

Tropical Agriculture and Sustainable Development (EEEB G4136)
Guest lecture: Livestock systems – Ruminants (03)

Pastoral Systems in the Tropics



Livestock production systems with large herbivores

Specialised intensive systems

Mixed farming systems

Feedlot systems

Landless, urban systems

Tree crop and plantation systems

Pastoral systems



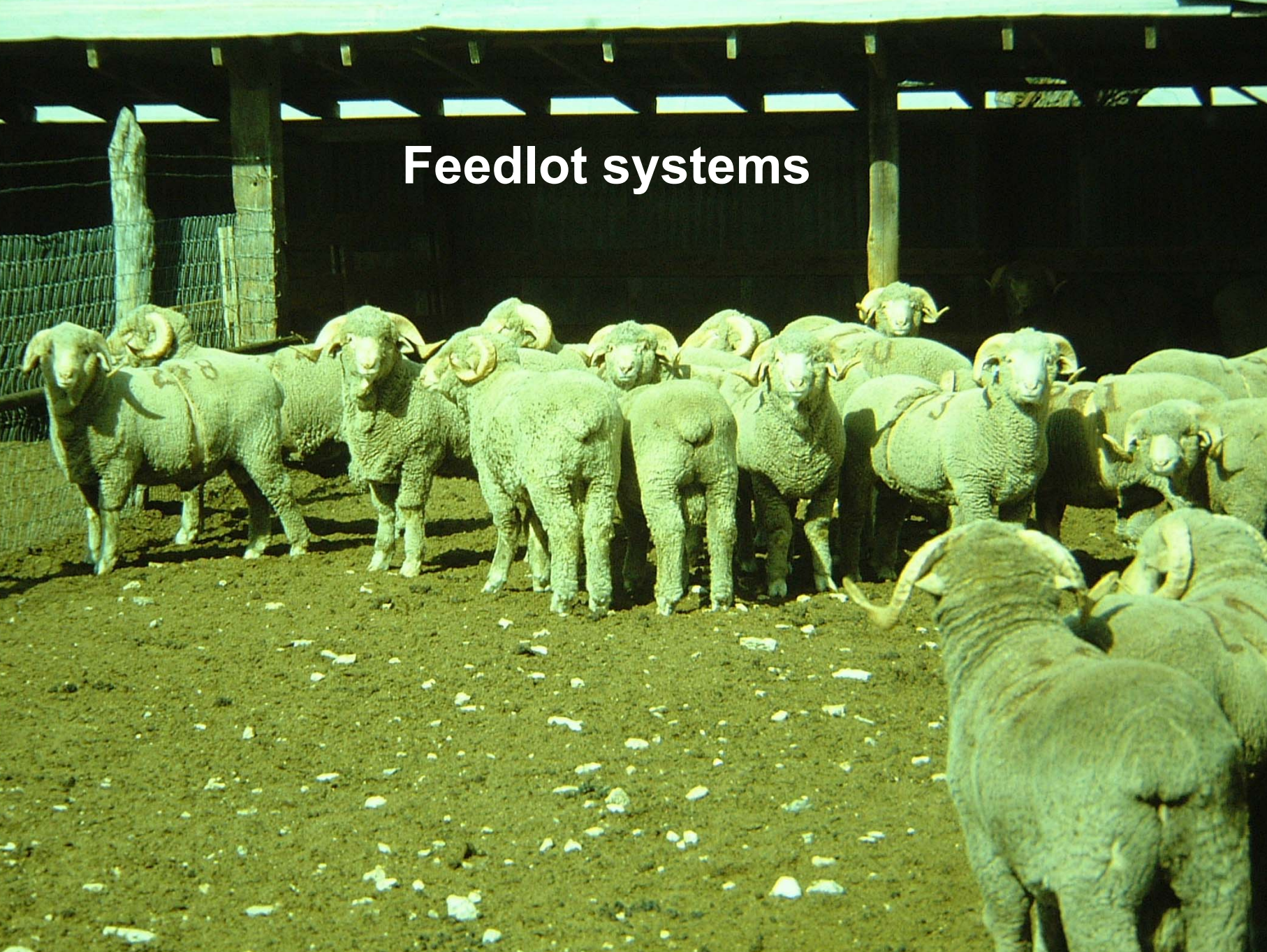


