

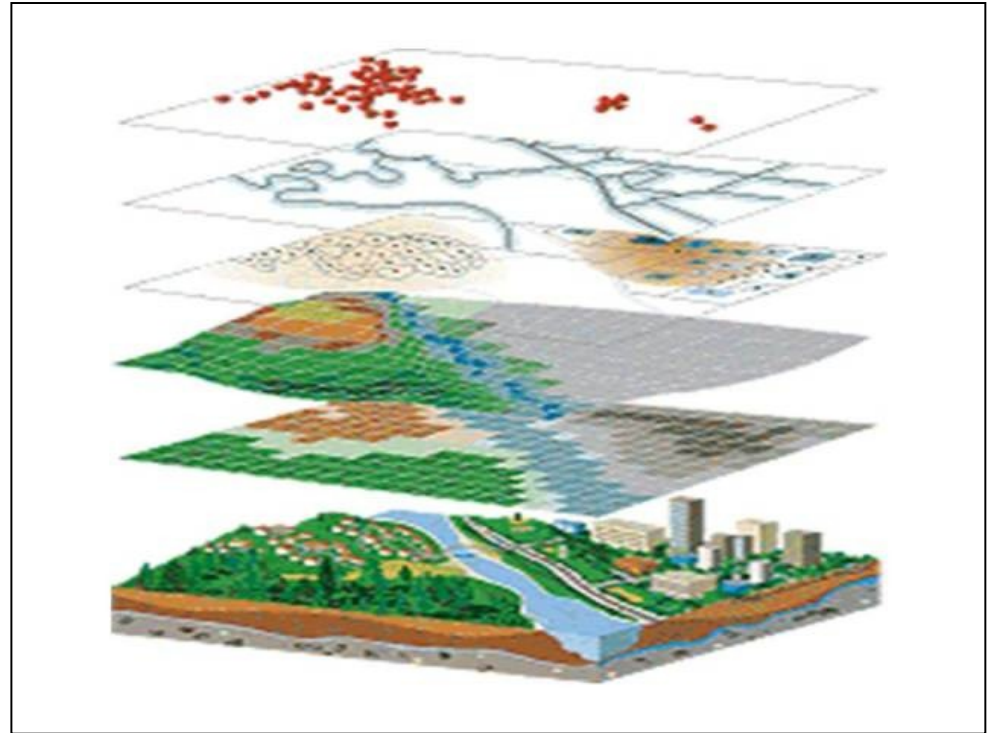
AGRICULTURE DEVELOPMENT DOMAINS [ADD]

Analytical Approach using GIS

NARI Programme Planning & Formulation

Geographic Information Systems (GIS)?

- ▶ Computer based map linked database system
- ▶ Information sets kept in Layers

