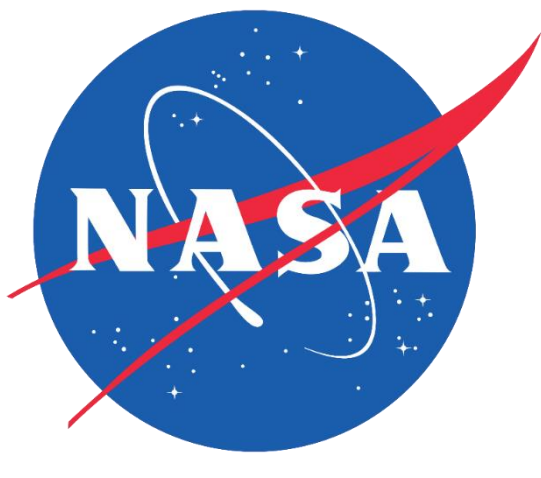




Bhutan Agriculture III

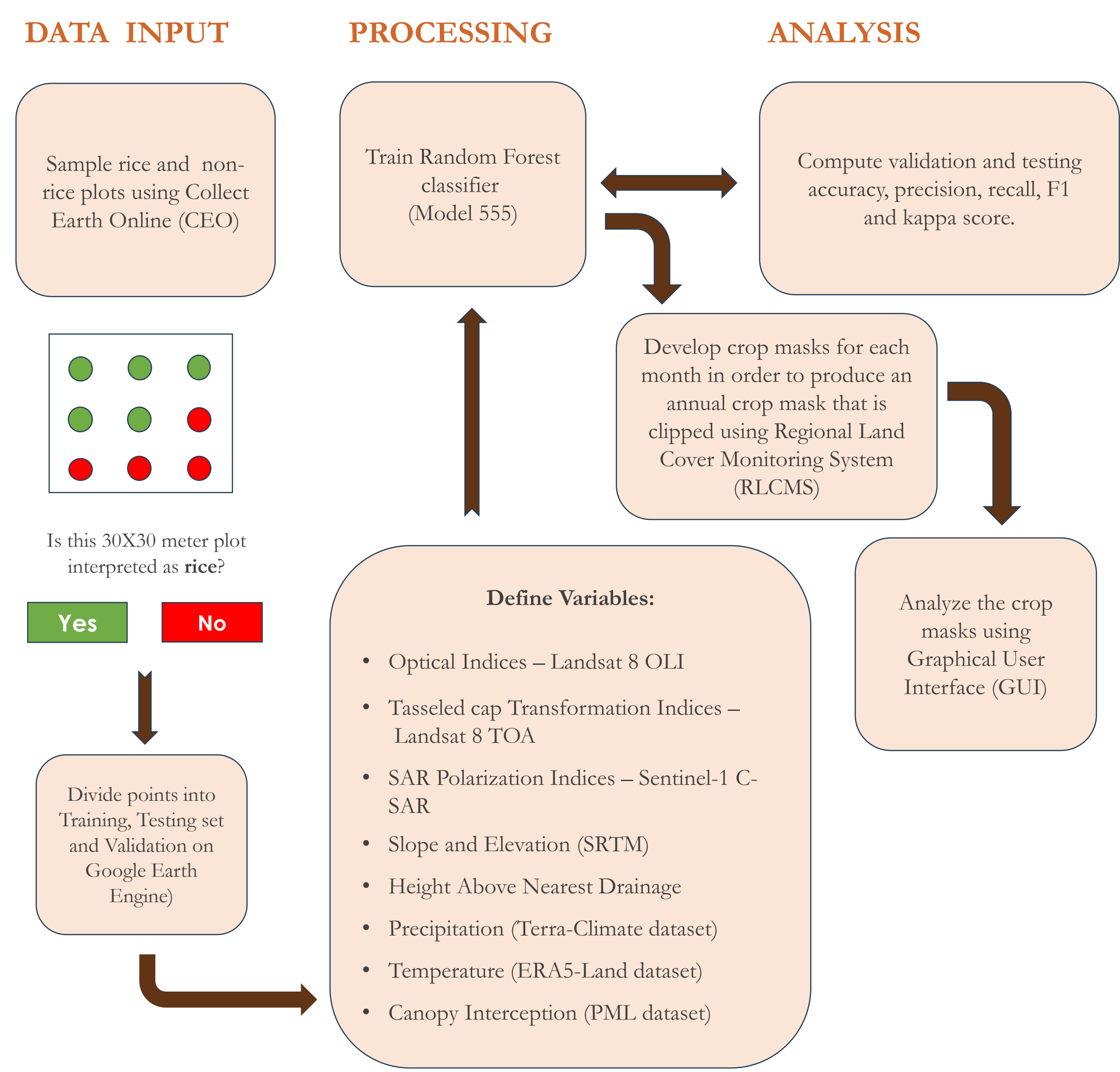
Monitoring Cropland Changes in Bhutan using Remote Sensing to Bolster Food Security and Support Crop Monitoring



