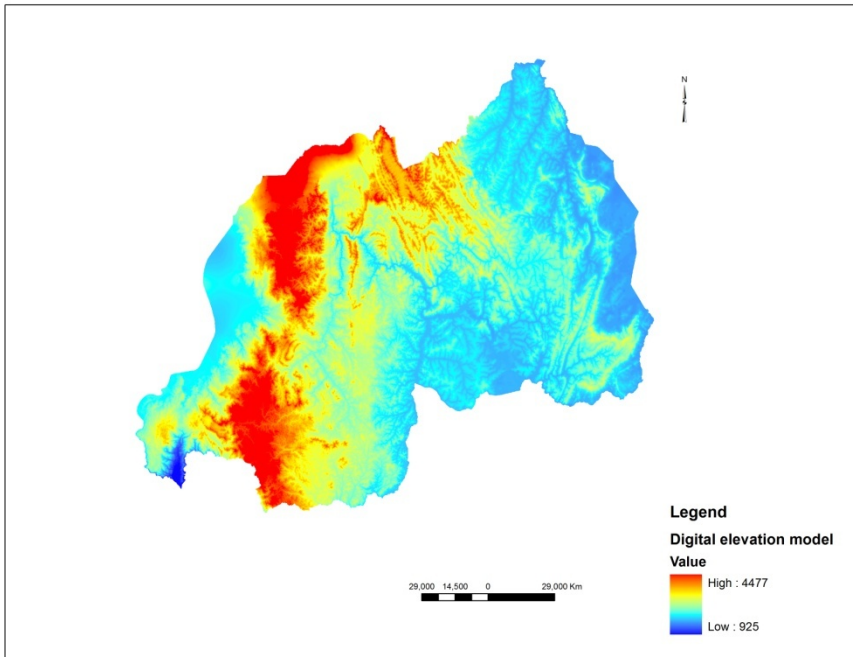
Rwanda Biophysical Environment and Soil Health Problematic

Rwanda Soil health Consortium (RSHC)

By Rushemuka Pascal (From RAB)

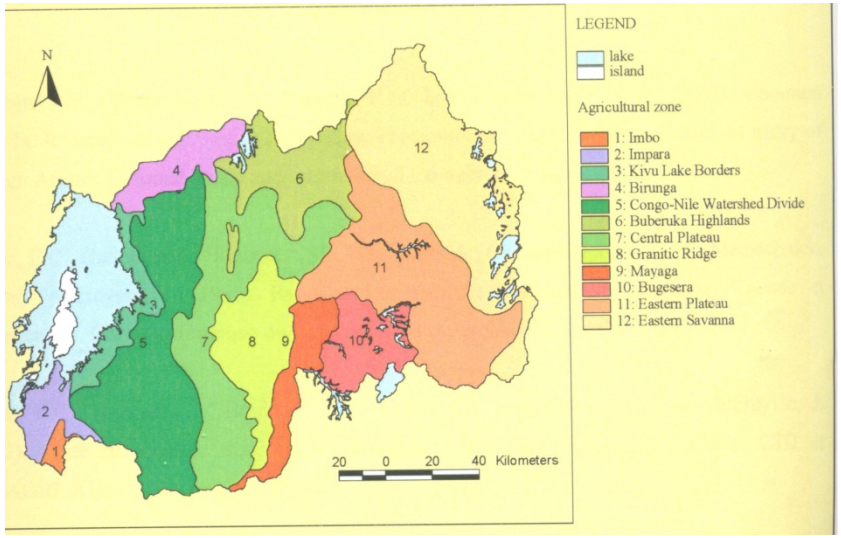
National Territory Spatial Organization

Rwanda: Altitudinal Zones/major AEZs



- Highlands: >1900 m.
- Midlands: 1600-1900
- Low lands: 925-1600
- These altidunal elevation classes correspond to the limits of majors crops