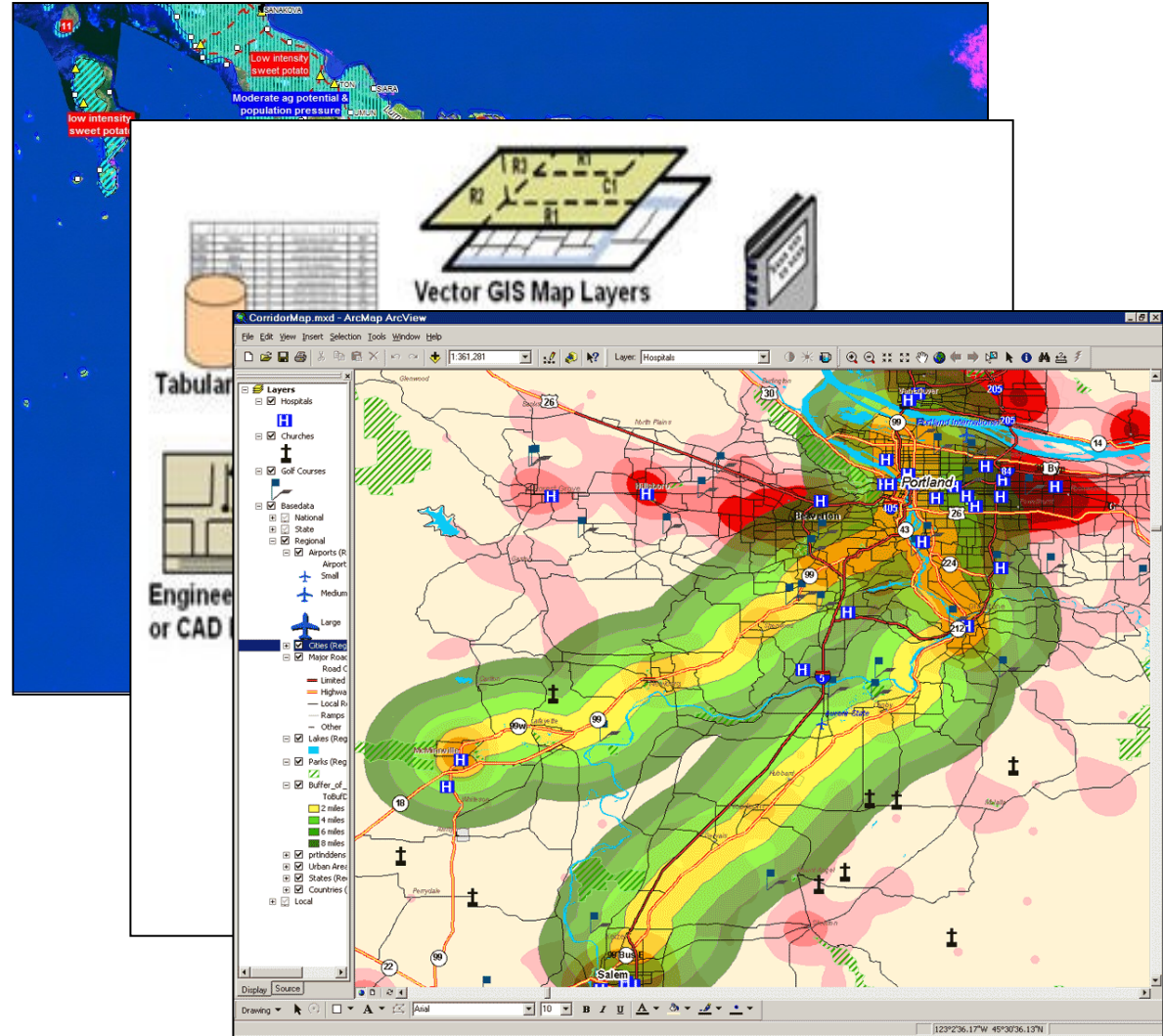


A Complete GIS

Visualization *display spatial data as a map*

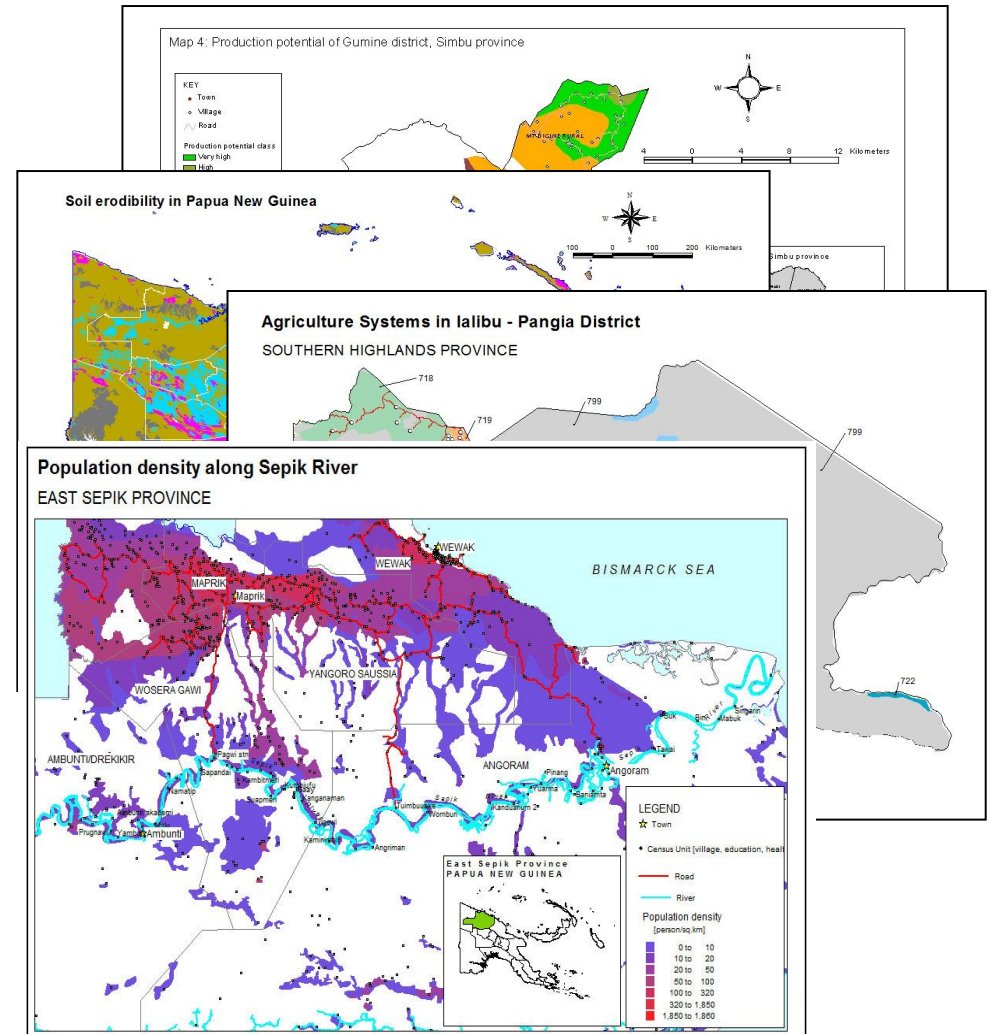
Database Management *store and organize spatial data*

Spatial Analysis *examine and interpret spatial data*



Utility for Agriculture R & D

- Suitability mapping
- Risk mapping
- Biodiversity mapping
- Population or Demographic studies
- Strategic planning for R & D



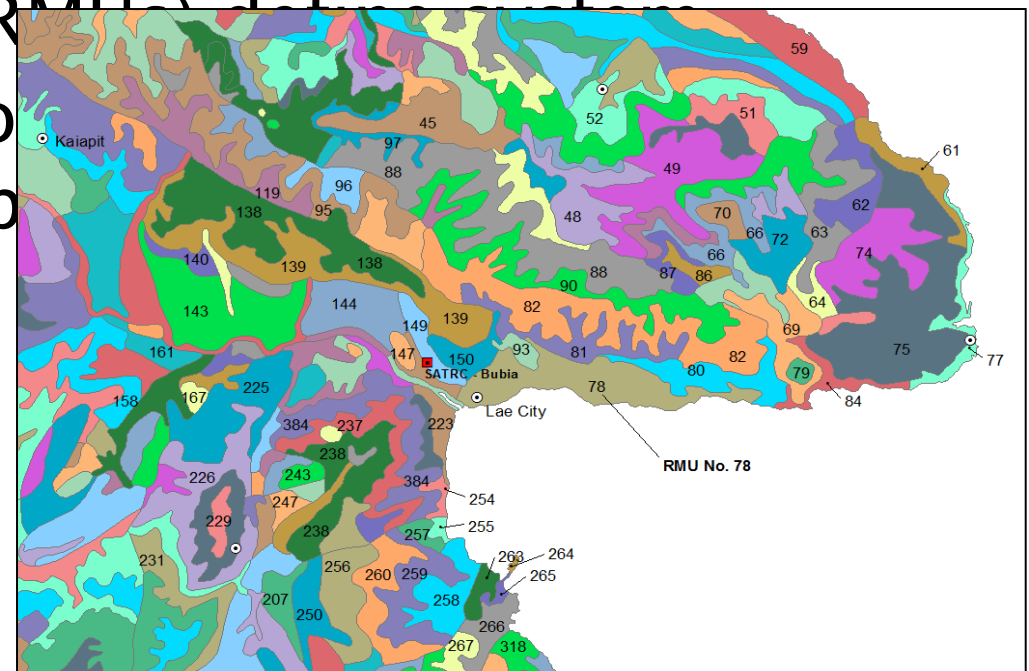
PNG GIS DATABASES

Primary datasets available are;

