

Evolution of tenure regimes and adaptive management in pastoral systems

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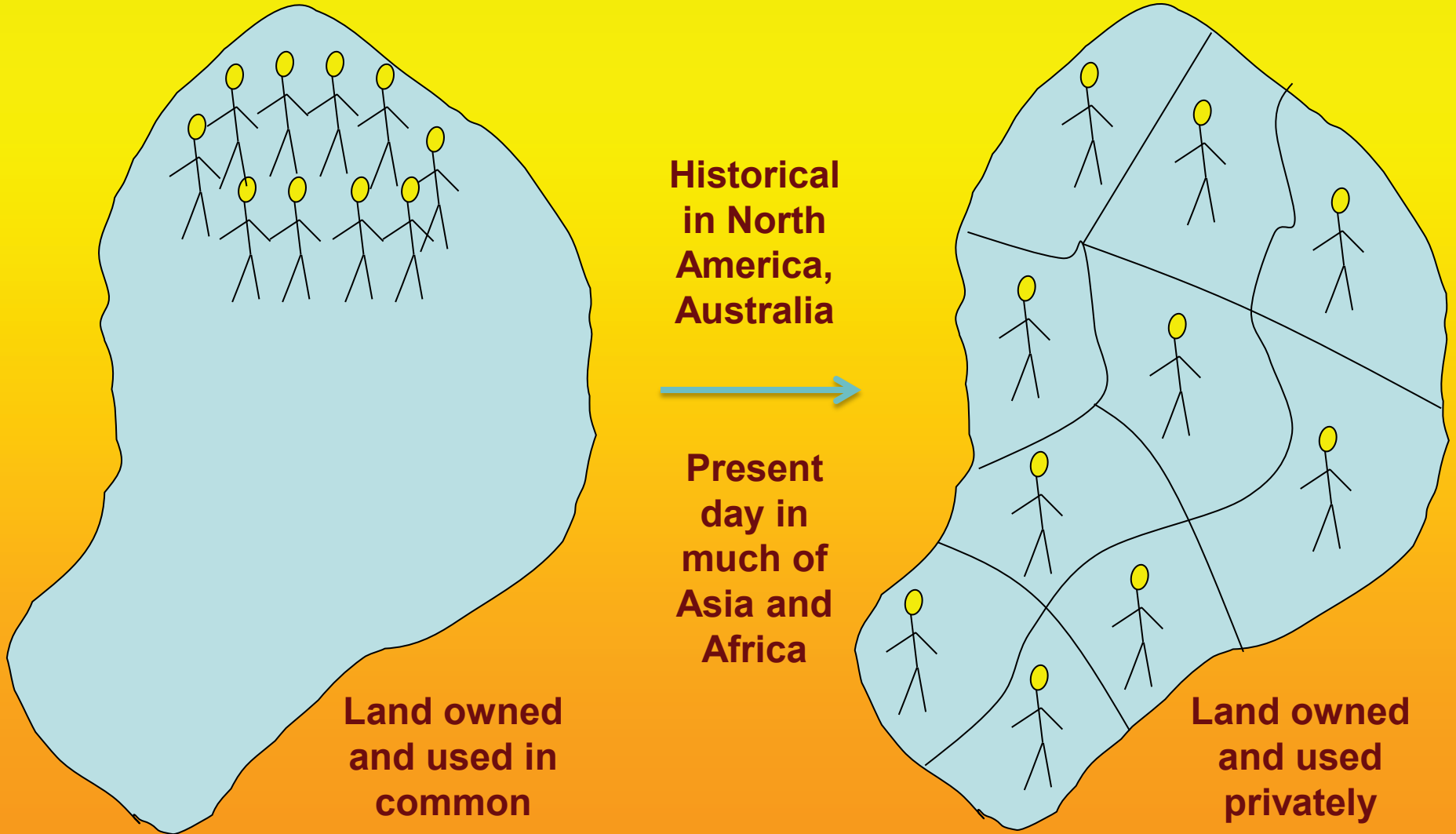
Colorado State University

2013 SRM meeting

Where we are going

- 1. Conventional wisdom about land tenure**
- 2. Conventional wisdom meets reality of herding in rangelands = paradox**
- 3. Tenure and fragmentation**
- 4. Adaptive governance to address the paradox and fragmentation at a community / regional scale**
- 5. Do new governance institutions work for people and rangelands?**

Changes in land tenure from common land to private land: historical and current trends



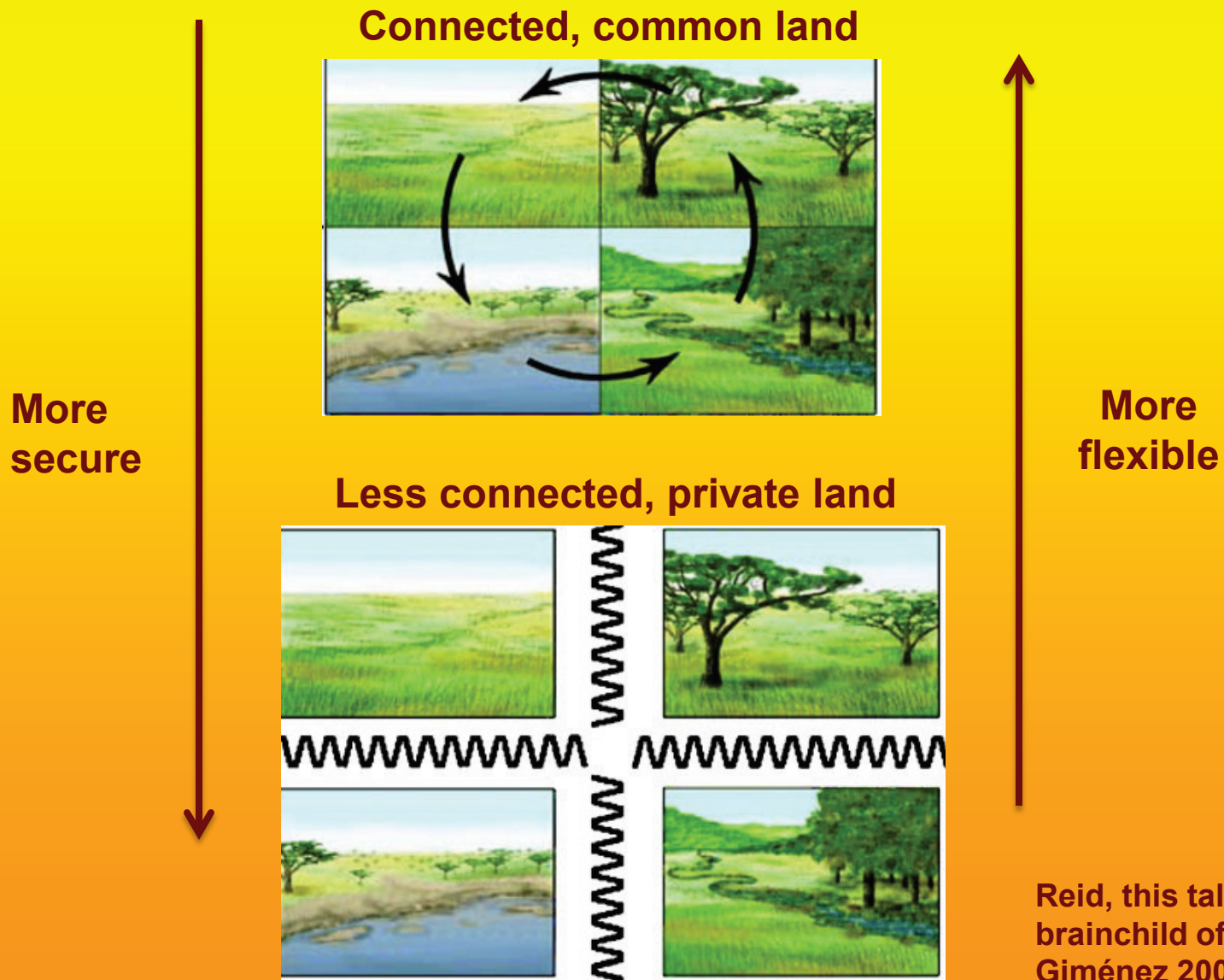
Conventional wisdom about land privatization

