

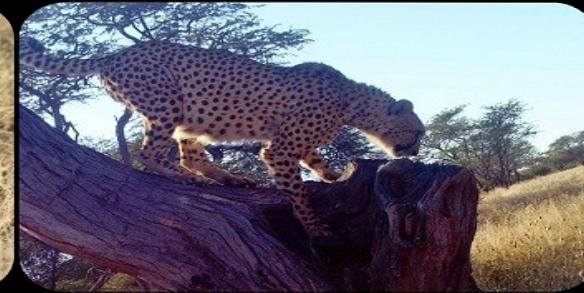
An agro-ecological approach to human-wildlife conflict on Namibian livestock farms

Chavoux Luyt, Cang Hui, Alison Leslie



“Farming with Predators”

An agroecological approach to
human-wildlife conflict on Namibian
farmlands



Human-wildlife conflict

A growing global problem



Human-wildlife conflict

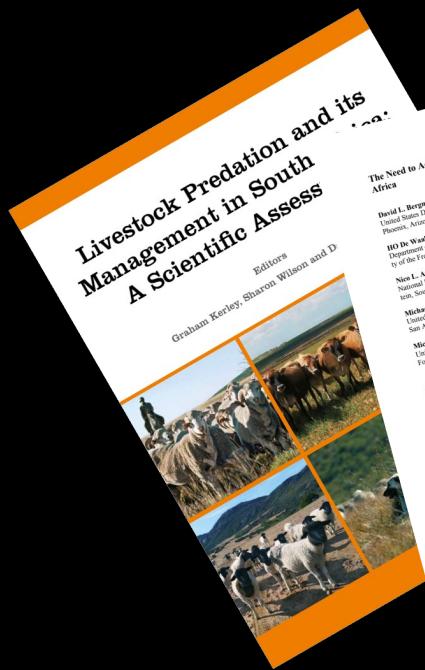
A growing global problem

A solved problem? Why not?



Why conflict solutions fail?

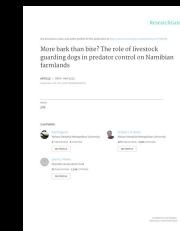
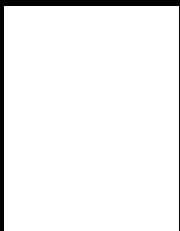
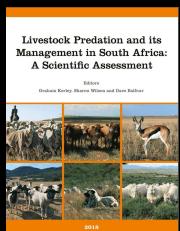
Literature...



Why conflict solutions fail?

Literature:

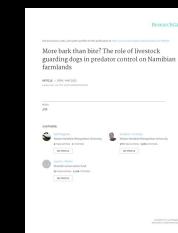
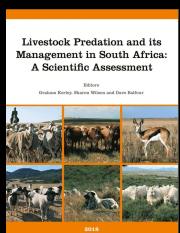
- HWC => human-human conflict! (social factors)



Why conflict solutions fail?

Literature:

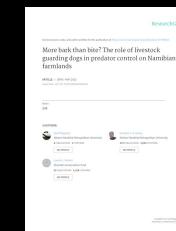
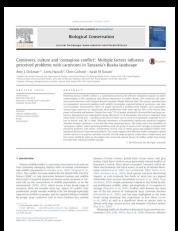
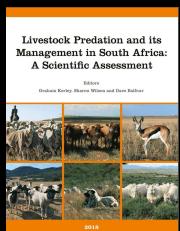
- HWC => human-human conflict
- Agricultural science vs Ecology & wildlife management



Why conflict solutions fail?

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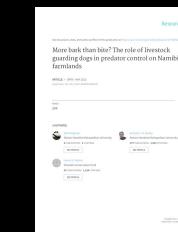
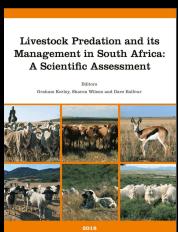
- HWC => human-human conflict
- Agricultural science vs Ecology:
 - Agriculture: ignore sustainability



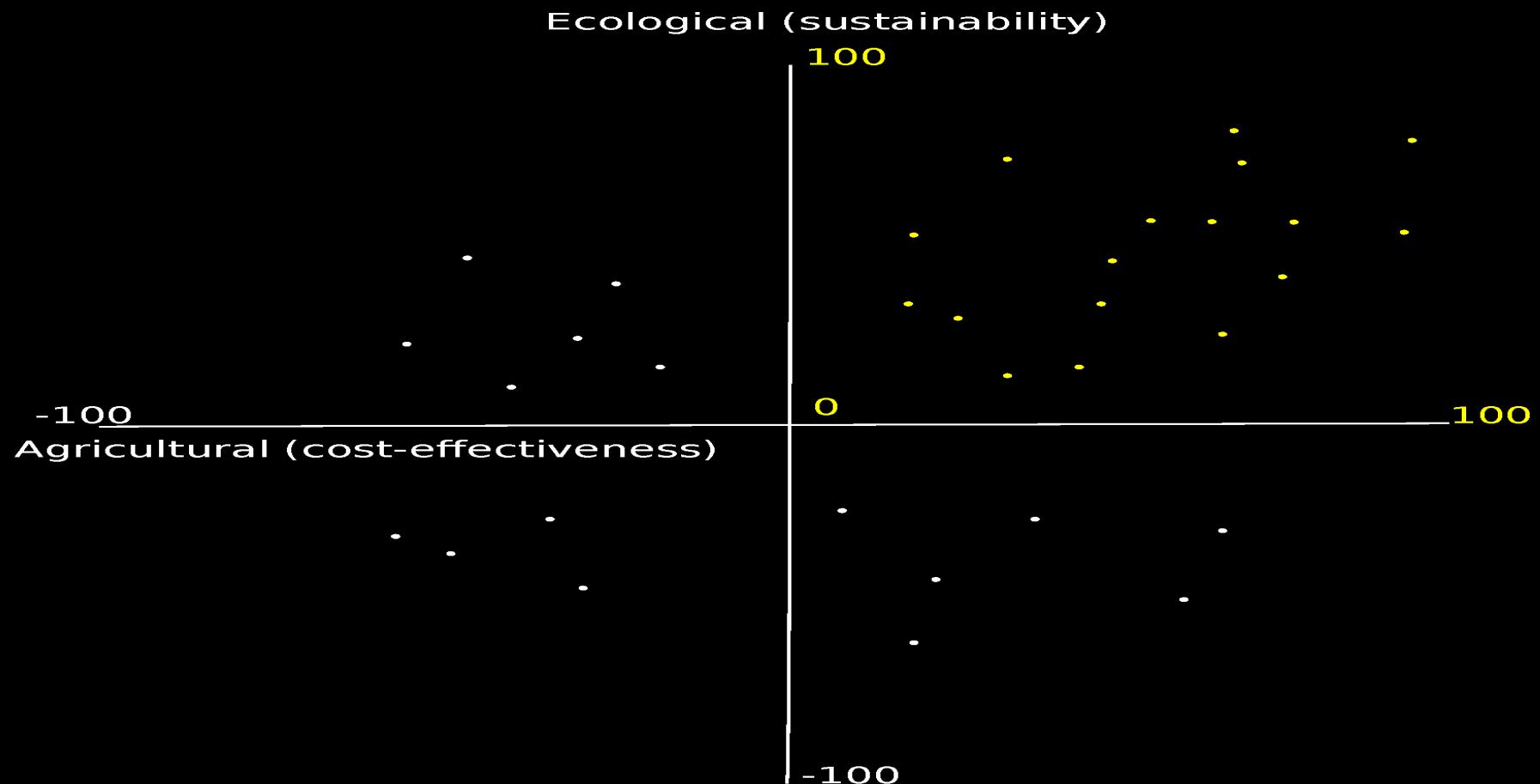
Why conflict solutions fail?

