

The grasslands biome: producing water, sustaining food security

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grasslands
LIVING IN A WORKING LANDSCAPE

Presentation overview

- Introduction and key concepts
- Food security and water
- Water production and the grasslands biome
- Grasslands conservation and food security
 - Why grasslands are important for food security
 - What are we doing



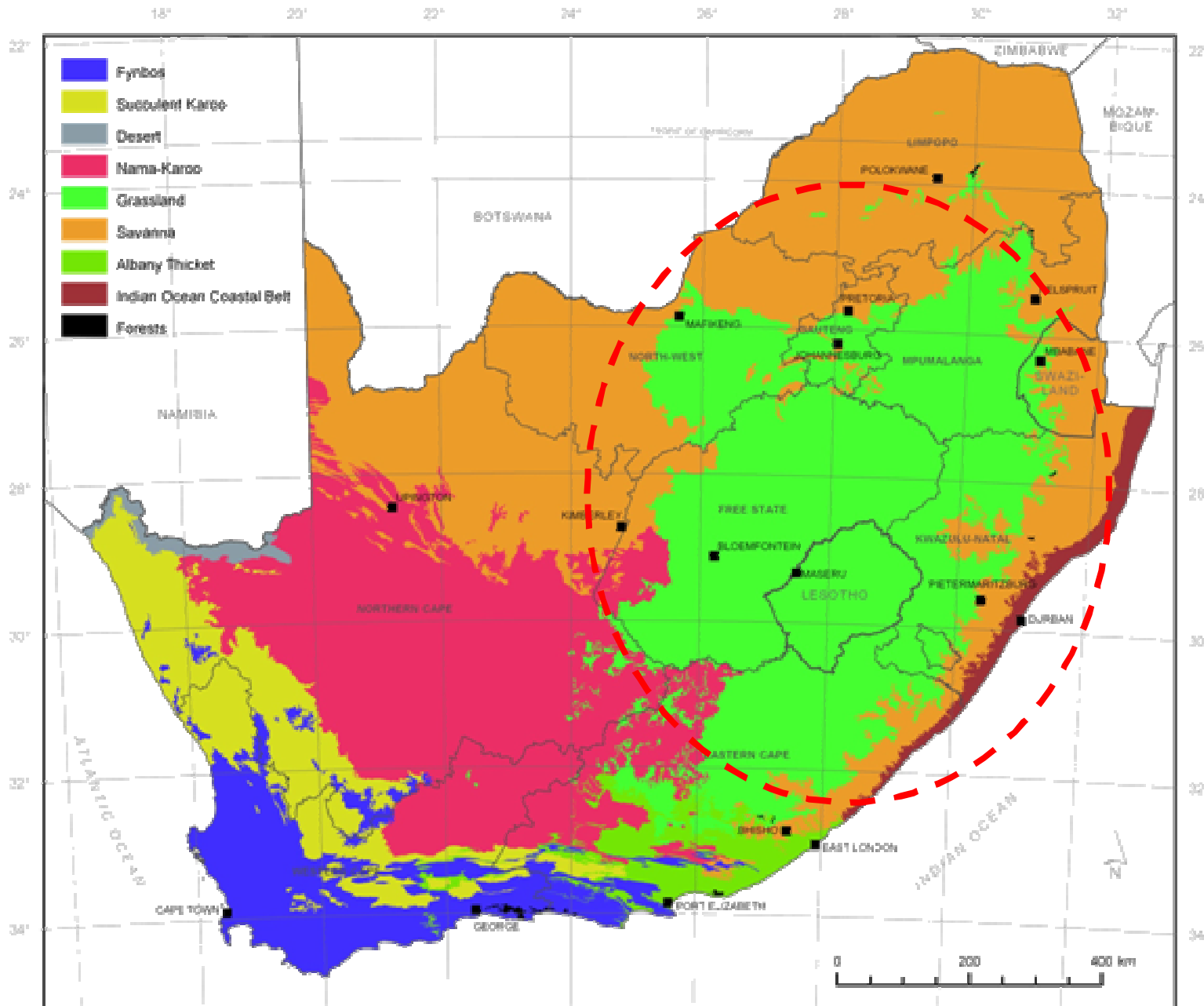
Introduction

- Food security and natural resource conservation can be viewed as two contradicting concepts.
- The Grasslands Programme aims to demonstrate the mutual interdependence that exists between the two
- In the absence of natural resource conservation initiatives we can hardly talk of meeting the millennium goal on poverty reduction in our continent.
- Water one of our scarce natural resources is one of the critical elements of food production.



