

# GIS Generated Recommendation Domains for scaling crop varieties in Tanzania

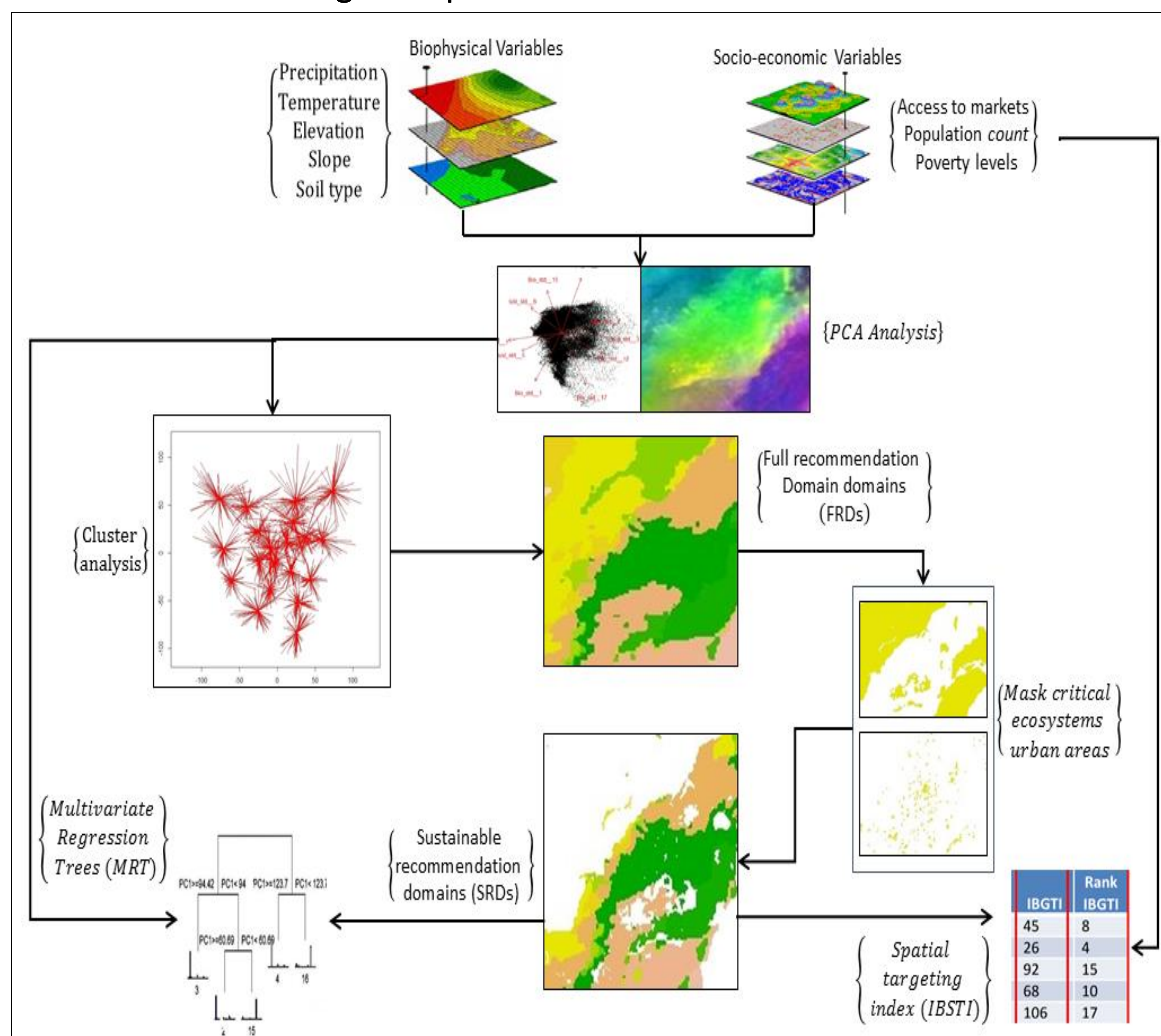


RESEARCH PROGRAM ON Integrated Systems for the Humid Tropics

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## Introducing the legacy product

- Sections of landscape with similar biophysical and socio-economic characteristics are referred to as recommendation domains
- Scaling technologies in sites with similar bio-socio-economic characteristics enhances the potential of adoption
- We present a geospatial framework comprising of harmonised tools for identifying recommendation domains for crop varieties:**
  - Kmeans clustering algorithm in R used to delineate homogenous zones from biophysical & socio-economic gridded layers
  - Critical ecosystems (nature reserves & wetlands) masked from generated zones to maintain biodiversity & ecosystem services
  - An Impact Based Spatial Targeting Index (IBSTI) for priority setting in scaling interventions
  - Suitability of candidate crop varieties in generated zones determined using extrapolation Detection tool