1. Papua New Guinea Resource Information Systems (PNGRIS)
2. Mapping Agriculture Systems Project (MASP)

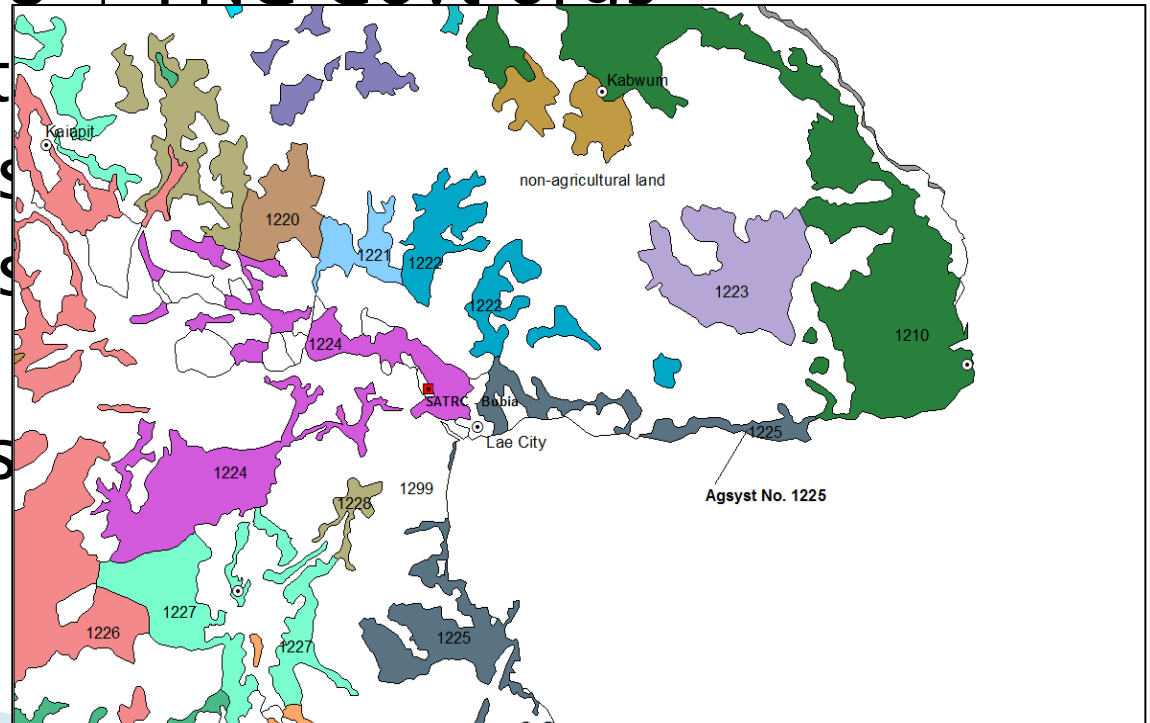
PNGRIS

- National inventory of PNG's natural resources
- Developed CSIRO Australia and GO PNG through AusAID
- 1:500,000 scale data
- Aerial photo interpretation and field observations
- Resource Mapping Units (RMUs) – Land Classification
- RMU – [landform, relief, rock, soil, vegetation, climate, mean annual rainfall and potential]
- 4555 RMUs in PNGRIS




MASP

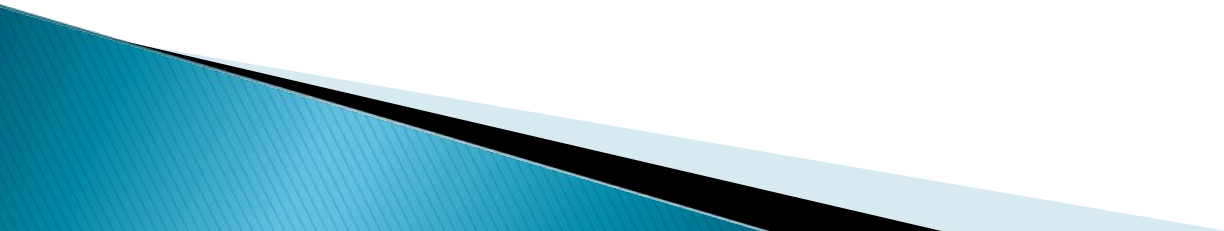
- National inventory – smallholder agricultural information
 - Developed in 1995
 - AusAID funded– ANU + PNG Govt orgs
 - 1:500 000 scale data
 - Agricultural Systems
 - Agricultural Systems agriculture features
 - 355 Agricultural Sys
-




Some Facts about PNGRIS and MASP

- ▶ National or district level planning
 - ▶ Information reliability
 - Less : localised data e.g. soil, slope.
 - More: homogenous data over large areas: landform,
 - ▶ PNGRIS and MASP are compatible
 - ▶ Ground proofing needed
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Constructing the Agriculture Development Domains [ADDs]



