

**Photo Guide to estimate Forage Availability  
in Namibian Rangelands  
Oshiwambo Version**

Omukwashilipaleki  
pashimaliwa omunene



Aakwashilipaleki pashimaliwa yalwe



Aatulimiilonga



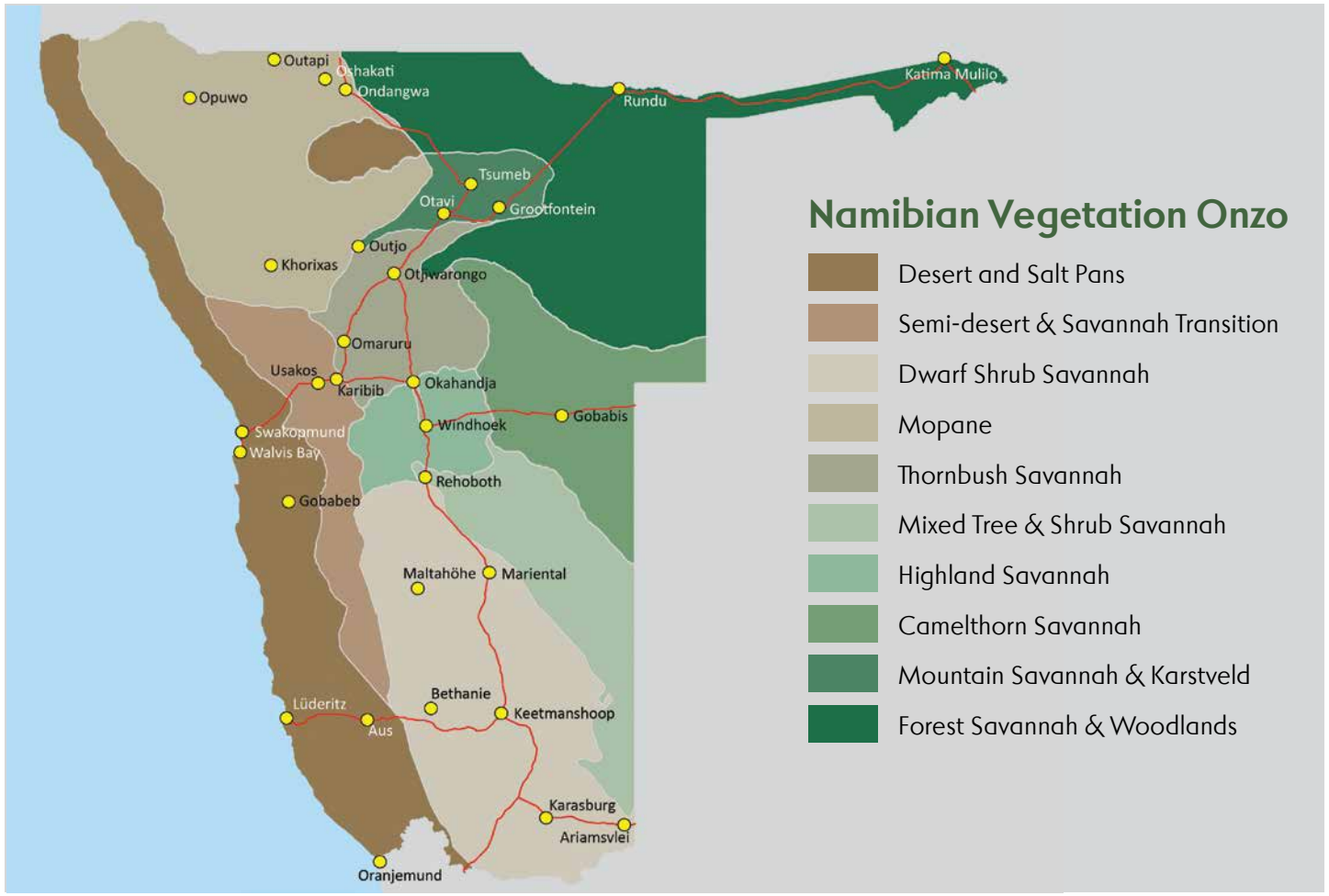
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# Oshikalimo

Onziililo .....	2
Dwarf Shrub Savannah Onzo .....	6
Semi-desert & Savannah Transition Onzo .....	17
Mopane Onzo .....	25
Thornbush Savannah Onzo.....	34
Mixed Tree & Shrub Savannah Onzo .....	45
Highland Savannah Onzo.....	58
Camelthorn Savannah Onzo.....	70
Mountain Savannah & Karstveld Onzo .....	81
Forest Savannah & Woodlands Onzo.....	90



