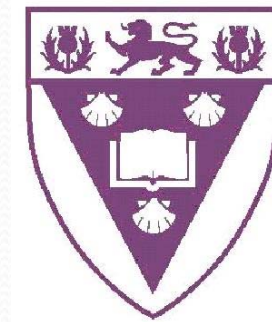


Graaff-Reinet and Springbuck Ranching: any chance for a better future?

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Introduction

- Livestock farming in the Karoo has been of economic importance
 - Most important industry prior to gold and diamonds
 - The first major export commodity
- Over the years it continued to be the mainstay of the South African economy
- With the growth in sheep farming came burgeoning environmental concerns
 - A strong argument against sheep farming has gained scholarly attention



Introduction (cont)

- Evidence suggests that natural ecosystems are losing their potency
 - The Karoo's ecological change over the past 200 years is mainly the result of sheep farming
- There have been challenges as to whether domestic livestock farming is still a viable ecological-economic activity
- The paper addresses the possibility that springbuck could be a viable economic endeavour that reverses the impact on the rangeland

Biodiversity and Ecological Sustainability

- Biodiversity is crucial for continued ecological integrity and conservation of wildlife
- In ecological-economic systems, biodiversity is important for several reasons:
 - It improves the productivity of natural ecosystems
 - It acts as an ecological insurance
- There is an intrinsic relationship between species diversity and ecosystems health
- In this respect, domestic livestock is negatively affecting the biodiversity of ecological niche areas



Sheep and the Environment

- The feeling that sheep were detrimental to the environment is not new
- In 1900, the Zwarte Ruggens Farmers' Association were worried about the growth of livestock numbers at the expense of wild animals
- They feared the Karoo would become “a region of emptiness, howling and drear, which man has abandoned from famine and fear (GRA, 1900)

Springbuck and the Future of the Rangelands

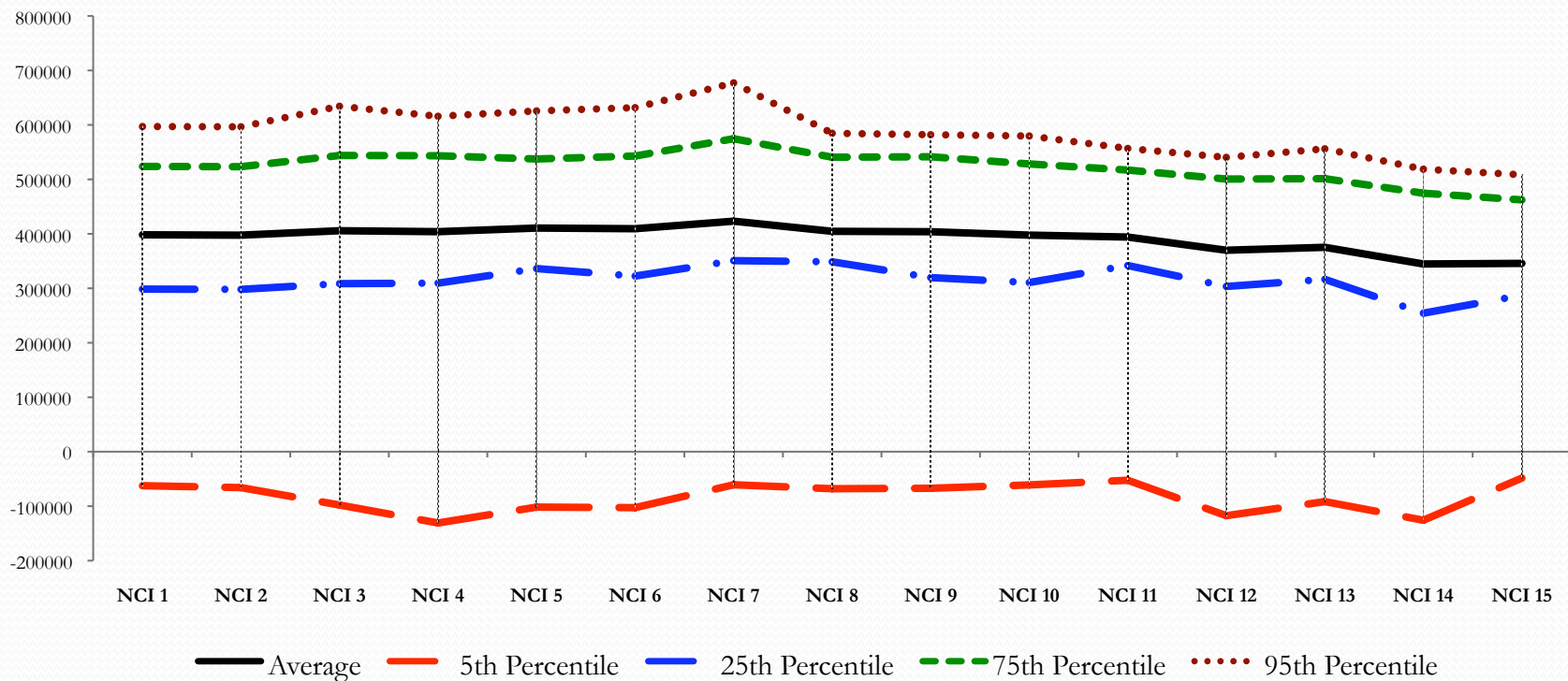
- Springbuck may be the future backbone of economic activity
- Harvesting of springbuck has increased by 50% between 1996 and 2010
- Sales on local and export markets have been increasing indicating a the potential for increased harvesting
- The economics of springbuck ranching was the focus of a study over the past three years