Specialised intensive systems

Mixed farming systems



Feedlot systems





Landless, urban systems



Landless, urban systems



Tree crop and plantation systems

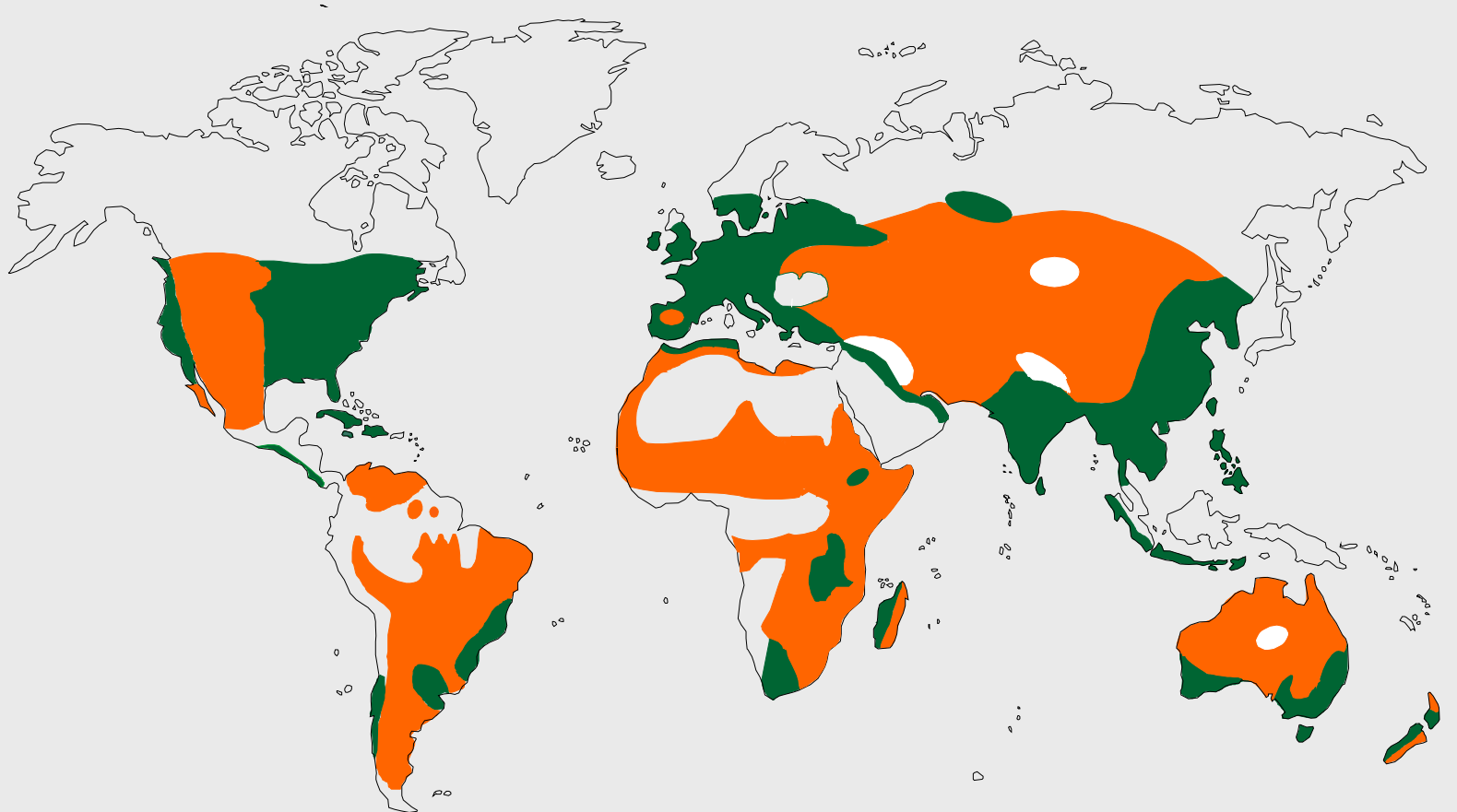


Agro-pastoral systems

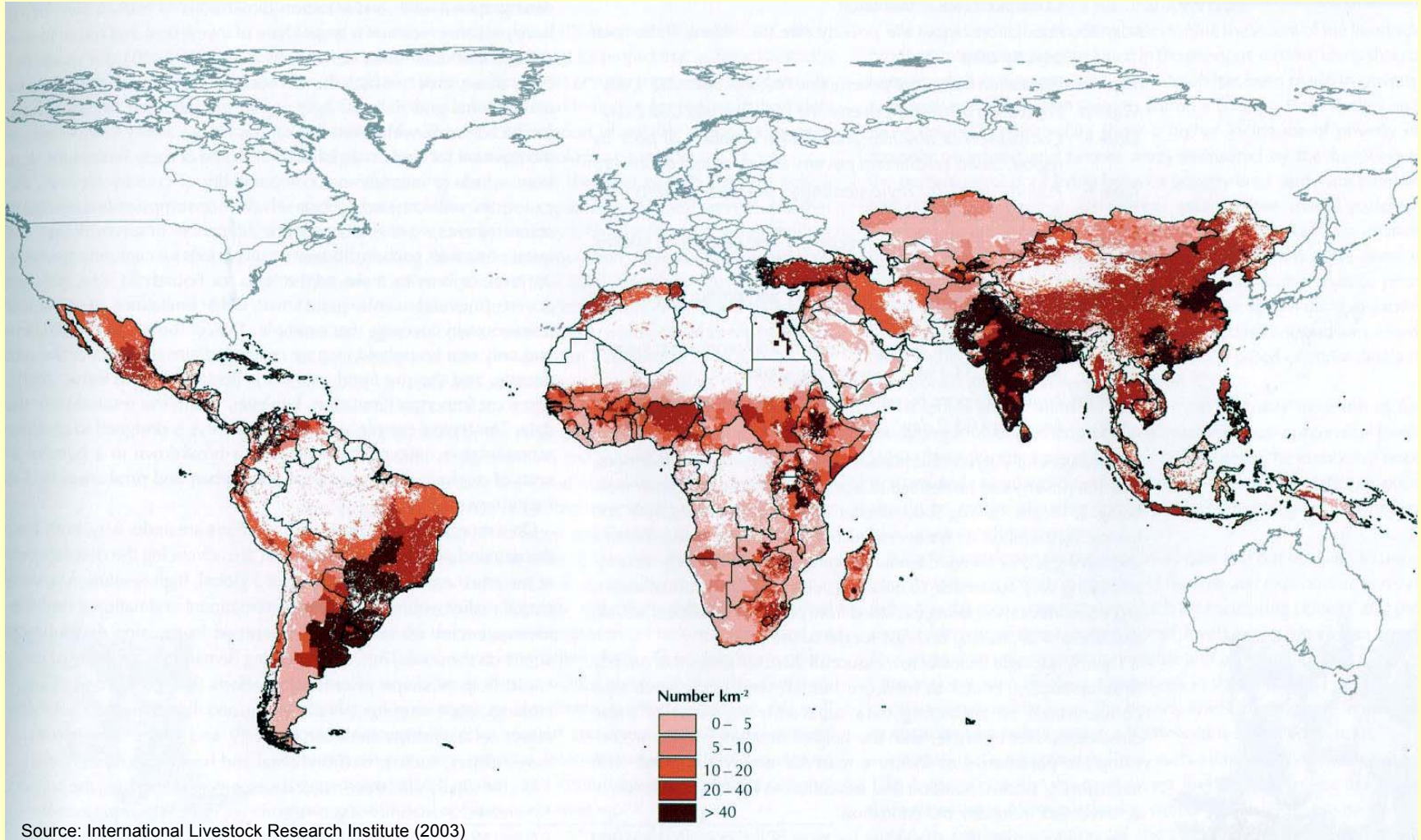


Pastoral systems

Worldwide distribution of crops ■ and pastures ■ as the base for livestock production systems