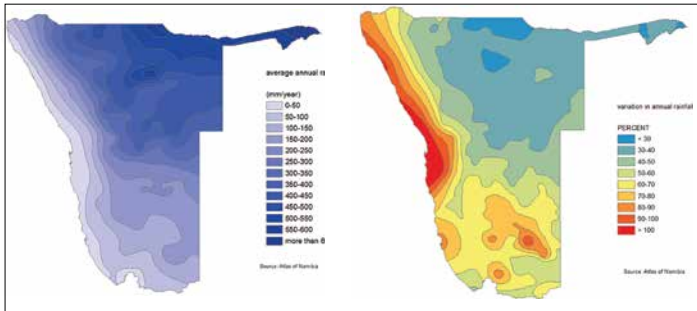


## Namibian Vegetation Onzo

- Desert and Salt Pans
- Semi-desert & Savannah Transition
- Dwarf Shrub Savannah
- Mopane
- Thornbush Savannah
- Mixed Tree & Shrub Savannah
- Highland Savannah
- Camelthorn Savannah
- Mountain Savannah & Karstveld
- Forest Savannah & Woodlands

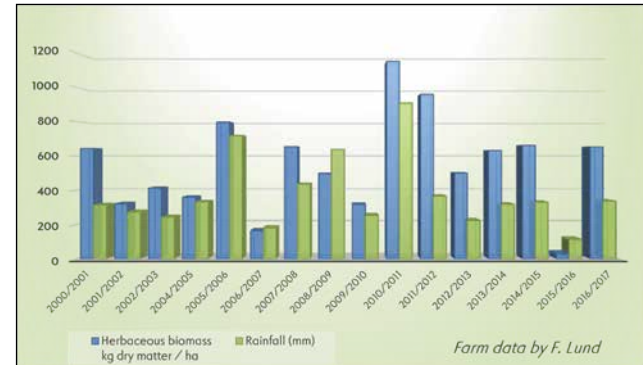
# Onziililo

Opoloyeka yokweeta po nokuninga amalolelo gomikalo omipe dhokugandja elondodho lyokuyele lyonkalo yuulithilo kaanafalama oya li ya totwapo nokutulwa miilonga nelalako lyokweeta po omikalo omipe dhokuhwepokeka omilandu dhekwatonawa lyomahala gomaulithilo nehupitho lyiimuna taku logithwa omauyelee gonkalo yuunshitwe ngo haga gongelwa nomashina gomegwangandjo (Oosatelite), noshu wo omauyelee galwe ngoka haga gongelwa pamikalo dhilwe dhopaunongononi dhomatalululo gonkalo yuulithilo. Oopelesenda milongu hetatu (80%) dhomakwatho goshimaliwa sha li sha longithwa mopoloyeka ndjika, odha li dha gadjwa okupitila mopolohalama ontimulongo yaEulopa yokugadja omakwatho kiinima tayi ungaunga nonkalo yelunduluko lyombepo, etaambeko netulo miilonga lyomilandu tadh i kwathele aanafaalama mokwiigilila amalunduuko ngoka. Yilwe yomiimaliwa ya longithwa oya li ya gandjwa komahangano galwe gomoshilongo ngaashi, ombaanga yaanafaalama (Agribank), GEF na Agra. Pehulilo lyomalolelo ngano, opolohalama oye etapo ekalata lyokulongithwa kaanafaalama okutengeneka ongushu yuulithilo womahala gawo.



Ethano 1: Elunduluko lyomuloka gwomvula moNamibia

Namibia, oshilongo sha gama kuumbungantu gwombuga yaSahara sha talika ko sha kukuta, noshina omukalo gwomvula ihaa yi ineekelwa nohayi lunduluka noonkondo pokati komathimbomuloka. Methano lyotango kolumoho otamu monika okaalita taka holola omwaalu gwuupokati gwomvulamuloka gwoshilongo shetu, okuza kuumbungantu-ninginino wu uka kuumbagalantu-zilo gwoshilongo. Omanga methano lyokolulyo tamu holoka amalunduluko gomiloka gopomathimbo gomvula. Okwiitaalwa kutya omolwa onkalo yelunduluko lyonkalo yombepo, iikumugu yomalunduluko gomiloka ota yi ka indjipala.