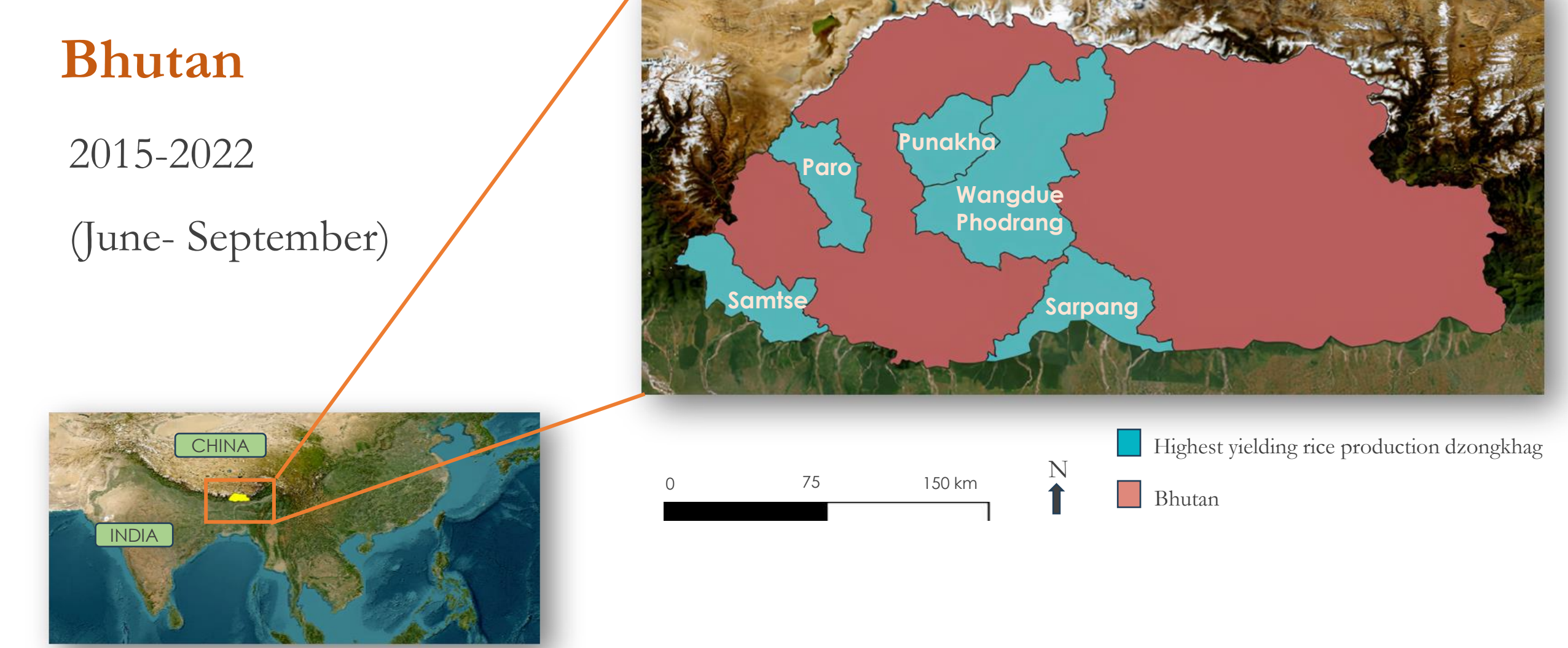
Project Synopsis

This Bhutan Agriculture III builds upon the previous team’s data sampling protocol by comparing the accuracy of different learning methods in Google Earth Engine. This project introduces a cropland change analysis, which will provide local and regional information about how cropland areas are changing across Bhutan. The project utilizes Landsat, and Sentinel data to create end products that support the future of farming in Bhutan. The end products will be used to inform agricultural decisions within the country, improve the efficiency of farming, and support future research.

