Implementation, Monitoring and Management of a Pilot Rehabilitation Measure on Degraded Sloped Pastures in Brazil

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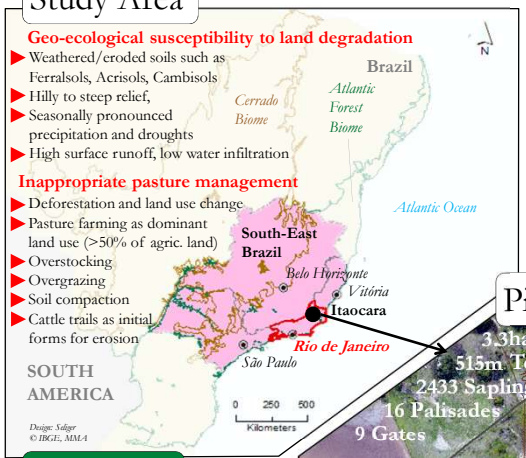
Study Area

Geo-ecological susceptibility to land degradation

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

Inappropriate pasture management

- Deforestation and land use change
- Pasture farming as dominant land use (>50% of agric. land)
- Overstocking
- Overgrazing
- Soil compaction
- Cattle trails as initial forms for erosion



Goals

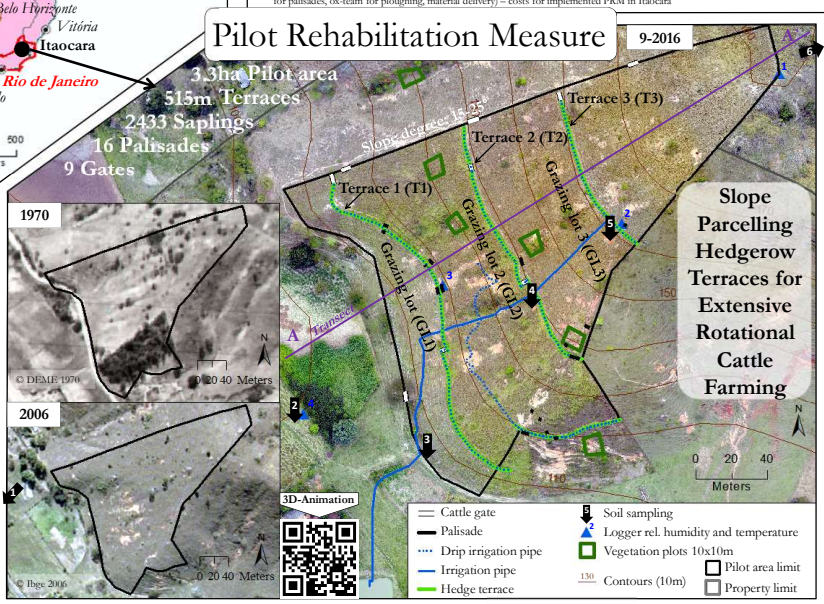
Fostering

- **Erosion control**
- **Pasture recovery**
- **Pasture productivity**
- **Ecosystem services**

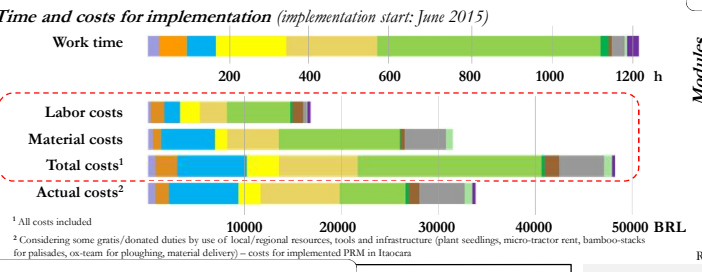
Through

- Breaking the erosive power of water (runoff, interflow)
- Closing vegetation cover
- Parcelling for rotational farming or other future land use options
- Considering farmer concerns & best practices