‘Mainstream economic theory posits that communal tenure impedes productivity while private property provides greater incentives for individuals to invest in their land, ultimately translating into improvements in household welfare’

Conventional wisdoms meets reality of dry rangelands

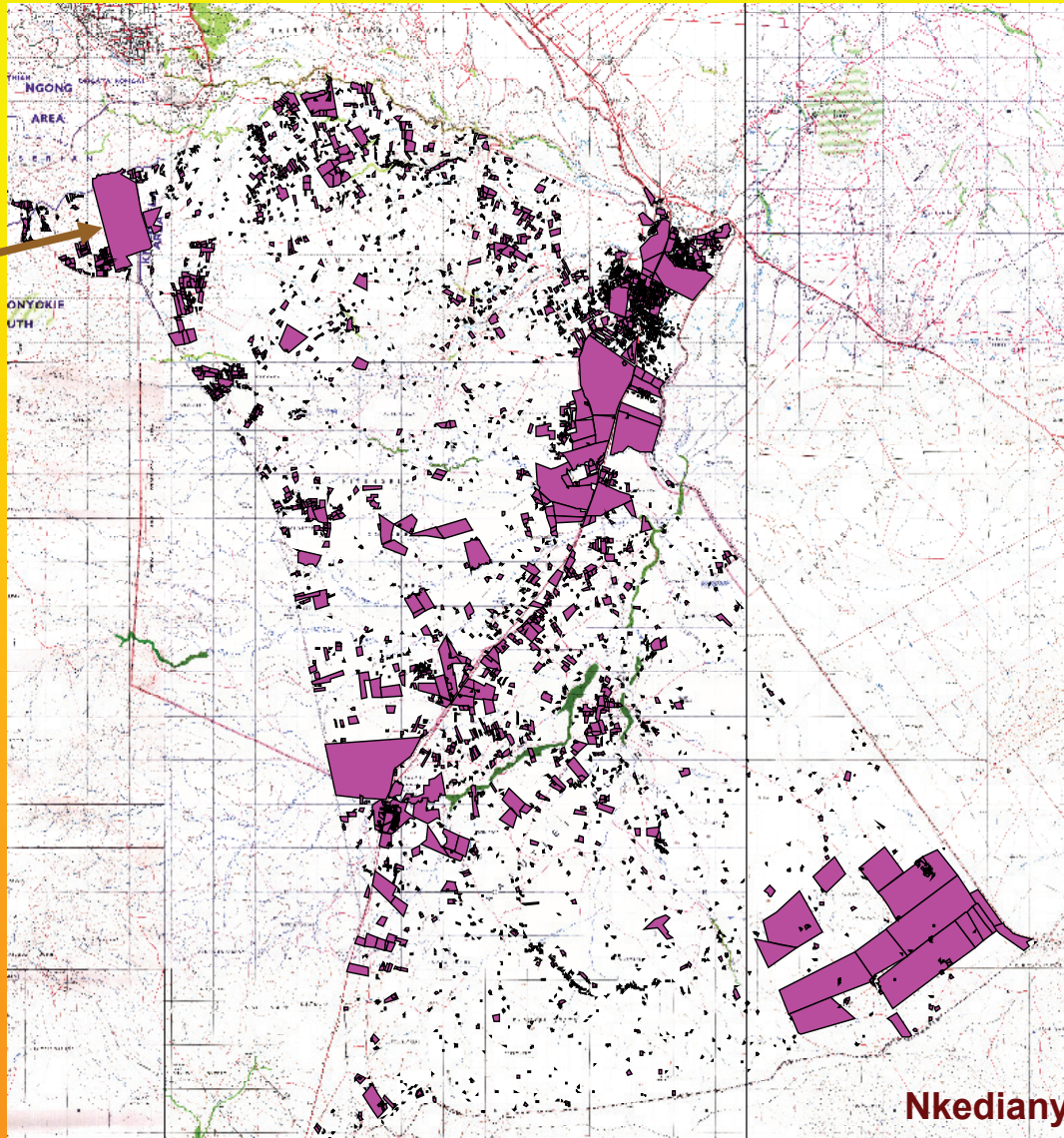
1. Key resources in dry rangelands are far apart
2. Rain falls in unpredictable locations in small patches
3. = most private ranches don't have all they need to survive
4. = most ranchers want secure control of their resources
5. Thus successful herding requires:
 - Flexibility and wide connections, or
 - External inputs brought onto the ranch, and
 - Secure access