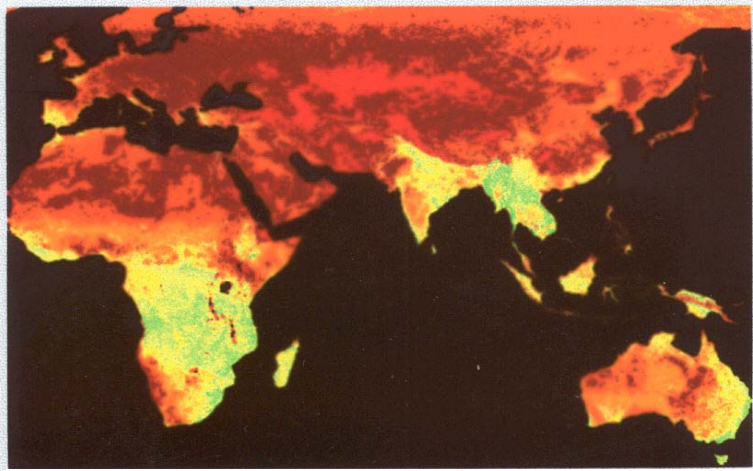


Density of total ruminant livestock [TLU]

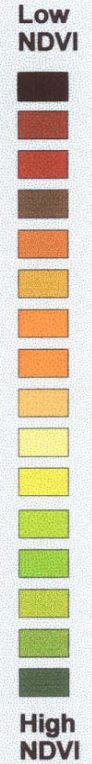
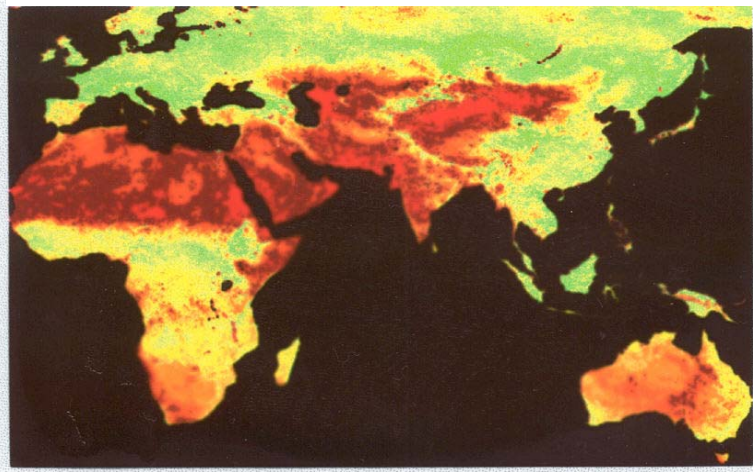


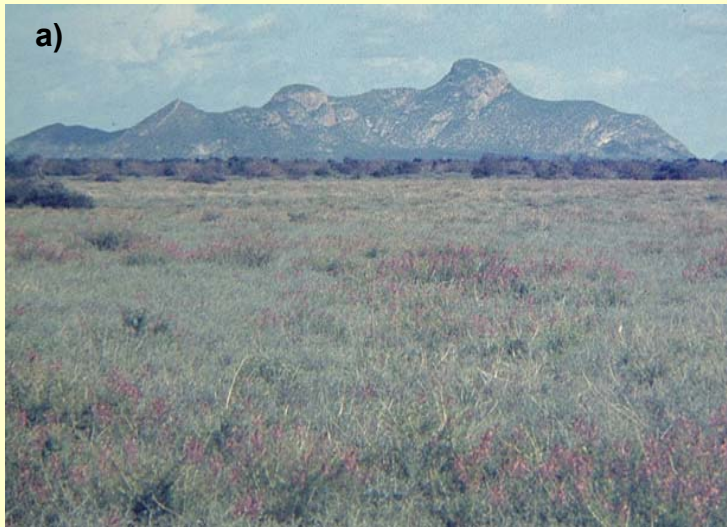
Presence of photosynthetically active vegetation observed at different times of the year in the old world, mapped using NOAA satellite data

