

Status, Drivers and Management of Degraded Sloped Pastures in the State of Rio de Janeiro

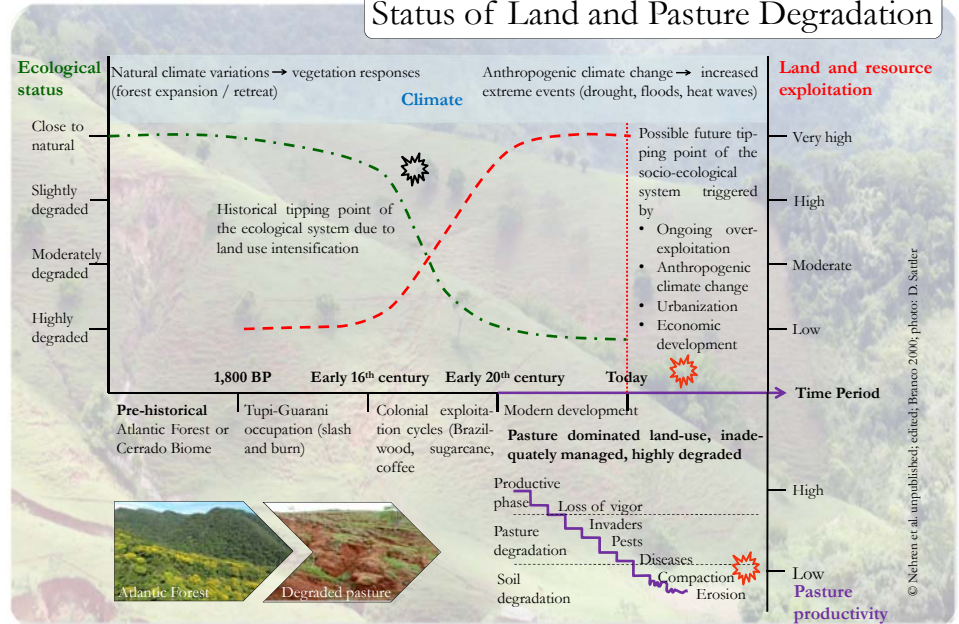
Roman Seliger¹, Dietmar Sattler¹, Udo Nehren⁴, Friederike Naegeli de Torres¹, Antonio Soares da Silva², Claudia Raedig⁴, Helga Restum Hissa³, Jürgen Heinrich¹

¹ University of Leipzig, Institute of Geography, Physical Geography and Environmental Research, Germany ² State University of Rio de Janeiro - UERJ, Institute of Geography, Laboratory of Physical Geography, Brazil, ³ Secretariat of Agriculture and Livestock of the State of Rio de Janeiro - SEAPEC, Rio Rural Programme, Brazil ⁴ Technische Hochschule Köln, University of Applied Sciences, Institute for Technology and Resources Management in the Tropics and Subtropics (ITT), Germany

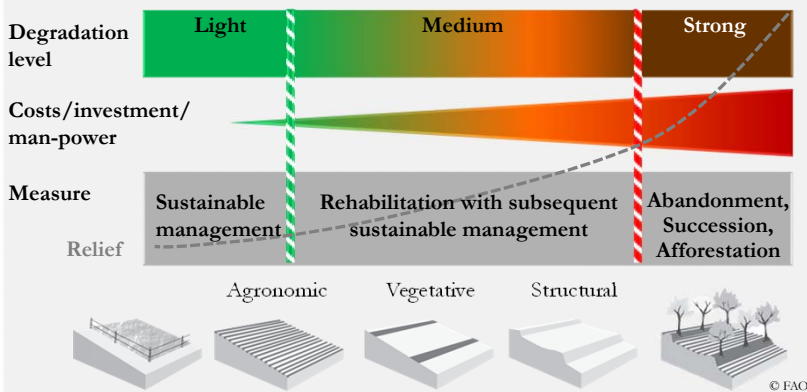
State of Rio de Janeiro, SE-Brazil



Status of Land and Pasture Degradation



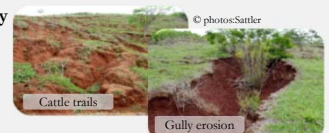
Options for Pasture Rehabilitation



Drivers of Pasture Degradation

Geo-ecological susceptibility

- Weathered soil such as Ferralsols, Acrisols, Cambisols
- Hilly to steep relief,
- Seasonally pronounced precipitation and droughts
- High surface runoff, low water infiltration



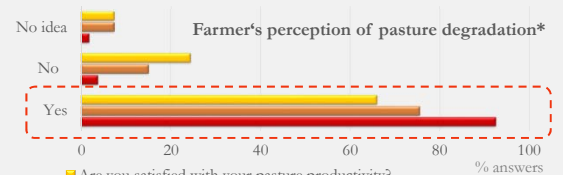
Inadequate, lacking or unsustainable pasture management

- Overstocking
- Overgrazing
- Soil compaction
- Cattle trails as initial forms for erosion



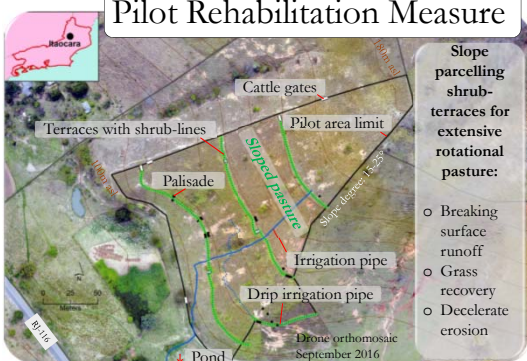
Low awareness of pasture degradation and lack of resources

- Lack of expertise ("good agricultural practice")
- Lack of financial and technical resources



*52 small-holder farmers interviewed in the municipality of Itaocara, RJ

Pilot Rehabilitation Measure



Conclusion

Almost all sloped pastures in SE-Brazil show various degradation levels most noticeable in distinctive erosion forms such as rills, cattle tracks and gullies. If no sustainable pasture management, rehabilitation or recovery will be applied to these fragile, historically strongly modified ecosystems, pastures will soon degrade to a degree and extent, where land use will not be profitable anymore and rural population might lose their main source of income ("tipping points"). In the long term, cattle ranching needs to be transferred from extensively managed slopes towards intensively managed plane areas with higher profitability and ecologic stability. Degraded sloped pastures should be stabilized by succession and afforestation. Moreover, farmers should get introduced to sustainable land management and agricultural best practices by technology transfer and technical assistance.