Pilot Rehabilitation Measure

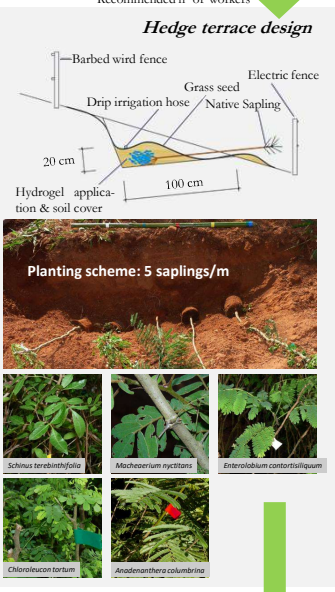


Implementation

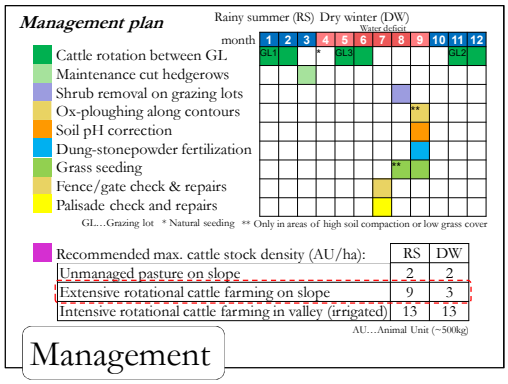


Modules		
2	Preparatory measures	
2	Slope terraces	
2	Irrigation system	
2	Palisades	
2	Fences	
2-3	Hedge plantation	
2	Grass-sods	
2	Ploughing	
2	Fertilizing	
2	Grass-seeding	
1-2	Maintenance	

Recommended nº of workers



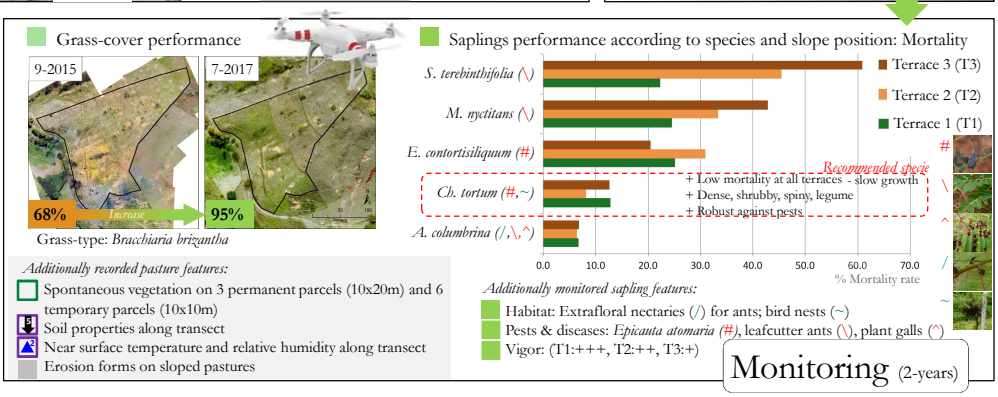
Management



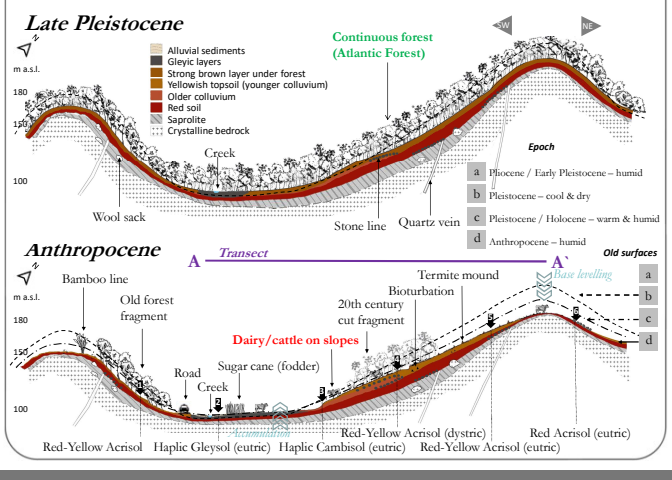
Recommended max. cattle stock density (AU/ha):	RS	DW
Unmanaged pasture on slope	2	2
Extensive rotational cattle farming on slope	9	3
Intensive rotational cattle farming in valley (irrigated)	13	13

AU…Animal Unit (~500kg)

Monitoring (2-years)



Infobox: Land Degradation in Itaocara



Conclusion

Landscapes in SE-Brazil are severely degraded due to historic deforestation, geo-ecologic susceptibility and recent inappropriate land use. Today, the vast majority of pristine Atlantic Forest has been removed and replaced by pastures for smallholder dairy farming. In the state of Rio de Janeiro, hilly to steep relief positions and unsustainable or lacking management (e.g. overstocking, overgrazing) make pastures highly prone to erosion (sheet, rill and gully). Pasture rehabilitation measures (PRM) are urgently needed to avoid the development and expansion of badlands with no or low productivity. The presented *PRM Slope Parcelling Hedgerow Terraces for Extensive Rotational Cattle Farming* is a modular approach to reduce soil erosion and to raise pasture stability and productivity – at low cost, low man-power and taking into account farmers concerns and best practices. It is embedded in the overall concept in moving dairy/cattle from sensitive, extensively used sloped pastures to stable, intensively used plain areas (rotational grazing).