

Triple L Research Initiative

(Land, Livestock and Livelihood Dynamics)



Influence of Enclosure Management Systems on Rangeland Rehabilitation in Chepareria, West Pokot County, Kenya

By

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Enclosing the commons: reasons for the adoption and adaptation of enclosures in the arid and semi-arid rangelands of Chepareria, Kenya

Reasons for enclosure establishment in Chepareria

Responses	N = 120	%
Boundary demarcation/tenure insecurity	85	70.8
Preserve pasture	78	65.0
Proper land management	63	52.5
Enable crop production	38	31.7
Curb land degradation	32	26.7
Gain environmental benefits	17	14.2

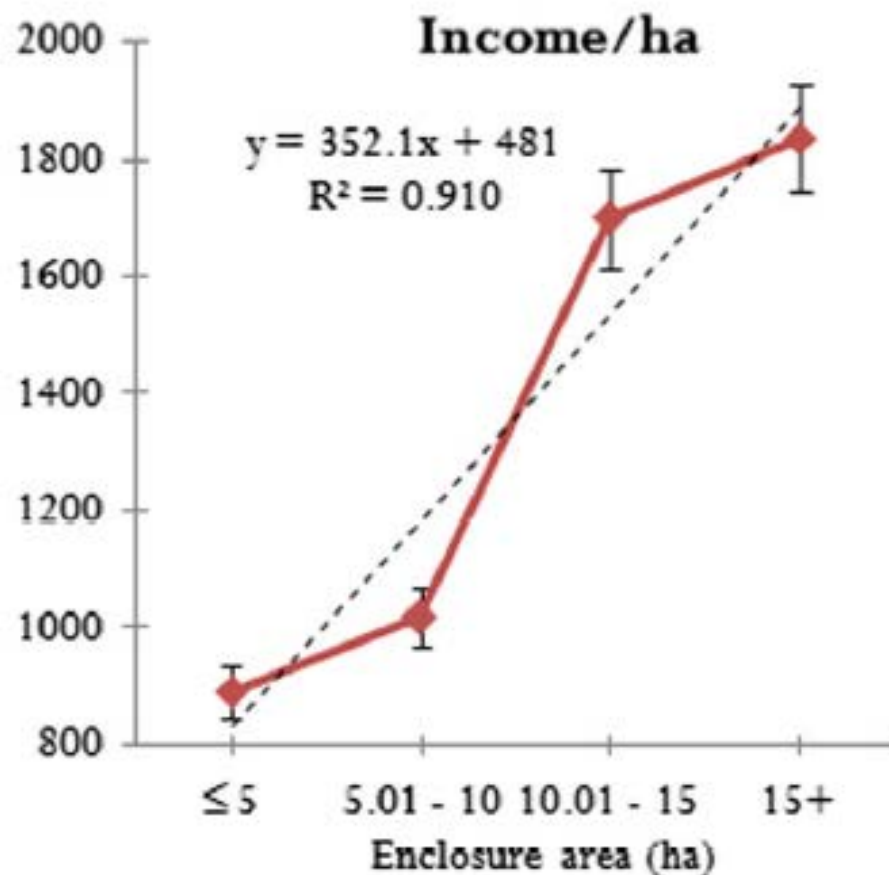
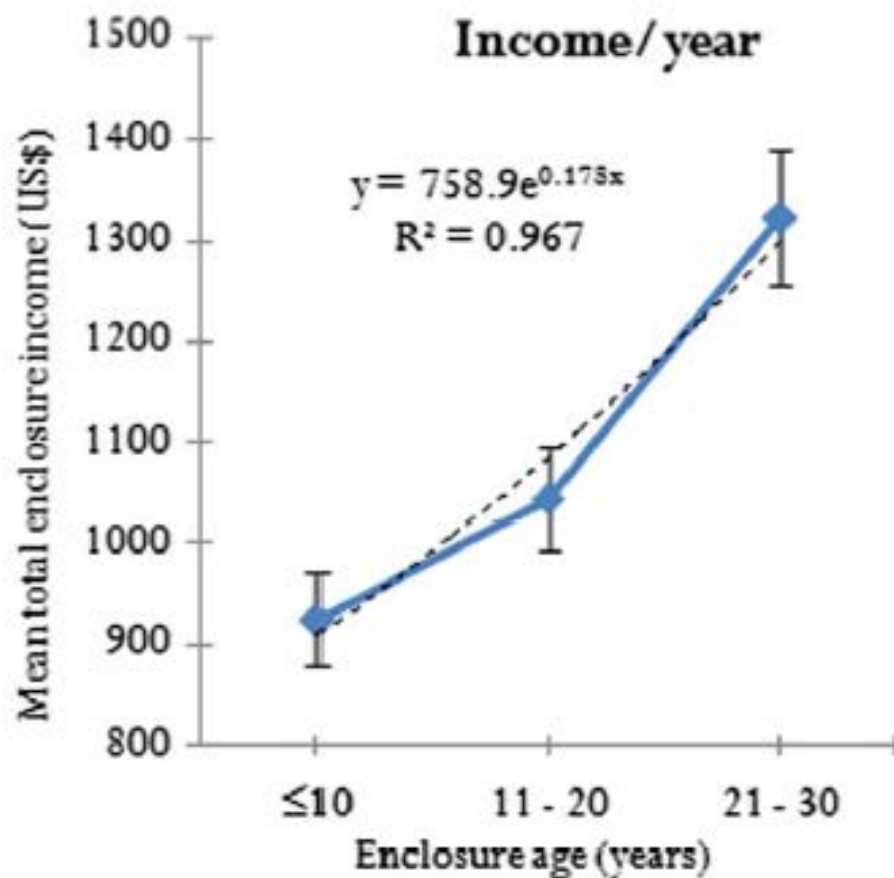
Characterization of enclosure management regimes and factors influencing their choice among agropastoralists in North-Western Kenya