Methodology



Study Area



Team Members



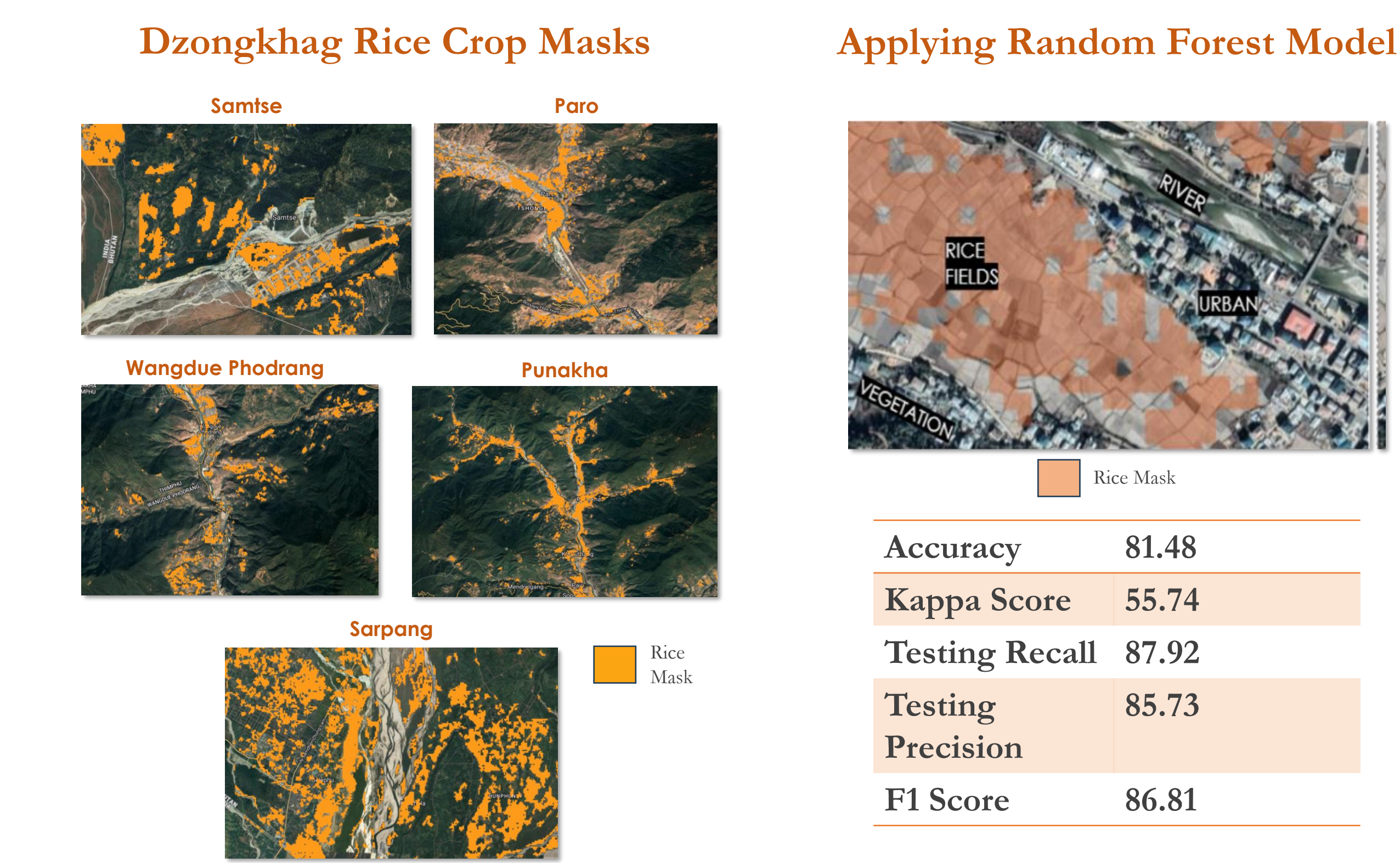
Objectives

- Optimize annual rice crop mask for better food security and crop monitoring
- Enhance the accuracy of data samples
- Identity farmland area change

Earth Observations



Results



Conclusions

- This methodology along with the support from NASA SERVIR created an accurate aggregated crop mask for each individual year from 2016 to 2022 using Random Forest classifier.
- The model predicted an increase in rice area from 2016 to 2017 with a drop in 2019 and a surge back in 2020.

Project Partners

- Department of Agriculture (Bhutan)
- Department of Agriculture, National Plant Protection Centre (Bhutan)
- Department of Agriculture, Agricultural Research and Development Centre (Bhutan)
- National Statistics Bureau (Bhutan)
- Ugyen Wangchuck Institute for Conservation and Environment Research
- Bhutan Foundation

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Previous Contributors: Karma Thinley Dorjee, Tenzin Wangmo, Wangdrak Dorji, Yeshey Seldon, Sherub Dolma and Kusal Khandal

Fellow: Laramie Plott (NASA DEVELOP – MSFC) and Amanda Clayton (NASA NPO)

Science Advisors: Kenton Ross, NASA Langley Research Center (Science Advisor), Sean McCartney, NASA Goddard Space Flight Center (Science Advisor), Robert Griffin, University of Alabama Huntsville (Science Advisor), and Jeffrey Luvall, NASA Marshall Space Flight Center (Science Advisor)

NASA SERVIR: Aparna R. Phalke, Timothy Mayer, Marcus Taylor Hallett