

# **Wildlife Conservation on Kenya's Rangelands: an economic perspective**

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# HEALTH WARNING!!

- This work is in progress and most graphics are at an intermediary stage of analysis and development

## Scale of the System

- 500,000+ km<sup>2</sup>
- 19 ASAL Districts (arid & semi-arid lands)
- 1.2 million+ economic units
- land under individual, group or communal tenure
- agricultural, livestock and wildlife production
- what governs the investment decisions on production systems?

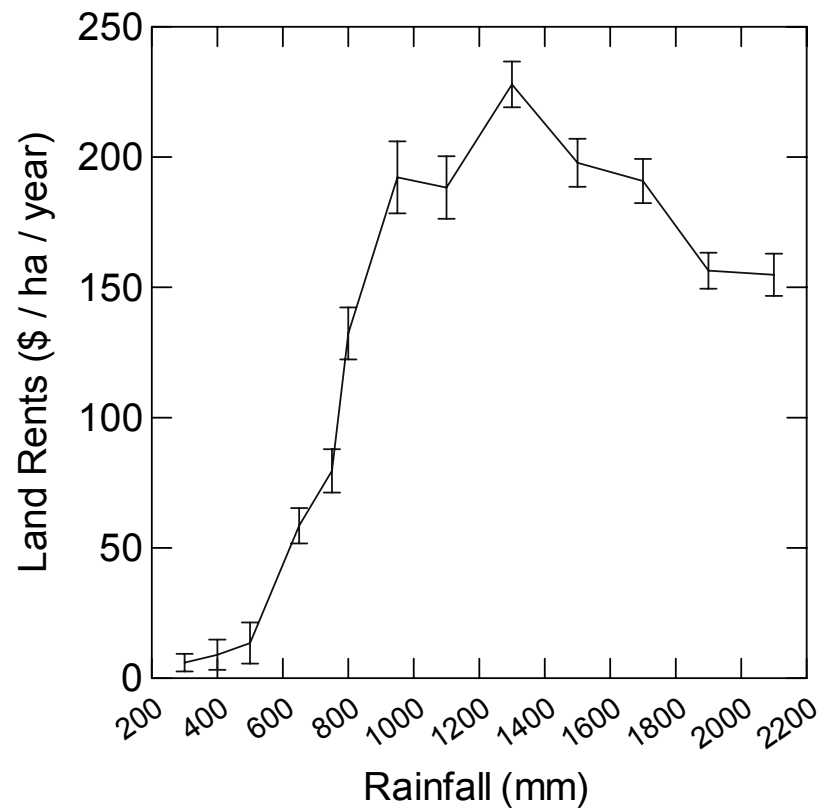
# Land Rents

net returns to land

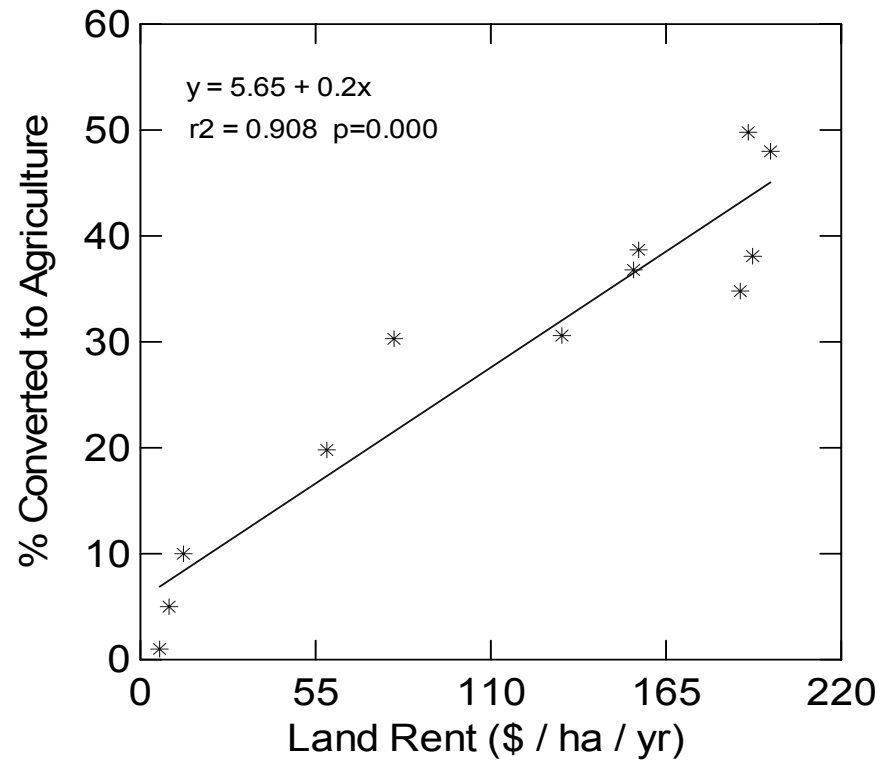
***NR = gross revenues – (direct & indirect costs)***  
**measured as \$ ha<sup>-1</sup>y<sup>-1</sup>**

