



***Remote Sensing and GIS Applications For  
Agriculture and Precision Farming***

## **Data Collecting in the Paddy Fields with GPS Receiver**

**Paulus Basuki Kuwat Santoso**

GIS support at the Center of Agricultural Data and Information  
of Ministry of Agriculture  
pbks@deptan.go.id, basukisantoso@ymail.com

### **ABSTRACT**

Paddy field is an area that is separated by causeways and can be viewed as spatial data. It can be used as comprehensive and integrated inputs into Geographic Information System to provide spatial data on planted and harvested areas. A GPS receiver is used to calculate coordinate position of a paddy field.

Each plot of paddy fields should be mapped as base map. At this stage, several techniques, particularly remote sensing, satellite image processing, or path tracing and recording by using a GPS receiver were applied. The extent of planting and harvest area is measured by using a GPS receiver. To get a planting area, the area of cropping acreage fallow can be measured, and, subsequently, spatial data which is based on width of a paddy field, will be obtained by measuring the margin. The harvested area is measured by recording areas which has been harvested and which has not been harvested. The harvested area can be obtained by measuring the margin between the planted area and the unharvested area. Based on information on planted area and harvested area, production can be obtained by multiplying the harvested areas by productivity.

This method is applied at village administration level. Accumulation of data of paddy production at all villages in one sub-district shall reflect a total paddy production at subdistrict level, and so forth up to the national level.

*Keywords: Base Map of paddy fields, Planted Area, Harvested Area, GPS receiver*