Literature:

- HWC => human-human conflict
- Agricultural science vs Ecology:
 - Agriculture: ignore sustainability
 - Ecology: ignore economics & practicality



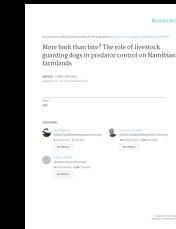
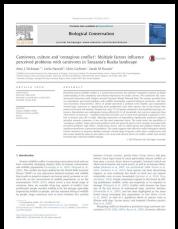
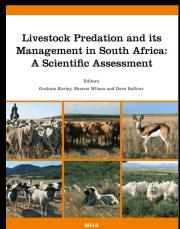
Conflict mitigation methods



Conflict mitigation methods

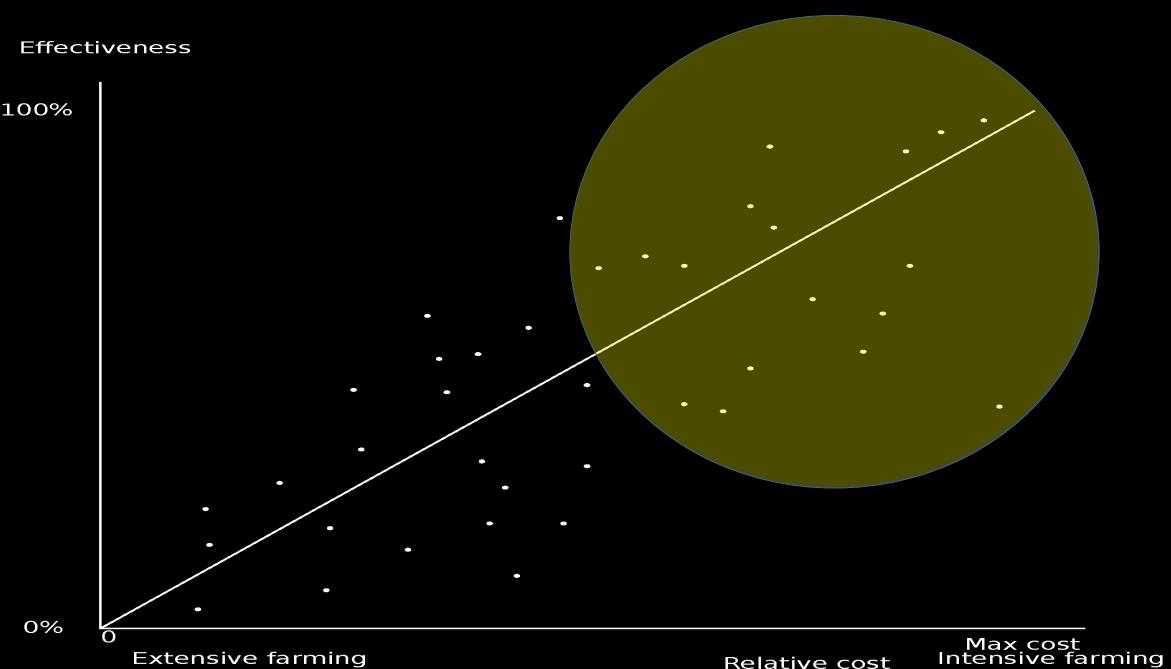
Literature:

- 40 Methods used world-wide
(in 211 book chapters/articles)



Mitigation Methods classified

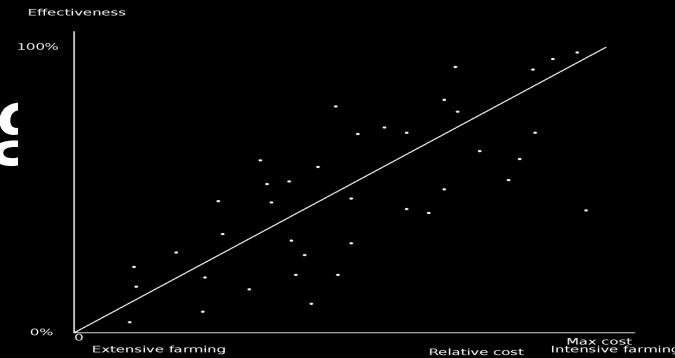
- Pro-active (Preventative)
e.g. *Hunt to exterminate, Herding*



Mitigation Methods classified

- Pro-active (Preventative)