**agricultural rents, livestock rents, wildlife rents**

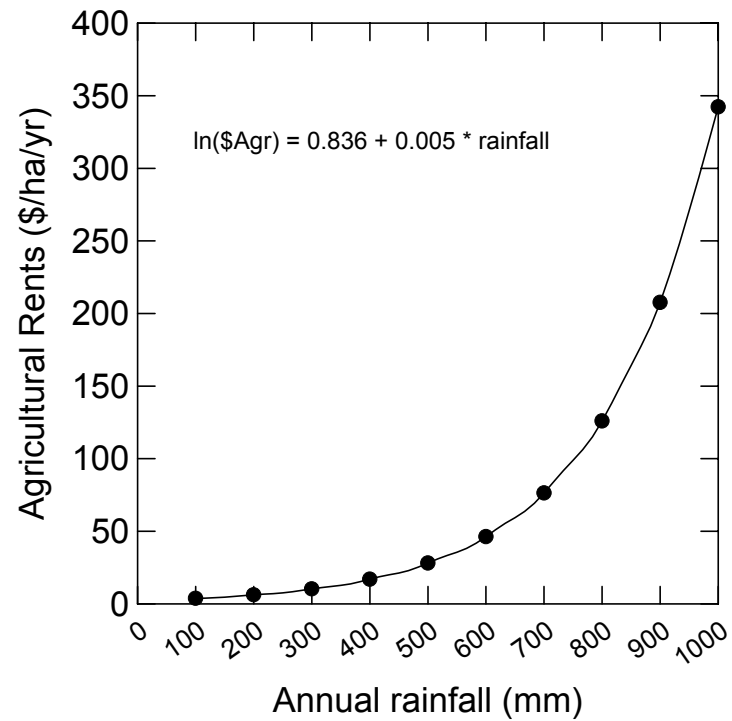
# Land Rents and Rainfall in Kenya



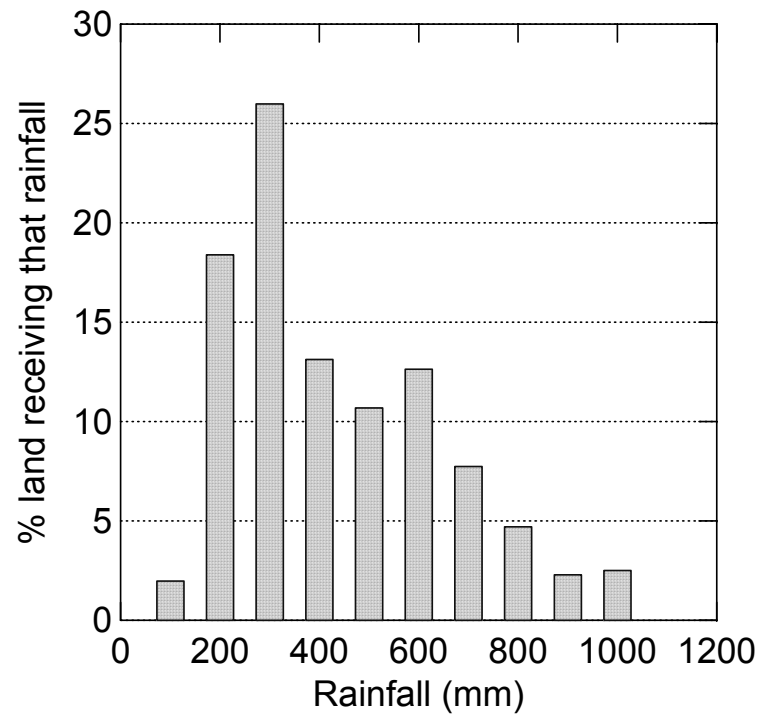
# Land Rents and Conversion to Agriculture in Kenya



