Sugarcane Area Classification using Remote Sensing and Machine Learning

Consultation Project
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MITR PHOL **KMUTT**

Legend:

- **Spatial Data**
- **Processing task**
- **Final products (data and algorithm)**
- main support by Mathematicians and Computer Programmers, apart of this are mainly supported by Remote Sensing group

START

Multi-Spectral Optical Remote Sensing Imagery
- Sentinel-2
- Landsat 8
- (Any other images?)

Pre-Rocessing
- Geometric Correction
- Radiometric Correction
- (Any other tasks?)

Color Composite

Remote Sensing Indices
- Normalized Difference Vegetation Index (NDVI)
- Enhanced Vegetation Index (EVI)
- (Any other indices?)

Image Classification Tools Development ①

Training Area Sample Dataset
- Support Vector Machine (SVM)
- Random Forest (RF)
- Any other ML algorithms?

Machine Learning (ML)

Classified Image
Land cover classes:
- sugarcane area
- non-sugarcane area

Accuracy Assessment (> 70%?) ②
- Kappa Coefficient
- Any other Method (?)

NO

YES

Final Products

Sugarcane fields area

Improved Sugarcane Area Classification Maps

Improved Sugarcane Area Classification Algorithm implemented using Python or any other language

Accuracy > 70%

Automatic Processing System Development

END