South Africa's biomes

The grasslands biome occupies 29.5% of SA's land surface



Concepts: the grasslands biome

- Globally significant biodiversity
 - Second in species richness to Cape Floristic Region
- Provides essential ecosystem services
 - Water production, soil for arable land, forage, thatching for livelihoods
 - And many more...
- Production landscape
 - SA's major production sectors operate on the biome
 - Significant levels of habitat transformation and fragmentation
- A biome under significant threat
 - Identified by government as national priority for conservation



Concepts: food security

- Food security exists when all people, at all times, have access to sufficient, safe and nutritious food to meet their dietary needs for an active and healthy life.
- Globally however, climate change and the demand for biofuels are threatening the food security of the world's 923 million undernourished people.



The grasslands programme

- Goal
 - The Grasslands Programme is a national initiative that aims to sustain and secure the rich biodiversity and ecosystem services of the grasslands biome for current and future generations.
- In its first five years
 - the programme is working to ensure major production sectors are directly contributing to the achievement of biodiversity conservation priorities within the grasslands biome
 - The Grasslands Programme has chosen a strategic approach of mainstreaming biodiversity in the following production sectors: agriculture, forestry, coal mining and urban development.



Concepts: ecosystem services

- Biodiversity and healthy ecosystems provide essential services which sustain life.
- Ecosystem services include
 - water production for drinking and production
 - pollination in crop production (wind, water and insects)
 - soil and soil nutrients for agriculture production
 - air that we breath
 - carbon storage, and many more
 - For this discussion today water will be the area of focus.



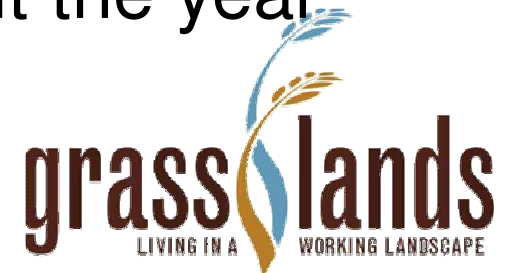
Food security and water

- Water resources confer specific opportunities to individuals and communities to manage food production, generate income and build assets with which to break out of poverty.
- Ultimately, food security depends on a healthy ecosystem that is able to provide ecosystem services, like water production, that sustain livelihoods and support economic growth.
- Poverty and water scarcity (drought) cannot be divorced from one another.
 - Where there is drought agriculture production stops or drops.
 - When there are no agriculture activities there is a food shortage and that leads to food insecurity.
 - Water therefore is the most critical elements of food production.



The grasslands biome and water production

- The grasslands biome supports the provision of ecosystem services including water.
 - Grassland biome is the host of most of our main water streams in the country
 - The Orange River, Olifants, Vaal and Pongola rivers all have their headwaters in the grasslands biome
- Healthy grasslands act as a sponge that absorbs rainwater into the ground and slowly release it into streams and wetlands throughout the year



Grasslands conservation and food security

- The grasslands biome supports the production of services, such as soil and water production, which are critical elements of food production.
- The conservation of this biome is therefore critical to sustain the supply of food to our already exhausted food security reserves.
- The result of conservation interventions will have a positive impact on water production and other ecosystem services, thus ensuring the productive ability of the biome, as a cornerstone in sustainable food security and livelihoods of millions of South Africans.



Grasslands conservation and food security

- However, changing rainfall patterns, land transformation and the resultant loss of natural vegetation cover, are affecting the water production abilities of the biome, and with this, threatening food security.



What are we doing

- The Programme is working with local communities and landowners to conserve and improve management practices on the grasslands
 - In Wakkerstroom, the Grassland Programme is implementing an agricultural demonstration project for livestock farmers. The aim of the project is to introduce biodiversity good management practices to conserve the grassland biome and indirectly securing the water shed that comes from this area. Viz. Pongola, Vaal and Olifants rivers.
 - In the Free State, the Grasslands Programme is implementing a river conservation and rehabilitation project. The aim is to conserve a pristine tributary and rehabilitate a degraded tributary of the Modder River which supplies water to Bloemfontein and surrounding towns



Lets sustain our production



Lets secure, engage in conservable usage, and produce food to feed our nation.

- ✎ No till cultivation methods
- ✎ conservative irrigation practices
- ✎ Production efficiency

The path ahead

- Lets not go down the route of energy crisis and take precautionary measures before it is too late.
- Energy or Water what is important lets begin this journey by looking at this scenario.
- By supporting initiatives like Grasslands Programme we will be doing justice to our natural resources.





Thank you

www.grasslands.org.za



Conservation, Partnerships & Ecotourism