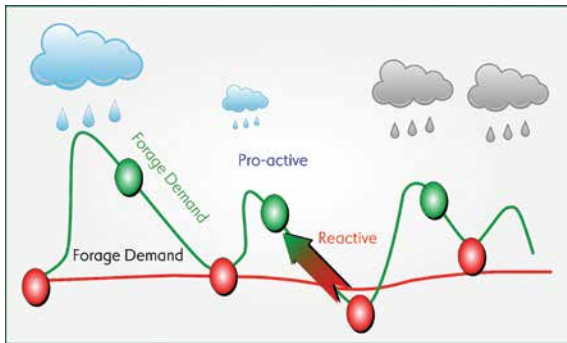


Ethano 2: Eyelekanitho lyongushu yuulithilo mofaalama yaKomubonde pamimvomuloka

Ongushu yuulithilo mehala kehe pehulilo lyomuloka, oyi ikwatelela kondjundo yomuloka nokonkalopitathimbo yuulithilo wopehala mpoka. MEthano etiyali, ota mu holoka omayooloko gongushu yuulithilo pokati koomvula dhomeyavi gaali nayimwe, momvula yomayuvi gaali nomulongo nahamano mofaalama ya meme Lund moshitopolwa shaMaruru. Moomvula dha talululwa, ofaalama oyo tuu ndjoka oya li yi i yadha yi na iikulya yiiimuna ya pita pongushu yoshiviha shotona, mehala yuunene wohekta, momvula yo 2010/11, ihe momvula

yo 2015/16 ofaalama oyo tuu ndjika oyii adha yi na uulithilo wa nkundipala muunenehala owo tuu mboka. Shika otashi holola ihe kutya, ongushu yuulithilo oshinima ha shi lunduluka pokati komathimbo muloka, notashi pumbwa aanafaalama ya kale wo haalundulula omwaalu gwiimuna yawo. Eshongo enene lya taalela aaniimuna olyo ontseyo yokulundulula omwaalu gwiimuna yawo pethimbo lyo opala mekwatathano nonkalo nongushu yuulithilo.

Omulandu omwaanawa tagu pumbwa okutulwa miilonga kaanafaalama, ogwo ngoka gwokutalulula nokuyeleanitha uulithilo ta wu pumbiwa kiimuna naamboka ta wu adhika mehala lyuulithilo. Mokuninga shika aanafaalama otaya ka koneka kutya, ngele uulithilo owu li po wa ngwanena iimuna tayi adhika mehala moka, nena aanaafalama itaa ka tsakaneka uupyakadhi wondjala yimuna. Ihe ngele omuloka ogwa ka nkundipala komvula yalandula ko, gwo omwaalu gwiimuna inaa gu shunithwa pevi, shika otashi ti, iikulya tayi pumbiwa okuhupitha iimuna mbyoka ina gu lunduluka, ihe omolwa omuloka gwa nkundipala, ongushu yuulithilo ota yi ka shuna pevi mehala moka, naashika otashi keeta omukundu wuulithilo inaa wu ngwanena kiimuna yomehala ndyoka.



Ethano 3: Euliko pafano li na sha nomukalo gwokuninga omatokolo taga kwatha manga okuyele

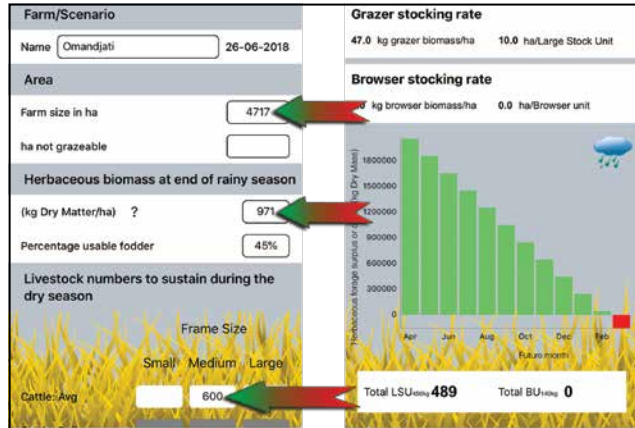
Onkene oshi li sha simana, notashi kwatha okuninga omakonaakono kuyele, gokuyeleanitha nokutala ngele iikulya yimuna tayi adhika mehala lyuulithilo pehulilo lyomuloka oya gwana tuu okuthikitha iimuna komuloka gwomvula ya landula ko. Ngele okwa konekwa kutya uulithilo ta wu adhika mehala lyuulithilo ita wu wulu oku ka thikitha iimuna koshikogo, aanafaalama otaya tegelelwa ya ninge omatokolo omawanawa gomeendelelo okushunitha omwaalu gwiimuna yawo pevi, peha lyokutegelela sigo onkalo yuulithilo niimuna ya nkundipala, shoka tashi wulu okuya etela ekanitho.

