner, Licence Number, etc.)
- Capture Area (WPP)
- Fishing Gear
- Crew Identification (Name, Mobile number)
- Enumerator Identification
- Weighing Scale Identification
- Destination Type (Fish Auction/Cold Storage/etc.)
- Destination City/Regency
- Fish Type
- Fish Treatment
- Price
The Connection The Online Scale

The system of online scales is built by utilizing information technology so it is very efficient and accurate in recording the results of unloading fish in the fishing port.
### Tabel 1 Variables of DATASET_2

<table>
<thead>
<tr>
<th>FIELD</th>
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Regular Activity Done by BPS

- **Annually**
  - Establishment of Capture Fisheries
  - Establishment of Aquaculture Fisheries
  - Fish Auction Place

- **Quarterly**
  - Fish Auction Place
  - Fish Landing Place
  - Fishing Port

Period
Ad hoc Activity Done by BPS

• Fishery Household Income Survey
• Cost of Fishery Production Survey
Ad hoc Activity Done by BPS

• Fishery Household Income Survey
• Cost of Fishery Production Survey
Through Census of Agriculture

• Done Decenially (the last CA was in 2013 and the next will be in 2023)
• 2018 → the First Intercensal Agricultural Survey (May-June 2018)
Utilization of Census of Agriculture

• MOU already signed by MMAF and BPS-Statistics Indonesia on September 10, 2015.

• The result of Census of Agriculture for Fishery has been utilized by MMAF in order to update sampling frame and the development of statistical methodology for aquaculture data collection.

• 8-11 September 2015, the updating of aquaculture household already tested and the enumeration of the selected sample was in October 2015.
Thank you