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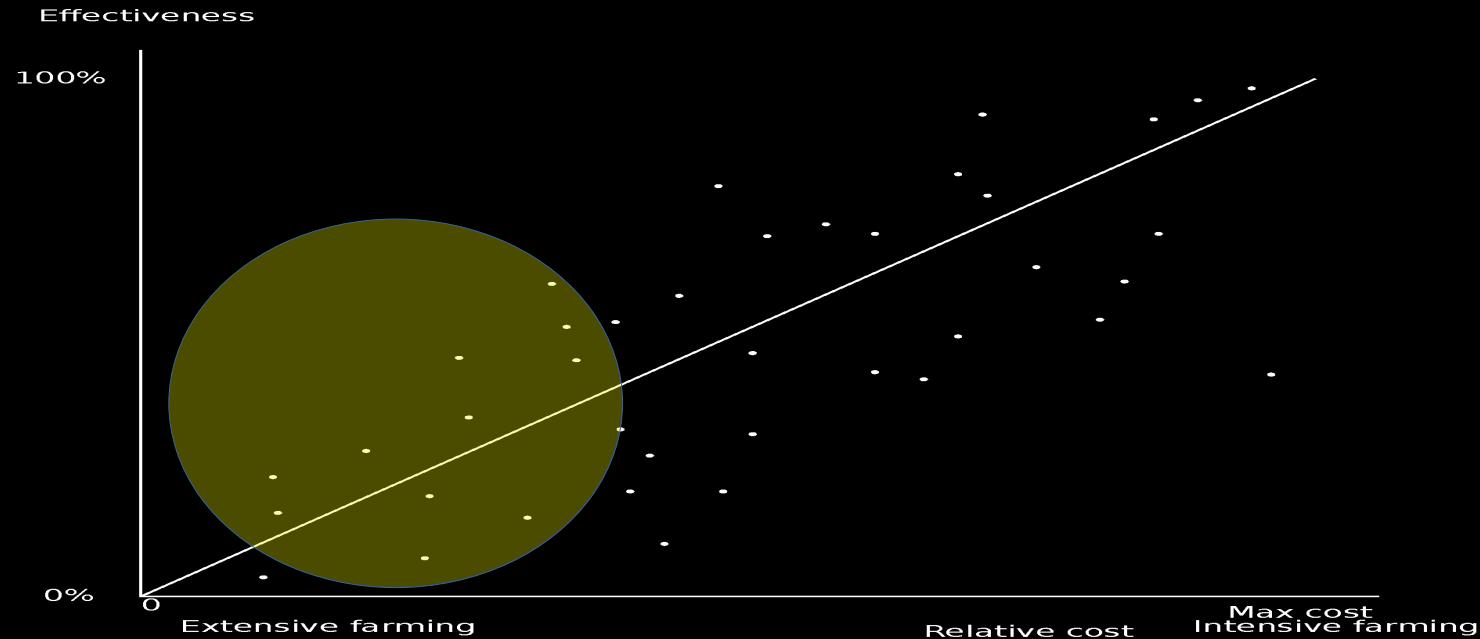


- Compensatory (Live with losses)

e.g. *Price premium, Tourism, Trophy hunt*



Mitigation Methods classified



- **Reactive (React to losses)**
e.g. *Trap on carcass, Translocate*

Two typical approaches in the literature



One “silver bullet”

Two typical approaches



One “silver bullet” - But every farm is different!

Two typical approaches



One “silver bullet” – But every farm is different!



Scatter-gun

Two typical approaches



One “silver bullet” – But every farm is different!



Scatter-gun – But no farmer can implement them all!

Two typical approaches

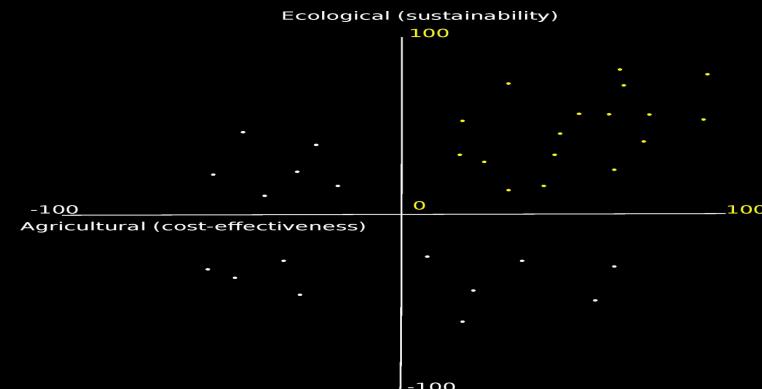


One “silver bullet” - But every farm is different!



Scatter-gun - But no farmer can implement them all!

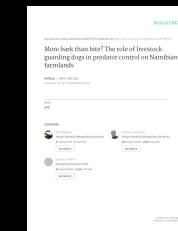
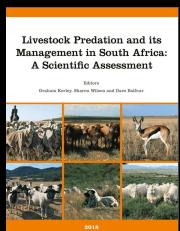
Adaptive management instead?



Conflict mitigation methods

Literature:

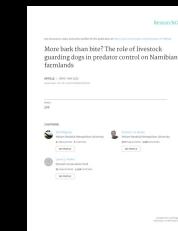
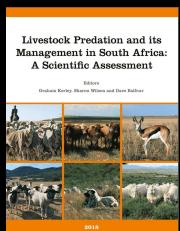
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 - Only effectiveness



Conflict mitigation methods

Literature:

- 40 Methods used world-wide
 - Only effectiveness
 - ... and sustainability (no cost)



Conflict mitigation methods

- 40 Methods described
- Advantages



THE GOOD

Conflict mitigation methods

- 40 Methods described
- Advantages
- Disadvantages



THE GOOD

THE BAD

Conflict mitigation methods

- 40 Methods described
- Advantages
- Disadvantages
- Limitations



Mitigation Worldwide

“Best” methods worldwide:

1) Herding [$p(\text{success}) = 0.87$]



Mitigation Worldwide

“Best” methods worldwide:

- 1) Herding [$p(\text{success}) = 0.87$]
- 2) Fencing (unspecified!) [$p(\text{success}) = 0.87$]



Mitigation Worldwide

“Best” methods worldwide:

- 1) Herding [$p(\text{success}) = 0.87$]
- 2) Fencing (unspecified!) [$p(\text{success}) = 0.87$]
- 3) Livestock Guarding Dogs [$p(\text{success}) = 0.91$]



Mitigation Worldwide

“Best” methods worldwide:

- 1) Herding [$p(\text{success}) = 0.87$]
- 2) Fencing (unspecified!) [$p(\text{success}) = 0.87$]
- 3) Livestock Guarding Dogs [$p(\text{success}) = 0.91$]
- 4) More natural prey [$p(\text{success}) = 0.71$]



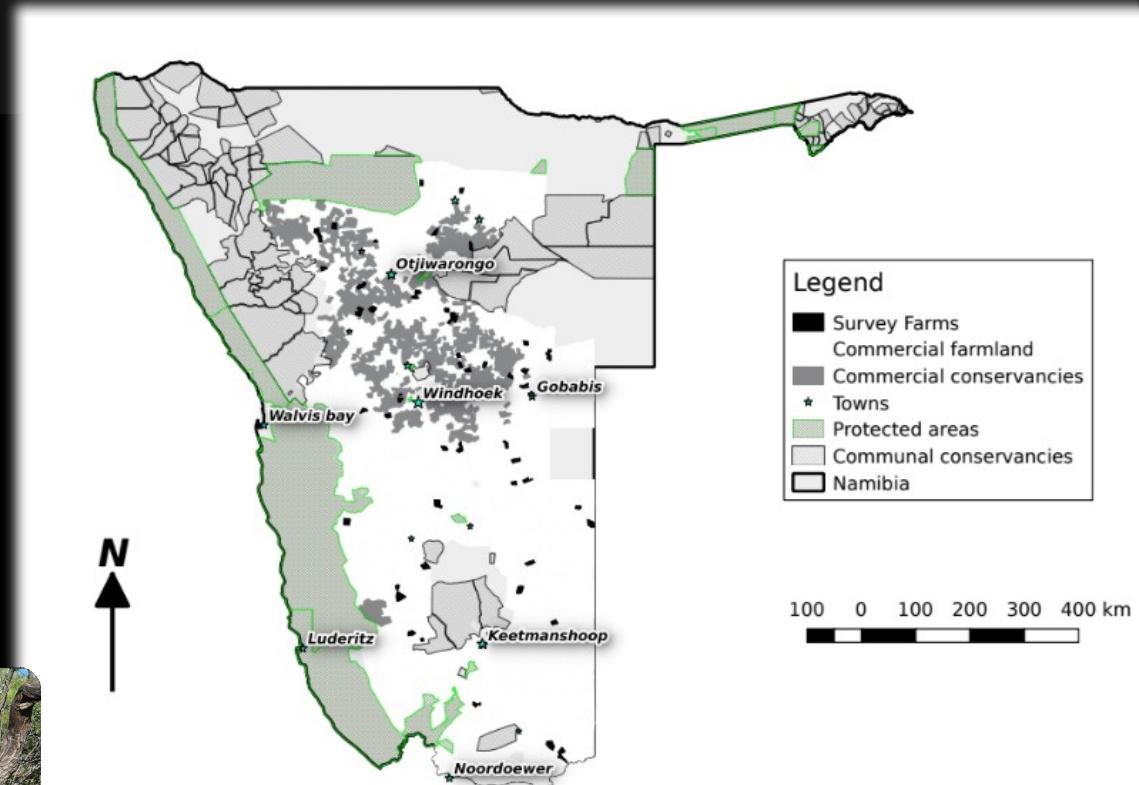
Mitigation Worldwide

“Best” methods worldwide:

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- 2) Fencing (unspecified!) [$p(\text{success}) = 0.87$]
- 3) Livestock Guarding Dogs [$p(\text{success}) = 0.91$]
- 4) More natural prey [$p(\text{success}) = 0.71$]
- 5) Direct loss compensation $p(\text{success})=0.64$