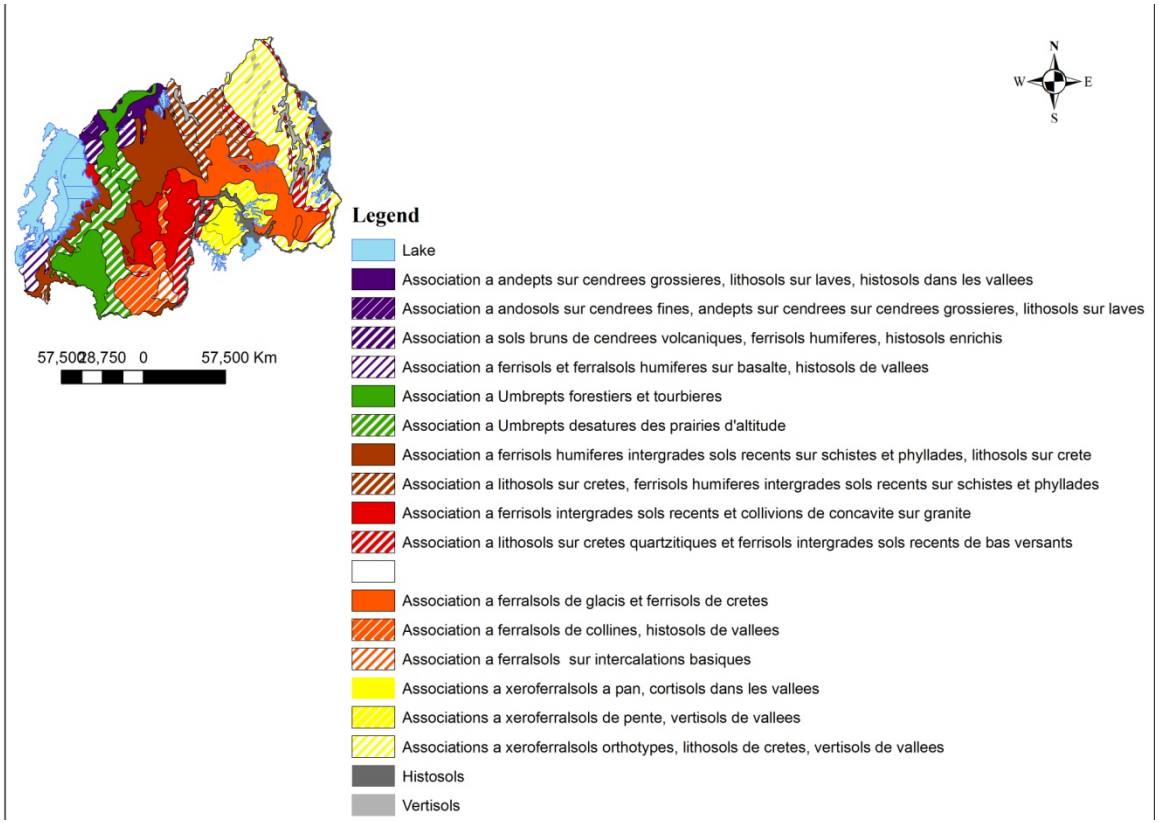
Rwanda Spatial Organisation



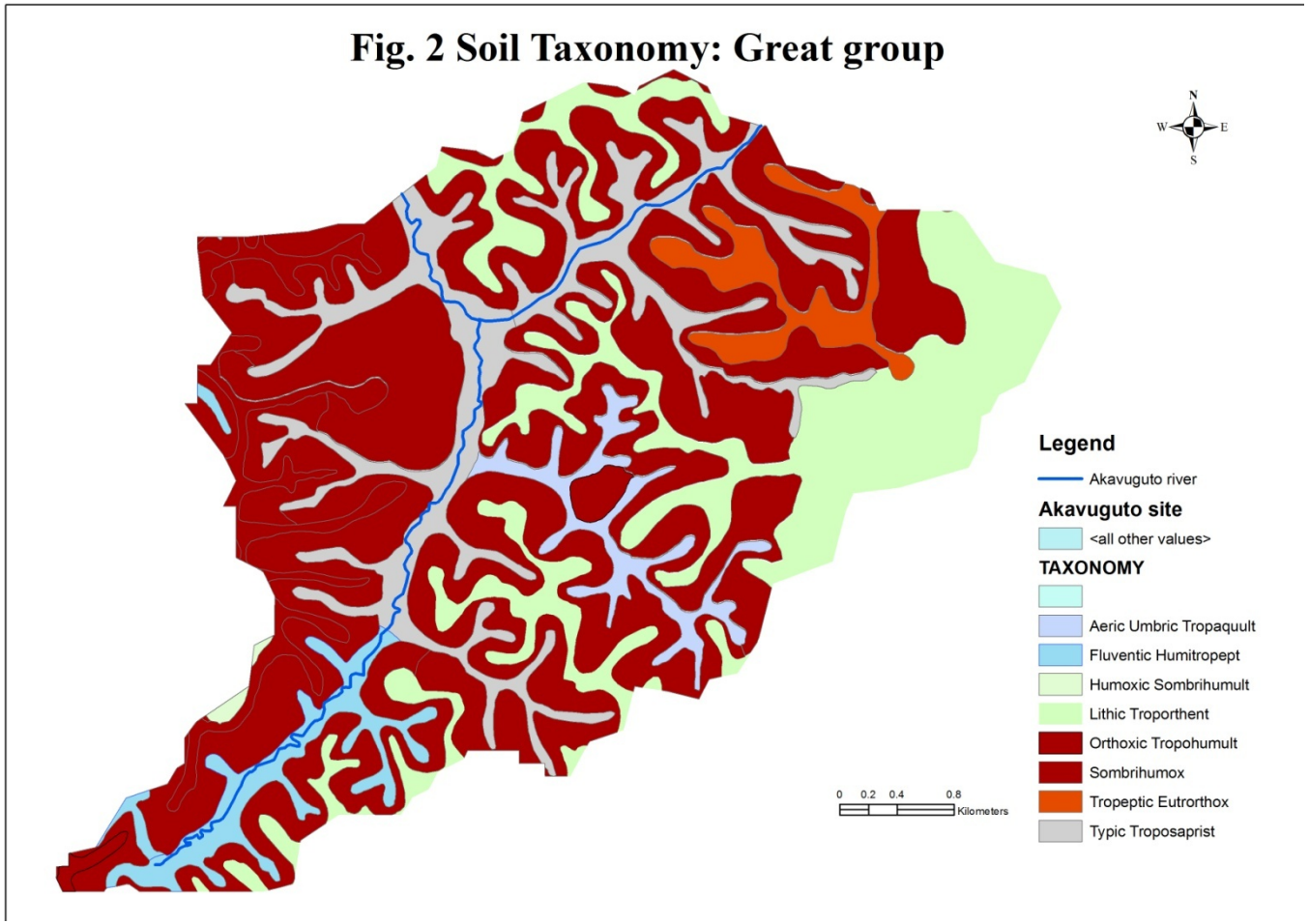
- Criteria
  - Elevation
  - Climate
    - Rainfall
    - Temperature
  - Parent material