Opu na omikalo odhindji tadhi wulu okulongithwa kaanafaalama mokutengeneka ongushu yiikulya yimuna tayi adhika momahala guulithilo. Omukalo gumwe dhingi nogwa talika hagu gandja iizemo iiwanawa ogwo ngoka gwokunwa/gwokukahula omwiidhi pomahala ga yooloka guulithilo, oku gu kukutika noku gu viha opo omunafaalama a mone oshiviha (uwindji) shomwiidhi tagu adhika pehala yuunene wohekita kehe mehala lyuulithilo. Oyendji yomaanafaalama, oya tala ko omukalo nguka gu li emanepo lyethimbo kuyo.

Omolwa omakemo gaanafalama, mbo ya tala omukalo gwa hokololwa pombanda guli emanepo lyethimbo, opoloyeka ndjika oyeetapo ihe omukalo omupe, gwokutengeneka omwaalu gwiikulya yimuna taku longithwa uyelele womafano no ita ku tetwa we nokuvihwa eemwiidhi dhopomahala ga yooloka gomaulithilo. Molwashoka Namibia oku na omakuti gomaulithilo ge na omakwatya ga yooloka, okwa longekidhwa omathano ogendji gokukalela po onkalo ndhoka. Shika otashi gandja ompito ombwaanawa opo mehwata lyomafano gopehala lyuulithilo kehe, mu adhike ethano lyonomola yotango ndyoka ta li ulike onkalo yuulithilo wa nkundipala nota ku hulithwa nethano tali ulike ongushu ombwaanawa ya shiga ko, tayi wulu okwaadhika mehala lyuulithilo wuukwatya wontumba. Mokulongitha omathano ngaka, uupambuhala womehala lyuulithilo ota wu longithwa meyalulo, ota wu wulu wo okuyeleanithwa nonkalo yu ulikwa momafano opo ku yalulwe uupokatingushu wiikulya yimuna ta wu adhika mehala lyontumba nenge mofaalama yongandi. Omathano gaka oge etwa po shiikwatelela konkalo yomakuti nomahala

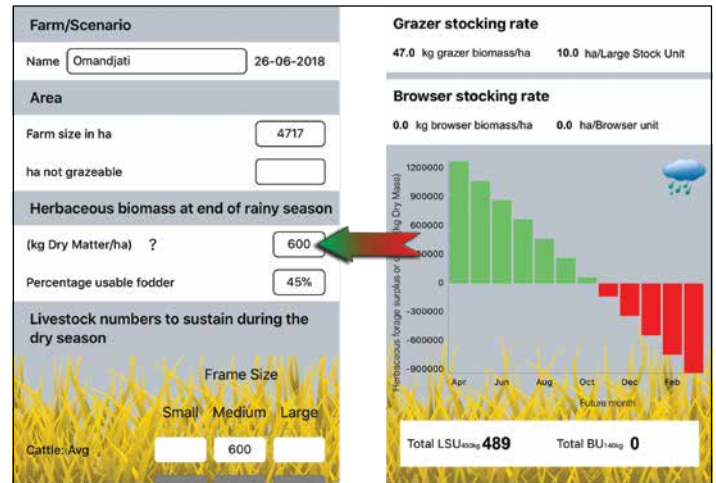
gomaulithilo, onkene osha simana omunafaalama a tale no ku hogolola nawa omathano taga opalele ehala nongushu yuulithilo we.

Uuna kwa tengenekwa uwindji wiikulya yiimuna ta yi adhika mehala lyuunene wohekita, nena aanafaalama otaa ka vula wo okutengeneka uwindji wiikulya yiimuna ta wu adhika mehala lyawo lyuulithilo alihe nokuyelekanitha noku ingongosheka ngele iikulya mbyono oya gwana tuu okuhupitha iimuna yopehala nenge pofaalama mpoka. Opo elongitho lyomukalo nguno gwetengeneko lyiikulya yiimuna mehala lyuulithilo li ningwe epu no li vule oku adha omuniimuna kehe, okwa totwa wo **okapoloholama komooselefona**, hoka omuntu kehe ta vulu oku ka tula nokulongitha kongodhi yopeke pwaa na iifuta yasha. Ethano etine sigo etihamano ota li ulike nkene okapolohalama hoka ka li ka longithwa mongodhi yo iOS, no kwa tegelelwa wu ka mone omafano ga yooloka nge owa longitha oongodhi dhilwe, ihe uuyelele ota wu kala wumwe.



