SISCrop 2.0

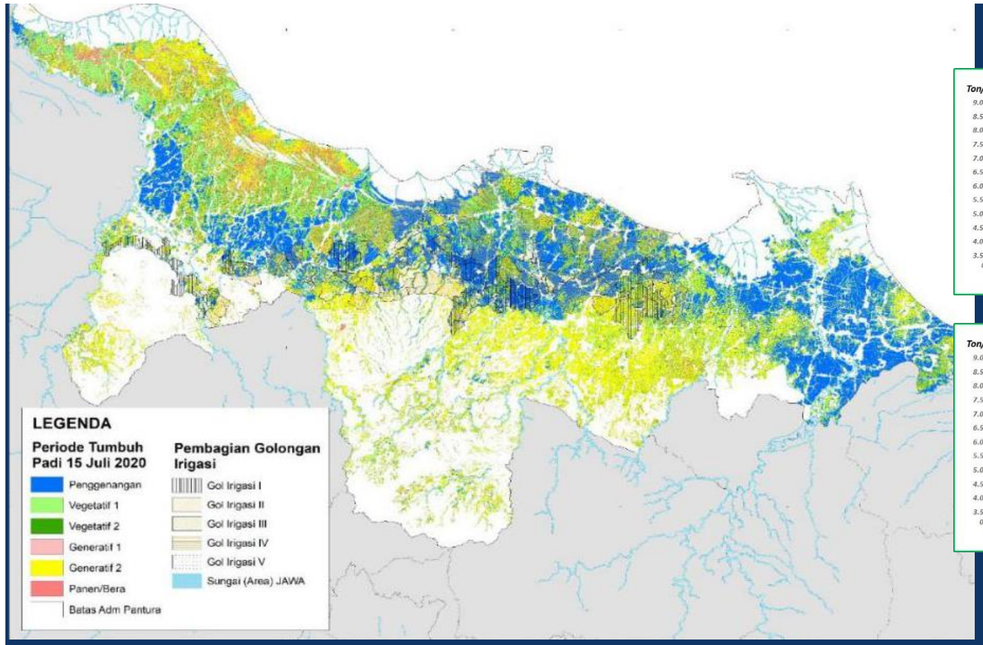
SISTEM INFORMASI STANDING CROP

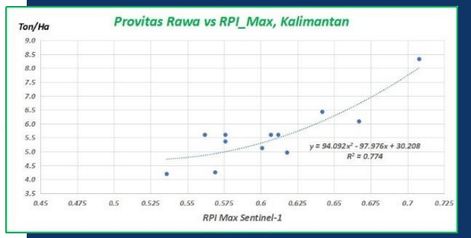
(scs1.bsip.pertanian.go.id)

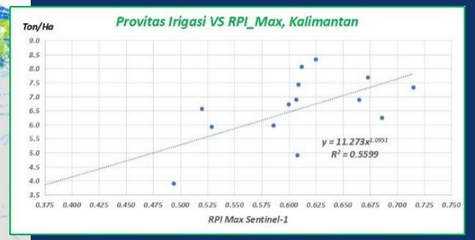
- Radar that free from cloud covering and no time limitation (day and night)
- Updated every 10-15 days, 10 m Spatial Resolution

SISCrop versi 2.0:

- Rice phase growth (planting area, harvested area)
- Provity estimation (Indonesia rice production)
- Planting index estimation







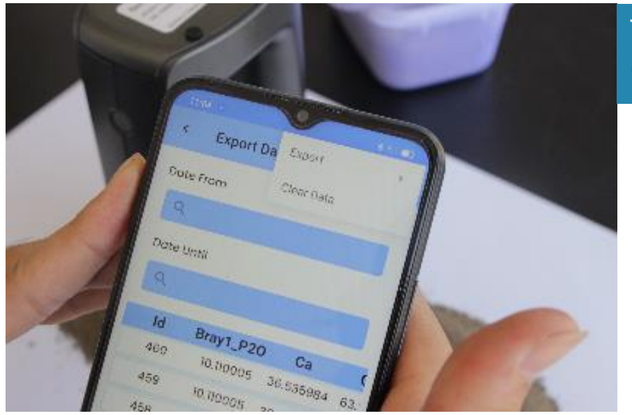
- Breakdown 6 phase: Watering, vegetatif-1, vegetatif-2, generatif-1, generat 2, Harvested/fallows
- Overall Accuracy up to 90,32% (Province) & 90,91% (Regency)
- Provity estimation on 3 type of rice field: irrigation, rain fed, swamp land
- Overall Accuracy up to 81% (according to rice field type on particular islands