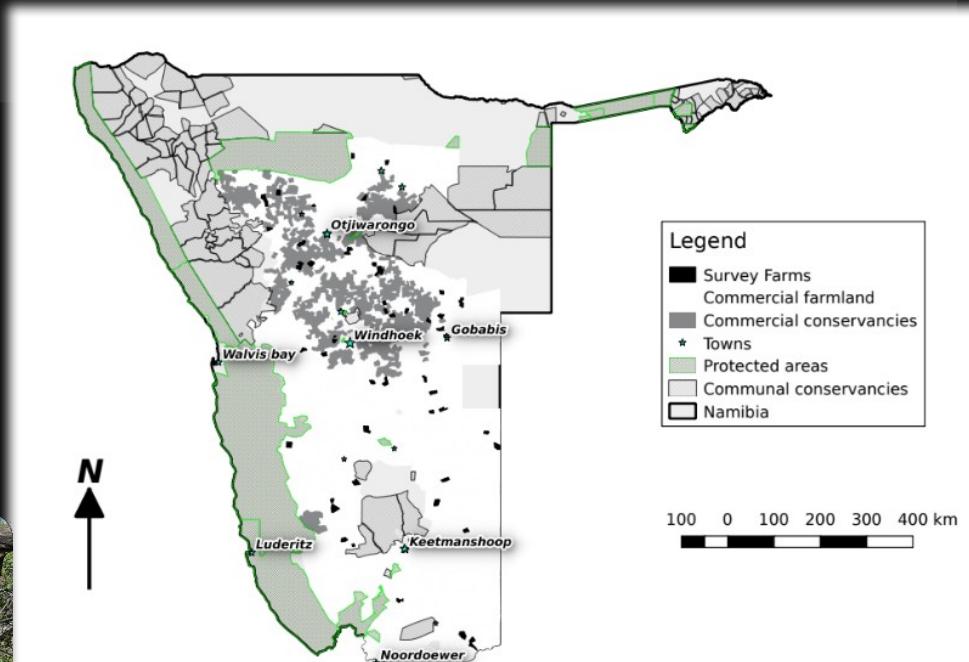
Farming with Predators

- 2500 questionnaires distributed
- 52 responses



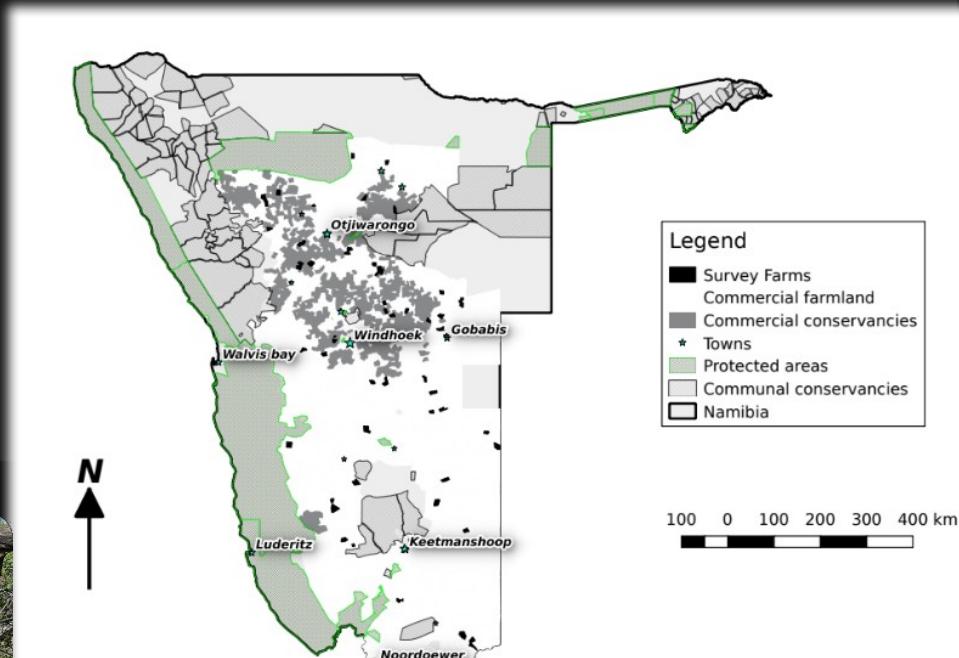
Farming with Predators

- 2500 questionnaires distributed
- 52 responses, 9.2 LSU/farm/year to predation



Farming with Predators

- 2500 questionnaires distributed
- 52 responses, 9.2 LSU/farm/year to predation
- Leading predators:
 - Jackal (*Canis mesomelas*)
 - Caracal (*Caracal caracal*)
 - Leopard (*Panthera pardus*)
 - Cheetah (*Acinonyx jubatus*)



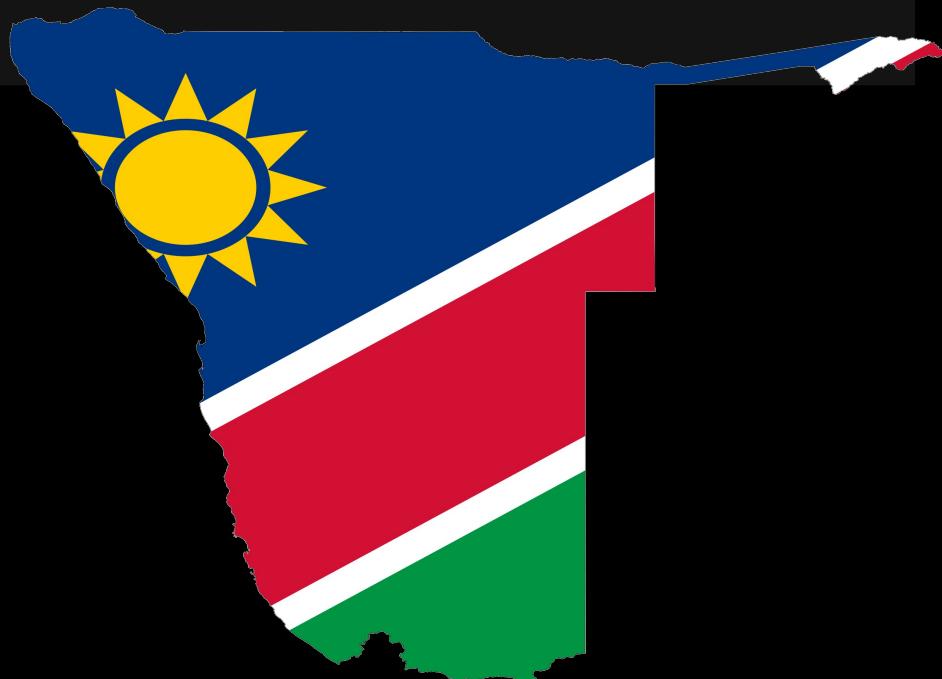
Farming with Predators

- 20 Methods used by farmers



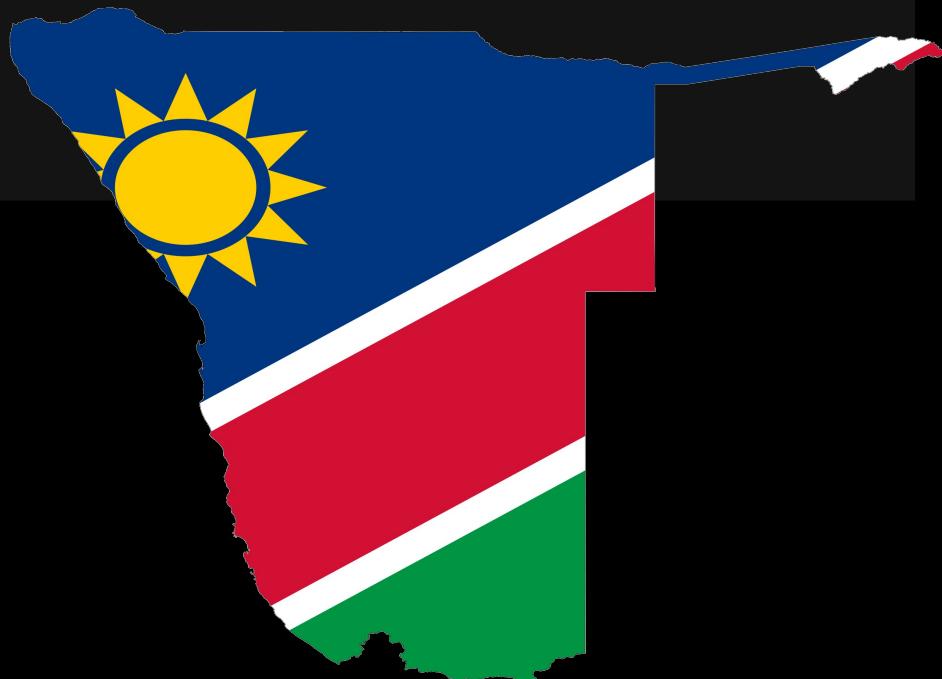
Farming with Predators

- 20 Methods used by farmers
- Relative effectiveness (% farmers with less losses than the median)



