Ethnoecology of Soil Classification in Burkina Faso

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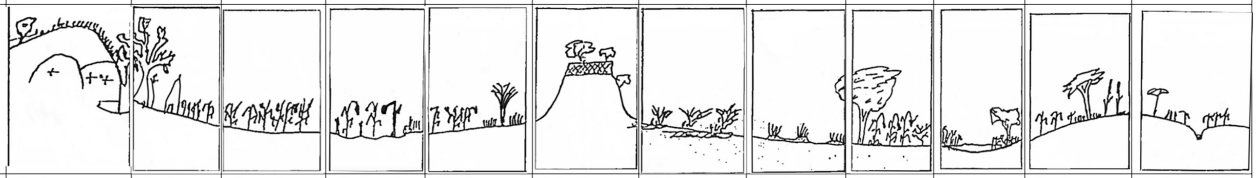
Word in Mooré (Mossi Language)	Tampelega	Zegdega	Bolle	Basalgho	Bagtanga	Tansablaga	Rassampuego	Bolle-Bissiga	Baogo	Koulliga	Bissiga	Kossogo
												
Soil	• Rocky • Large rocks • Mineral rich	• Rocky • Deep gravels • Clay	• Deep clays • Rich • Surface crusting	• Shallow clays • Fertile • Well-drained	• Clay loam • Poor water retention	• Lateritic • Rocky • Large rocks • Kaolinite • Steep	• Thin • Hydromorphic • Temporarily loamy	• Sandy-clays • Fertile • Well-drained • Deep	• Loamy-clays • Deep • Rich	• Hydromorphic • Deep • Fertile	• Sandy or sandy-loams • Shallow • Low fertility	• Drainages with alluvium, clay, and sand
Degradation	• Sheet and rill erosion • Wood-cutting • Overgrazing	• Sheet and rill erosion • Over-exploitation	• Sheet, gully, and rill erosion • Over-exploitation • Wood-cutting	• Gully, rill, and sheet erosion	• Gully erosion • Crusting • Over-exploitation • Wood-cutting	• Sheet and rill erosion • Wood-cutting • Over-grazing	• Sheet erosion • Wood-cutting • Over-grazing	• Rill, sheet, and gully erosion	• Gully erosion • Wood-cutting	• Silting • Wood-cutting	• Sheet erosion • Wind erosion • Wood-cutting • Over-exploitation	• Gully erosion • Over-exploitation • Wood-cutting

Figure 1 This Toposequence chart describes land according to the soil classifications used by local Mossi people.

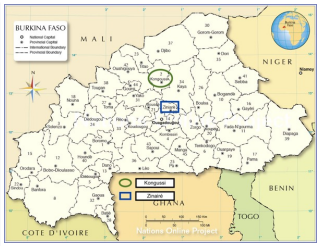


Figure 2. This data was collected in villages surrounding two different cities: Kongoussi and Ziniaré. Bogonam is a village near Kongoussi, and Ladwenda is a village near Ziniaré. This map was created by the Nations Online project.

Figure 3. Alfredo Rojas and Koffi Nomedji gather data outside of Nongsom in July 2019.

Abstract

The Sahel Desert has been considered highly degraded since it was subject to significant drought in the 1970s. However, recent analysis of satellite data suggests increased greening. This project seeks to understand greening and soil conservation from the perspective of local farmers in Burkina Faso. Data was collected by Colin West, Alfredo Rojas, and Koffi Nomedji through transect walk and participatory mapping methods in the summer of 2019. Environmental analysis using local knowledge in addition to high-quality satellite imagery yields an increased understanding of conservation and ecology.

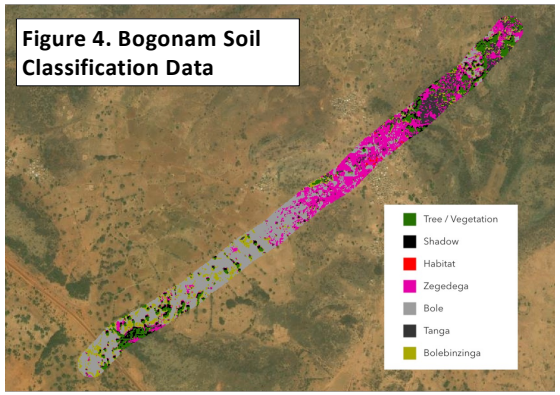


Figure 4. Bogonam Soil Classification Data

Figure 5. Example of Zegedega soil in Bogonam.

Figure 6. Example of soil and water conservation (SWC) in Bogonam. Note the contour stone bund (*diguette*) in the middle.

Participatory Mapping Methods

- Transect walks were conducted in villages near Kongussi and Zinairé by Colin West, Alfredo Rojas, and Koffi Nomedji.
- Researchers worked with local community leaders in each village to select routes using high quality satellite images.
- Researchers, guides, and local leaders conducted these walks with GPS equipment and cameras.
- Researchers asked about soil classification, land use, and conservation practices. Local names for these categories and practices were recorded.

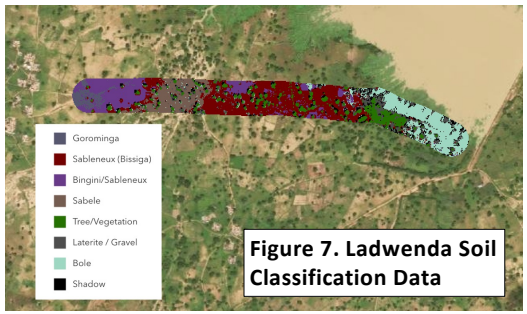


Figure 7. Ladwenda Soil Classification Data

Figure 8. Example of Bissiga soil in Ladwenda.

Figure 9. Example of severe soil erosion in Ladwenda.

Applications

- These data can be incorporated into GIS mapping software and provide important context to satellite imagery.
- Photos and soil classification data from Bogonom and Ladwenda suggest a diverse mix of greening and browning reported throughout each village *terroir*.

Check out our Story Map!