Policies and practices of remote sensing implementation in Indonesia

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Outline

- Background
- Role of LAPAN in remote sensing implementation
- The Presidential Instruction No. 6/2012
- The Indonesian Space Act No. 21/2013
- The Government Regulation on Remote Sensing *(status per 2014)*
Satellite remote sensing data play an important role in supporting geospatial information in Indonesia.

Characteristics of satellite remote sensing data:

- Available for large areas, e.g. 31,450 km$^2$ for Landsat, 3,600 km$^2$ for SPOT.
- Available on a regular basis for all points on the globe (repetitive coverage), e.g. 16 days for Landsat, 1-3 days for SPOT.
- Objective, i.e. the sensor-transmission-reception system involves no human intervention.
- Collected related to the Earth surface features.
- Use the wide spectrum of electromagnetic spectrum (which is divided into several bands at once).
Indonesia coverage

Landsat data: 212 scenes (@ 185 km x 170 km)
Indonesia coverage

SPOT data: 1,276 scenes (@ 60 km x 60 km)
Structure organization of LAPAN

Chairman

Prime Secretary

Deputy Chairman for Remote Sensing Affairs
- Remote Sensing Technology and Data Center
- Remote Sensing Applications Center

Deputy Chairman for Aerospace Science, Assessment, and Information

Deputy Chairman for Aerospace Technology
Structure organization of Deputy of Remote Sensing Affairs

DEPUTY OF REMOTE SENSING AFFAIRS

REMOTE SENSING TECHNOLOGY AND DATA CENTER
  - ADMINISTRATIVE SUB. DIVISION
    - ACQUISITION AND GROUND STATION TECHNOLOGY DIVISION
    - DATA PROCESSING TECHNOLOGY DIVISION
    - REMOTE SENSING DATA BANK DEVELOPMENT DIVISION
    - REMOTE SENSING GROUND STATION PAREPARE

REMOTE SENSING APPLICATIONS CENTER
  - ADMINISTRATIVE SUB. DIVISION
    - LAND RESOURCES DIVISION
    - COASTAL AND MARINE RESOURCES DIVISION
    - ENVIRONMENTAL AND DISASTER MITIGATION DIVISION
    - INFORMATION PRODUCTION DIVISION
Role of Deputy of Remote Sensing Affairs

- To provide remote sensing data and information through National Remote Sensing Data Bank (Bank Data Penginderaan Jauh Nasional/BDPJN) and National Earth Observation System (Sistem Pemantauan Bumi Nasional/SPBN).

- To provide the international standard of remote sensing research and development to result in the guidelines of data acquisition, processing, and applications.
Remote sensing data acquired through LAPAN Ground Stations

- **Low res.**
  - Terra/Aqua
  - NPP
  - NOAA-18/19
  - Metop
  - MTSAT-1R

- **Medium res.**
  - Landsat-7
  - Landsat-8

- **High res.**
  - SPOT-5
  - SPOT-6
  - SPOT-7
Remote sensing applications

- Forestry
- Agriculture
- Fishery
- Coastal and marine
- Environment
- Disaster mitigation
- Spatial planning
- etc.
The Presidential Instruction No. 6/2012

- **About:** High-resolution satellite remote sensing data providing, utilization, control quality, processing, and distribution.

- **Objective:**
  - to increase the efficiency of the state budget;
  - to ignore duplication of the state budget allocations among Ministries/Government Agencies, Army, Police, and Local Governments in providing high-resolution satellite data.
**The Presidential Instruction No. 6/2012 (cont.)**

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| - Provide **high-resolution satellite remote sensing data** (spatial resolution ≤ 4 meter) with the Indonesian Government license.  
- Increase the capacity of the data acquisition system.  
- Conduct **geometric and radiometric corrections**. | - Conduct **ortho-rectification** of high-resolution satellite remote sensing data for survey and mapping.  
- Increase the capacity of data processing system for survey and mapping.  
- Distribute orthorectified data through National Spatial Data Infrastructure. |
The Indonesian Space Act No. 21/2013

- Among others adopting the Presidential Instruction No. 6/2012 in which LAPAN requires to provide the high-resolution satellite remote sensing data with the Indonesian Government license for Ministries/Government Agencies, Army, Police, and Local Government.

- Regulation on remote sensing Satellite and Ground Station in Indonesia.

- Regulation on standard methods of remote sensing data processing.

- Regulation on guidelines of remote sensing applications and information dissemination.
The Government Regulation on Remote Sensing (Planned to be proofed in 2015)

- As one of regulations derives from the Indonesian Space Act No. 21/2013.

- Objective:
  - to bring into **efficiency** in remote sensing development system;
  - to motivate **national capability** in remote sensing-related implementation;
  - to motivate **remote sensing industries** to result in standard data and information products for fulfilling user requirements;
  - to establish **national and international cooperation** on remote sensing activities; and
  - as **the legal aspect** of remote sensing implementation in Indonesia.
The Government Regulation on Remote Sensing
*(Planned to be proofed in 2015)*

Scope of regulation, among others include:

- Remote sensing implementators.
- Remote sensing activities:
  - Data providing.
  - Data processing.
  - Data storing and distribution.
  - Applications and information distribution.
- Annual planning.
- International cooperation.
- Public participation.
- Technical supervision.
Thank You for Your Attention