Paradox = Conflicting needs for security and flexibility



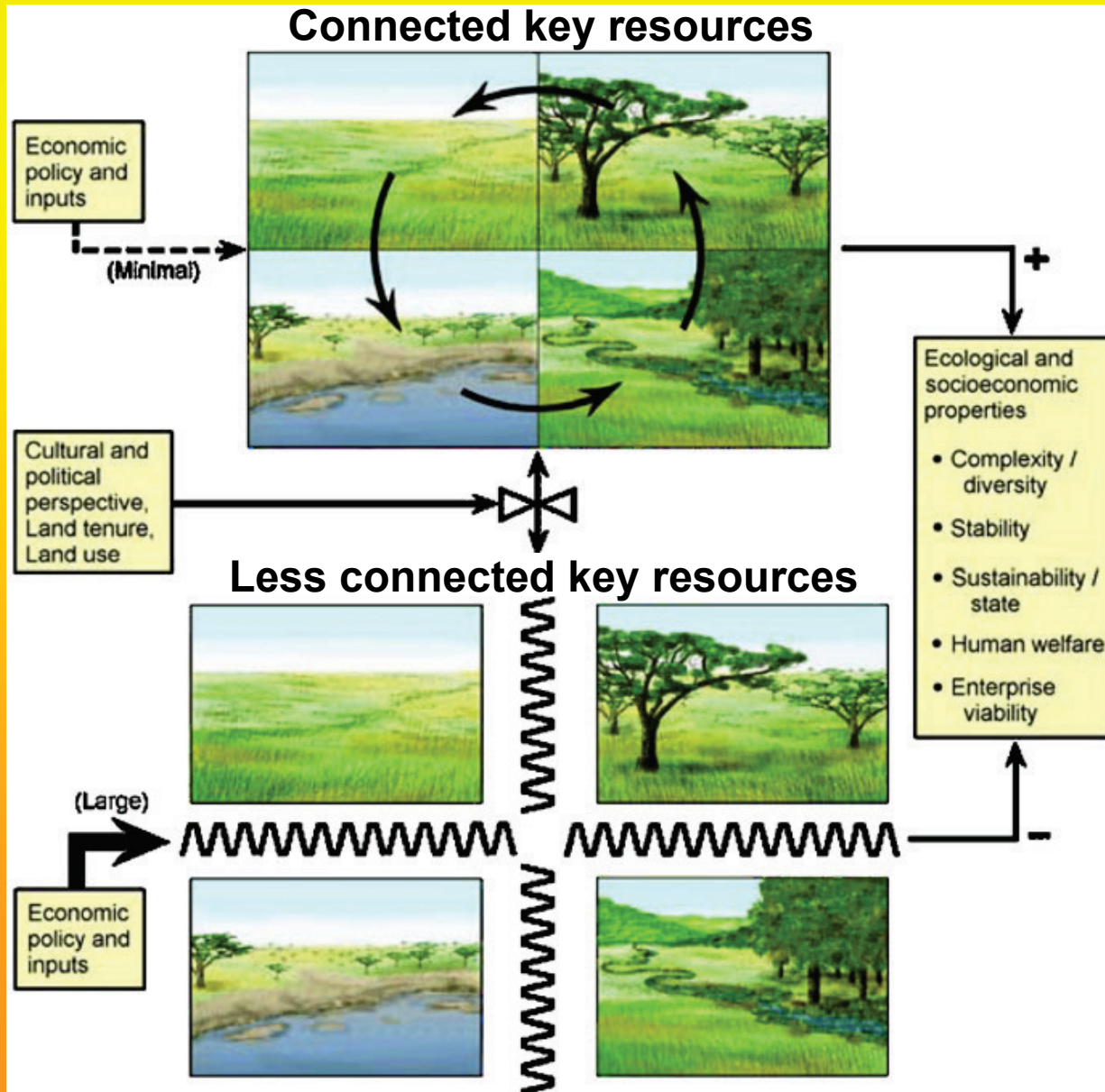
In Kitengela, Kenya, herders want their own parcel for security and also flexible access to widely-spread resources, especially during drought

Pink = fenced parcels



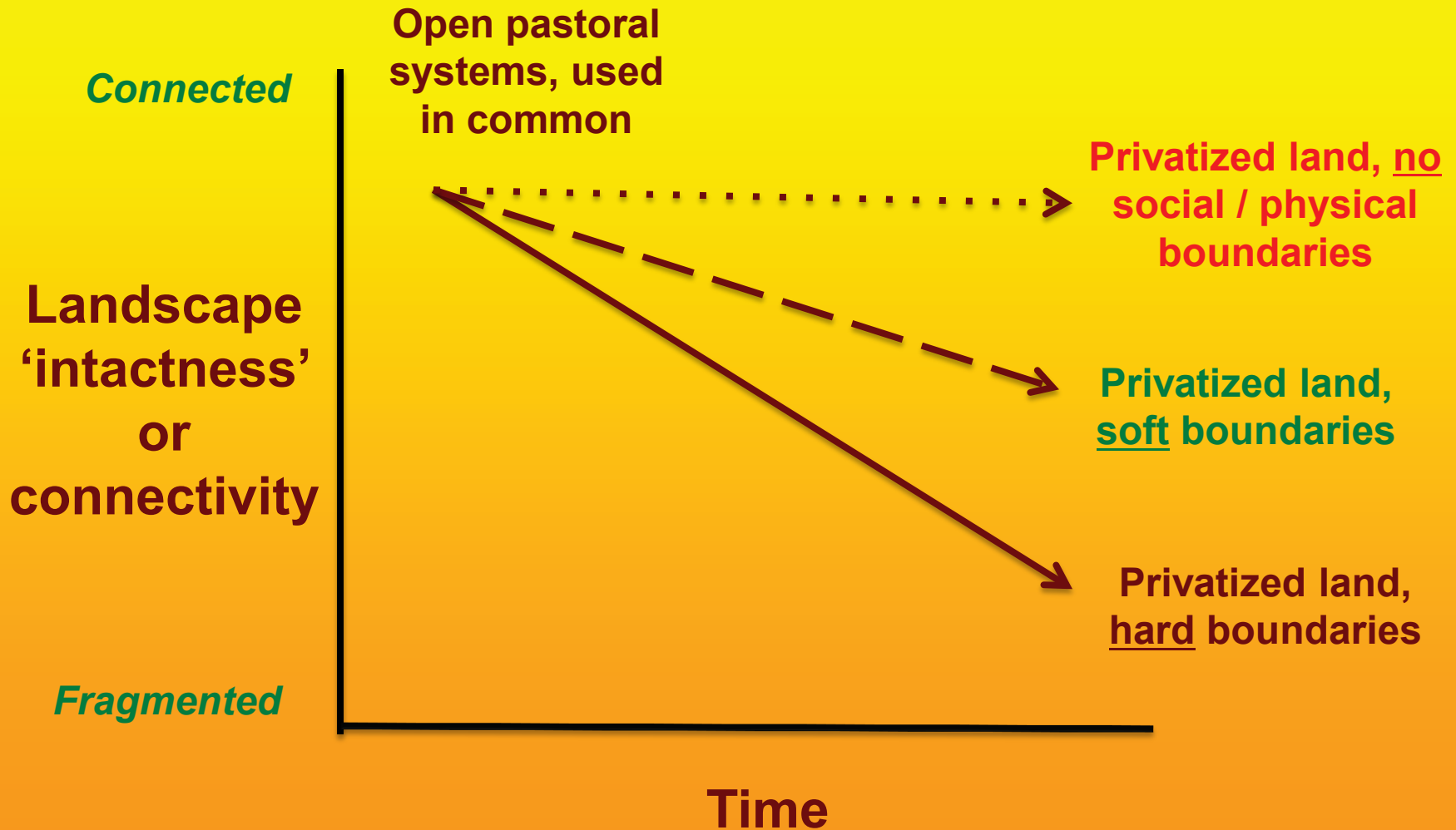
What does tenure mean for rangeland fragmentation?