January 1998



July 1999



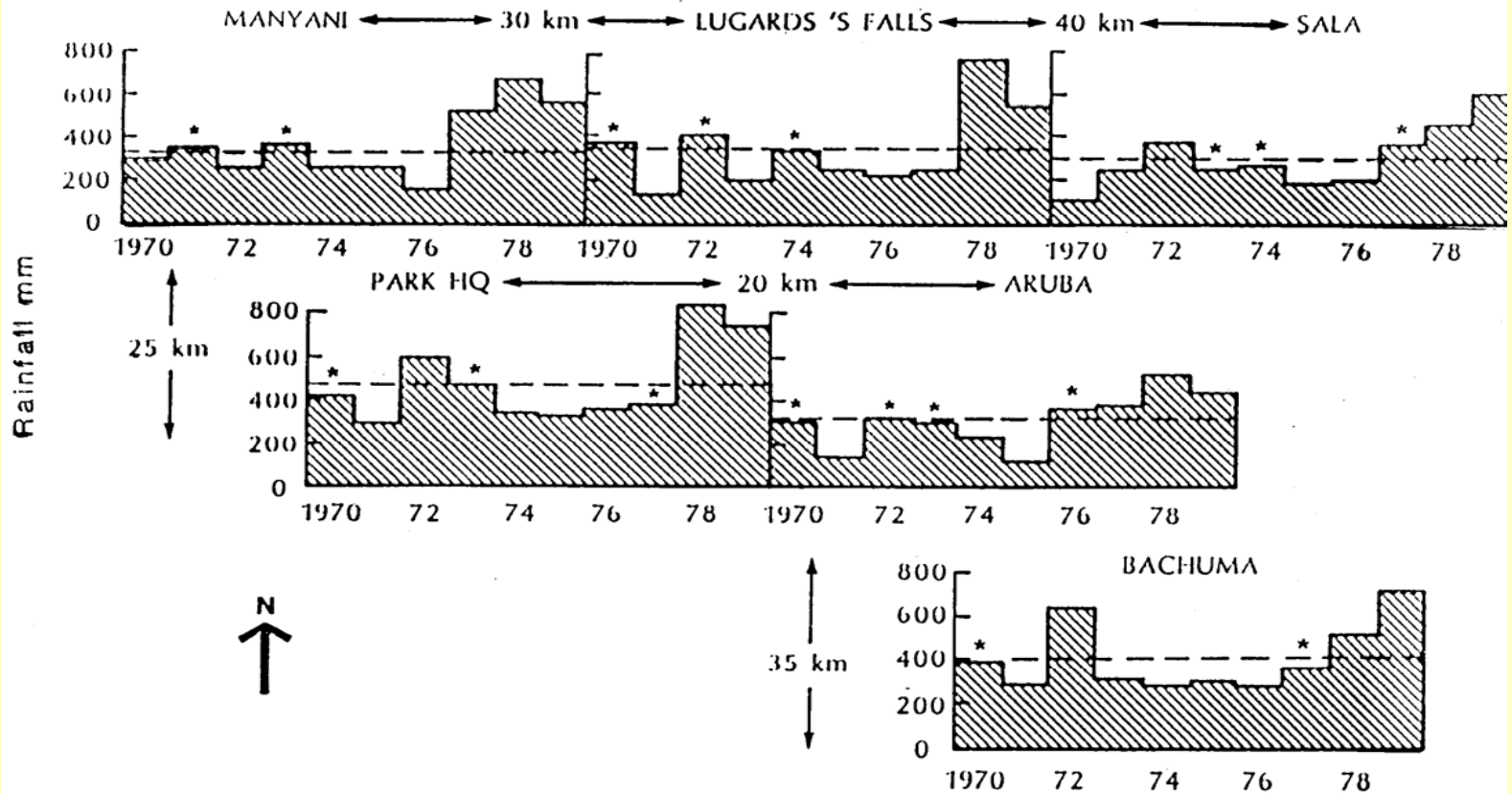


Seasonal forage availability on a semi-arid dwarf shrub / annual grass land in Northern Kenya:

- a) At the end of the rainy season; standing biomass ca 3000 kg/ha
- b) Six weeks after the rainy season; standing biomass ca 1800 kg/ha
- c) Ten weeks after the rainy season and after two weeks of grazing by nomadic herds; standing biomass ca 500 kg/ha