Existing Soil RESOURCE INFORMATION

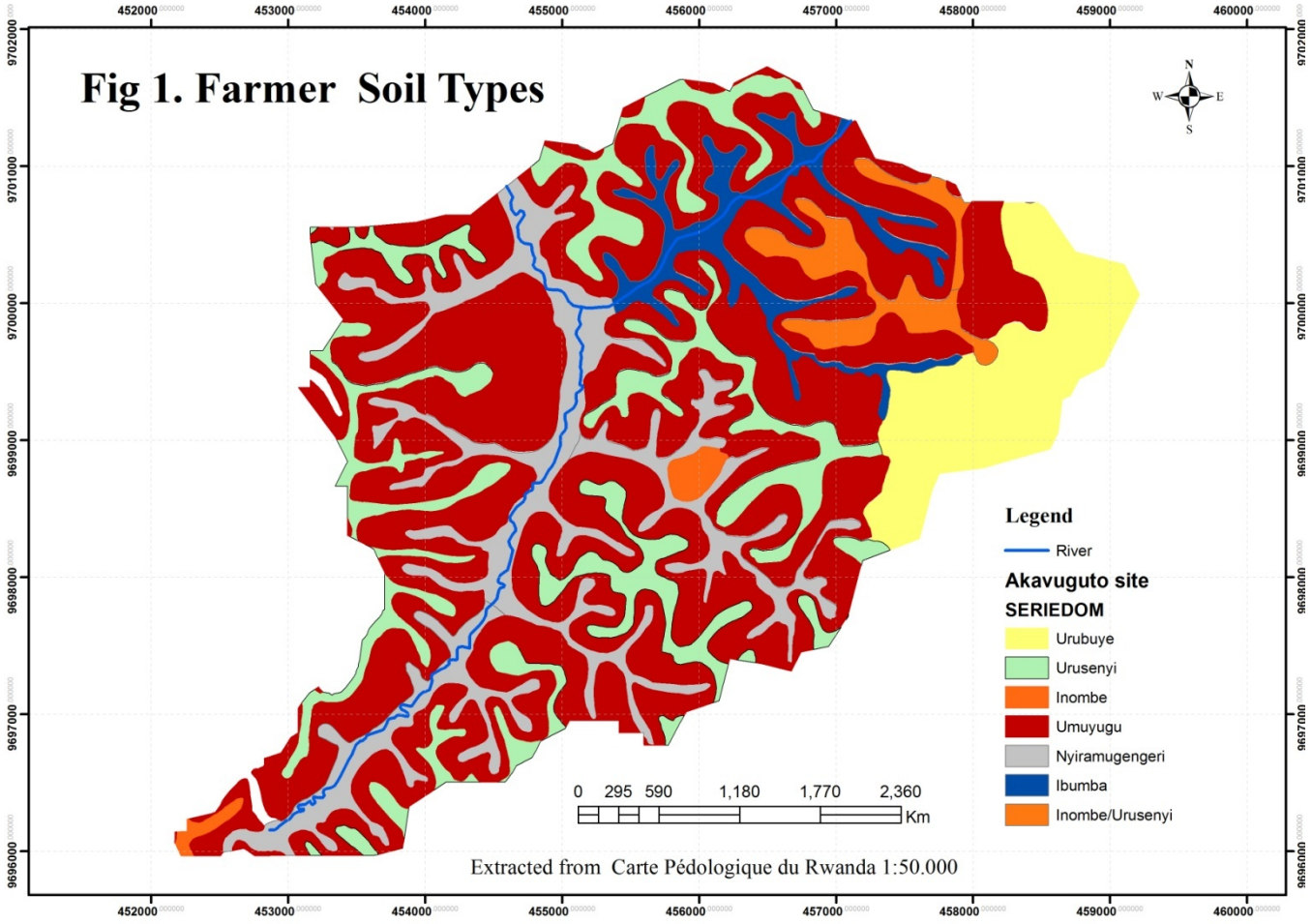
Rwanda soil map 1: 250,000: INEAC classification (1960-1981)



Soil Map of Rwanda 1:50,000: Soil Taxonomy (1980-1991, 2000-2002)