# Agricultural Rents on Kenya's Rangelands



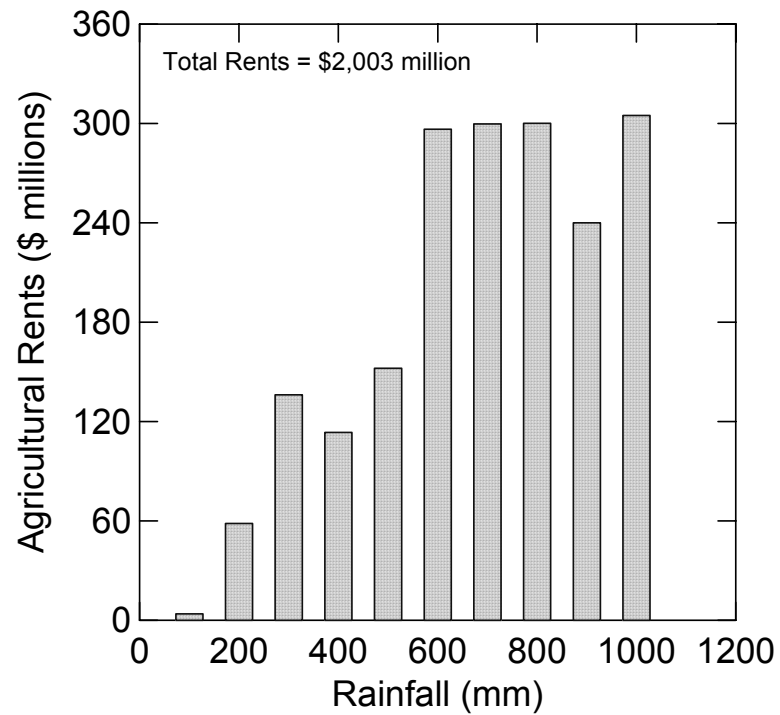
# Rainfall Distribution





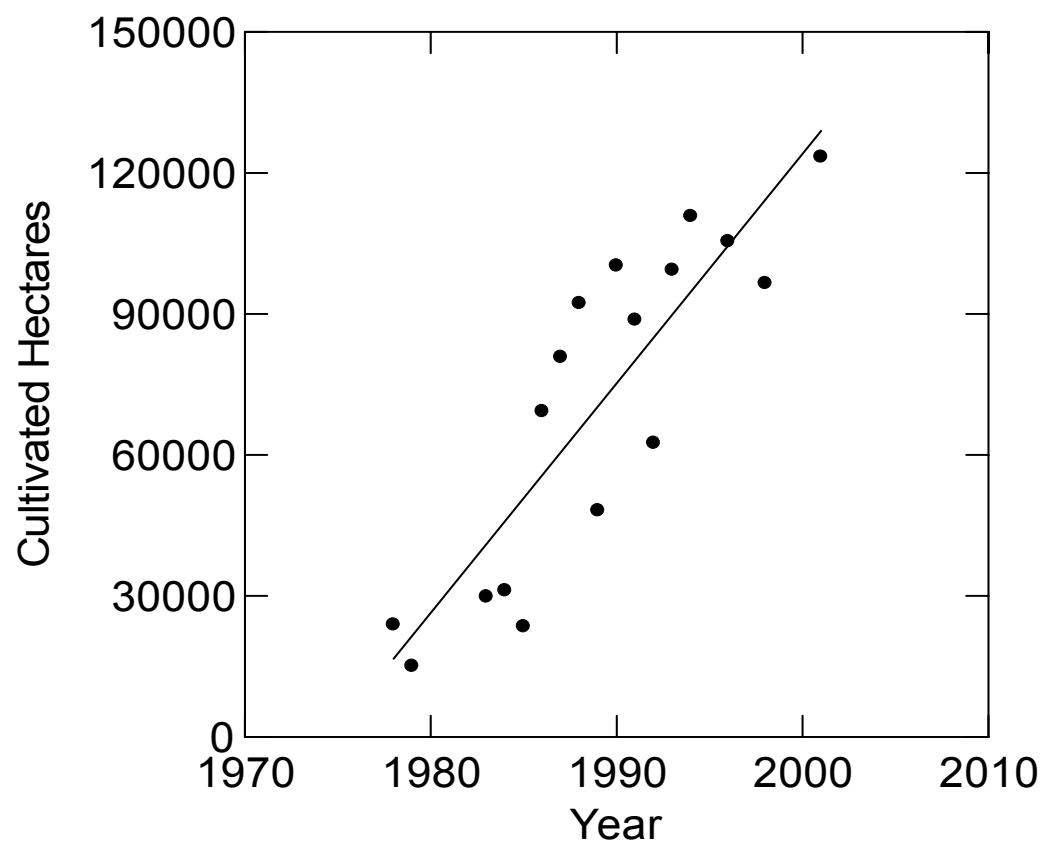
# Total Value of Agricultural Rents

## \$ 2,004 million

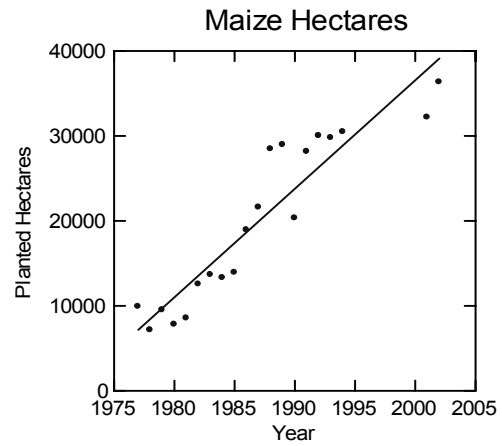
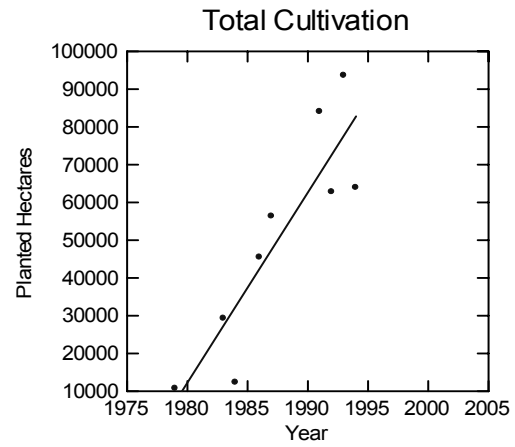