Spatial variation of rainfall in an East African savanna ecosystem

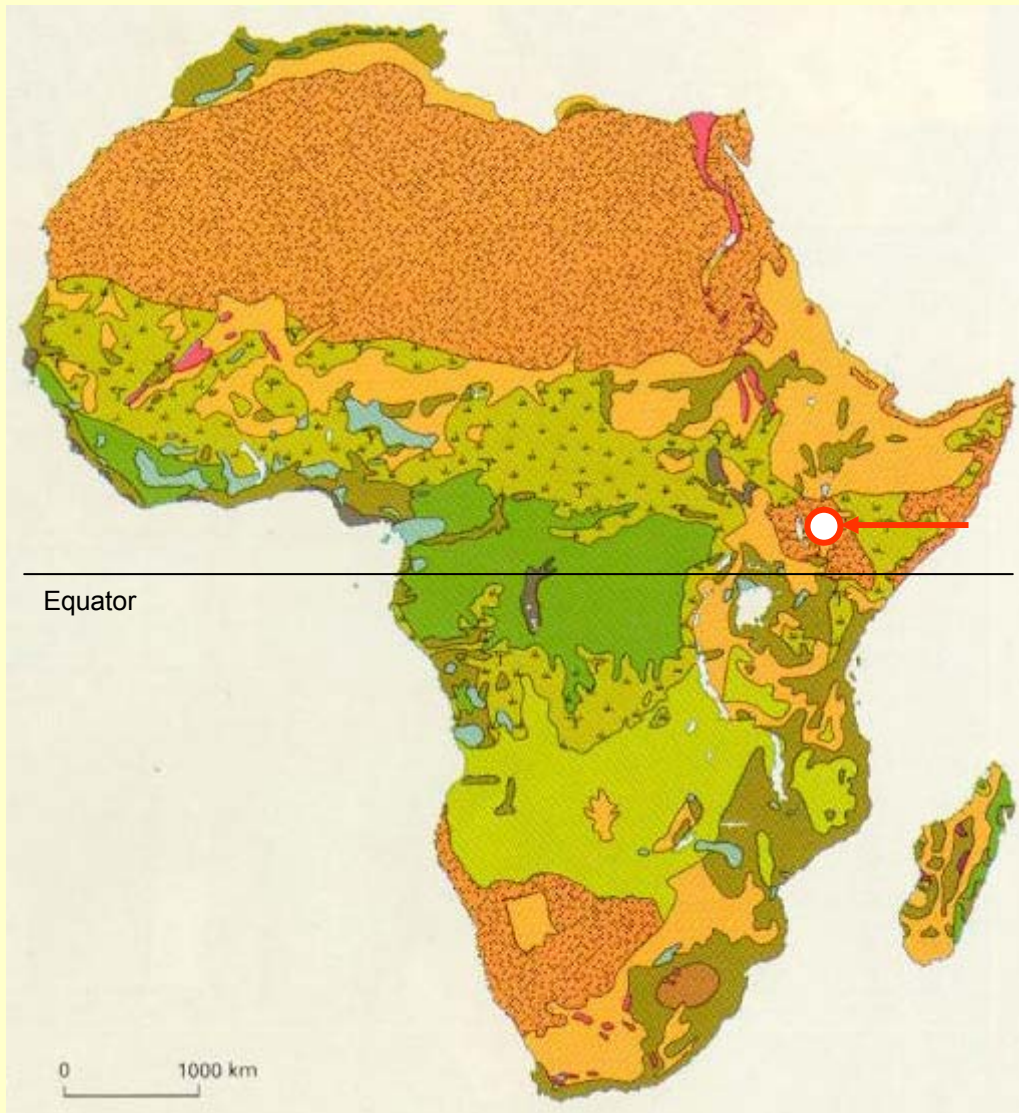


Source: Deshmukh, 1984













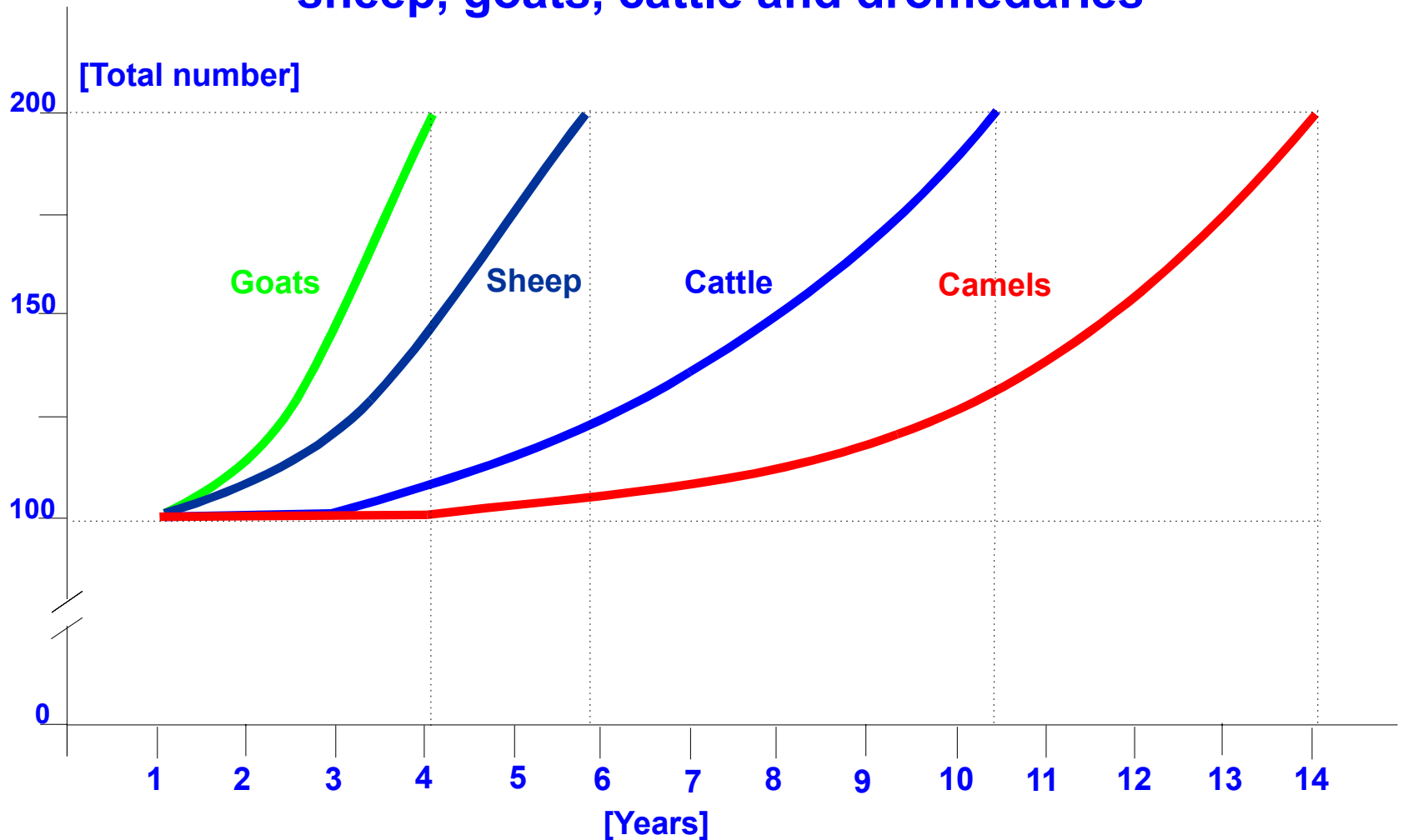




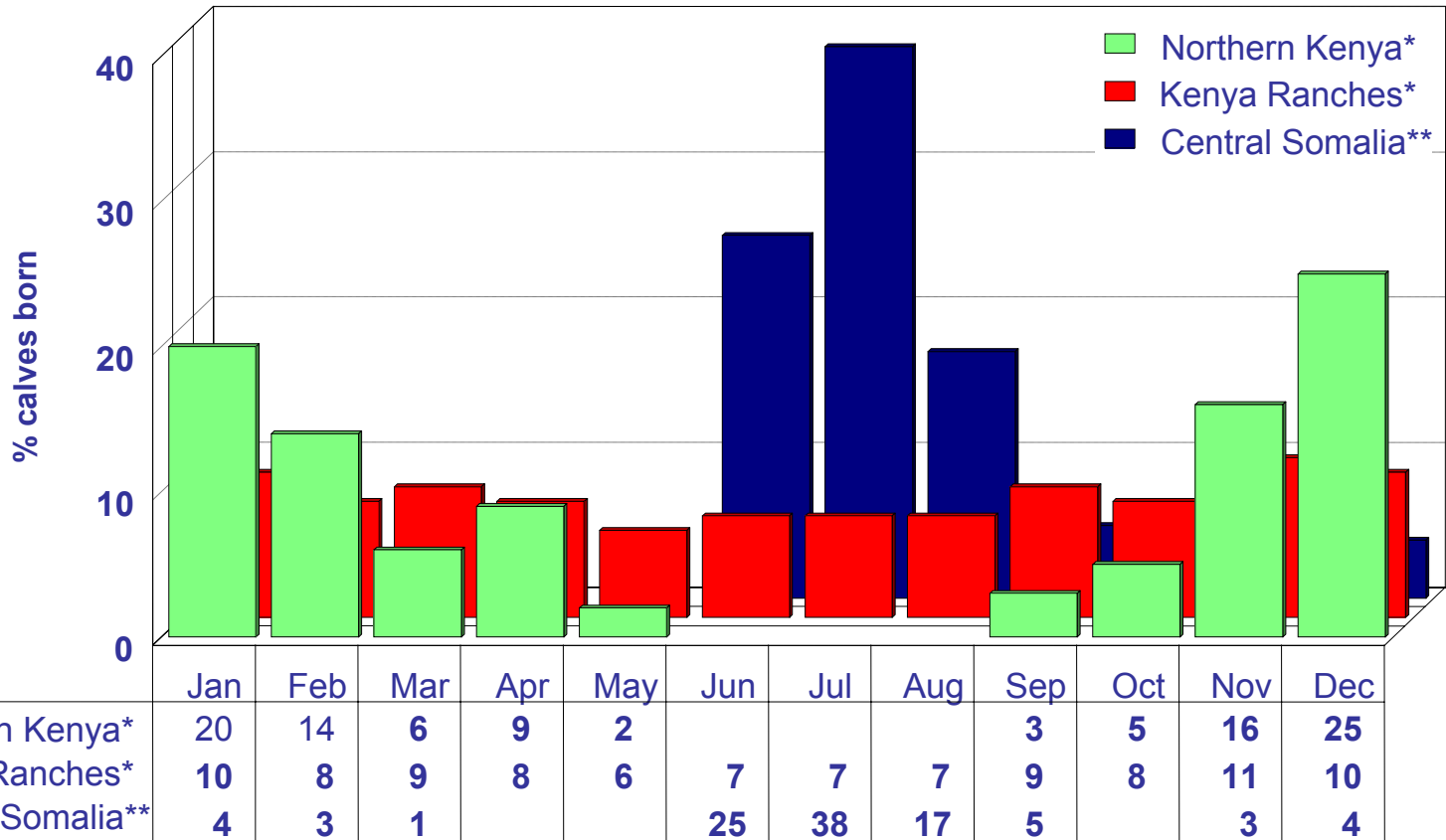




Projected herd growth in indigenous sheep, goats, cattle and dromedaries



Seasonal distribution of births in dromedary herds kept by nomadic pastoralists in Northern Kenya and Central Somalia and on commercial ranches in Kenya