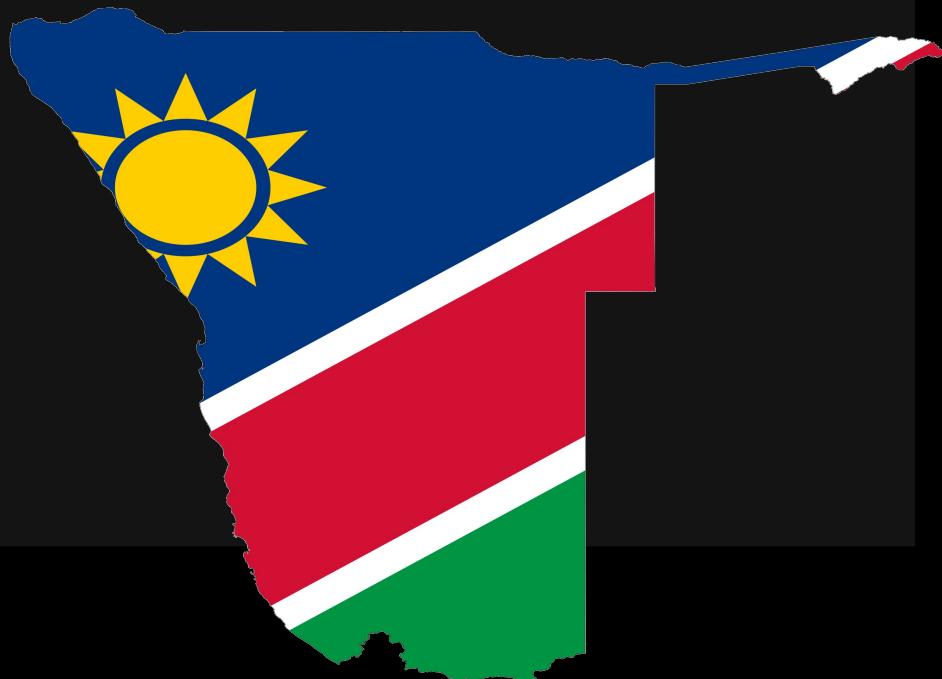
Farming with Predators

- 20 Methods used by farmers
- Relative effectiveness (% farmers with less losses than the median)
- Relative sustainability



Farming with Predators

- 20 Methods used by farmers
- Relative effectiveness (% farmers with less losses than the median)
- Relative sustainability
- Cost class
 - Implementation cost
 - Maintenance cost



Farming with Predators

20 Methods used by farmers

- Relative effectiveness
- Relative sustainability
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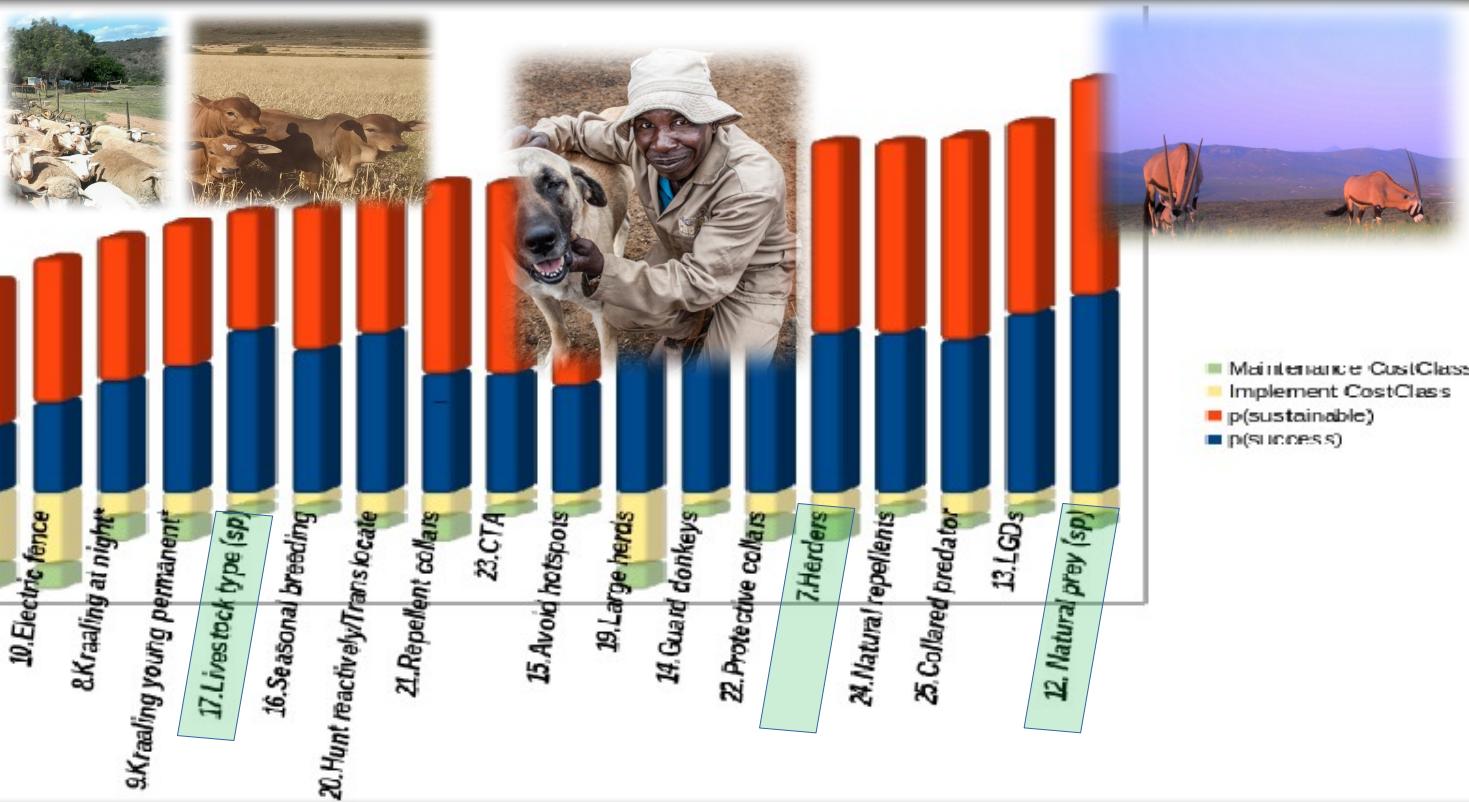