# Uptake of Agricultural Rents

expansion of cultivation in all ASAL Districts  
eg NAROK



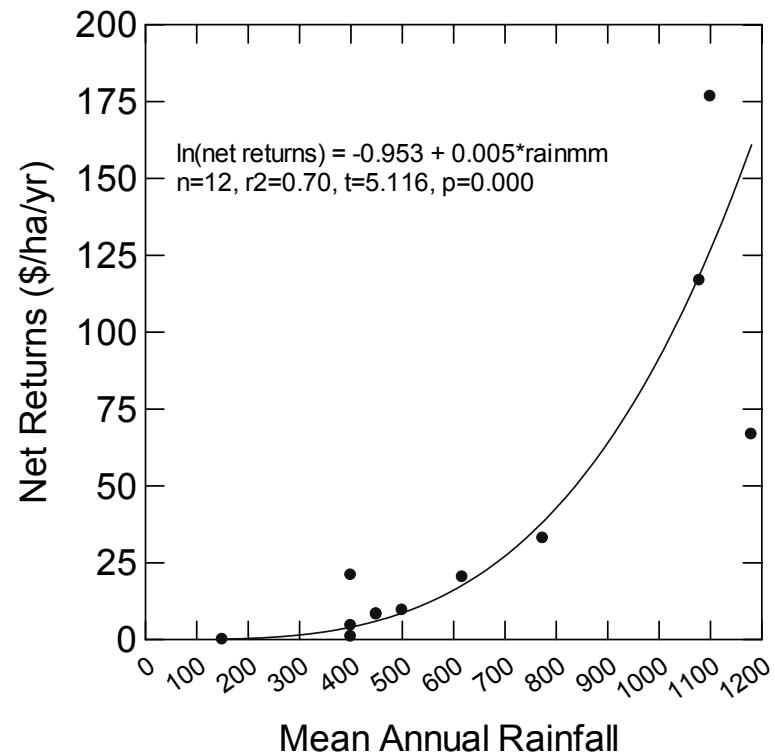
# Cultivation in Kajiado District



# Livestock Rents

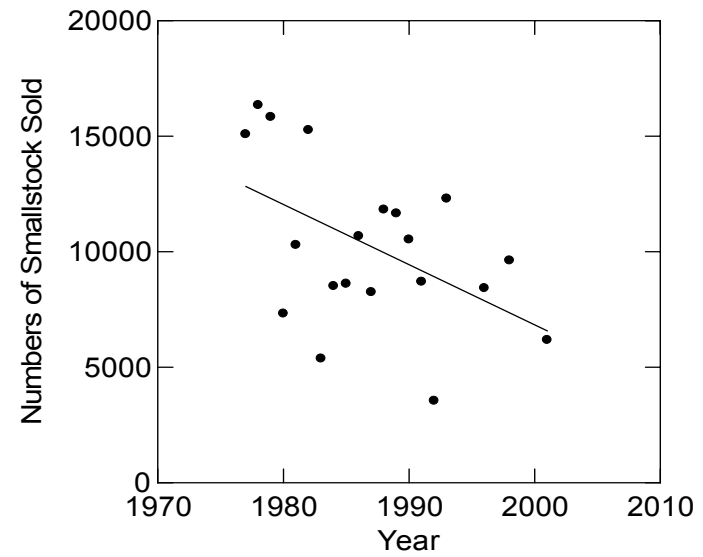
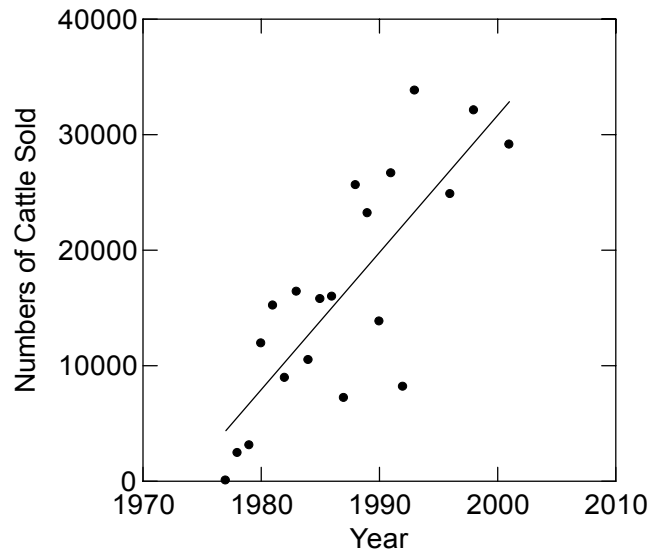
Total Value of Livestock Rents = \$344 million

## Net Returns to Livestock

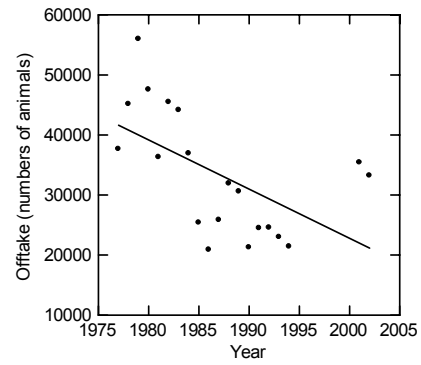
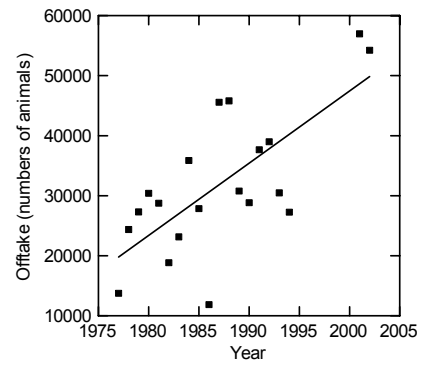