Causes

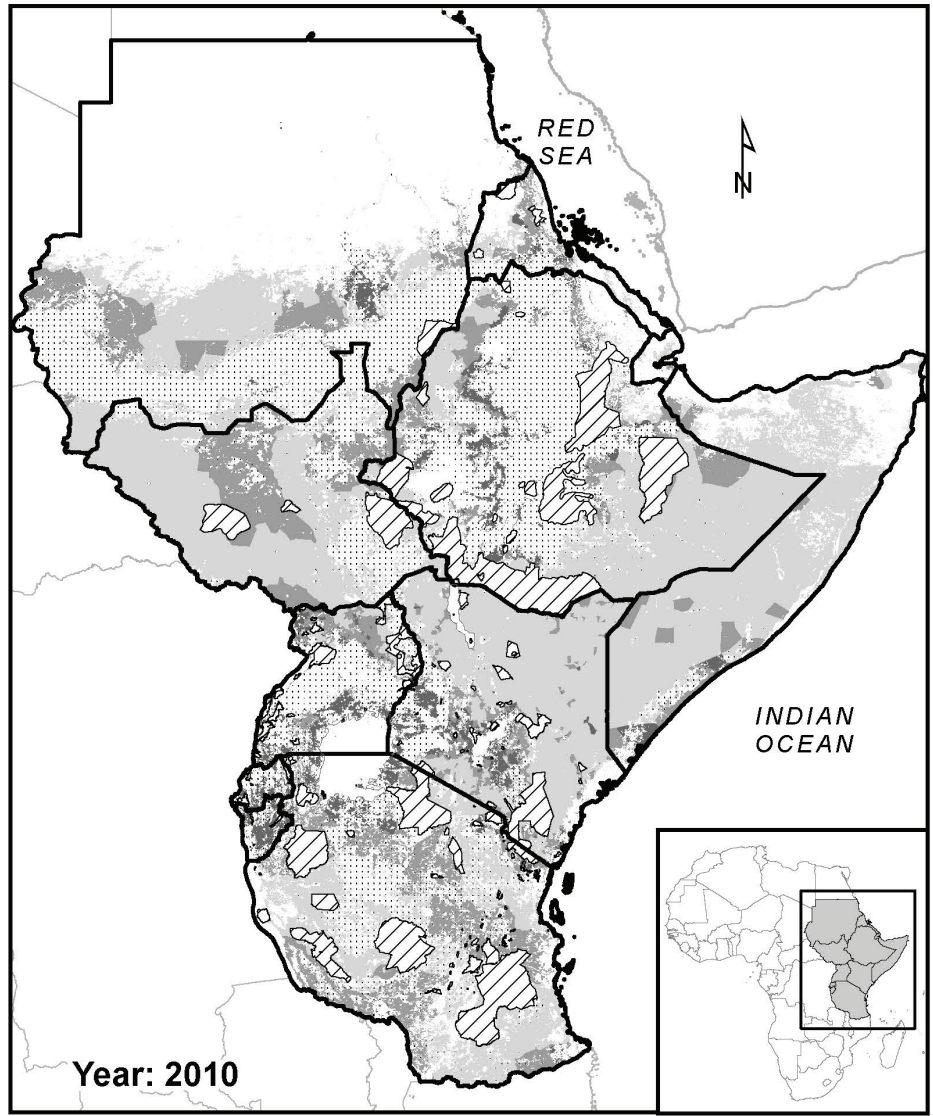


Consequences

Shift from common to private land, boundary strength and fragmentation

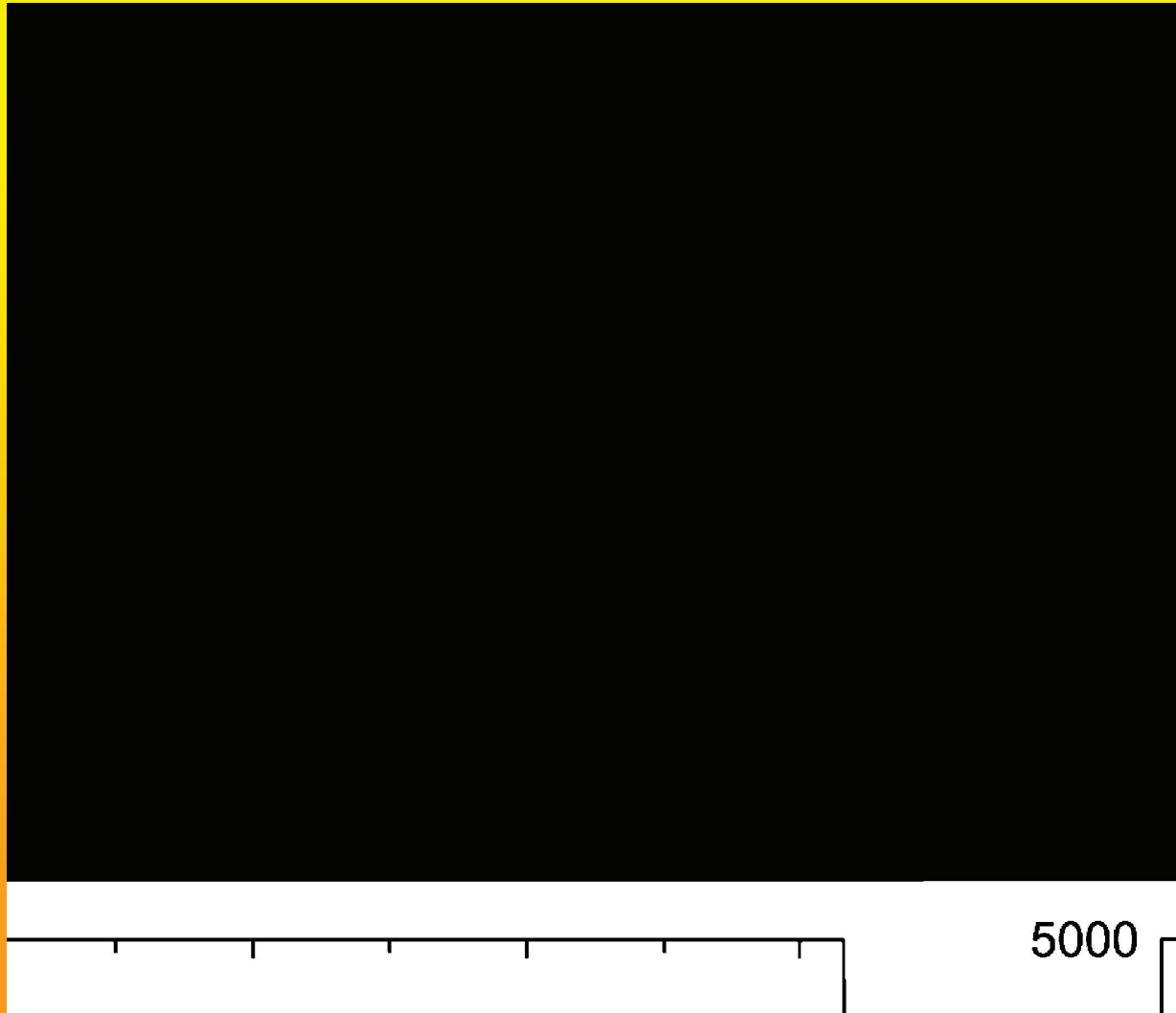


Hard and soft boundary savannas in east Africa