Ethano 4: Eyalulo lyomwaalu gwiimuna tayi gwanene muulithilo-Oshiihoolelwa shotango

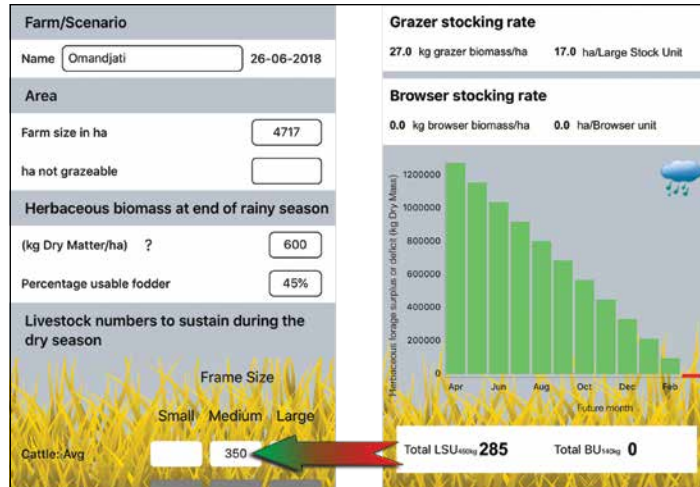
Ethano etine ota li ulike iizemo yomayalulo ga li ga ningwa mofaalama yuunene wohekita omayovi gane, omathele gaheyali niihupe omulongo niiheyali (4717 ha), moka mu na ongushu yiikulya yiimuna yi thike pookilohalama omathele omugoyi nomilongo heyali nayimwe mehala lyuunene wohekita kehe (971kg/ha), noha mu kala oongombe omathele gahamano (600) dhomalutu guunene wopokati. Eyalulo ndino olyu ulike kutya, mofaalama muka ota mu kala iikulya ya gwana iimuna mbyoka sigo omomwedhi omutiyali omvula ya landula, onkene ita shi pumbiwa omunafaalama nguka a shunithe pevi omwaalu gwiimuna ye.



Ethano 5: Eyalulo lyomwaalu gwiimuna tayi gwanene muulithilo-Oshiihoolelwa oshitiyali.

Ethano etitano ota li ulike iizemo yomayalulo goshiholelwa oshitiyali ga li ga nigwa mofaalama yuunene wa longithwa moshiiholelwa shotango, ihe monkalo ndjino, ongushu yiikulya yiimuna tayi adhika mehala

lyuunene wohekita kehe oyi thike ashike pookilohalama omathele gahamano (600kg/ha). Monkalo ya tya ngeyi, omuniimuna nguno okwa tegelela e kii ya dhe kee na iikulya ya gwanenena iimuna ye okuza momwedhi omutimulongo (muKotoomba). Mokuninga etokolo lyopethimbo omunafaalama okwa shonopeke omwaalu gwiimuna ye sigo a thigala po noongombe omathele gatatu nomilongontano. Shika oshe mu pe ompito yokukala niikulya ya gwanena iimuna ye sigo okuFebruali omvula ya landula ko.