# Livestock Offtake

Increased cattle offtake in all ASAL Districts  
eg Narok District

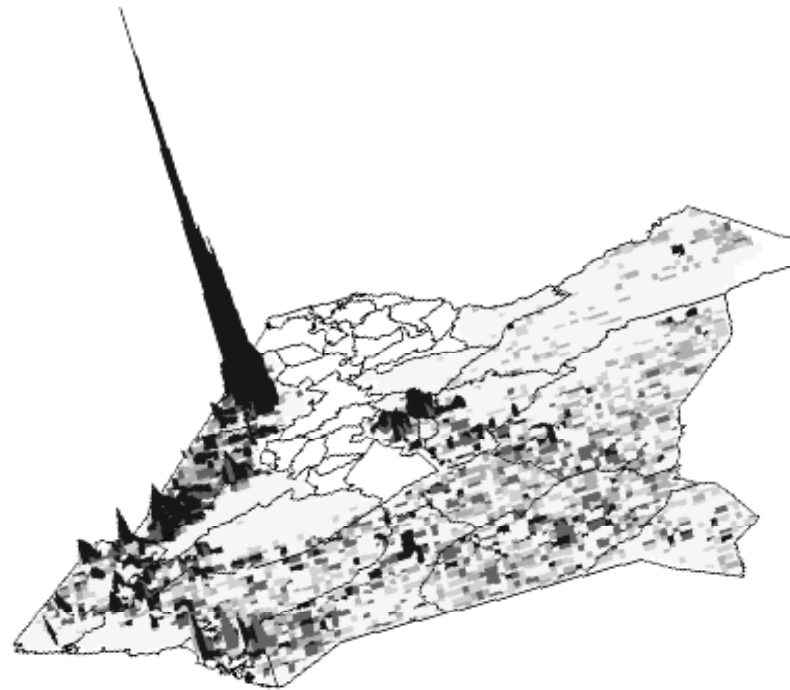


## Kajiado District, Livestock Offtake



# Wildlife Rents

## Distribution of Wildlife



# Sources of Wildlife Rents

- **PUBLIC CONSERVATION**
  - Revenue sharing schemes with KWS & County Councils
  - NGO revenues, programmes etc
- **PRIVATE CONSERVATION**
  - Consumptive Utilisation
    - Cropping
    - Bird shooting
  - Non Consumptive Utilisation
    - Concession / Access fees
    - Bednight fees
    - Local Employment
    - Cultural Bomas
    - Simple Camp Sites



# Wildlife Rents – Market Distortions

- **Policy Failure**
  - banning all consumptive utilisation of wildlife (even bird shooting now banned)
- **Institutional Failures**
  - creation of powerful tourism cartels
  - barriers to landowners providing tourism services
  - inequitable distribution of wildlife generated revenues within Group Ranches

## **Wildlife Policy Pre-1977**

- **Protected Areas** – no utilisation except Tourism
- **Outside Protected Areas** – wide range of consumptive utilisation
  - Sport Hunting
  - Collection and sale of Ivory etc...
  - Game Ranching and Cropping
  - Wildlife Capture, Sales & Export
  - Value added activities including
    - Tanning of hides
    - Preparation of Trophies
    - Curios

### **Value of Consumptive Utilisation**

- 1977: c. \$120m of which perhaps 20% went to landowners
- 2005: c. \$350m – but industry has grown \*4 since 1977

## **Policy Failure - Post 1977**

- **Protected Areas:** Wildlife Tourism largely controlled by Government, County Council and Tourism cartels with few benefits going to landowners
- **Outside Protected Areas:** all consumptive utilisation was prohibited
  - significant loss of revenues to landowners
  - no revenues generated on the 95% of rangelands which do not, and cannot, support wildlife viewing

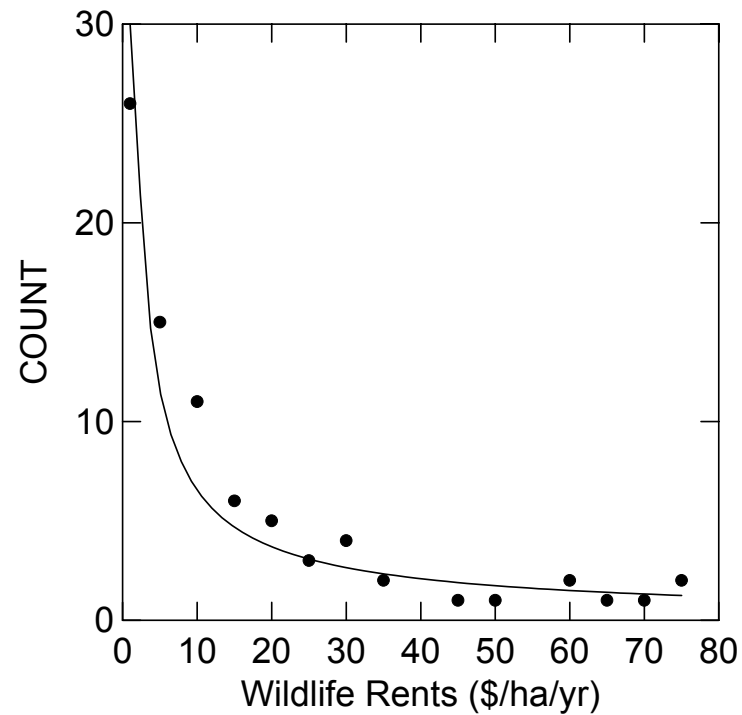
# Institutional Failures

- Tourism Cartels ....
  - divert wildlife revenues (rents) away from the producers of wildlife (the landowners) to the providers of services (agents, transporters & hoteliers) [only 5% of revenues captured]
  - create barriers to landowners & users joining the tourism market
- Group Ranches
  - inequitable distribution of revenues
  - multiplicity of agents