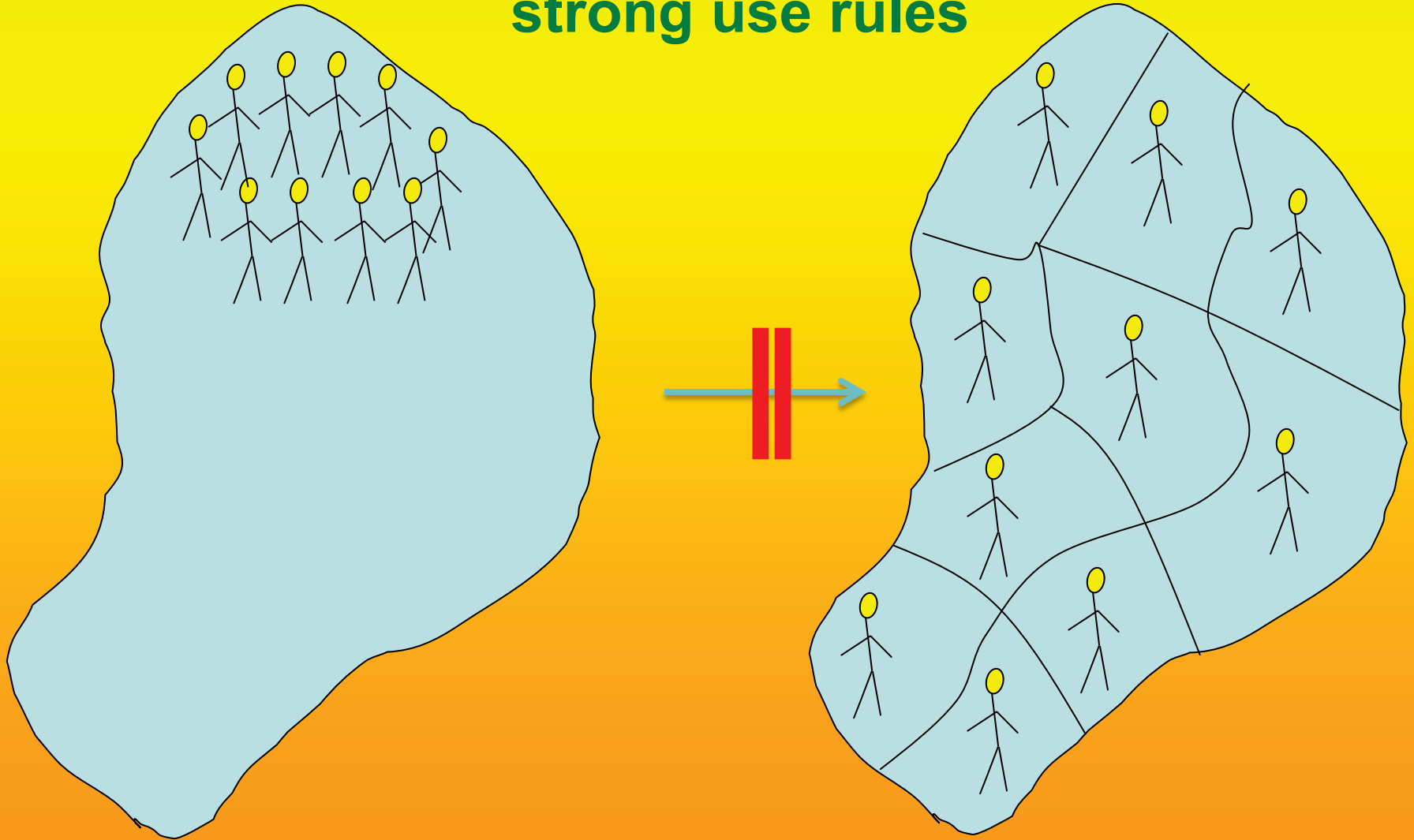
- Hard-boundary savanna
- Mixed-boundary savanna
- Soft-boundary savanna
- Conservation areas
- Cropland / urban
- Forest / desert / lake

What happens if rangelands fragment? Fragmented parcels support lower stocking rates

