

# Use of Earth Observation Data in Developing Crop Mask

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# Outline

1. **Background and Introduction**
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# Background and Introduction

- ❖ Kenya relies on agricultural production for supporting local consumption and other processing value chains.
- ❖ With changing climate in a rain-fed dependent agricultural production system, cropping zones are shifting.
- ❖ Decision making requires updated data for proper delineation of cropping areas and extent in agriculture and food security assessments.
- ❖ Earth Observation data can be used to provide updated tools and information on the changing extent of cropping areas to governments and other agricultural stakeholders to assist in their assessments.

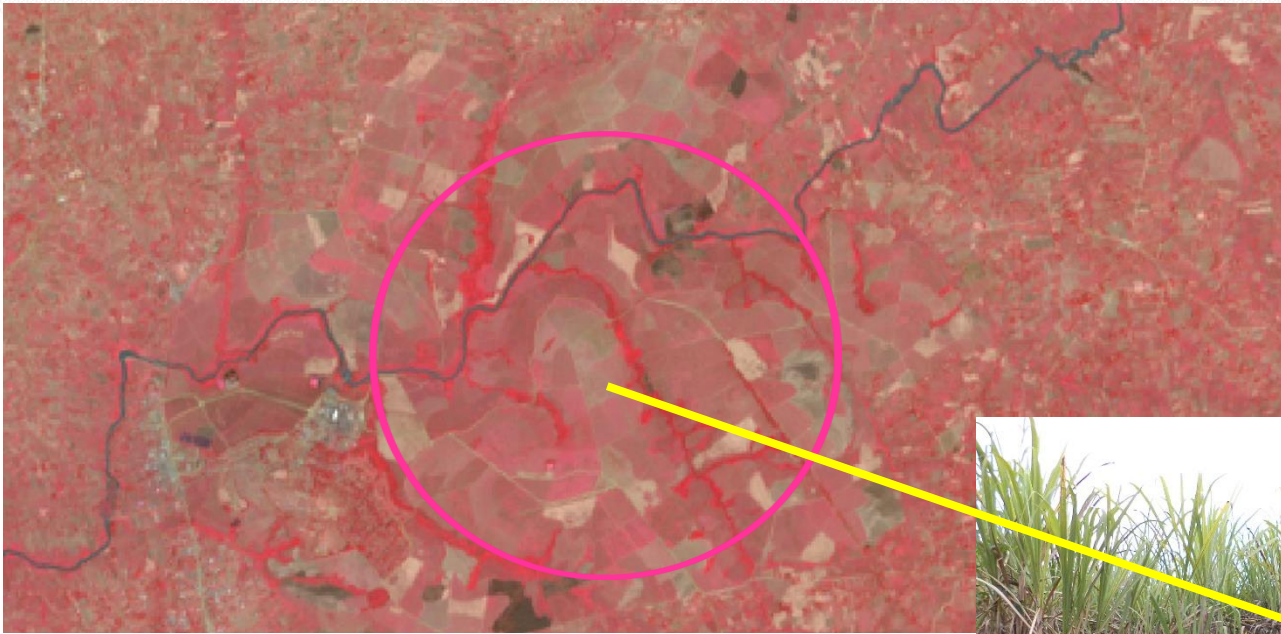
# Developing Updated Crop Mask of Kenya

- Regional Centre for Mapping of Resources for Development (RCMRD) developed an updated crop mask of Kenya using Earth Observation data.
- Medium resolution Landsat satellite imagery was used for nation-wide delineation of cropping areas.
- High resolution GeoEye and WorldView satellite imageries were used for validation in addition to ground fieldwork.

# Approach and Methodology

- Engagement of stakeholders.
- Identification and acquisition of relevant datasets.
- Preliminary satellite imagery analysis.
- Field validation.
- Final satellite imagery analysis.
- Preparation of agricultural crop mask.
- Preparation of agricultural crop land change maps.
- Product dissemination.

# Landsat 8 Image – False Colour Composite



Sugarcane plantation along River Nzoia in Mumias.