## Utility of the legacy product

- The framework is a spatial targeting tool for matching technologies to suitable bio-socio-economic environments to:
  - Enhance adoption of technologies
  - Enhance efficient allocation of limited resources
  - Reduce risks of failure
- Guiding extension agencies to formulate evidence based policies for scaling sustainable intensification (S.I.) technologies
- Ex-ante estimation of potential impact of scaling intervention

## How does it work?

- Freely available gridded bio-socioeconomic layers processed & analyzed using geostatistical algorithms programmed in R

## Key contact

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## Results and outputs

Figure 1: Generated recommendation domains in Feed the Future zone in Tanzania. The relatively homogenous zones could be targeted for scaling different sustainable intensification technologies

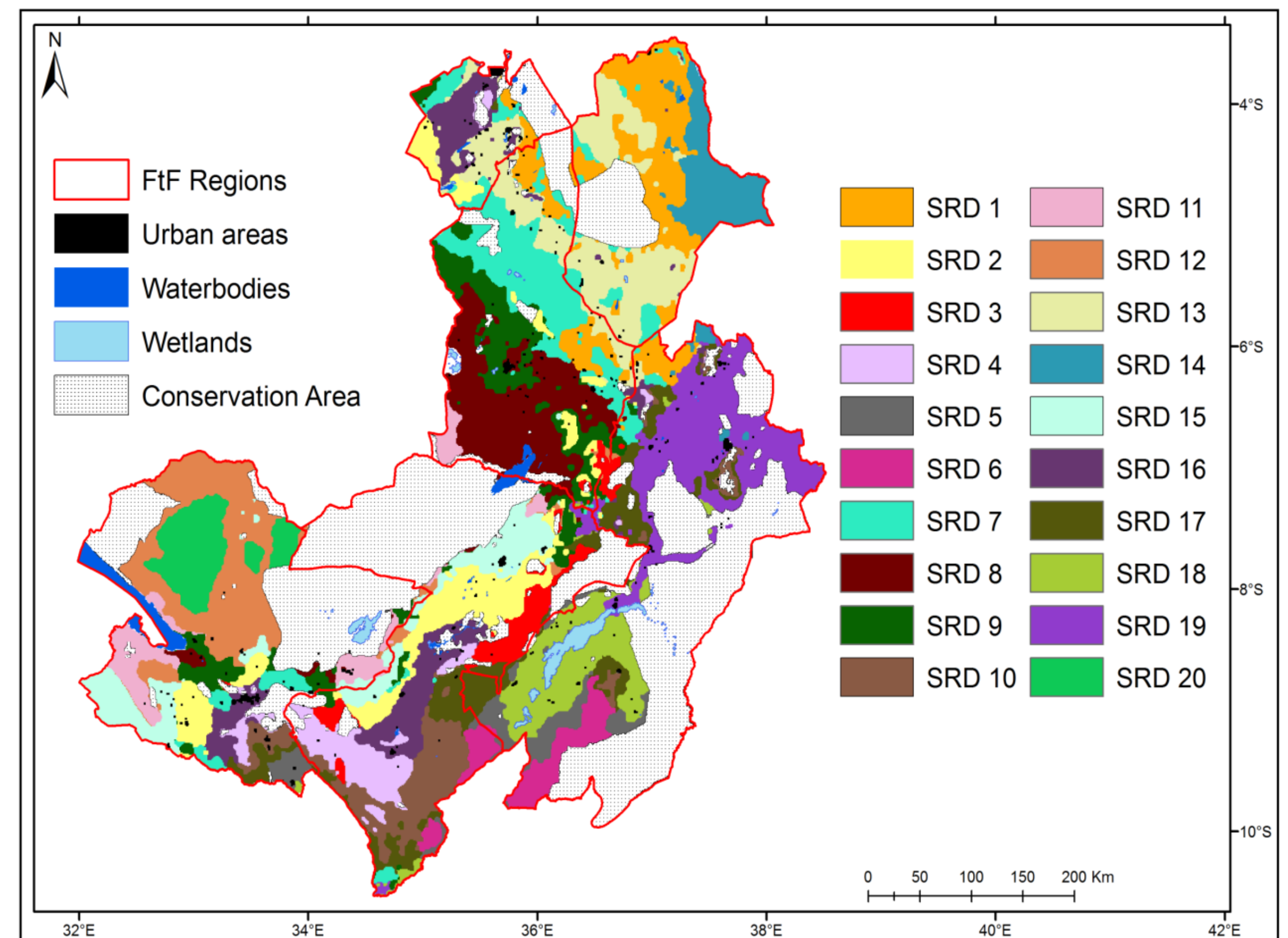
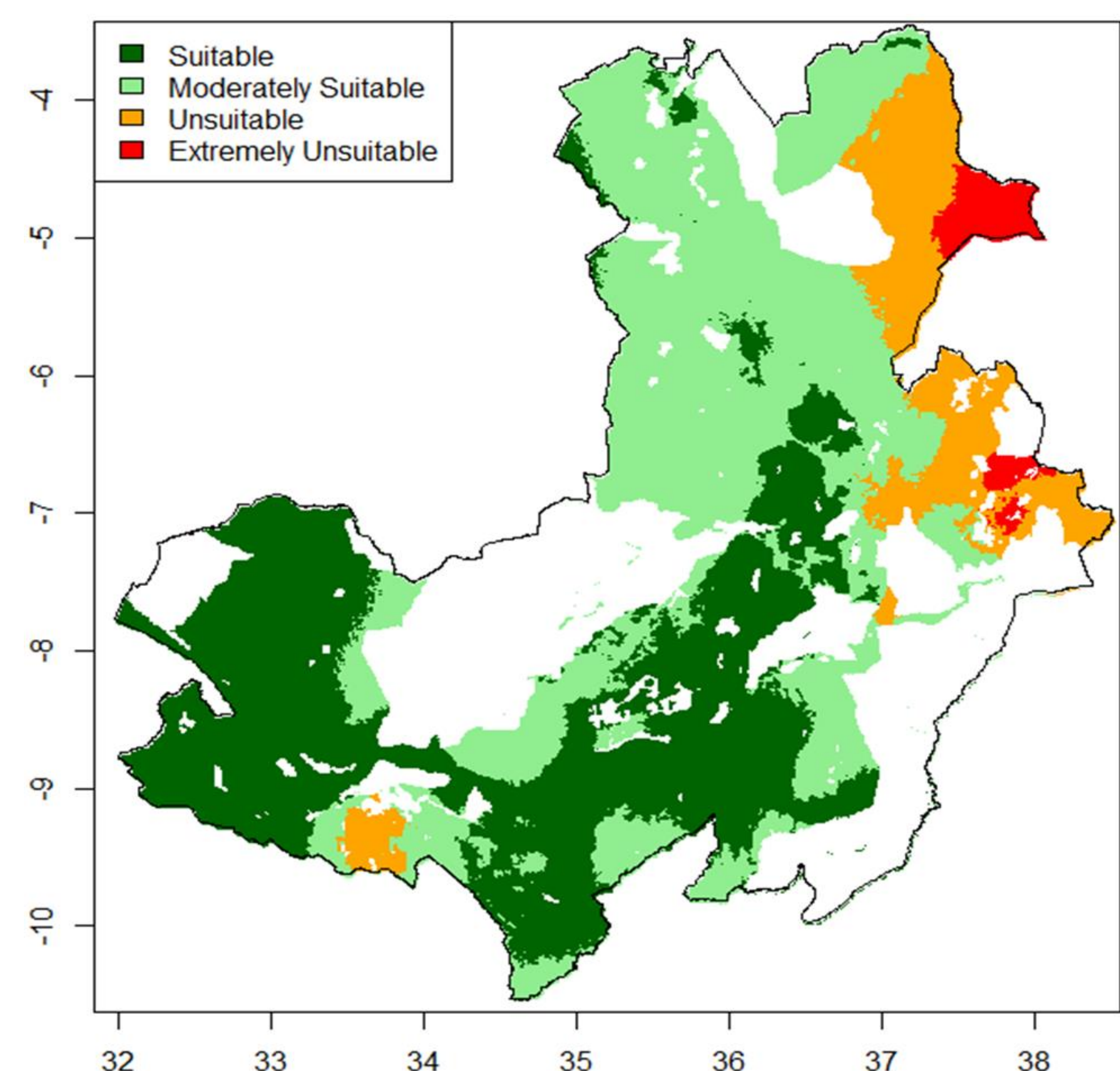


Figure 2. Suitability gradient for SC719 maize variety



## Who is the legacy product useful for?

- Extension & development agents (including CRPs) interested in scaling technologies

## Key partners

- The product was developed by Africa RISING-NAFAKA partnership project in Tanzania that is led by IITA. Other CRP partners involved in design or publication of the product include CIAT and IFPRI.



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