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Vegetation description and evaluation of the Msinga District, Tugela Valley, KwaZulu-Natal

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ARC-API



INTRODUCTION

A veld management program is a very important tool for livestock owners to obtain sustainable animal production.

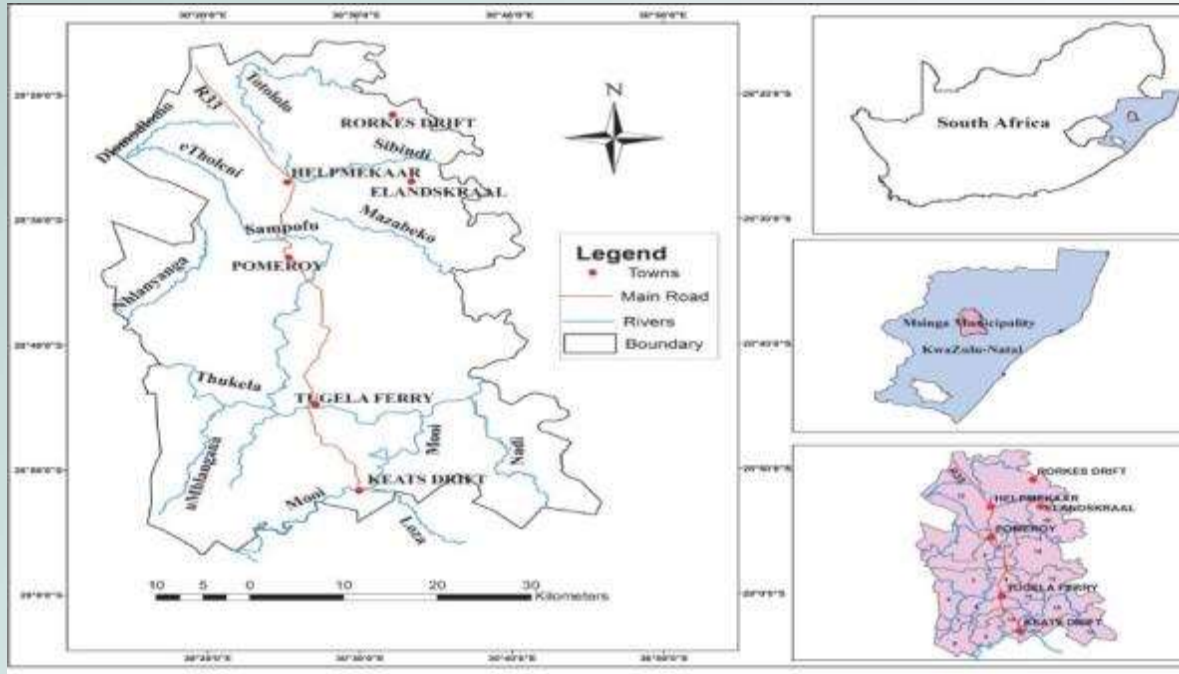
One of the factors of a veld management program is the description of veld and the evaluation thereof.

OBJECTIVE

The objective of this study was to collect several vegetation parameters such as basal cover %, vegetation condition and vegetation management and practices at Msinga Municipality.

The vegetation of 13 villages in the District was surveyed

STUDY AREA



The Thukela Catchment showing Msinga District according to eWISA.