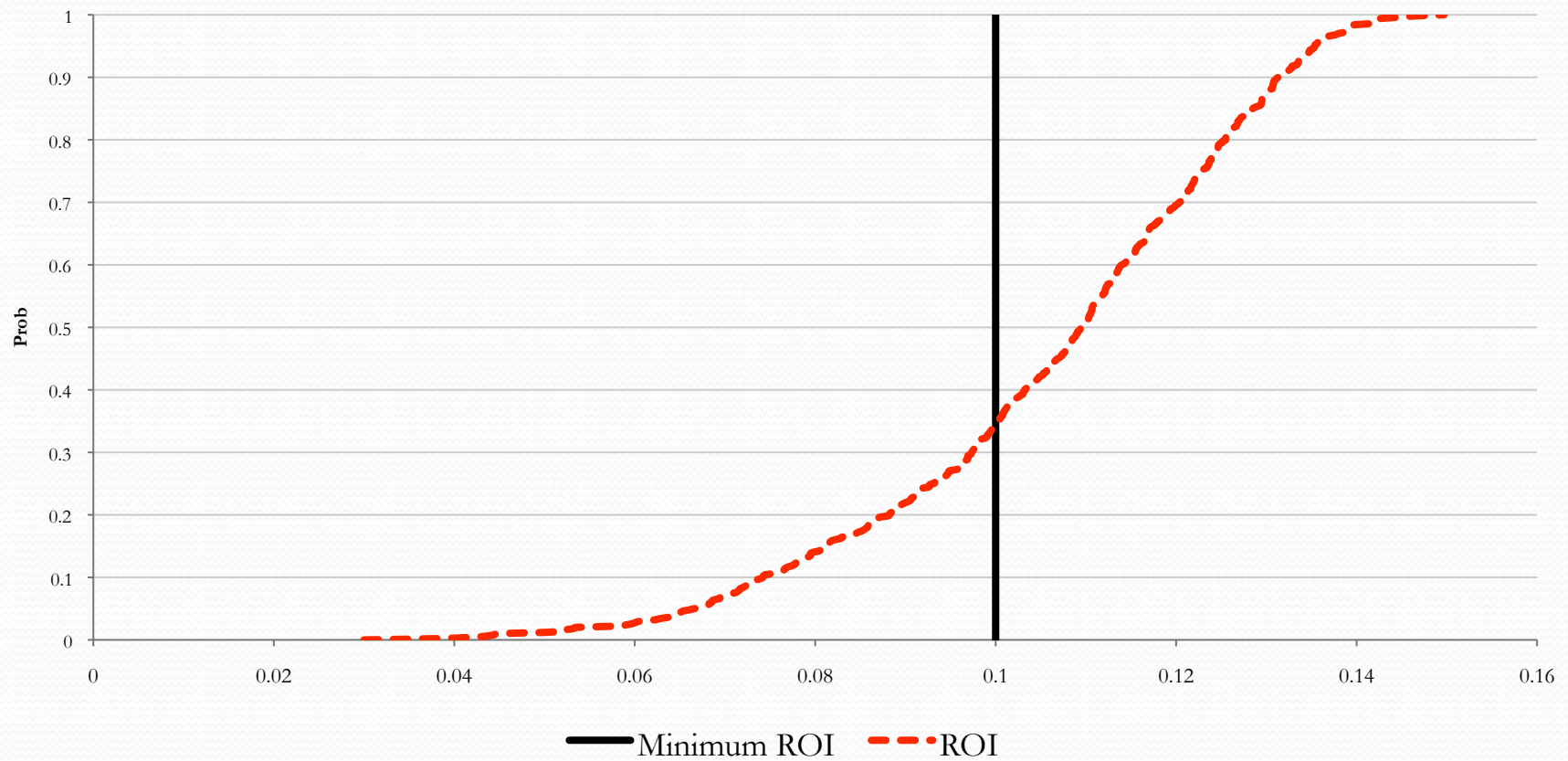
Economic Feasibility

- The study revealed that springbuck ranching could be a financially feasible and viable land use option
- Springbuck ranching has been increasing in the Karoo region
- Despite these findings, it is not fully accepted as a stand alone alternative enterprise
- This may not be surprising as the study confirmed the view that wool sheep farming was more profitable