Factors influencing the choice of enclosure management regimes in Chepareria

Variables	Grazing and cultivation (N=72)	Grazing, cultivation and contractual grazing (N= 16)	Grazing, Cultivation and fodder/grass seed production (N=6)	Cultivation and grazing (N= 26)	Mean	Pearson correlation	Significance (two-tailed)
<u>Number of livestock owned</u>	7.43	9.43	15.00	6.48	7.85	0.209	0.024*
<u>Enclosure acreage (ha)</u>	4.99	7.59	7.08	3.02	5.01	0.147	0.109
<u>Distance to market (km)</u>	9.56	10.22	6.50	8.19	9.19	-0.11	0.22
<u>Household income (US\$)</u>	899.55	1,145.33	1,808.64	1,214.90	1,046.10	0.214	0.019*
<u>Agroecological zone</u>						-0.348	0.000**
<u>Land tenure</u>						-0.234	0.010**



BENEFITS DERIVED FROM REHABILITATING A DEGRADED SEMI-ARID RANGELAND IN PRIVATE ENCLOSURES IN WEST POKOT COUNTY, KENYA



Impacts of enclosure age and management on herbaceous layer characteristics and woody species density in Northwestern Kenya

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Vegetation

Attributes

Cover (%)

- Bare ground
- Annual grasses
- Perennial grasses
- Forbs

Relative Abundance (%)