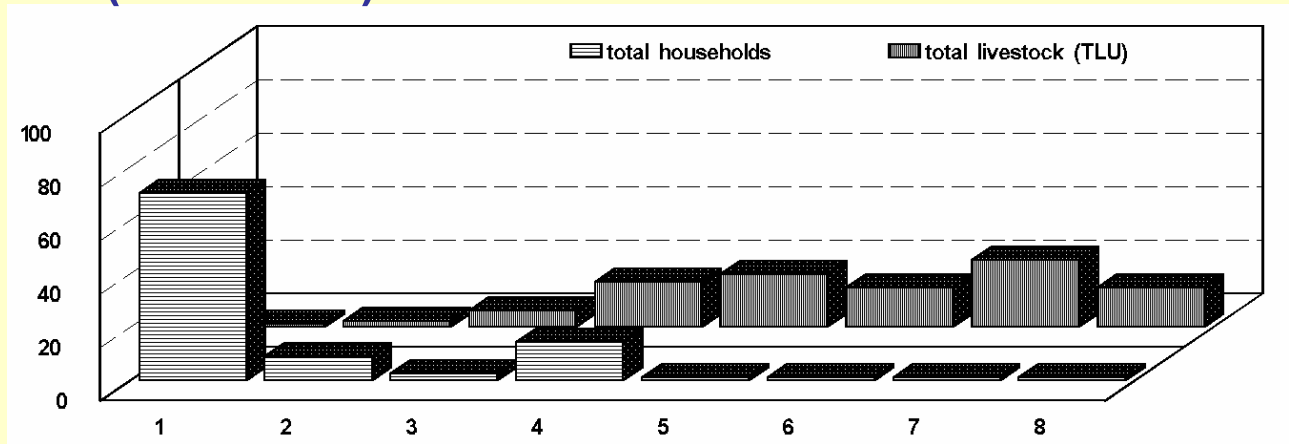


Sources: *Schwartz, 1992; ** Moallin, 1989

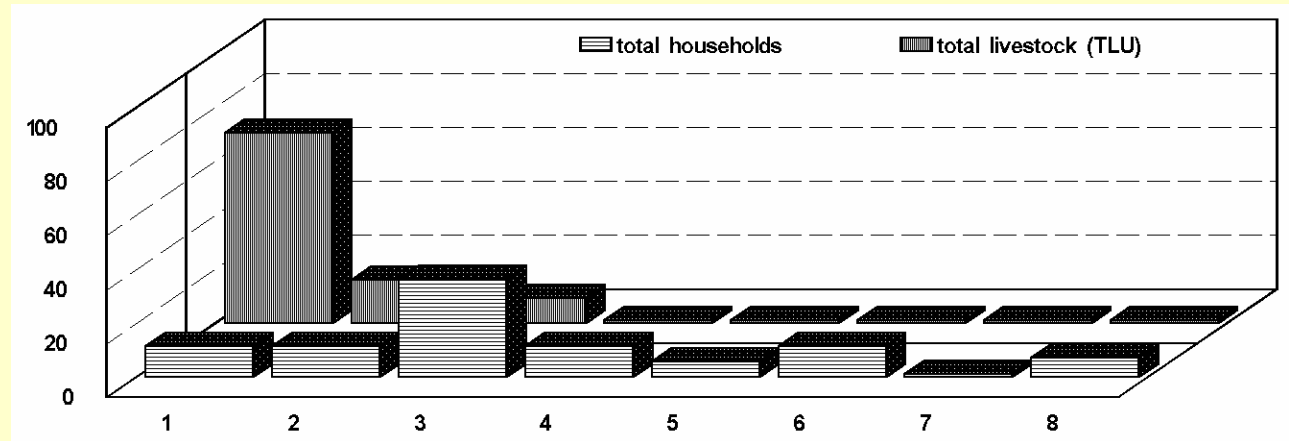


Grid occupancy by Rendille households and herds (% of total) in two seasons

Rainy season



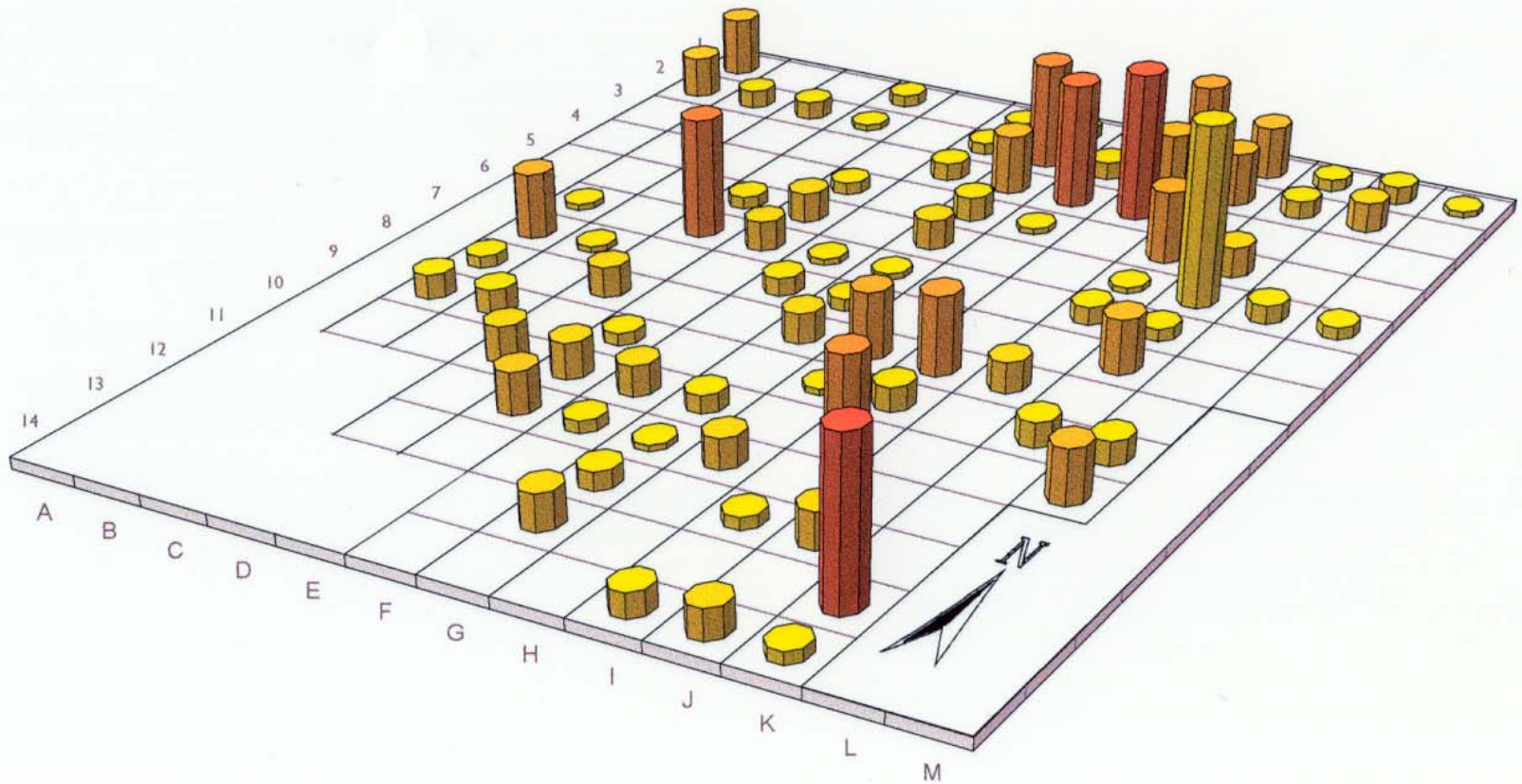
Dry season



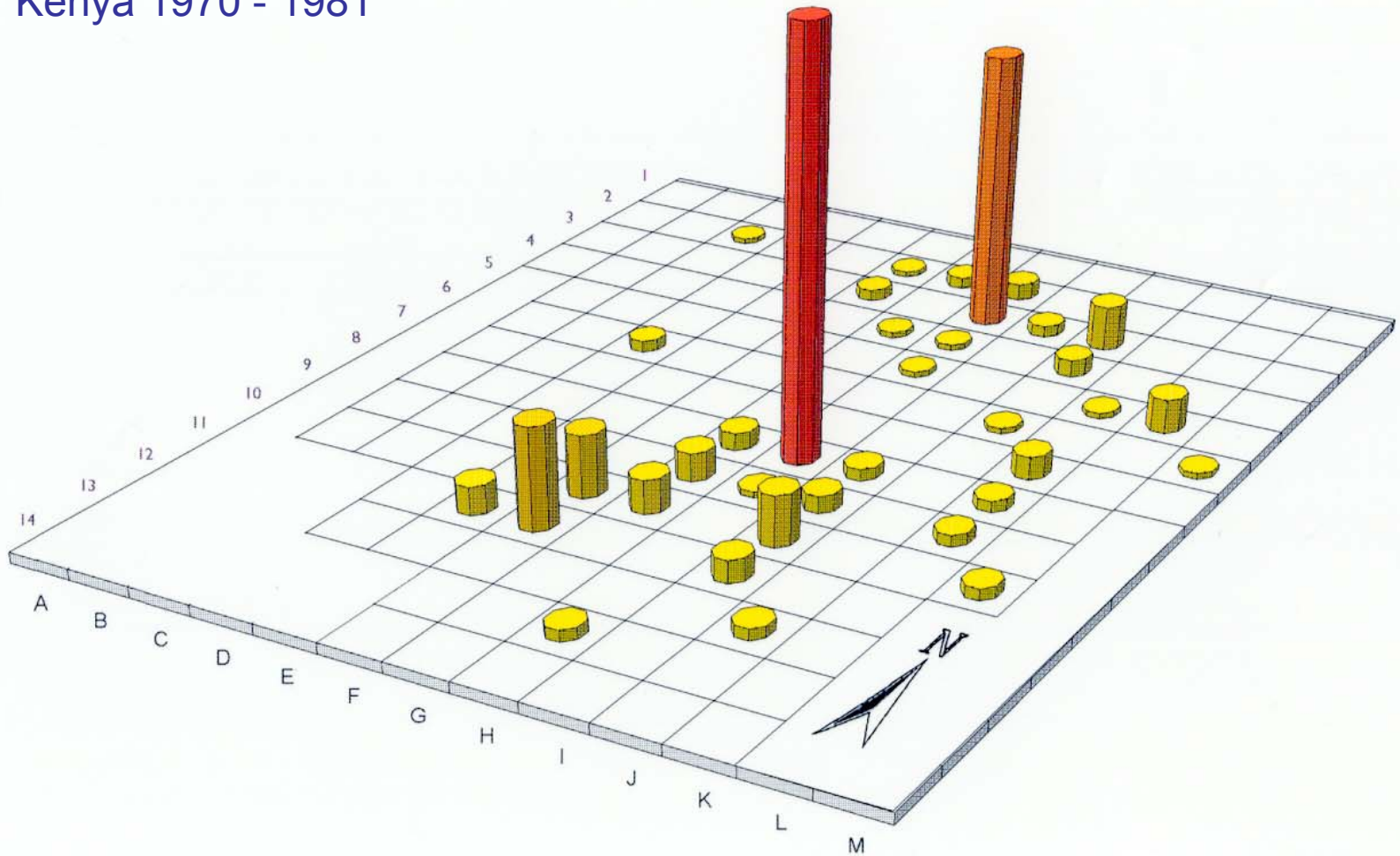