Maintenance Cost Class
Implementation Cost Class
p(sustainable)
p(sustainability)

Farming with Predators

20 Methods used by farmers

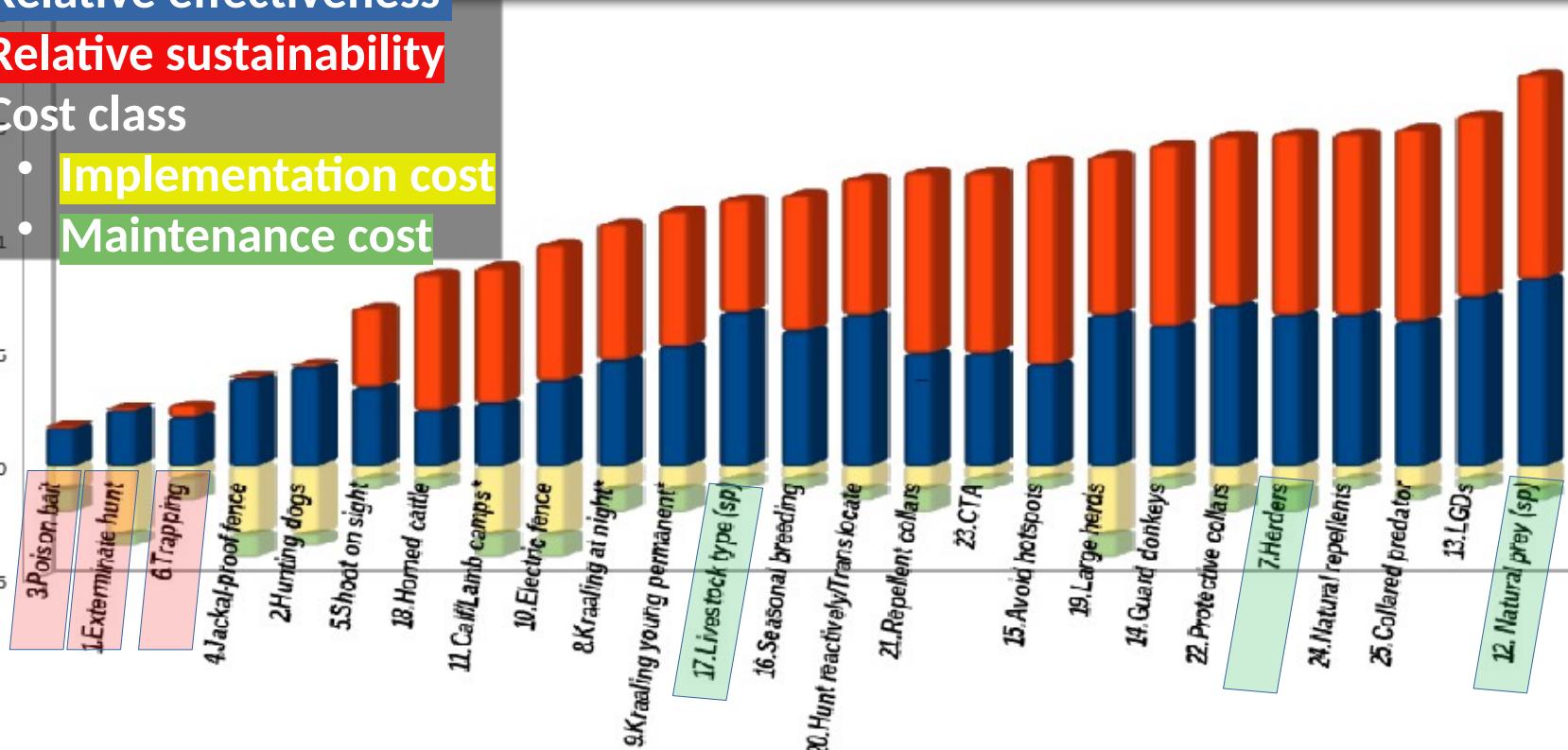
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Farming with Predators

