

LEMBAGA PENERBANGAN DAN ANTARIKSA NASIONAL GEOSS AP – KYOTO 24-26 October 2018



#### SATELLITE BASED CROP MONITORING IN INDONESIA (CURRENT STATUS AND THE FUTURE CHALLENGE)

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#### **Presentation Outlines**

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## Introduction

- Paddy field in Indonesia : 7.105.145 ha (based on Ministry of Agrarian and Regional Planning, 2018)
- Rice consumption: 114,6 Kg/kapita/year (BPS, 2017)
- □ Number of people: 265.000.000 (Bappenas Projection 2018)
- □ Rice production need : 30,37 million ton per year
- Rice productivity need: 4,27 ton/ha Actual productivity approx. 5.6 ton/ha –39.7 million ton per year
- Based on this data, rice production is surplus with 1 times planting



## SIMOTANDI

- Developed by Ministry of Agriculture
- Paddy growth monitoring and production estimation
- Landsat Imagery
- Update every 16 days
- Using model to fill information on cloud cover



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## **SIMANTAP and SIKATAM**

- Developed by Ministry of Agriculture
- Paddy growth and other crop monitoring
- Crop Production estimation
- Terra/Aqua MODIS Imagery
- Update every 8 days
- Landsat, Sentinel, SAR model are under development

#### **SI MANTAP**



- Development of Paddy Standing Crop (SC) since 2014, continued Maize (2016)
- SI MANTAP (2017) : RS based Information System for Agricultural Crop Monitoring (Paddy, Maize, & Sugarcane) → website & smartphone
- Data used in Landsat 8, MODIS, PALSAR-2 dan Drone







- Government
- Industry
- Crop Insurance



- Crop Monitoring
- Crop Production facility control & management
- Agriculture Infrastucture monitoring & maintenance
- Estimation of Crop Production & Stock
- Mobilization of Crop Products
- Market Price Estimation
- Crop Insurance



#### SIPANDA

- Developed by LAPAN
- Paddy growth monitoring and production estimation
- Terra/Aqua MODIS Imagery
- Update every 8 days
- Landsat, Sentinel, SAR model are under development





# Sampling area

- Developed by BPS/BPPT
- Paddy growth monitoring and production estimation
- Based on paddy field area
- More than 8000 people working on monitoring
- Update every month



### Policy makers concern





Coordination with the Coordinating Minister for Economics Affairs

#### Lewat Data Satelit, Wapres Baru Sadari Kekeliruan Data Beras 20 Tahun Terakhir

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PEMERINTAH akhirnya sepakat menyempurnakan metode penghitungan produksi beras dengan menggunakan data Through satellite data, the vice president realizes the errors of rice data in last 20 years



# **Future challenges**

- Industry Revolution 4.0
- Planet Labs offers imagery with 5-30m resolution daily
- Combination of SAR and Sentinel Data
- Mapservice data sharing



## Conclusions

- Some applications have been developed for paddy and crop monitoring in Indonesia
- Policy maker concern on this monitoring
- Future challenges to be faced





#### Terima kasih

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