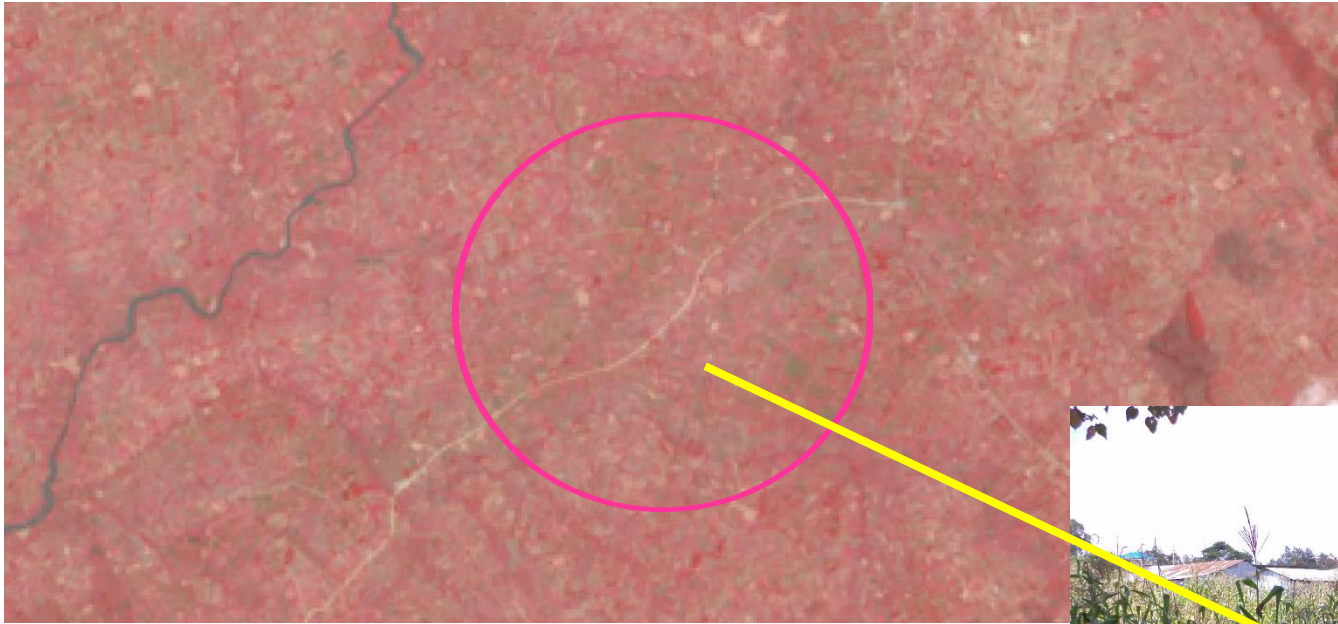
# High Resolution GeoEye 1 Image



Irrigated fruit fields along River Daua in Mandera.



# Landsat 8 Image – False Colour Composite



Maize fields in Malava.