→ Increasing grid occupancy

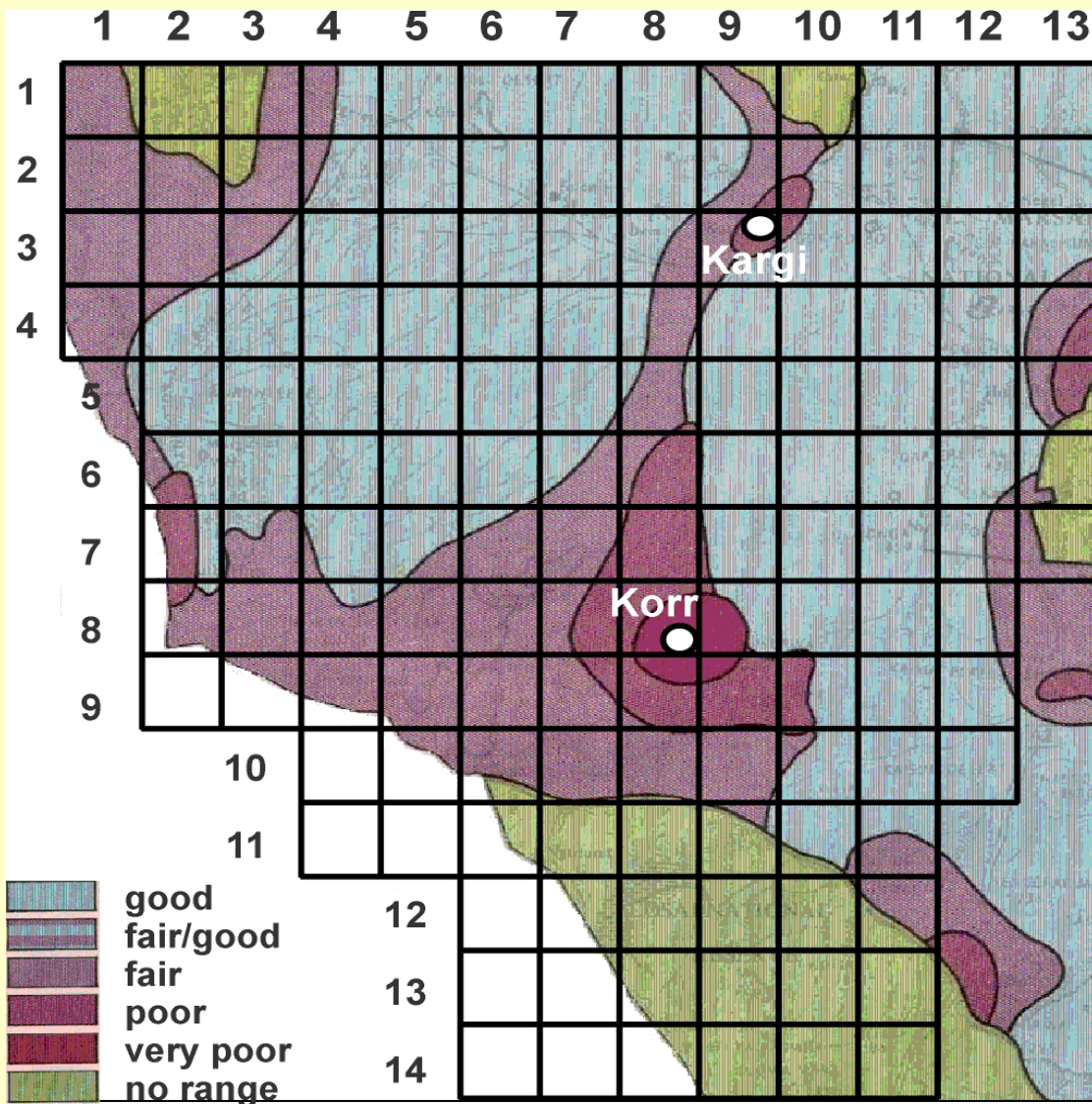


Rendille settlement density by grid square in South-West Marsabit District, Kenya 1949 - 1958



Rendille settlement density by grid square in South-West Marsabit District, Kenya 1970 - 1981





Range condition by grid square in the Rendille home range