Smart Soil Sensing Kit

S3K

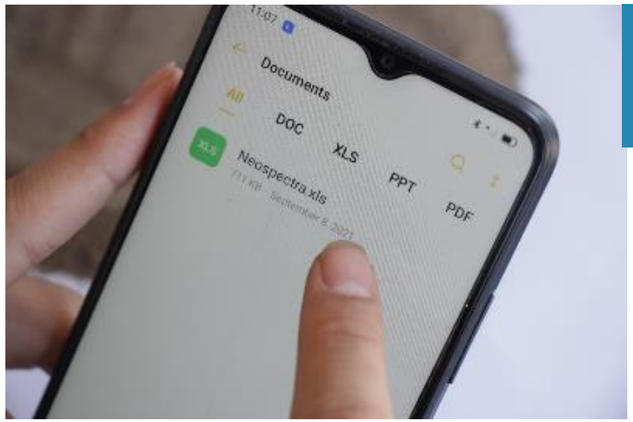
- S3K Ver 1.1 has soft launched in 2021.
- This new version is built with android system-based program.

The Results of Soil Properties



Scanning Process

Downloading and Data Storage



IAAIS

Future Practices Agriculture Production Experience

Sustainable Integrated Farming Management: An Option

	Application Technologies
Rice fields	1. Water management (Intermitten, Alternate wet and drying, Saturated) 2. High yield rice cultivars with low methane emission
Livestock	1. Feed quality + supplement ➔ reducing emission from enteric fermentation 2. Manure management through biogas (methane capture and energy substitution) and organic materials management (sequestration dan fertilizer substitution)
Fertilizer	1. Balance fertilizer (Precise dosage based on the soil test, Substitution of Nitrogen fertilizer with organic fertilizer: reducing N2O emission, increasing carbon stock) 2. Developing carbon farming - In organic fertilizer substitution ➔emission reduction from inorganic fertilizer (especially urea) - Enhancing soil carbon stock - Soil quality improvement (physical , Chemical, Biology) 3. Biochar application → increase soil carbon stock
Swamp Land	1. Water table management 2. Maintaining soil moisture (correlated with fires prevention) → Cover crop system, Intercrop system 3. Non burning land clearing 4. Amelioration

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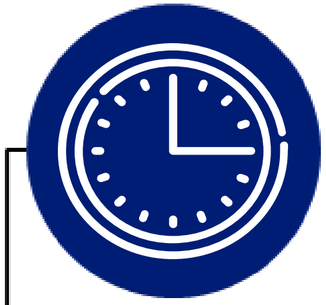
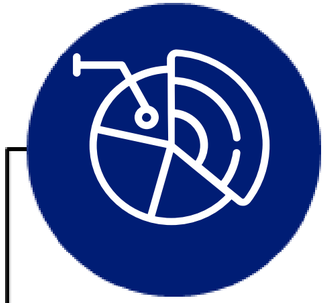
CONSTRAINS AND CHALLENGING

THE MITIGATION ON CLIMATE CHANGE AGRICULTURE SECTOR



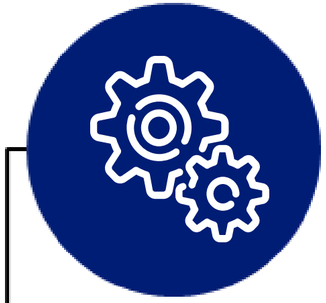
- Challenging on the historical data activity



- Some of Mitigation Action was not calculated yet due to lack of data activity

- The non-government program was not calculated yet

- The MRV need to be developed



- Uncertainty assessment need to be developed for the inventory and mitigation calculation

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FOLLOW UP – open for collaboration

1. Developing the standardization for environmentally friendly agriculture zone/terrain,
2. Developing the standardization for sampling, collecting, measuring and calculating the GHG's
3. Developing the standardization for Measurable Reportable Verifiable system on Agriculture
4. Developing the Specific Emission Factor

5. Developing the source on the data activity collection
6. Baseline review
7. Developing the online calculator emission
8. Developing the Measurable Reportable Verifiable based on satellite

GHG Laboratory Facilities– Crops & Livestock

Automatic system for measuring CH4, CO2 and N2O

Shimadzu GC 2014 for analyzing CH4, CO2 and N2O

GC Varian GHG 450 for Analyzing CO2, CH4, N2O simultaneously equipped with auto injector

Automatic chamber for measuring CH4, CO2 and N2O

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Head box chamber connected to methane analyzer

Methane, CO2 and O2 analyzer connected to head box chambers

MAIN GOALS OF AGRICULTURE DEVELOPMENT

01 Improving food security and sovereignty

02 Increase the added value and competitiveness of agricultural products

03 Increasing the supply of bio-industry and bioenergy raw materials

04 Increase farmers' income and welfare