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# Risks and opportunities to biodiversity from indigenous biofuel species



## RE-Impact

Graham von Maltitz and

CSIR

South Africa

CLUWRR



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RE-Impact: Forestry based Bioenergy for Sustainable Development



# Introduction



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- Use of invading indigenous species
- Domestication of indigenous species with biofuel potential



# Use of invading indigenous species



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- Millions of Ha “invaded” due to bush encroachment
- High standing biomass suitable for 2<sup>nd</sup> generation technologies if transport and harvesting costs can be overcome
- Result of bad land management
- Result of climate change



# Domestication of indigenous species



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## The positive side

- Adapted to the environment
- Hardy
- Not replacing indigenous vegetation
- Host to indigenous biodiversity
- Will maintain biodiversity

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# Domestication of indigenous species

The negative side (page 1 of 2)

- If grown as a mono-crop diversity difference from exotic plantation = 1
- Susceptible to local pests, therefore possible requiring greater pesticides
- Once improvement takes place there is selective breeding for certain traits and a narrowing of the genetic diversity



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# Domestication of indigenous species

The negative side (page 2 of 2)

- These selected genes will escape into the wild population through pollination
- Impacted plants will look the same as wild plants so the extent of the “escape” of selected genes will not be known



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# Thank you for your attention

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