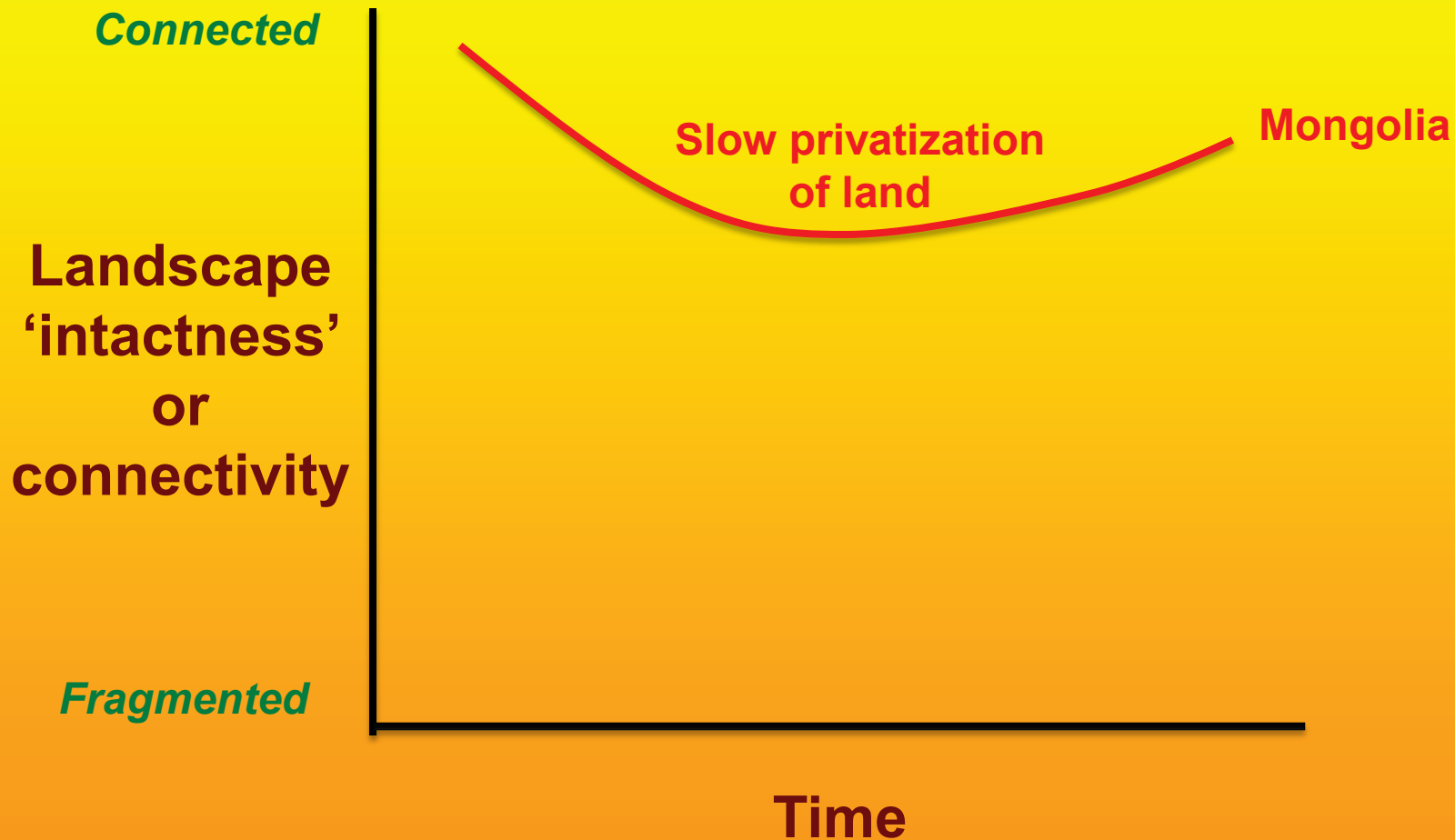


**What can be done to solve the paradox of
pastoral tenure?**

Strategy 1: Slow the privatization of land and agree on strong use rules



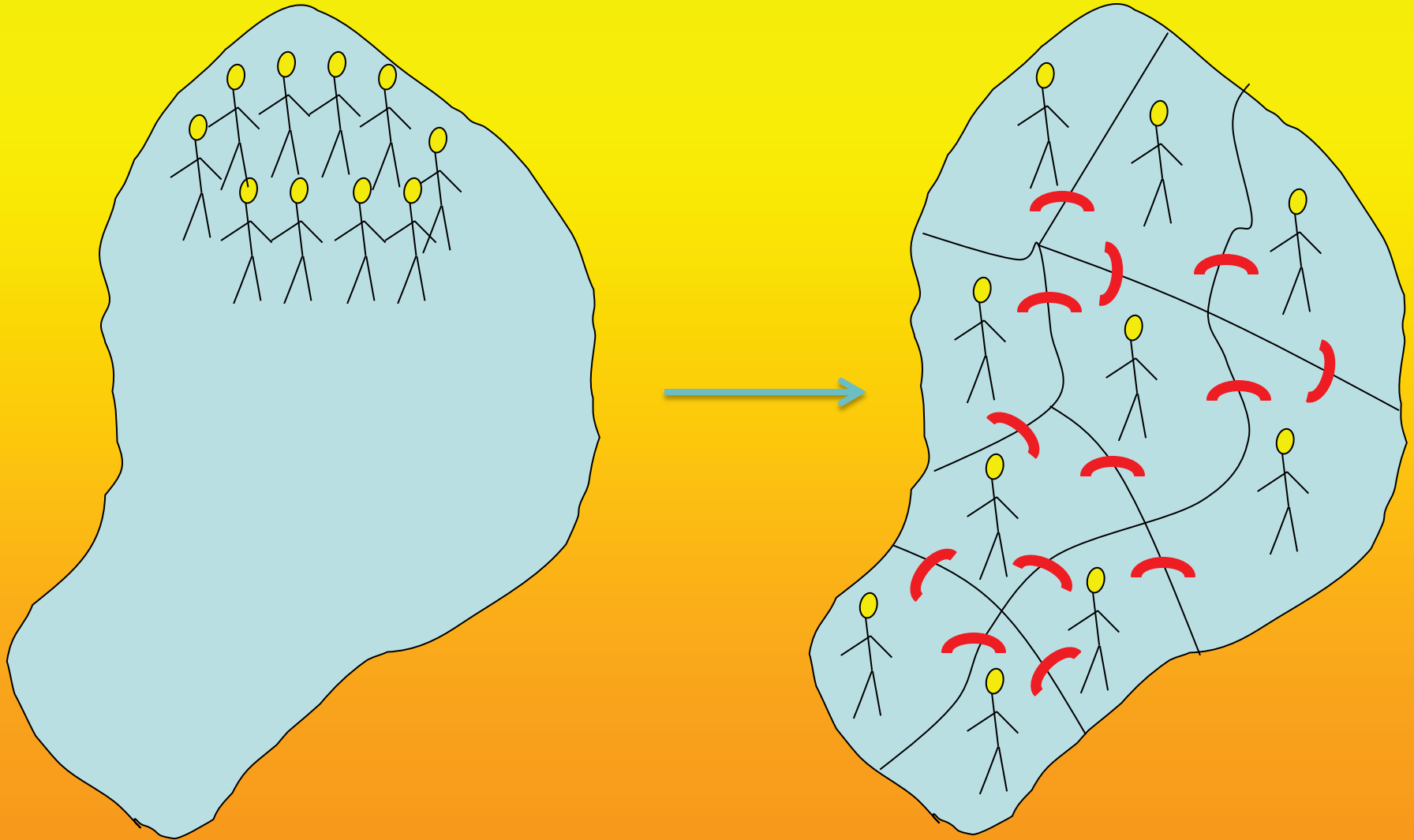
Slowing privatization, developing group rules in Mongolia