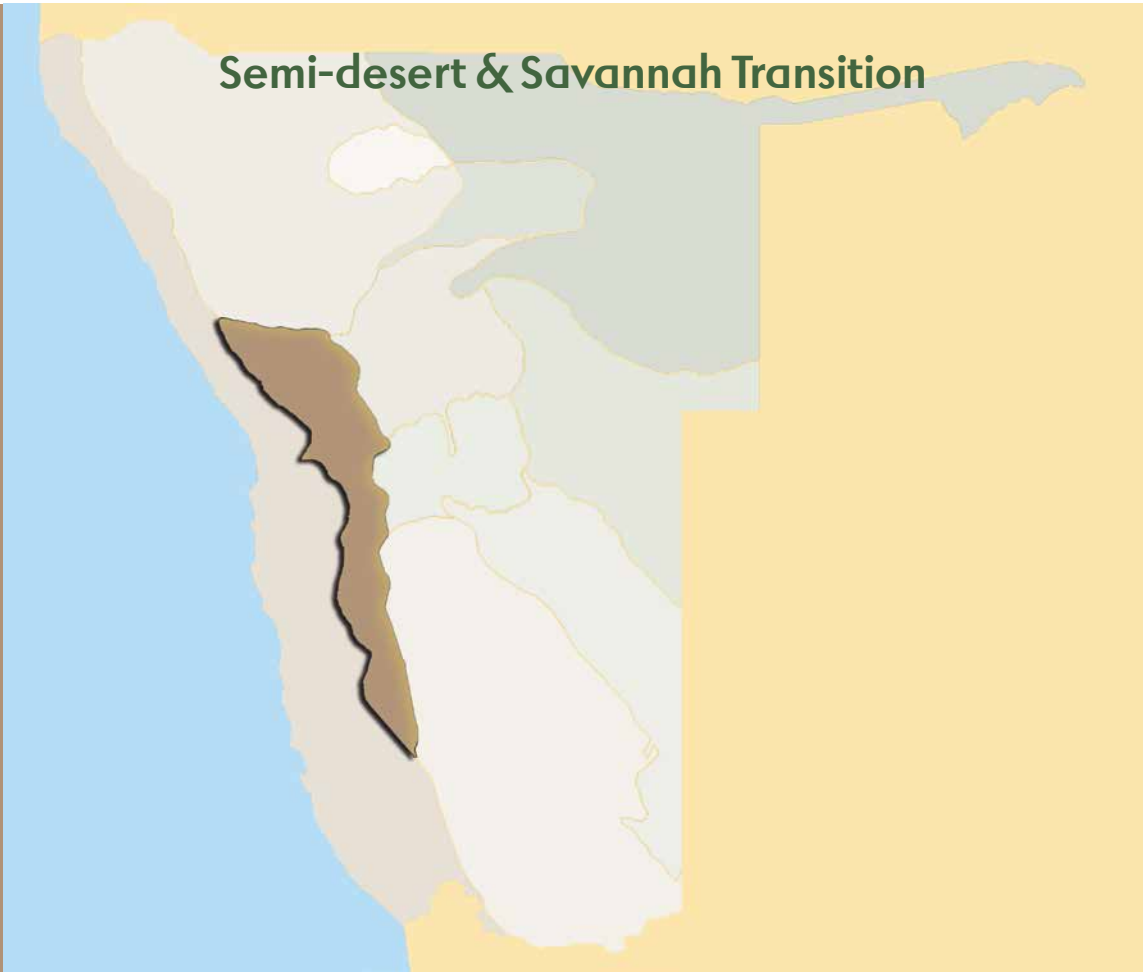
Ethano 6: Okashina kokuyalula iimuna – Oshiholelwa oshitiyali (kalwe ishewe)

Moshiihoolelwa shika shomethano etihamano, ota ku ka longithwa iyelekitho yoongombe dhomalutu omashona (oongombewambo), gopokati nosho wo dhomalutu omanene (oongombe dhuushimba). Koneka nee kutya, mongundu kehe yimuna oto vulu okwaadha mo omayooloko giiviha nuunene wiimuna:

- Oongombe dhomalutu omashona (ha ku tiwa Oowambongombe (Nguni/Sanga)
- Oongombe dhomalutu gopokati, oshiholelwa, Afrikaner, Bonsmara, Beefmaster
- Oongombe dhomalutu omanene, oshiholelwa Simmentaler, Simbra, Brahman (oombalamana)