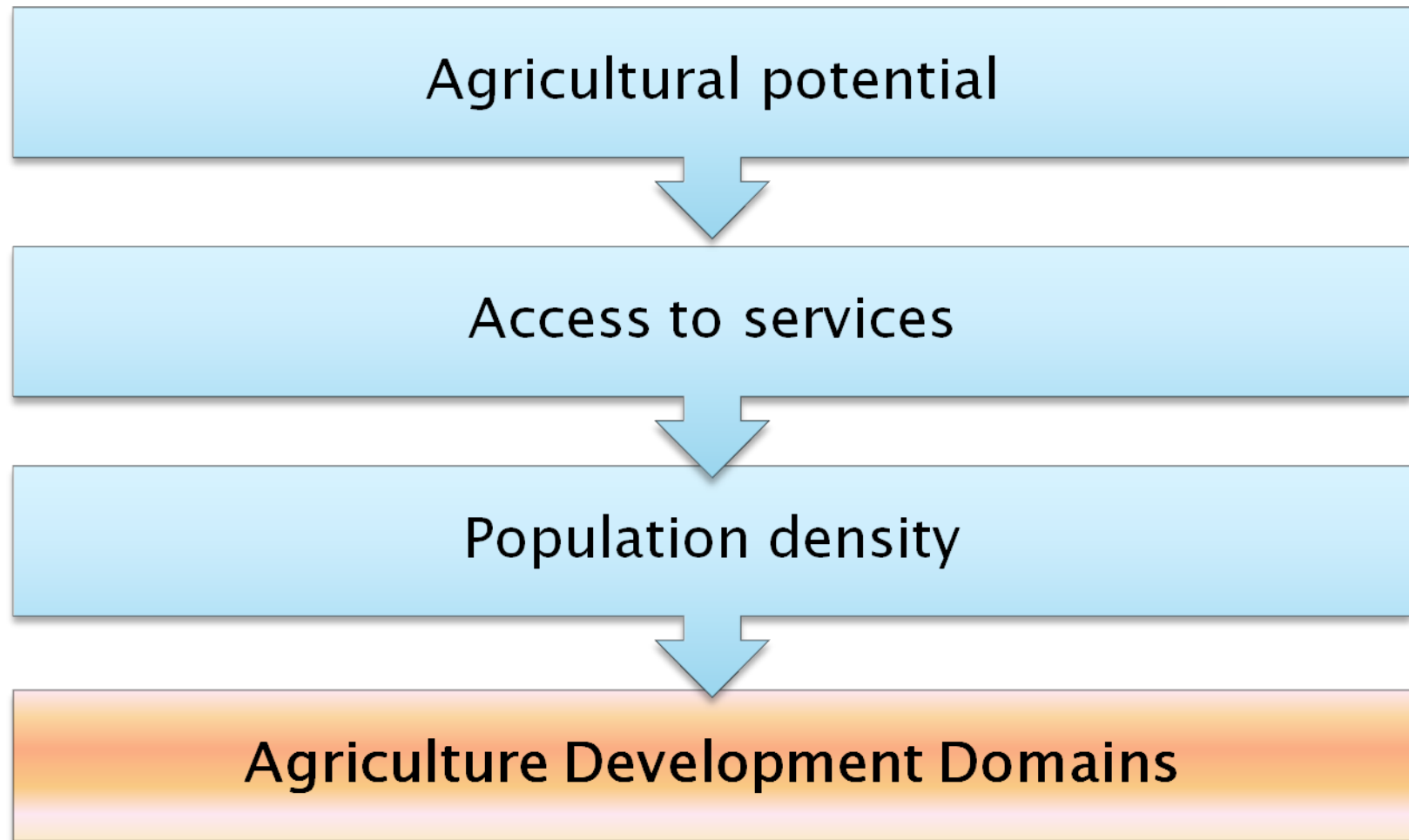
Context

- ▶ PNGs Diversity biophysical and socio-economic conditions
 - ▶ NARIs complex Mandate – 85% of PNGs rural subsistence farmers
 - ▶ How to Target?
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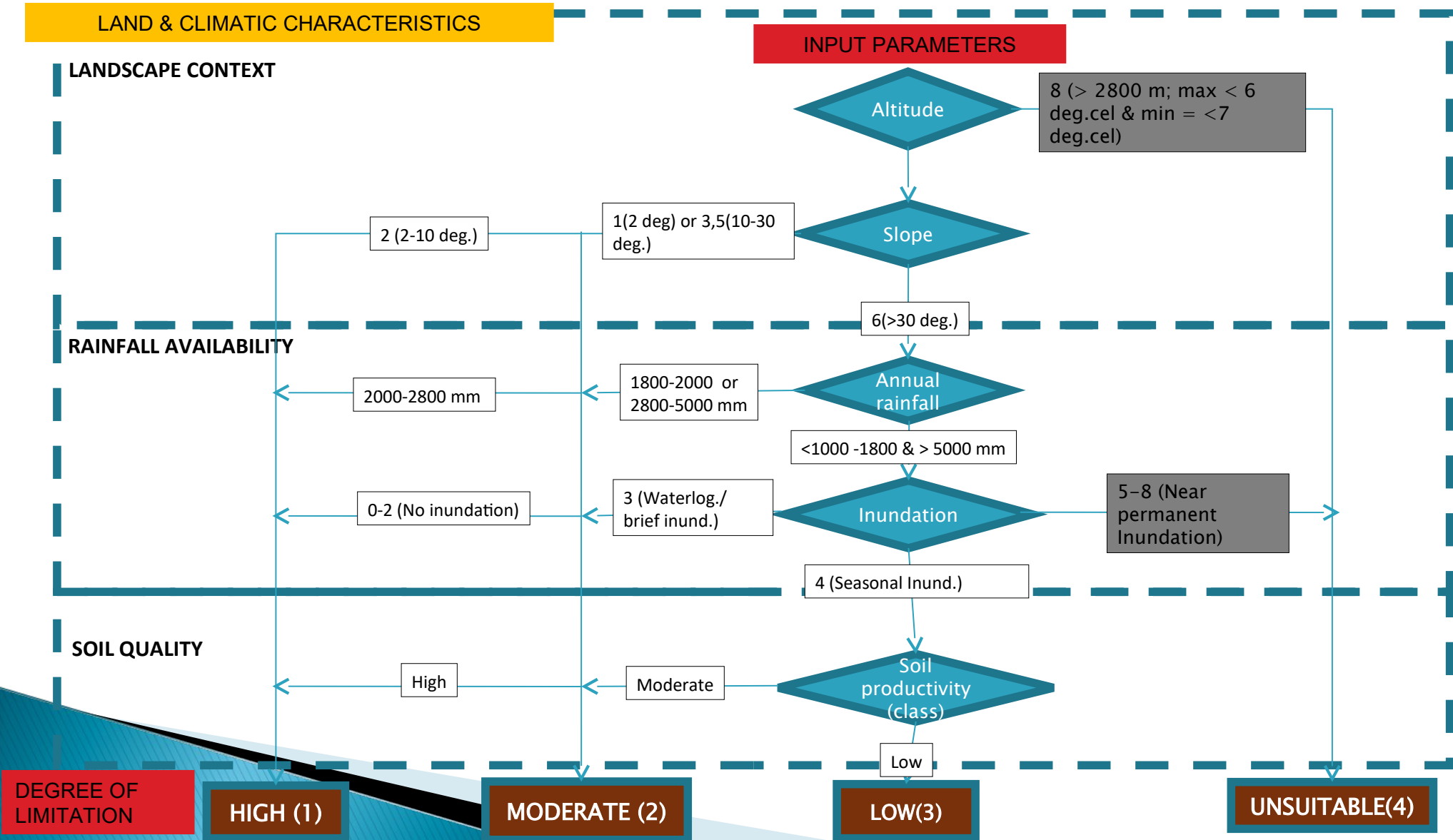
The Approach