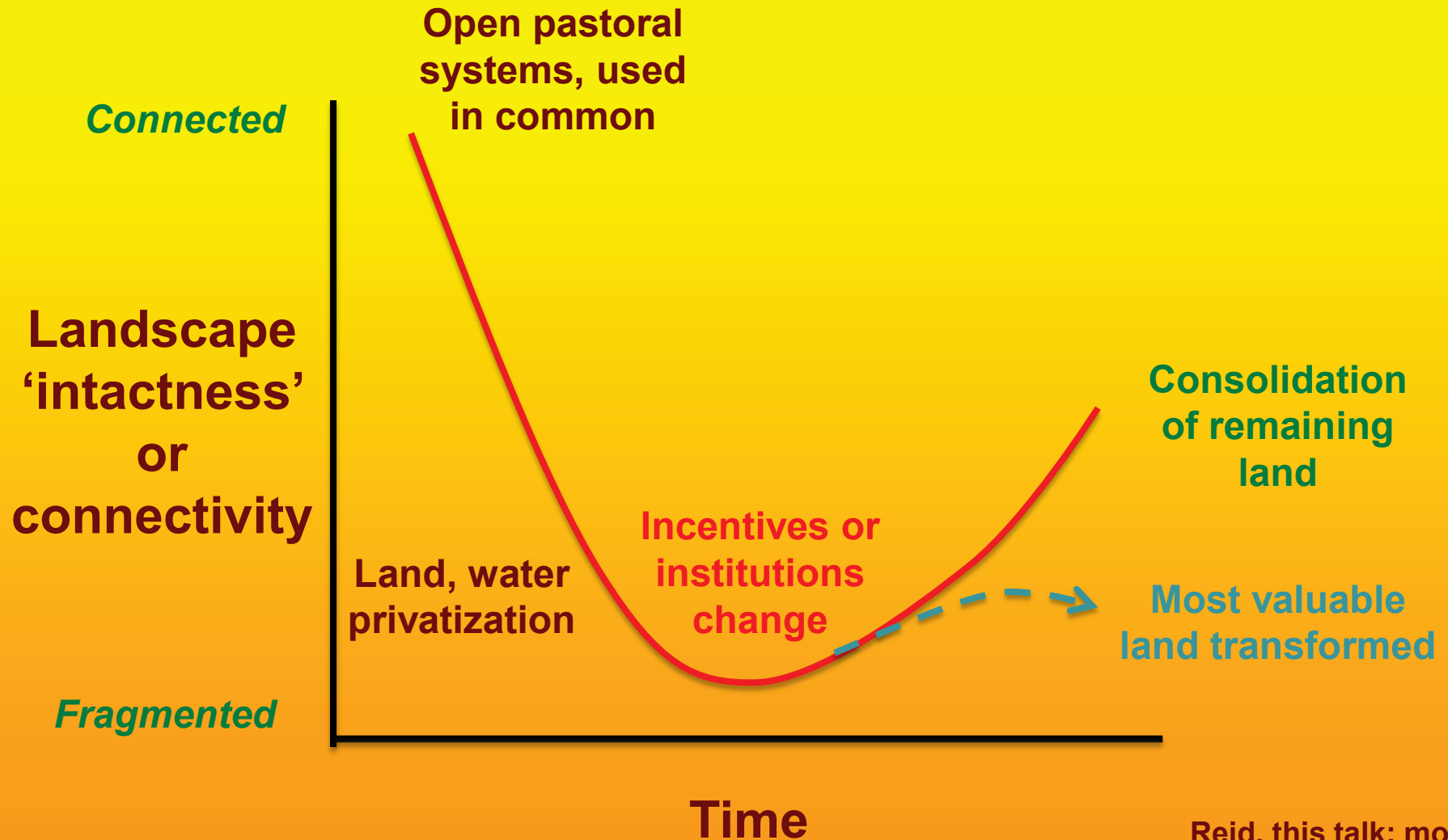
Community-based Rangeland Management (CBRM) institutions in Mongolia

- **Goal is improved pasture use and healthier grasslands**
- **On common land, not privatized land**
- **Build on traditional herder associations**
- **But usually more formalized rules**
- **Often donor catalyzed**
- **> 2,000 CBRM groups across Mongolia**

Strategy 2: Restore connections after privatization of land



Restoring connections among private landowners



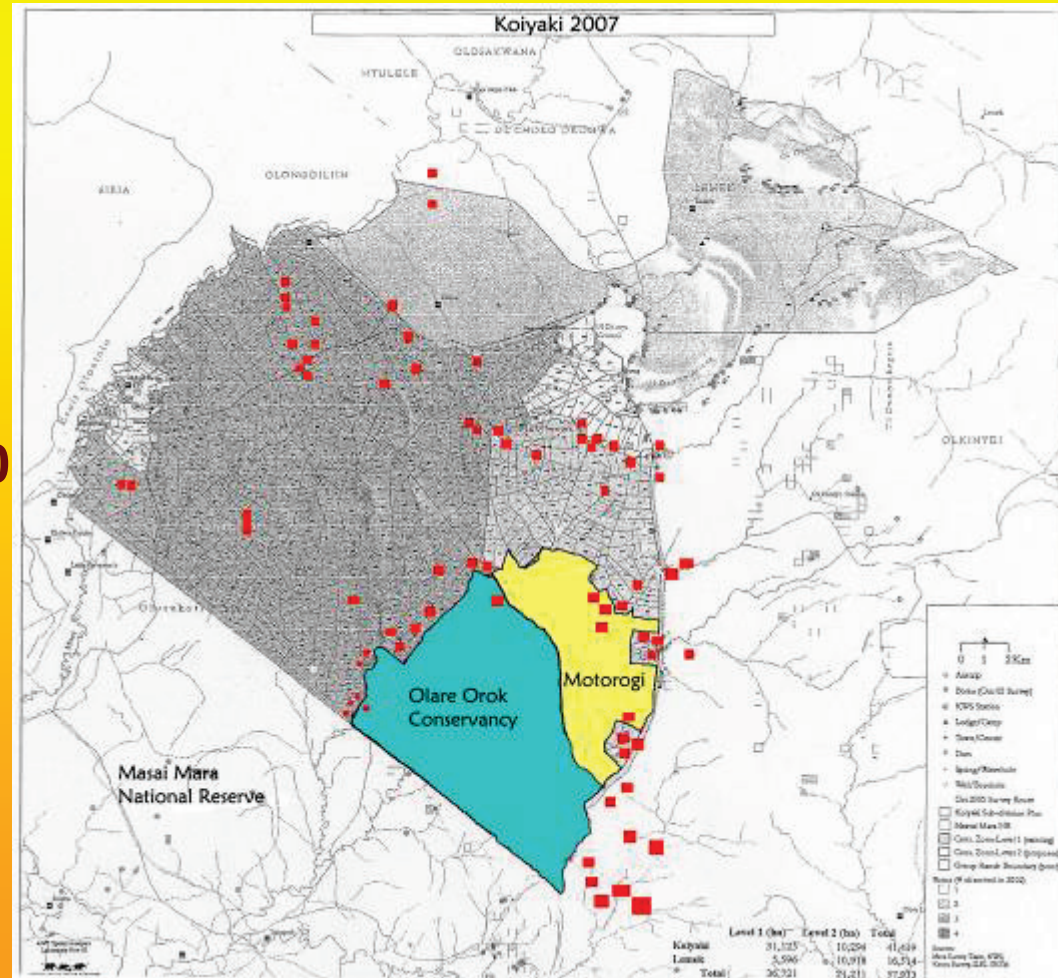
Reid, this talk; modified from Behnke 2008, Hobbs et al 2008