## Semi-desert & Savannah Transition





Semi-desert & Savannah Transition

Onomola yethano 1

100 Ongushu yiikulya yiimuna mohekita





Semi-desert & Savannah Transition

Onomola yethano 2

227 Ongushu yikulya yimuna mohekita



Semi-desert & Savannah Transition

Onomola yethano 3

284 Ongushu yiikulya yiimuna mohekita





Semi-desert & Savannah Transition

Onomola yethano 4

343 Ongushu yikulya yimuna mohekita



Semi-desert & Savannah Transition

Onomola yethano 5

523 Ongushu yiikulya yimuna mohekita





Semi-desert & Savannah Transition

Onomola yethano 6

554 Ongushu yiikulya yimuna mohekita



Semi-desert & Savannah Transition

Onomola yethano 7

645 Ongshu yikulya yimuna mohekita







Semi-desert & Savannah Transition

Onomola yethano 8

1265 Ongushu yiikulya yiimuna mohekita



Semi-desert & Savannah Transition

Onomola yethano 9

1372 Ongushu yikulya yimuna mohekita





Semi-desert & Savannah Transition

Onomola yethano 10

2244 Ongushu yiikulya yiimuna mohekita

## Dwarf Shrub Savannah





Dwarf Shrub Savannah

Onomola yethano 1

10 Ongushu yikulya yimuna mohekita



Dwarf Shrub Savannah

Onomola yethano 2

100 Ongushu yiikulya yimuna mohekita





Dwarf Shrub Savannah

Onomola yethano 3

330 Ongushu yikulya yimuna mohekita



Dwarf Shrub Savannah

Onomola yethano 4

430 Ongushu yiikulya yiimuna mohekita







Dwarf Shrub Savannah

Onomola yethano 5

750 Ongushu yikulya yimuna mohekita



Dwarf Shrub Savannah

Onomola yethano 6

800 Ongushu yiikulya yimuna mohekita



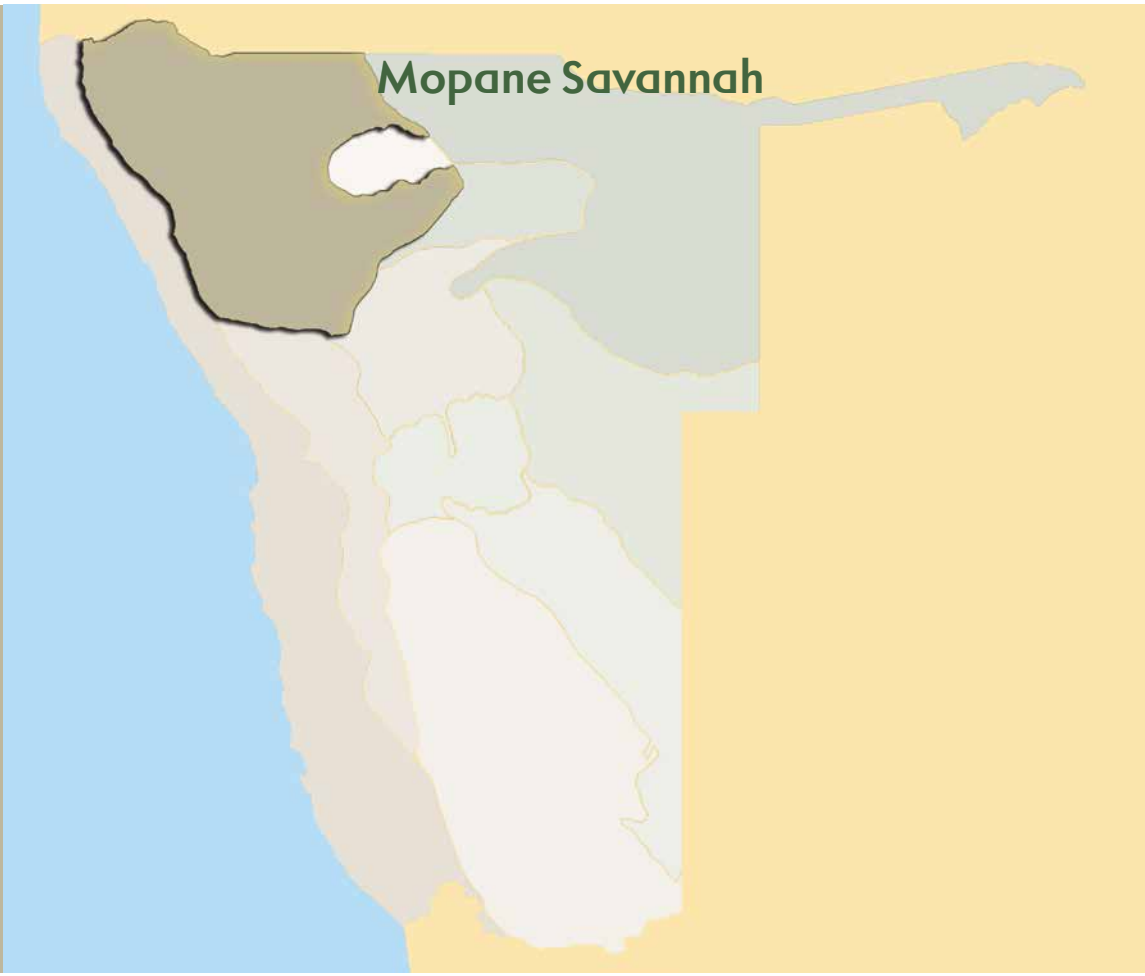


Dwarf Shrub Savannah

Onomola yethano 7

950 Ongushu yikulya yimuna mohekita

# Mopane Savannah





Mopane Savannah

Onomola yethano 1

81 Ongushu yikulya yimuna mohekita



Mopane Savannah

Onomola yethano 2

145 Ongushu yiikulya yimuna mohekita





Mopane Savannah

Onomola yethano 3

302 Ongushu yikulya yimuna mohekita



Mopane Savannah

Onomola yethano 4

578 Ongushu yiikulya yimuna mohekita







Mopane Savannah

Onomola yethano 5

774 Ongushu yikulya yimuna mohekita



Mopane Savannah Onomola yethano 6

906 Ongushu yiikulya yiimuna mohekita





Mopane Savannah

Onomola yethano 7

1022 Ongushu yikulya yimuna mohekita



Mopane Savannah

Onomola yethano 8

2285 Ongushu yiikulya yimuna mohekita



# Thornbush Savannah





Thornbush Savannah

Onomola yethano 1

30 Ongushu yikulya yimuna mohekita





Thornbush Savannah

Onomola yethano 2

141 Ongushu yiikulya yiimuna mohekita



Thornbush Savannah

Onomola yethano 3

190 Ongushu yiikulya yiimuna mohekita