# Wildlife Rents to Landowners

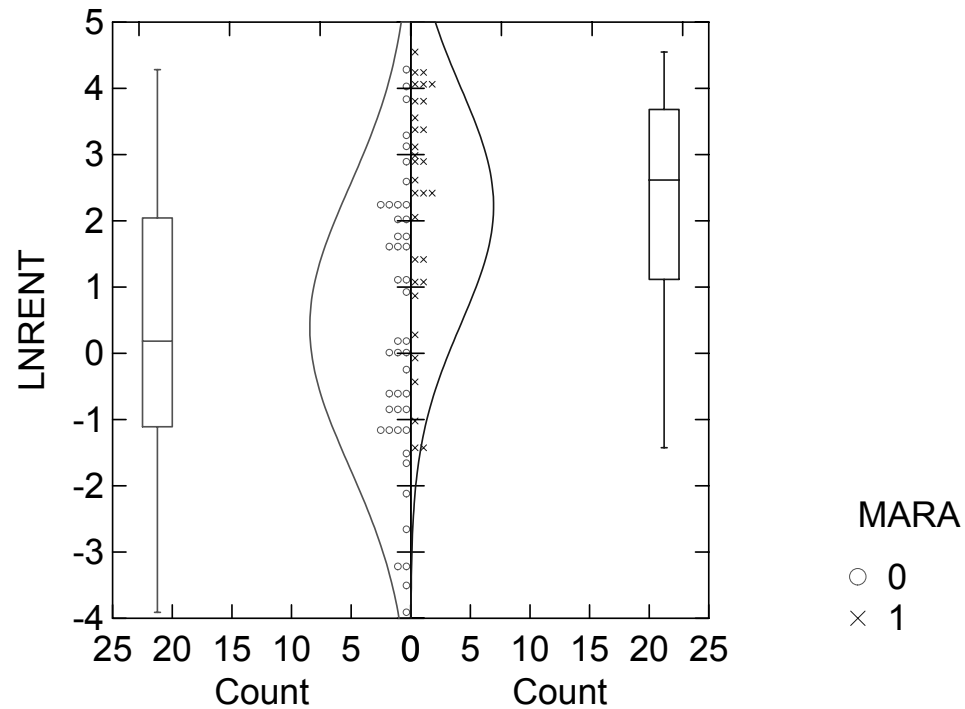
Mean = \$4.25 ha/yr

ONLY on the 5% of rangelands that support wildlife viewing



# Wildlife Rents in the Mara and Elsewhere

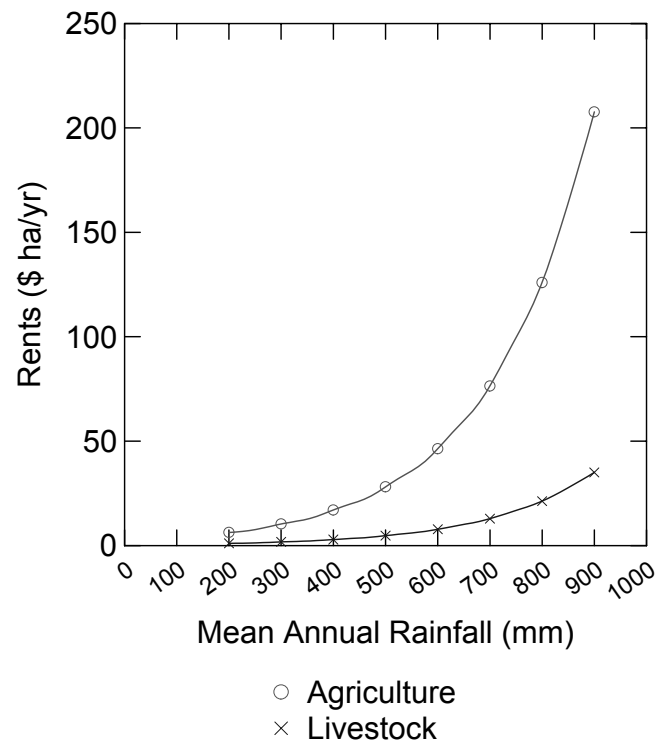
Mara = \$9.25 ha/yr  
Elsewhere = \$1.49 ha/yr



## Rents To Landowners & Users

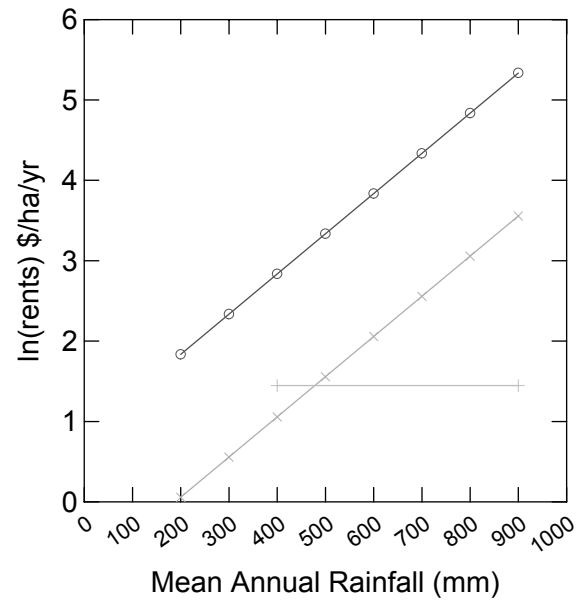
- Agricultural Rents
  - \$ 2,004 million
- Livestock Rents
  - \$ 344 million
- Wildlife Rents (on 5% of the rangelands only)
  - \$ 24 million