Conservancies in Kenya

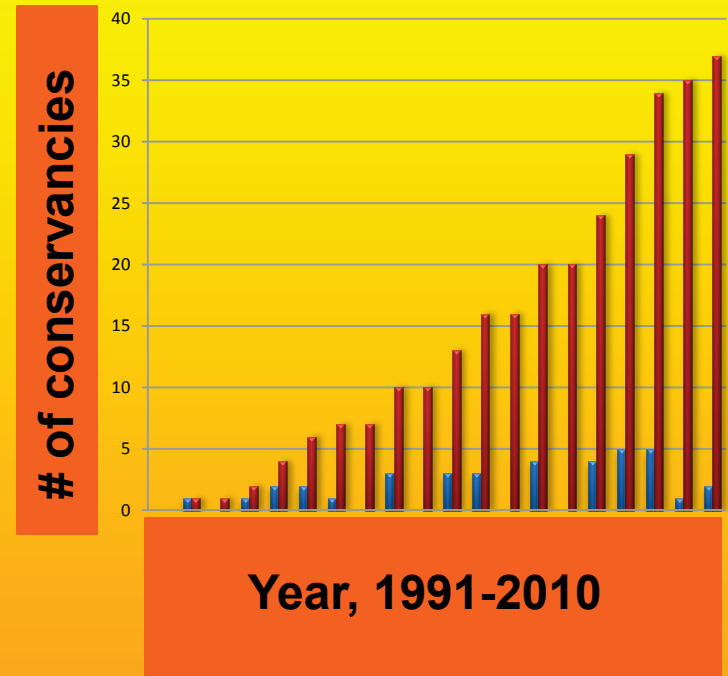
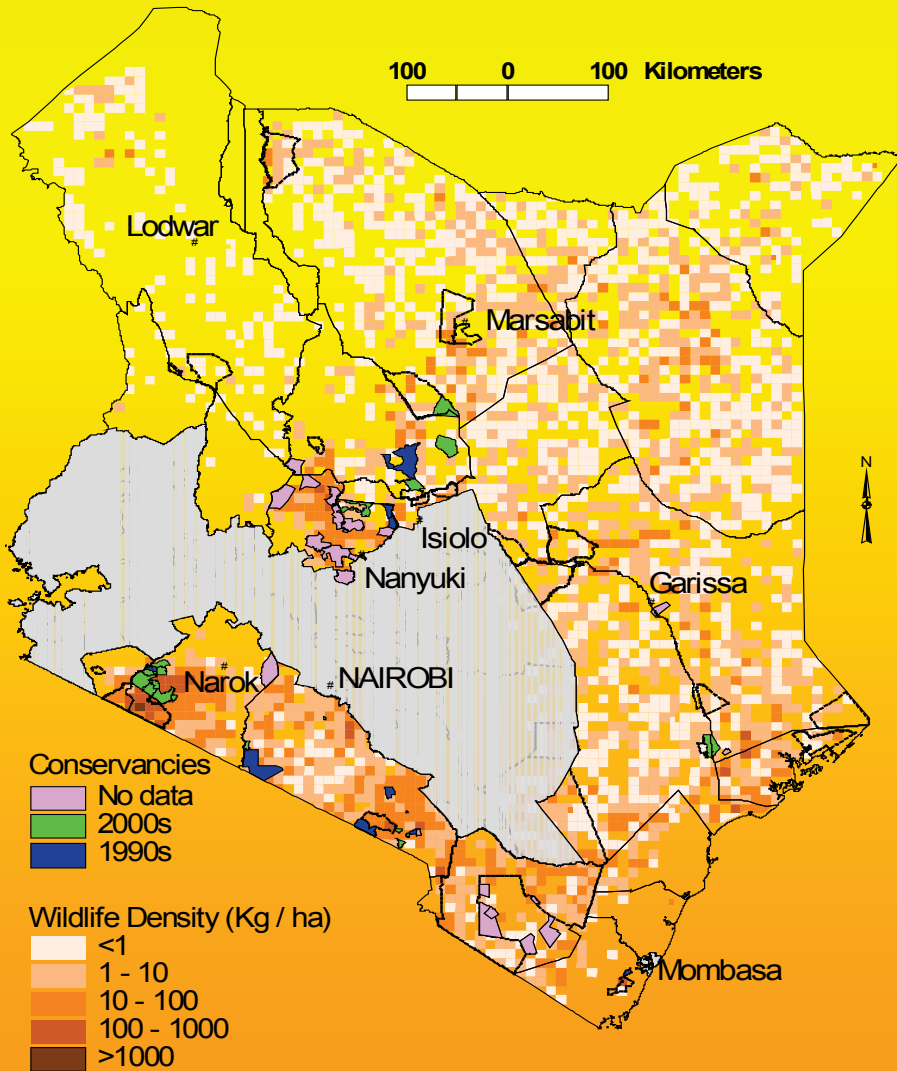
- **Goals of livestock grazing and wildlife conservation**
- **Income from both**
- **Usually on multiple parcels of private, pastoral land**
- **Sometimes public-private or private-private partnerships**
- **Outcomes not measured well yet**

Olare Orok Conservancy

- 160 Maasai landowners joined parcels into a 22,000 acre conservancy
- 4 eco-lodges (12-24 beds) developed
- Guaranteed income of \$1,890 / family / year from tourism (50% mean annual income / family)
- Livestock grazing at end of peak season, hay making for drought



Pastoral conservancies in Kenya



**Do these adaptive governance institutions work
for people and rangelands?**

Social consequences of conservancies in Kenya

- **Pastoral landowners voluntarily reduce stocking for better wildlife profits** (Kaelo, pers comm)
- **Equitable distribution of profits to all landowners**
- **But, poor don't get allocated land so lose out** (Bedelian, pers comm)
- **Push herders to graze in protected areas to avoid losing conservancy payments** (Butt 2011)
- **Heavier grazing outside conservancy** (pers obs)

Ecological consequences of more formal herder groups (CBRM) in Mongolia

- **Comparison of 36 counties, with and without CBRM groups**
- **Controlling for grazing and ecological site**
- **First analyses suggest herders working together in new CBRM institutions are increasing plant biomass and cover in the desert steppe**
- **But no effects in the more productive mountain and forest steppe**

Institutions that slow fragmentation or re-knit fragmented landscapes

- 1. Grazing leases for private landowners on public land (US)**
- 2. Pastoral conservancies (Kenya)**
- 3. Pasture herder groups (Mongolia)**
- 4. Pasture sharing, renting, parcel exchange (Kenya, Australia)**
- 5. Cooperative grazing associations (Kenya)**
- 6. Watershed-scale collaborative conservation initiatives (US, Canada, Australia)**
- 7. Regional-scale collaborative agreements (US, Canada)**

Progress in restoring connections: Long downward trends, recent upticks?