STUDY AREA



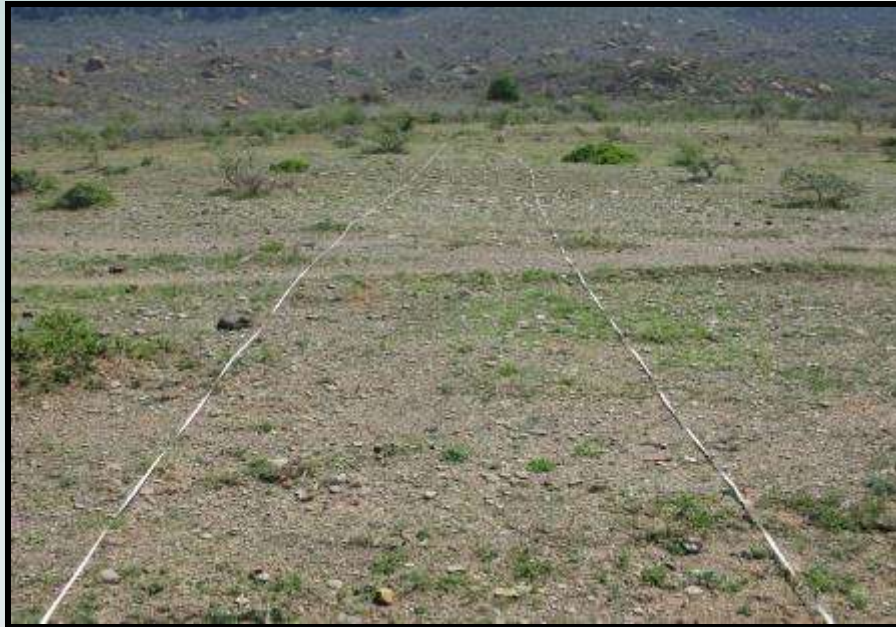
Thukela Valley Bushveld



Northern KwaZulu-Natal Moist
Grassland

METHODS

A 200 m² transect to record the grass species.



METHODS

The veld condition was determined using density, basal cover, botanical composition, vigour and the condition of the soil surface as indicators. A score out of 100 was allocated for each site surveyed.

METHODS

Veld condition score was calculated using a standard form.

0 – 30: extremely bad

31 – 50: bad

51 – 70: average

71 – 90: good

91 – 100: excellent

RESULTS

Summary of the data collected at sites from the Thukela Valley Bushveld

Village	Nxamalala	Mawozini	Siphongweni	Nembeni	Dayiswayo	Kwaphakwe	Enzala	Enqoleni	Kwadolo
GPS coordinates	28°50'54" S 30°27'32" E	28°25'20" S 30°32'47" E	28°52'19" S 30°28'29" E	28°43'48" S 30°38'26" E	28°43'35" S 30°37'51" E	28°49'56" S 30°38'40" E	28°48'09" S 30°40'59" E	28°52'17" S 30°39'27" E	28°53'39" S 30°41'15" E
Altitude	695m 730m	721m 776m	775m 695m	536m 513m	480m 514m	782m	1 031m	1 014m	978m
Aspect	SW SE	NW SE	NE N	S N	SE NE	SE	S	NW	E
Slope	1-3° 3-4°	6-7° 12-15°	1-3° 9-12°	20-25° 8-10°	1-3° 15-20°	20-30°	9-10°	20-30°	1-3°
Above ground rock cover	5%	30-40% 70%	<5% at river 30-40%	20-30%	10-20%	30%	5-20%	10-20%	30%
Vegetation Type	Shrubland	Shrubland	Grassland Shrubland	Shrubland	Grassland Shrubland	Shrubland	Shrubland	Shrubland	Shrubland
Shrubs and trees	Acacia karroo, Acacia tortilis subsp. heteracantha, Dichrostachys cinerea	Acacia tortilis subsp. heteracantha, Boscia albitrunca, Gymnosporia buxifolia, Pappaea capensis	Acacia karroo, Aloe marlothii, Boscia albitrunca, Acacia tortilis subsp. heteracantha,	Acacia tortilis subsp. heteracantha, Acacia karroo, Boscia albitrunca	Acacia karroo, Acacia tortilis subsp. heteracantha, Boscia albitrunca	Boscia albitrunca, Acacia tortilis subsp. heteracantha, Gymnosporia buxifolia, Cussonia spicata, Olea europaea subsp. africana, Berchemia zeyheri	Acacia karroo, Ehretia rigida, Acacia tortilis subsp. heteracantha	Acacia karroo, Acacia tortilis subsp. heteracantha, Berchemia zeyheri, Rhus species, Ehretia rigida	Acacia karroo, Boscia albitrunca, Acacia tortilis subsp. heteracantha