- ▶ Appreciate pattern of subsistence Agriculture in PNG
 - ▶ Visualise PNG Agriculture
 - ▶ PNG agriculture groups/regions homogenous areas – “Agriculture Development Domains (ADD)”
 - ▶ ADDs proxy Farming Communities
 - ▶ An ADD has different connotations to Ag development needs
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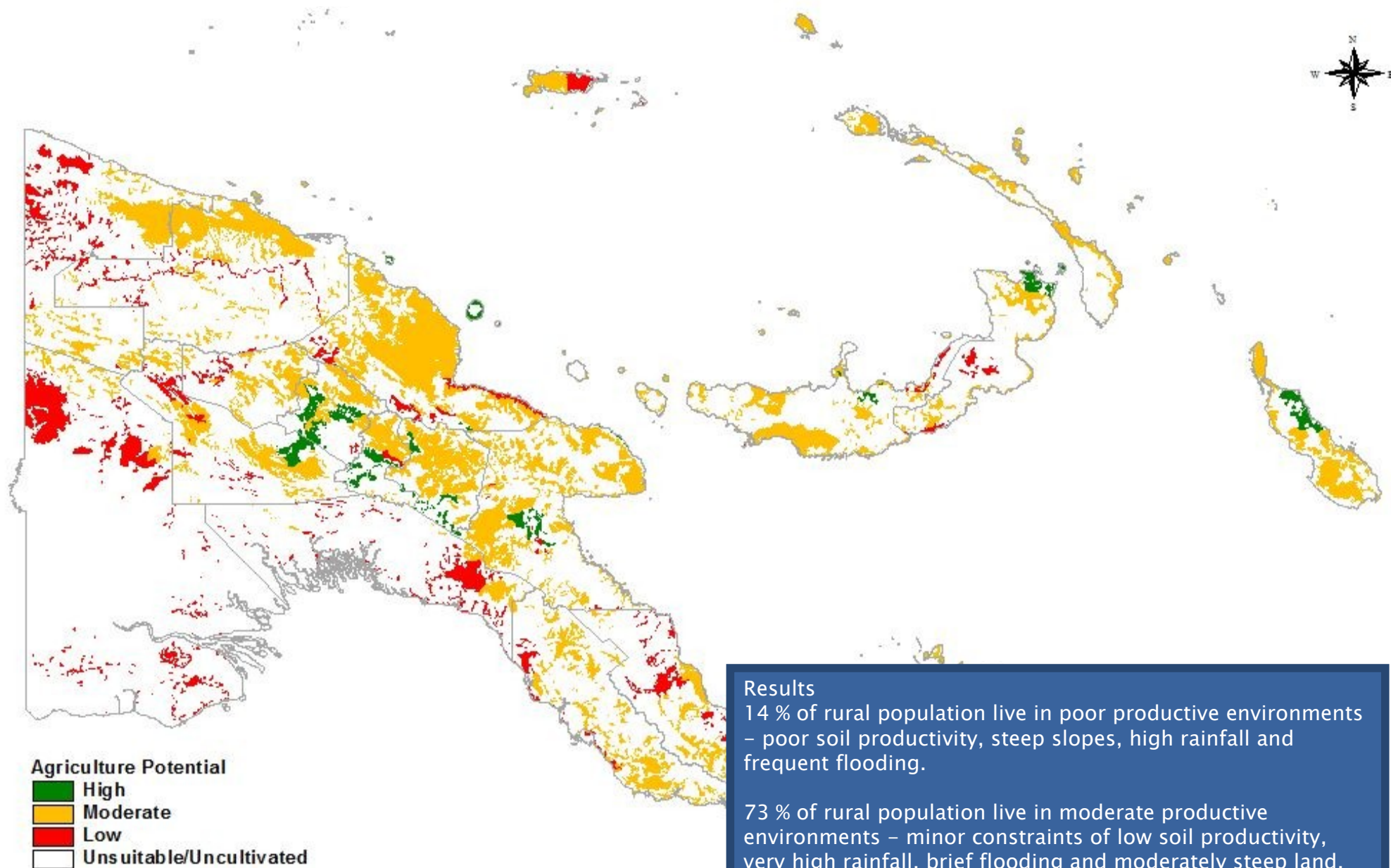
Agriculture Development Domains Framework