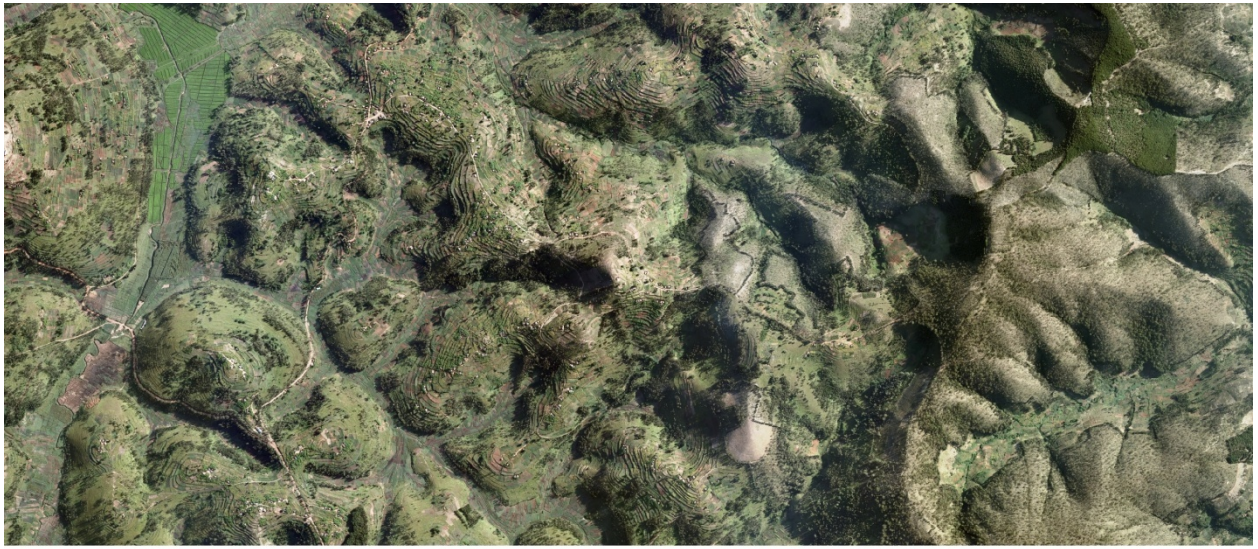


Farmers' soil knowledge

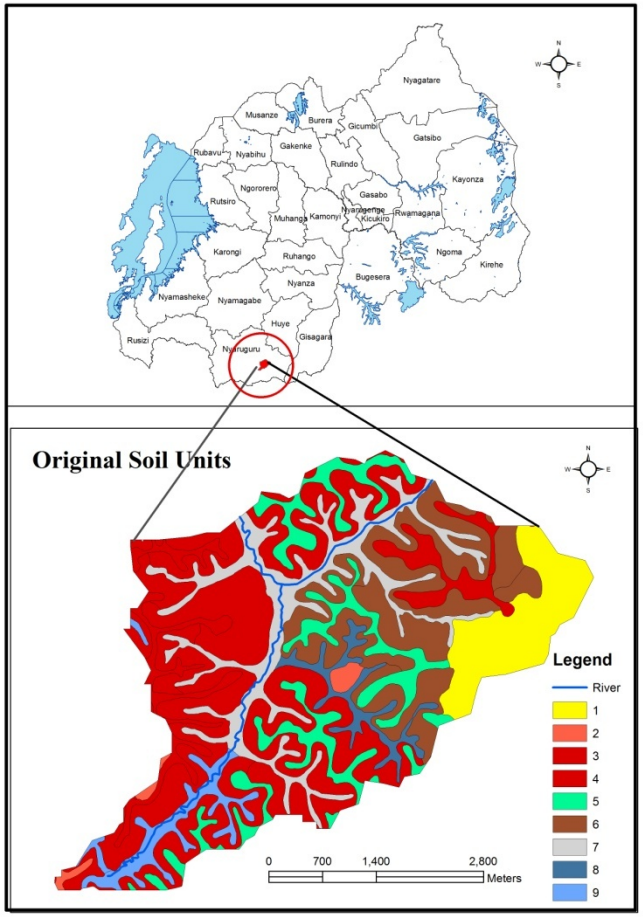


Large scale aerial photos

- Orthophoto: Elaborated from precise aerial photos (5 x 5 m)



The need of developing site and soil-specific technologies: Thinking globally and act locally.



Soil health problems and possible solutions

Erosion and Erosion Control

- Unprotected land

Bench Terraces

Progressive Terraces

Erosion and Erosion Control

From unproductive to productive soils: the role of ISFM INPUTS

Unlimed soil: 0 lime + 0 FYM+ fertilizers

Limed soil: lime + FYM+ fertilizers

Soil fertility management:Mother and Baby demonstration plots

Synthesis

AEZ	***Elevation (m)***	***Relief***	***Temperature* (C°)**	***Rainfall (mm)***	***Dry season (month)***	***Major limitation***	***Major solutions***
Highlands	*> 1900,*	*Mountainous*	15- 17	*1250-2000*	*1 to 2*	*Slope^{+++} Acidity^{+++}*	*Erosion control +Liming + manuring+ fertilizers*
Midlands	1,600-1,900	*Dissected Plateau*	*17-20*	*1000-1250*	*3 t0 4*	*Slope^{++} Acidity^{++}*	*Erosion control + liming + manuring + fertilizers*
Lowlands	< 1,600	*Pediplain*	*20-21*	*700 - 1000*	*4 t0 5*	*Eratic rainfall^{+++}*	*Manuring + fertilizers*

Concluding remarks

- From a scientific point of view solutions for sustainable development are known in each relavant scientific discipline)
- The accessibility of this information so that efficient investiment is achieved is the major problem.
- Policy makers use very little existing scientific information, at the same time researchers produce very little scientific information that is directely usable
- This is the raison d’être/essence of the RSHC.