# Agricultural & Livestock Rents



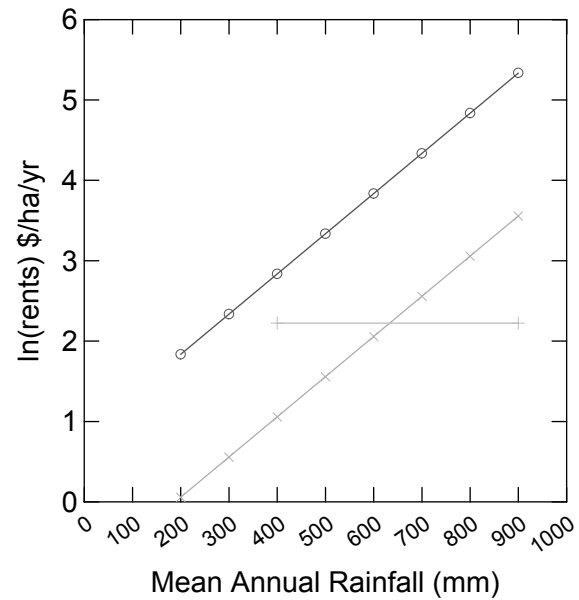


# Agricultural & Livestock Rents Mean Wildlife Rents for Kenya



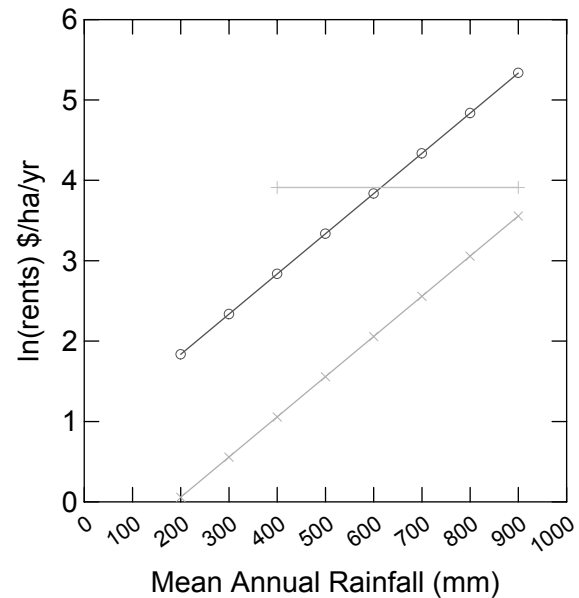
- Cultivation
- × Livestock
- + Kenya Average Wildlife

# Agricultural & Livestock Rents Mean Wildlife Rents for Mara



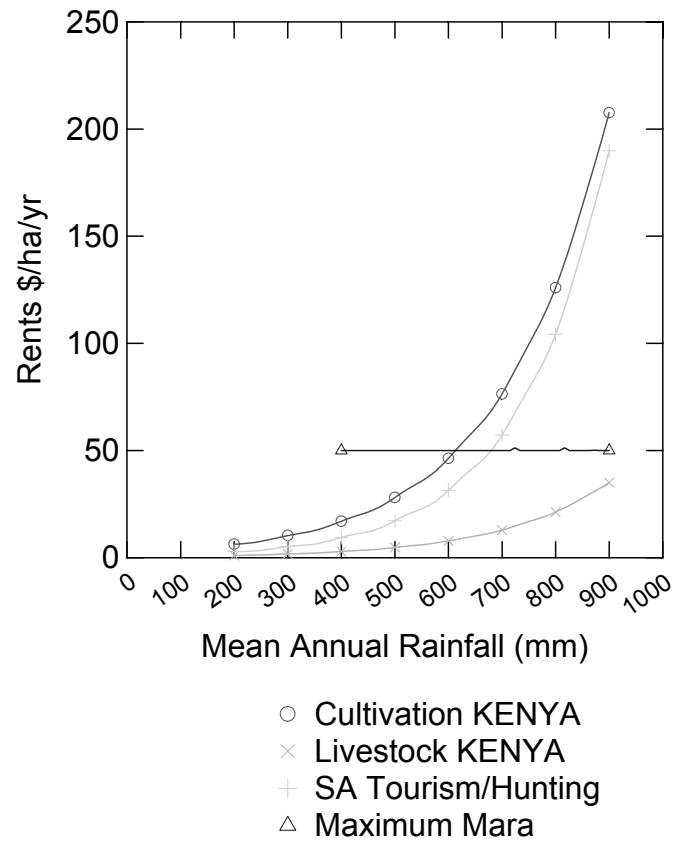
- Cultivation
- × Livestock
- + Mean Mara Wildlife