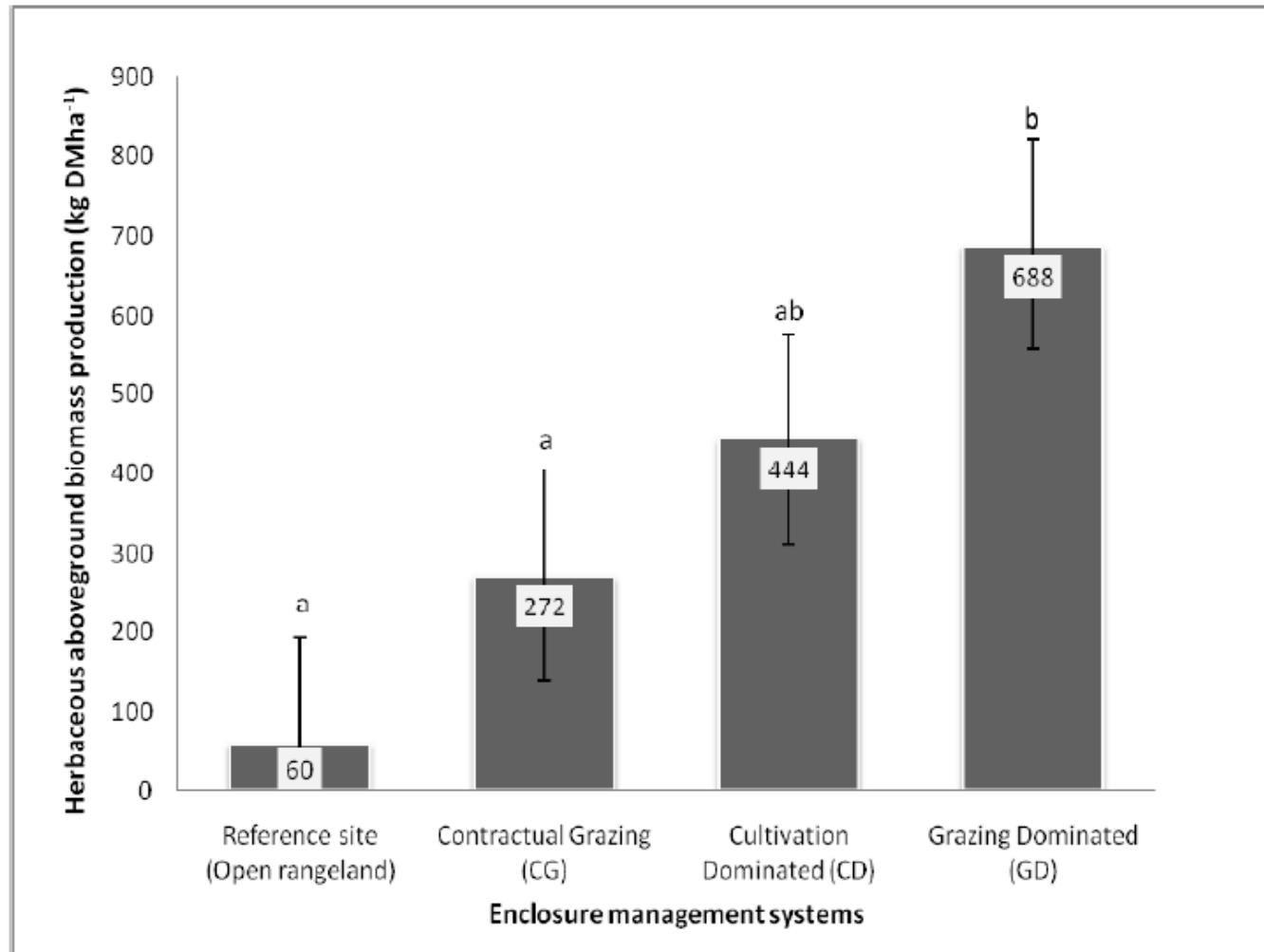
- Annual grasses
- Perennial grasses
- Forbs

Species

- Richness
- Dominance
- Diversity

Herbaceous aboveground Biomass (kg DM ha⁻¹)

Wood species density (ha⁻¹)



Conclusion and scope of future research

In design/development of a cost-effective enclosure management strategy:

- Heterogeneity of management systems- intensity
- Particularism of local constraints

Solutions:

- _flexibility in design
- _Participation/involvement of the local people
- _Policies

Future studies:

- Model existing grazing systems
- Detailed CBA of enclosure establishment
- Rangeland enclosures: are they non-climatic stressors?