Fan Graph for Net Cash Inflow for a Springbuck Based Meat Production Game Ranch (R')



Cumulative Distribution Function of ROI Showing the Minimum ROI

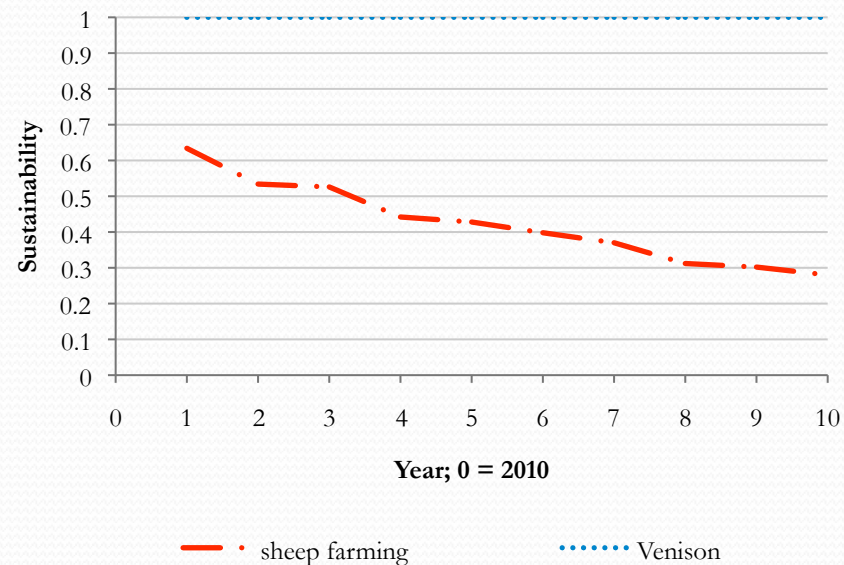
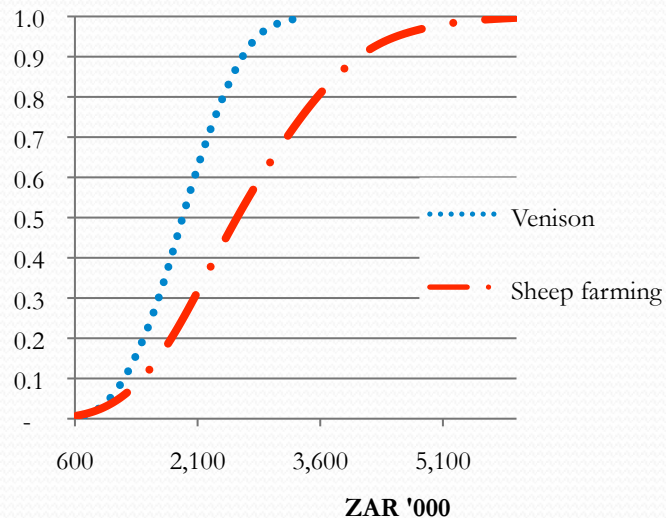




Economic Feasibility (cont)

- What about the future of sheep production considering the impact on biodiversity?
- Using biomass data, the study simulated the possible impact of declining biological productivity of the rangelands
- It revealed that with continued degradation of rangelands the income to cost ratios would decrease
- Such developments could compromise the viability of sheep farming

Effect of Degradation



Simulated cumulative distribution functions for sheep farming and springbuck ranching in ZAR, (to the left) and relationship of the economic sustainability of sheep farming and springbuck ranching to time, under scenario 2.



Intervention Options

- The study explored policy options to mitigate the deterioration of the rangelands
 1. A direct subsidy to farmers to convert their farms to springbuck ranching
 2. SARS is already providing farmers tax concessions for any ecological-economic system that leads to biodiversity restoration
- Despite these options, the profits were still inferior to sheep farming
- There are, however, other economic benefits to springbuck ranching



Conclusions

- Springbuck could be an economic option if focus is on continued ecological resilience of the Karoo ecosystem
 - They could promote a healthy and biologically productive rangeland
- To achieve this farmers may have to settle for lesser profits
- Alternatively, incentives would have to be put in place to encourage the conversion
- This idea may be fanciful, but may be an better option rather than allowing further degradation of the Karoo

Thank you!