# Agricultural & Livestock Rents Maximum Wildlife Rents for Mara

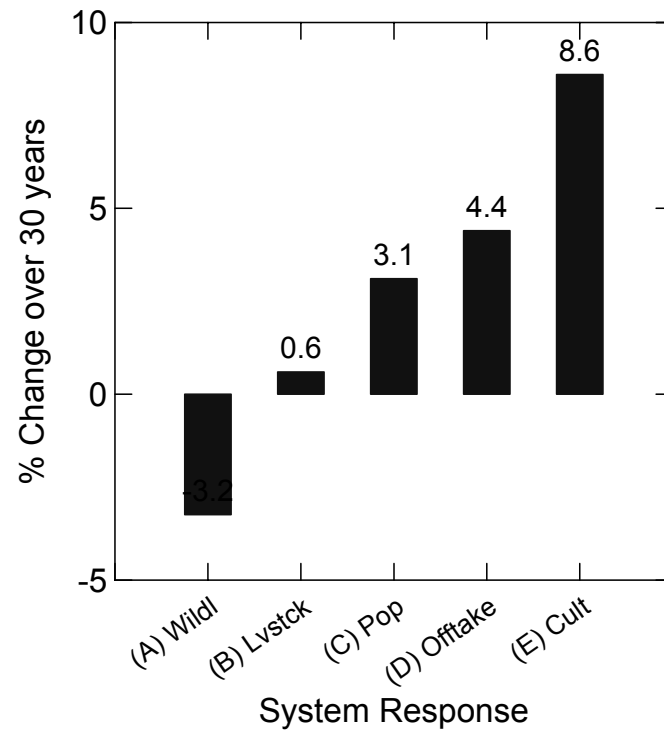


- Cultivation
- × Livestock
- + Maximum Mara Wildlife

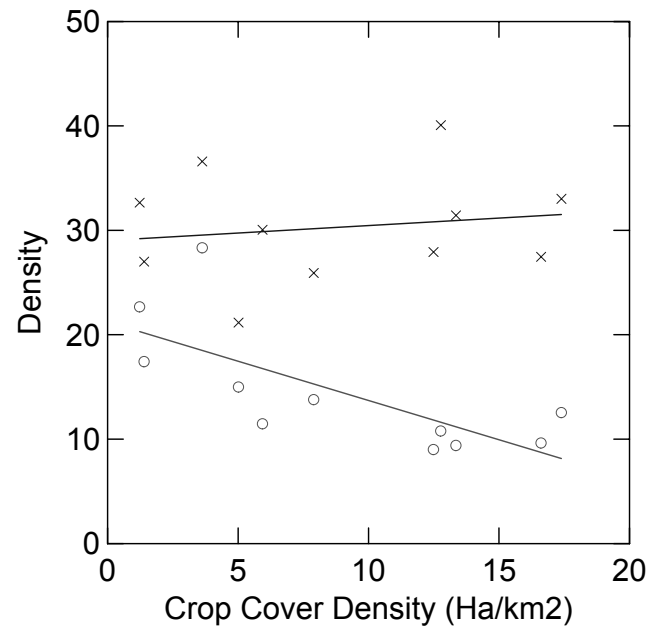
# Impact of Market Distortion



# System Response Over 30 Years



# IMPACTS: Displacement of Wildlife

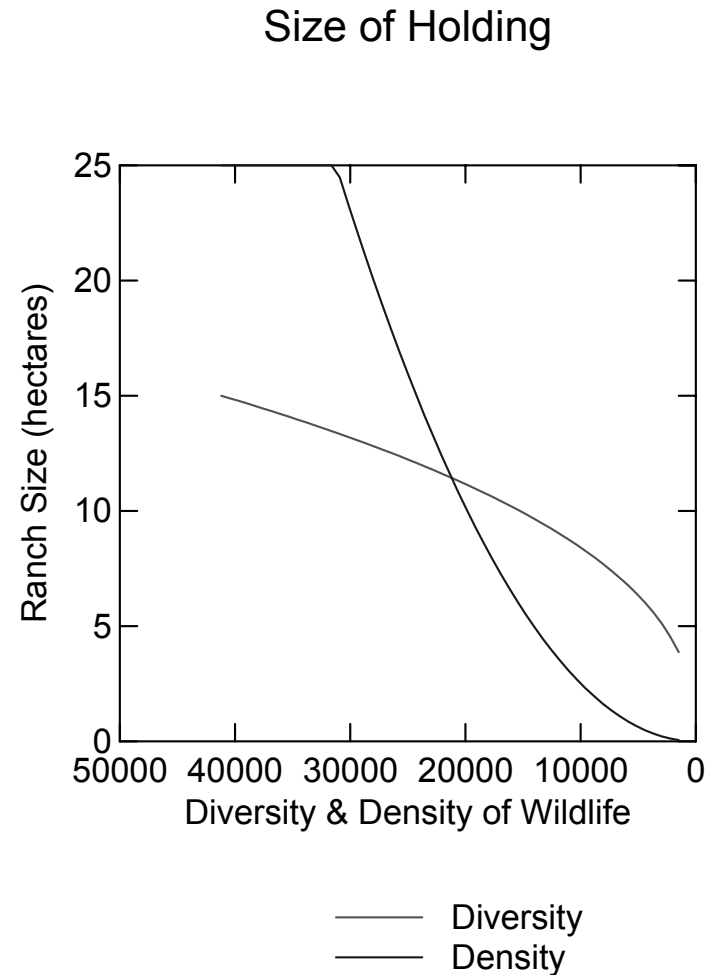


- Wildlife TLUs
- × Livestock TLUs

# IMPACTS: Sub-Division

## Influences on Wildlife Losses Size of Landholding

- For every % decrease in size of landholding:-
- 0.4% LOSS of diversity
- 2% LOSS of density



# INVESTMENT PRIORITIES

Land User (Agent)	Single		Multiple	
	High	Low	High	Low
Wildlife Viewing Potential				
Crops	--	++	++	++
Livestock	+	++	++	++
Wildlife	++	remove	+	remove



Q represents the current equilibrium between the  $MB_{\text{conservation}}$  and  $MB_{\text{development}}$