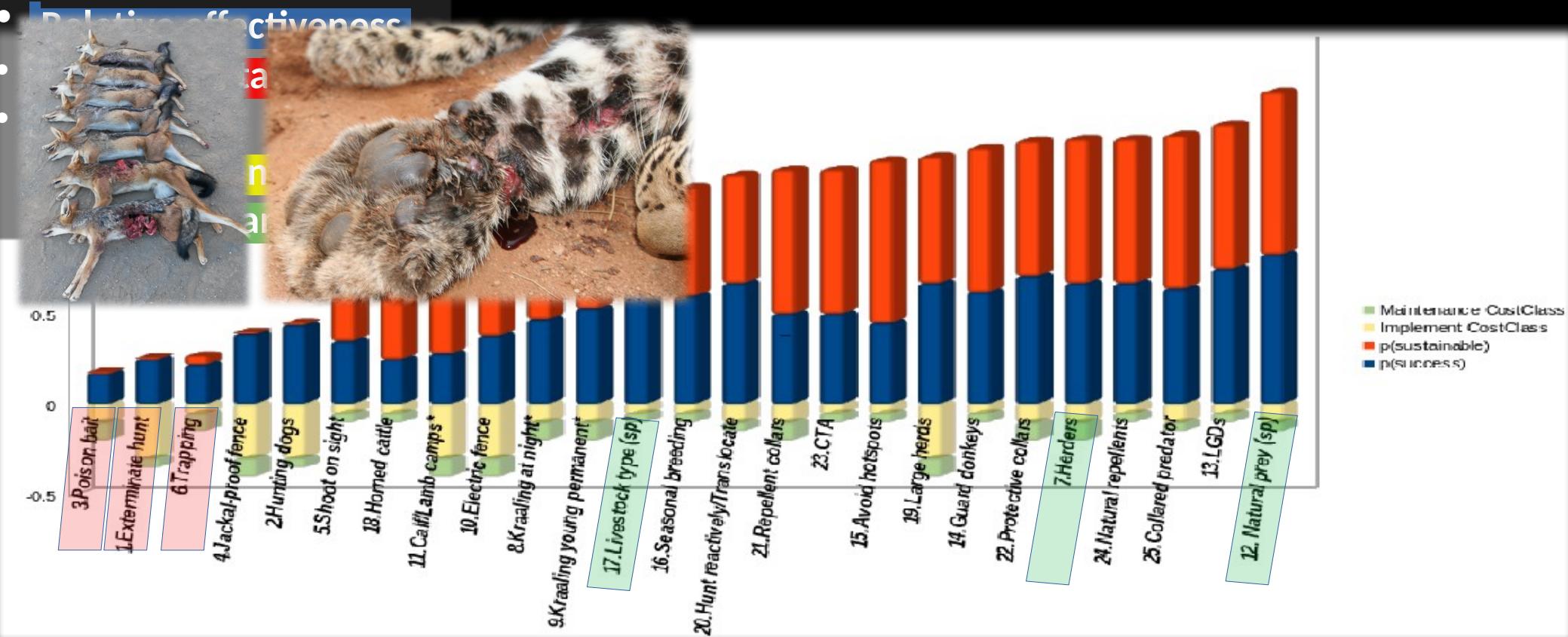
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Farming with Predators

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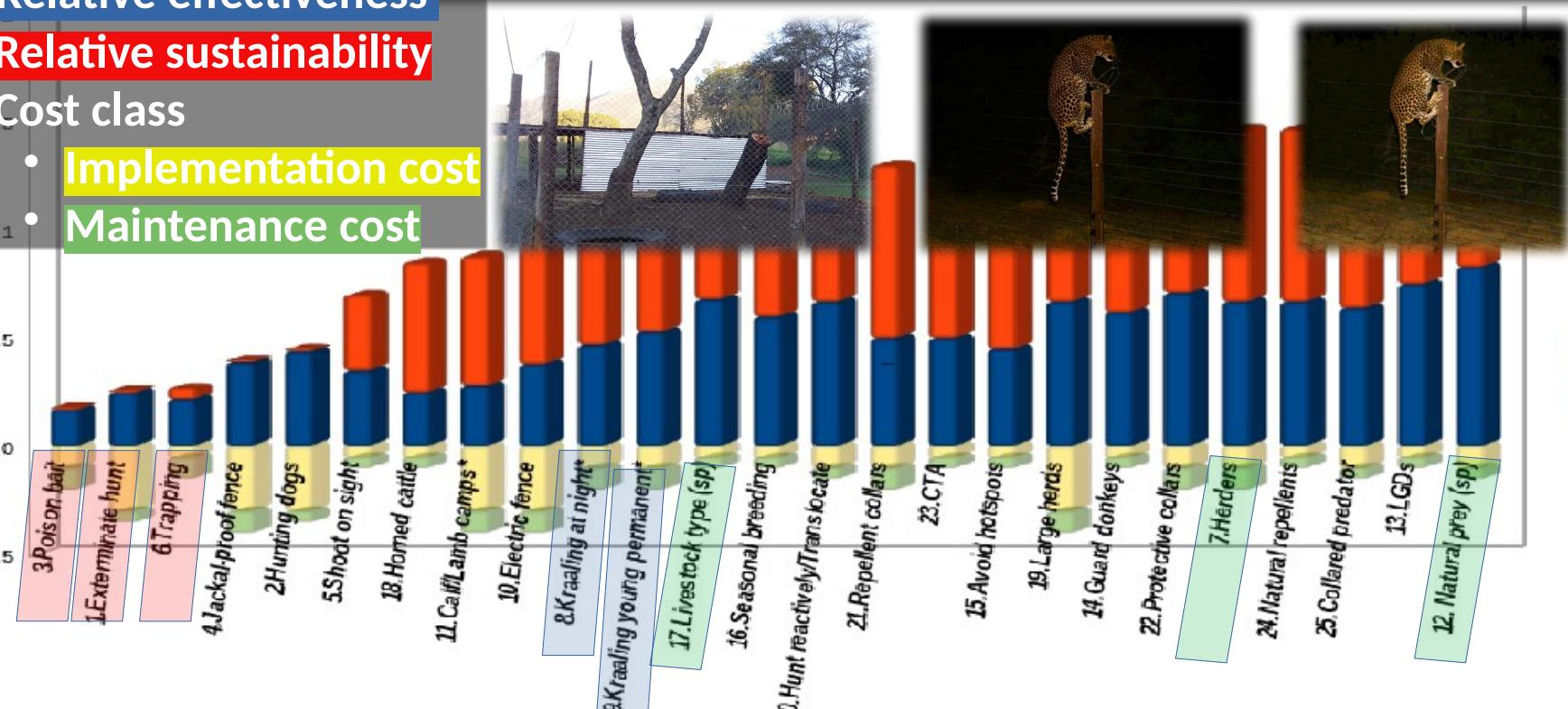
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Farming with Predators

20 Methods used by farmers

- Relative effectiveness
- Relative sustainability
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**Adaptive management requires
quantification of mitigation success
and costs**

Questions?

Contact details:

Chavoux Luyt

082 791 1384

chavoux@gmail.com