RESULTS

Shrubs and trees	Acacia karroo, Acacia tortilis subsp. heteracantha, Dichrostachys cinerea	Acacia tortilis subsp. heteracantha, Boscia albitrunca, Gymnosporia buxifolia, Pappea capensis	Acacia karroo, Aloe marlothii, Boscia albitrunca, Acacia tortilis subsp. heteracantha,	Acacia tortilis subsp. heteracantha, Acacia karroo, Boscia albitrunca	Acacia karroo, Acacia tortilis subsp. heteracantha, Boscia albitrunca	Boscia albitrunca, Acacia tortilis subsp. heteracantha, Gymnosporia buxifolia, Cussonia spicata, Olea europaea subsp. africana, Berchemia zeyheri	Acacia karroo, Ehretia rigida, Acacia tortilis subsp. heteracantha	Acacia karroo, Acacia tortilis subsp. heteracantha, Berchemia zeyheri, Rhus species, Ehretia rigida	Acacia karroo, Boscia albitrunca, Acacia tortilis subsp. heteracantha
Succulent plants	Euphorbia pseudocactus	Euphorbia pseudocactus, Aloe marlothii	Euphorbia pseudocactus, Aloe marlothii	Euphorbia pseudocactus, Aloe marlothii, Euphorbia tirucalli	Aloe marlothii	Euphorbia ingens, Aloe marlothii, Euphorbia pseudocactus			Aloe marlothii, Opuntia species
Palatable grasses	Eragrostis species	Themeda triandra, Eragrostis species, Heteropogon contortus, Cynodon dactylon	Cynodon dactylon, Eragrostis species, Paspalum species, Themeda triandra	Cynodon dactylon, Eragrostis species	Eragrostis species, Cynodon dactylon, Heteropogon contortus	Cynodon dactylon, Uruchloa species	Eragrostis species, Uruchloa species	Eragrostis species, Cynodon dactylon	Cynodon dactylon, Uruchloa species
Dominant grasses	Sporobolus nitens, Eragrostis species, Aristida species, Cynodon dactylon, Cymbopogon pospischilii	Themeda triandra, Eragrostis species	Paspalum species, Cynodon dactylon, Eragrostis species	Cynodon dactylon, Sporobolus nitens	Sporobolus nitens, Eragrostis species, Cynodon dactylon, Eragrostis superba	Cynodon dactylon, Sporobolus nitens, Uruchloa species	Eragrostis species, Sporobolus nitens,	Eragrostis species, Cynodon dactylon	Cynodon dactylon, Aristida species
Basal cover of grasses	7%	10%	30% at river 5% at rocky slope	16-18% 4%	10%	10%	18% on flat areas 10% on steep slopes	10%	8%

RESULTS

The veld condition of grazing areas at the different villages

Village	Nxamalala	Mawozini	Siphongweni	Nembeni	Dayiswayo	Kwaphakwe	Enzala	Enqoleni	Kwadolo
Veld condition	Bad	Extremely bad	Bad	Bad	Bad	Extremely bad	Bad	Bad	Extremely bad

RESULTS

Summary of the data collected at sites from the Northern KwaZulu-Natal Moist Grassland

Village	Vimbukhalo	Nkonyane	Khwaneni	Mqotha
GPS coordinates	28°40'22" S 30°33'42" E	28°41'10" S 30°35'28" E	28°41'41" S 30°33'15" E	28°42'40" S 30°33'16" E
Altitude	1 222m	1 224m	1 240m	1 277m
Aspect	N	NW	S	NE
Slope	2-4°	6-8°	5-6°	1-3°
Vegetation Type	Grassland	Grassland	Grassland	Grassland
Shrubs and trees	Acacia dealbata	Acacia dealbata	Acacia dealbata, Caesalpinia decapetala	Acacia dealbata
Pallatable grasses	Cynodon dactylon, Eragrostis species, Paspalum dilatatum, Digitaria species	Eragrostis species, Digitaria species, Cynodon dactylon	Cynodon dactylon, Eragrostis species, Themeda triandra, Digitaria species	Cynodon dactylon, Eragrostis species, Digitaria species, Themeda triandra
Dominant grasses	Cynodon dactylon	Digitaria species, Hyparrhenia hirta, Sporobolus pyramidalis	Eragrostis species, Hyparrhenia hirta, Cymbopogon pospischilii	Eragrostis species, Digitaria species, Hyparrhenia hirta
Basal cover of grasses	20%	20%	20%	20%

Village	Vimbukhalo	Nkonyane	Khwaneni	Mqotha
Veld condition	Average	Average	Average	Average

DISCUSSION

The veld in the Thukela Valley Bushveld is in a poor condition (score below 50) while in the Northern KwaZulu-Natal Moist Grassland the condition is average to good (score between 51 and 90).

DISCUSSION

There is some browsing available to the goats with *Acacia* shrubs the more prominent.



DISCUSSION

Problems identified in the study area:

- Overgrazing
- Encroachment of the succulent *Euphorbia pseudocactus*
- Decrease in grass species
- No grazing management plan
- Overgrazing of the riverbanks
- Erosion
- Wrong burning practices

DISCUSSION



ACKNOWLEDGEMENTS

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THANK YOU