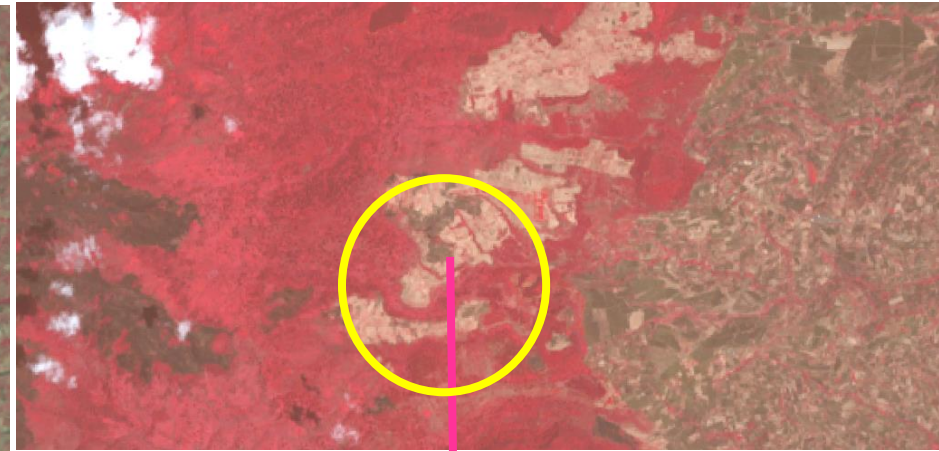




# Change Analysis



2000

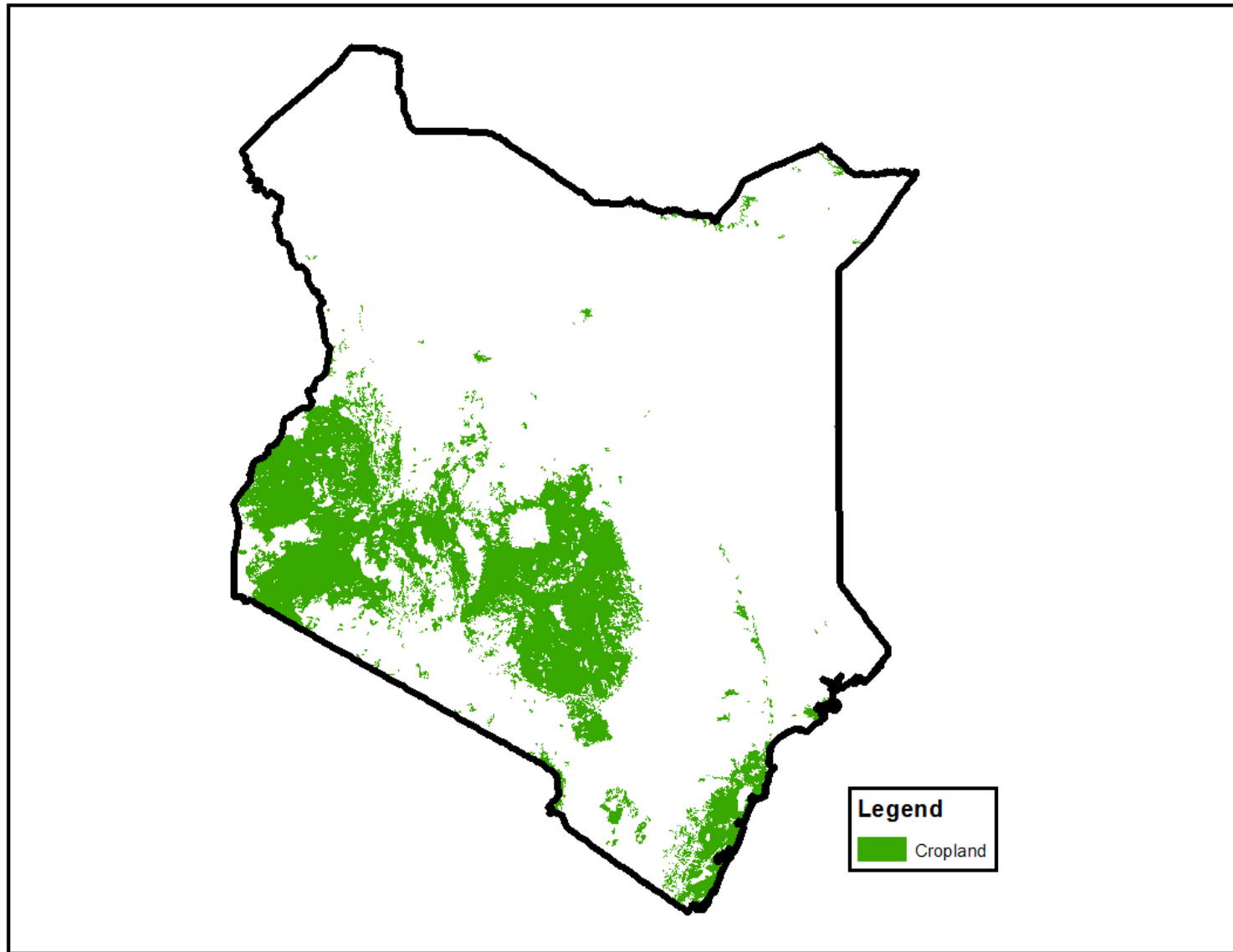


2015

# Outputs

- ✓ Updated crop mask of Kenya.
- ✓ Cropland change maps (2000 – 2015).

# Crop Mask of Kenya



**RCMRD**



# Conclusions

Earth Observation data and tools can help in understanding:

- 1) Trends and rate of change of the cropping areas.
- 2) Impacts of climate change on rainfed dependent agriculture.

**Thank You.**



**RCMRD**