Agriculture potential

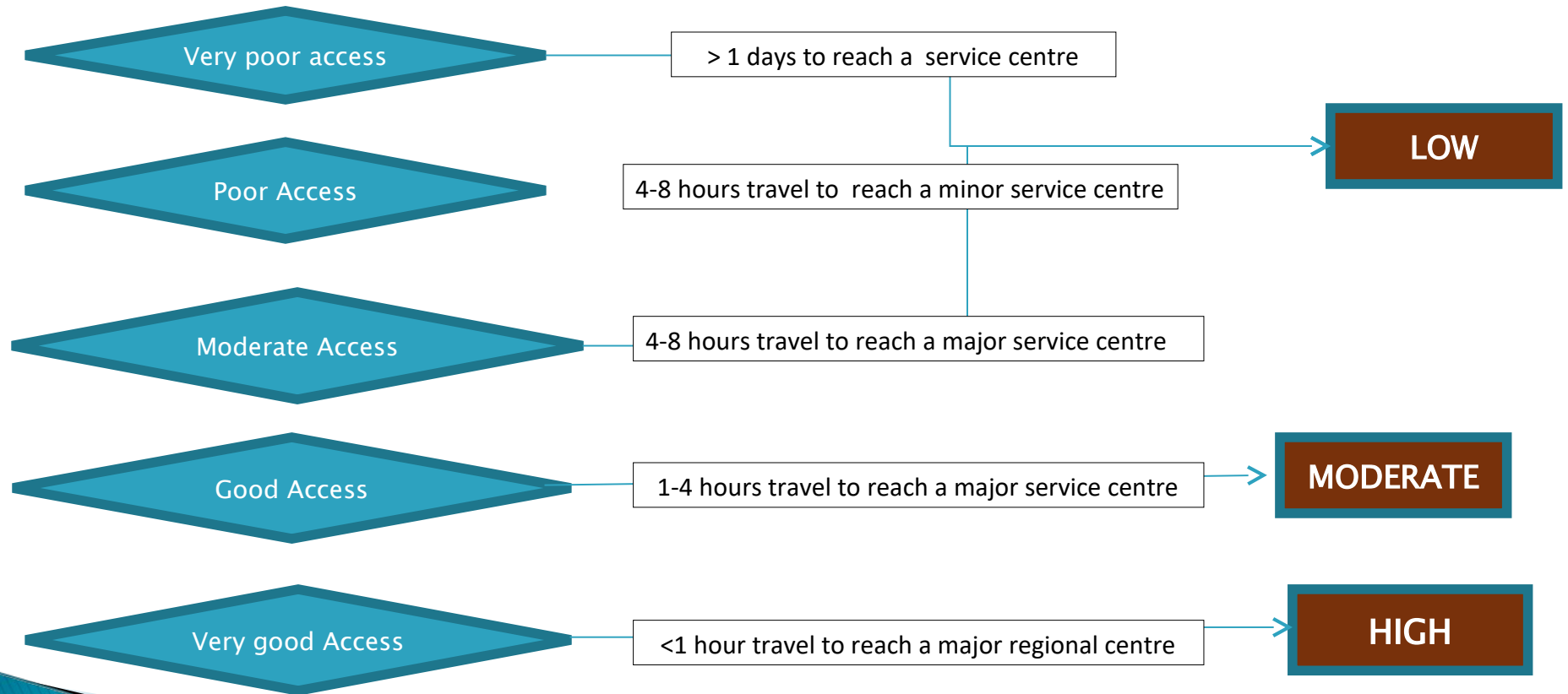


Agriculture potential for staple crops in PNG

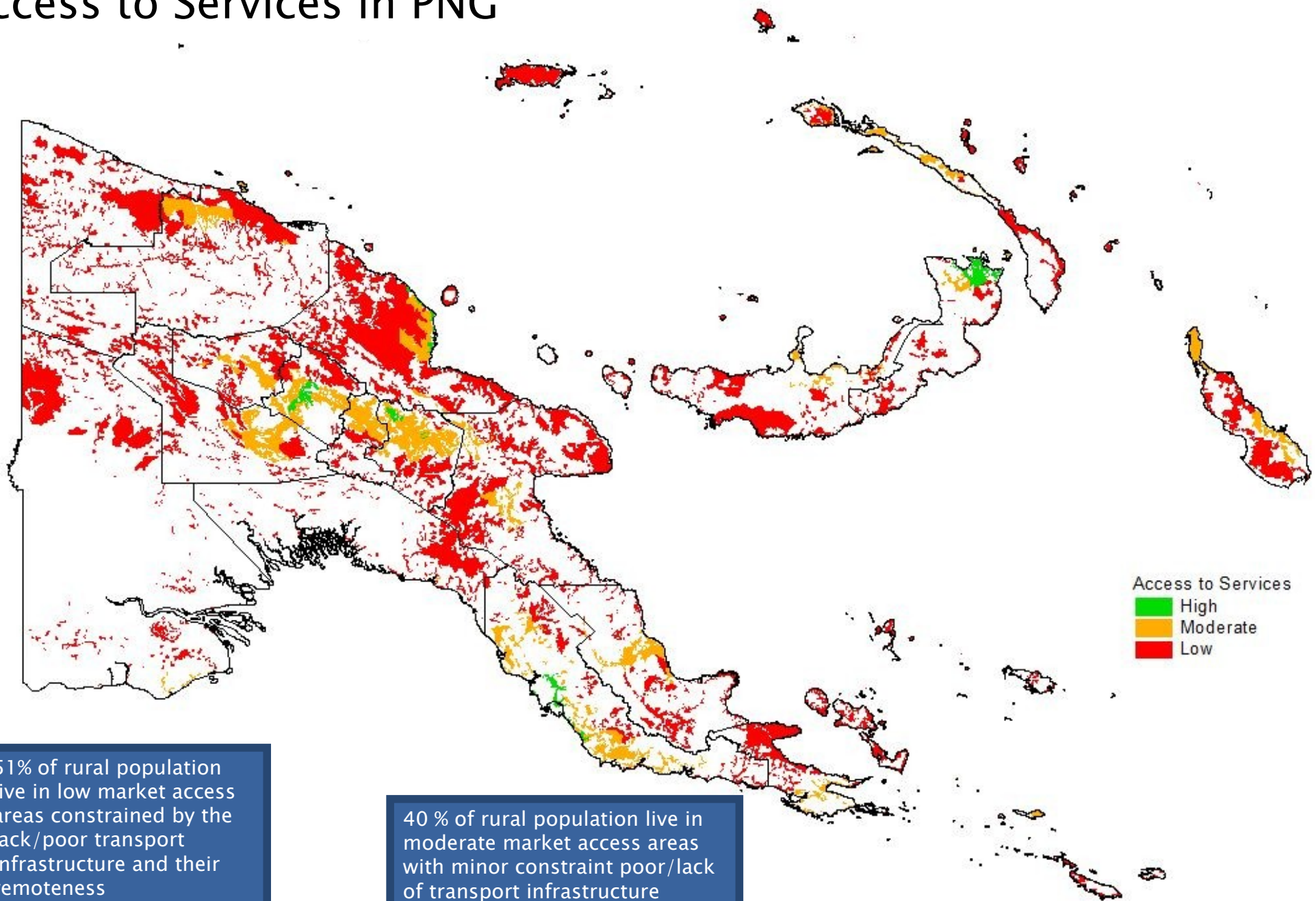


Access to services

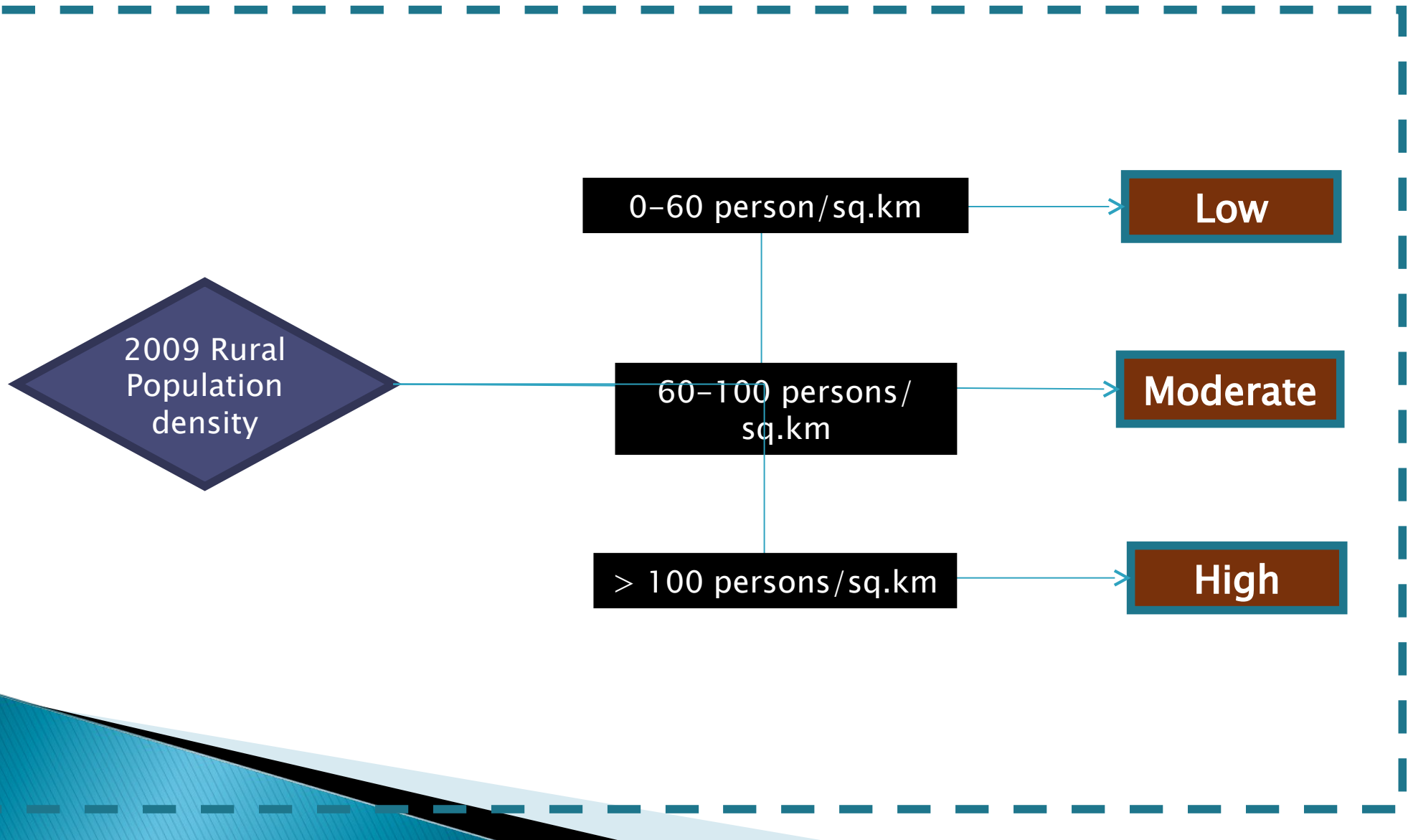
Physical Access to service centres



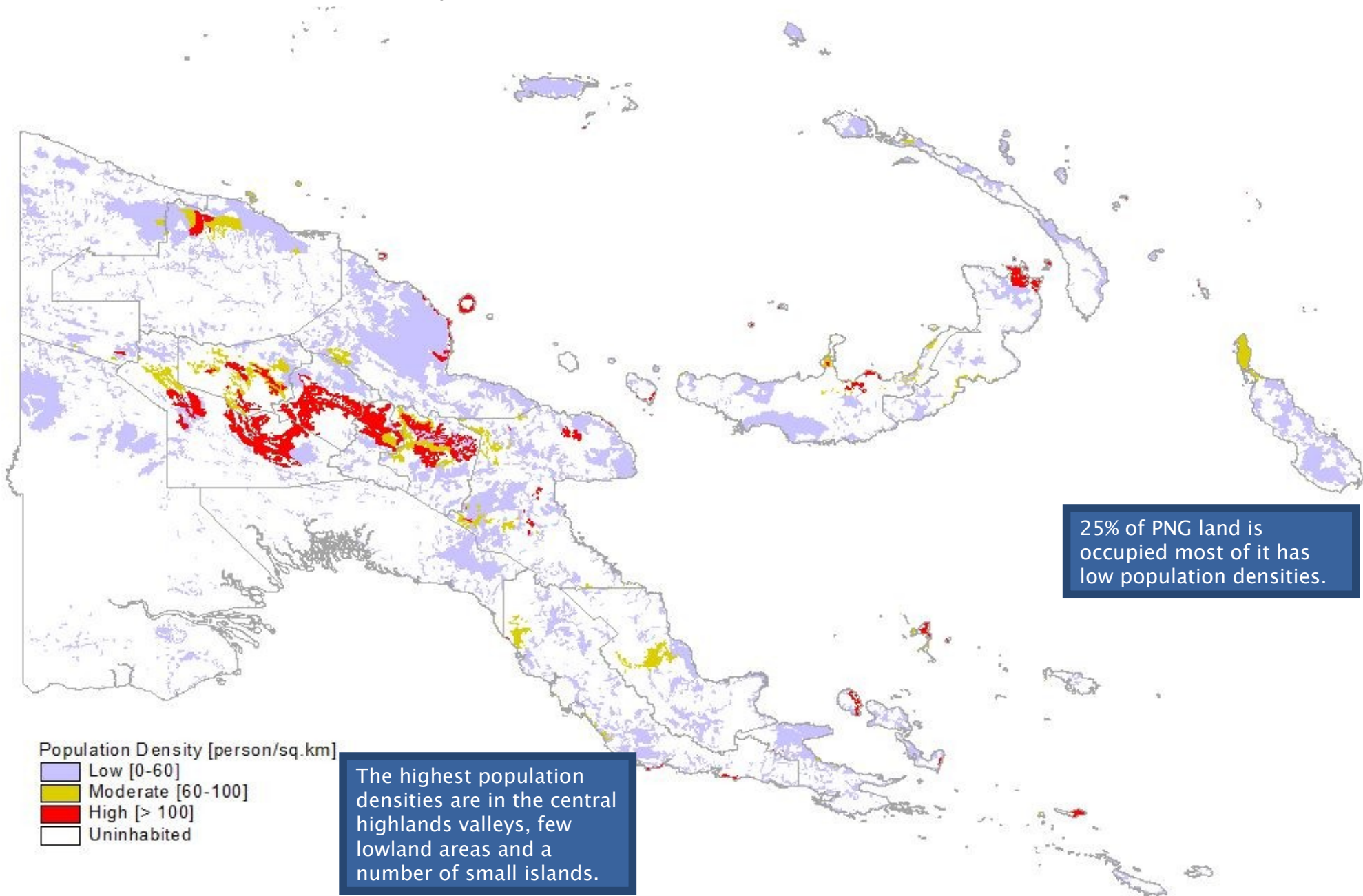
Access to Services in PNG



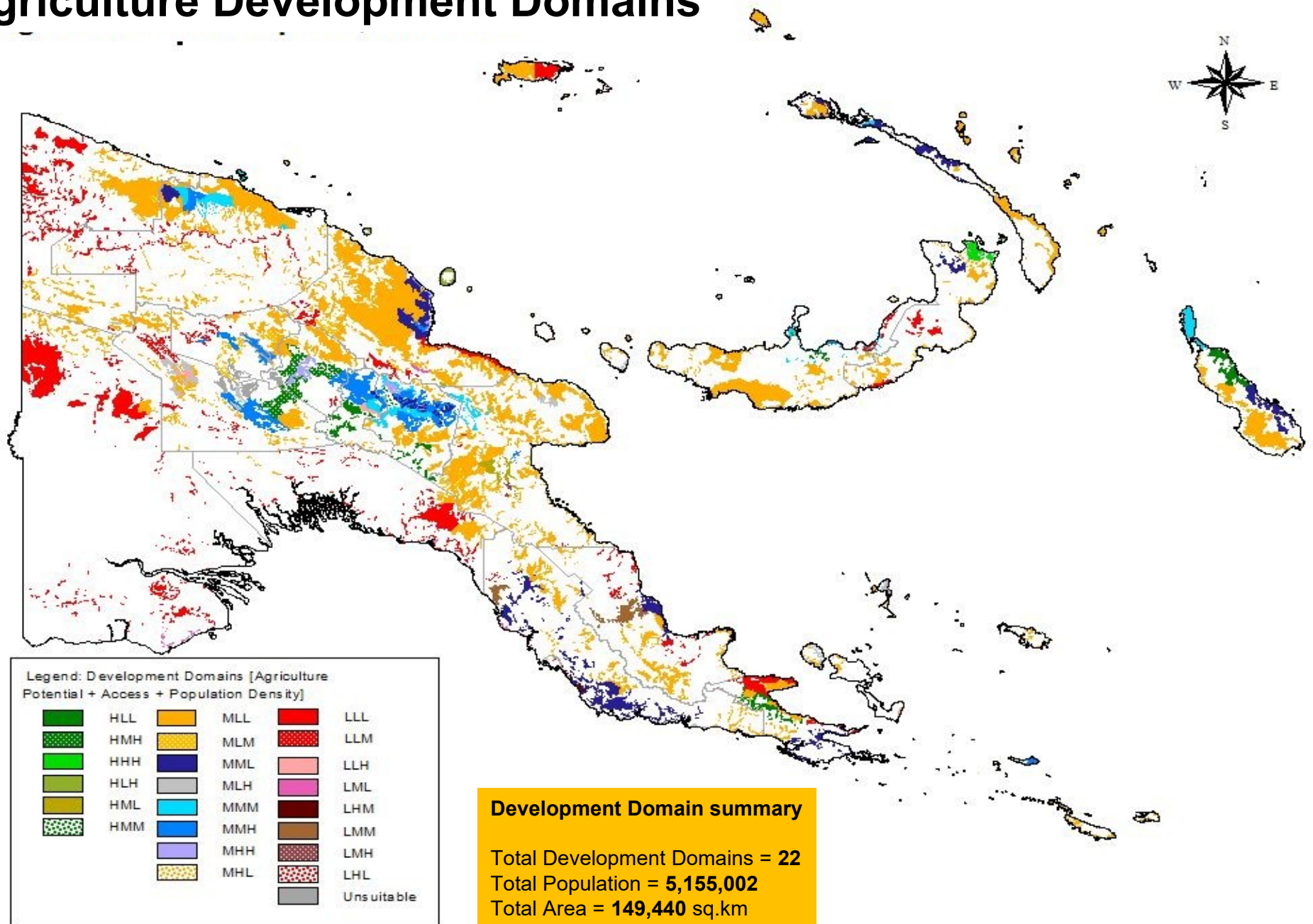
Population density



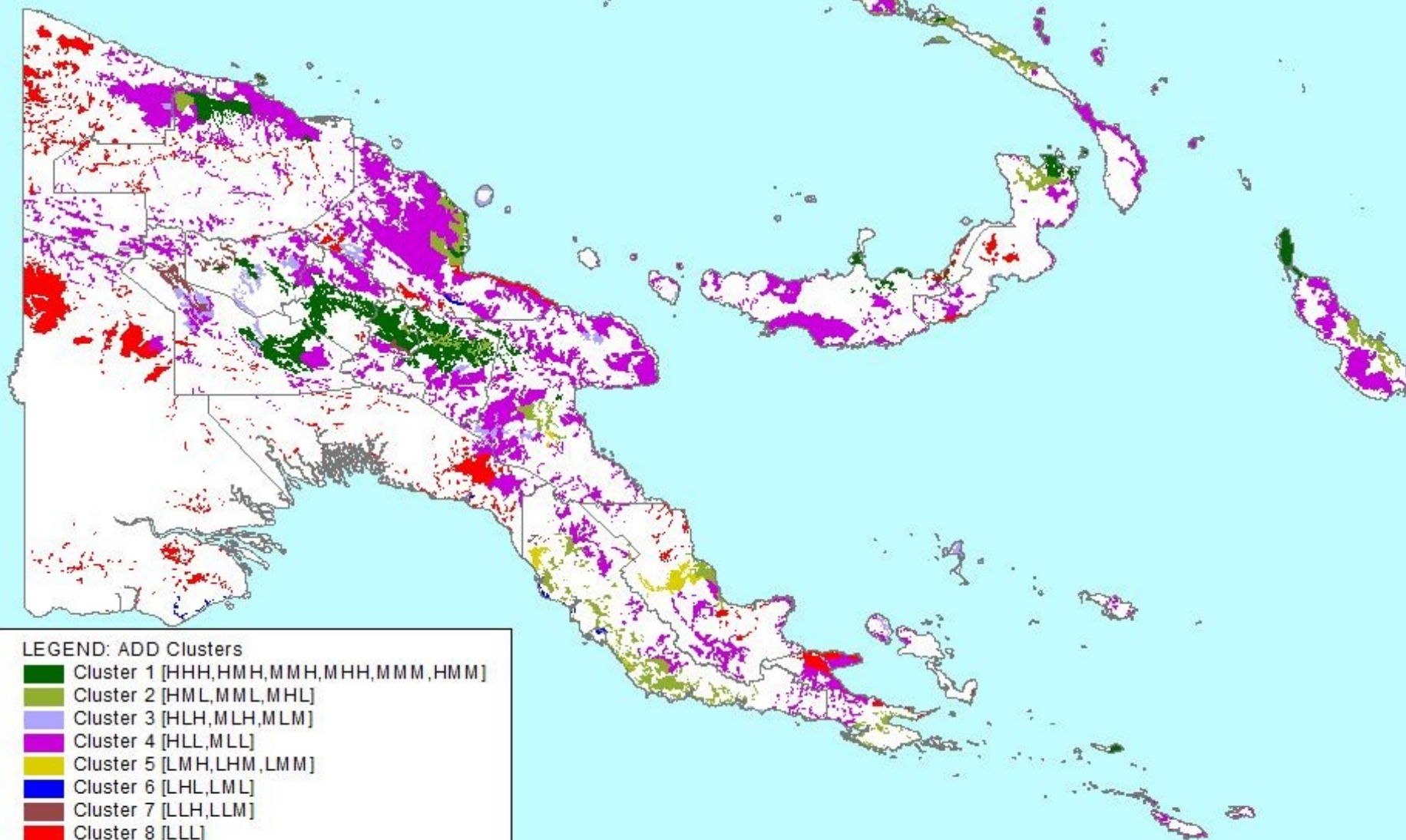
PNG Population Density




Agriculture Development Domains




Major ADD clusters



Issues with data

- ▶ Limitations in market access
 - ▶ Data loss
 - ▶ Over or under estimated population
 - ▶ Some ground verification required to inform project planning phase
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Suggestions for improvement

- ▶ Update Domains with improved Access to services dataset
 - ▶ Improve PNGRIS MASP composite
 - ▶ Better GIS tools – process and analysis
 - ▶ Planning needs to inform improvements needed to collect infdatabases developed to guide future planning –responsive to farmer needs and demands
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The End