Thornbush Savannah

Onomola yethano 4

300 Ongushu yiikulya yiimuna mohekita



Thornbush Savannah

Onomola yethano 5

511 Ongushu yiikulya yimuna mohekita





Thornbush Savannah

Onomola yethano 6

900 Ongushu yiikulya yiimuna mohekita



Thornbush Savannah

Onomola yethano 7

1000 Ongushu yiikulya yimuna mohekita





Thornbush Savannah

Onomola yethano 8

1203 Ongushu yiikulya yiimuna mohekita



Thornbush Savannah

Onomola yethano 9

1950 Ongushu yiikulya yimuna mohekita



Thornbush Savannah

Onomola yethano 10

2200 Ongushu yiikulya yiimuna mohekita

## Mixed Tree & Shrub Savannah







Mixed Tree & Shrub Savannah

Onomola yethano 1

192 Ongushu yikulya yimuna mohekita



Mixed Tree & Shrub Savannah

Onomola yethano 2

302 Ongushu yikulya yimuna mohekita





Mixed Tree & Shrub Savannah

Onomola yethano 3

412 Ongushu yikulya yimuna mohekita



Mixed Tree & Shrub Savannah

Onomola yethano 4

618 Ongushu yiikulya yimuna mohekita





Mixed Tree & Shrub Savannah

Onomola yethano 5

690 Ongushu yiikulya yiimuna mohekita



Mixed Tree & Shrub Savannah

Onomola yethano 6

832 Ongushu yiikulya yimuna mohekita





Mixed Tree & Shrub Savannah

Onomola yethano 7

1032 Ongushu yiikulya yiimuna mohekita



Mixed Tree & Shrub Savannah

Onomola yethano 8

1132 Ongushu yiikulya yiimuna mohekita







Mixed Tree & Shrub Savannah

Onomola yethano 9

1367 Ongushu yiikulya yiimuna mohekita



Mixed Tree & Shrub Savannah

Onomola yethano 10

1459 Ongushu yiikulya yiimuna mohekita





Mixed Tree & Shrub Savannah

Onomola yethano 11

1466 Ongushu yiikulya yiimuna mohekita



Mixed Tree & Shrub Savannah

Onomola yethano 12

2021 Ongushu yiikulya yiimuna mohekita



# Highland Savannah





Highland Savannah

Onomola yethano 1

240 Ongushu yiikulya yimuna mohekita





Highland Savannah

Onomola yethano 2

290 Ongushu yikulya yimuna mohekita



Highland Savannah

Onomola yethano 3

390 Ongushu yiikulya yimuna mohekita





Highland Savannah

Onomola yethano 4

480 Ongushu yiikulya yimuna mohekita



Highland Savannah

Onomola yethano 5

650 Ongushu yiikulya yimuna mohekita



Highland Savannah

Onomola yethano 6

730 Ongushu yikulya yimuna mohekita



Highland Savannah

Onomola yethano 7

816 Ongushu yiikulya yimuna mohekita





Highland Savannah

Onomola yethano 8

982 Ongushu yiikulya yiimuna mohekita



Highland Savannah

Onomola yethano 9

1100 Ongushu yikulya yimuna mohekita





Highland Savannah

Onomola yethano 10

1500 Ongushu yikulya yimuna mohekita



Highland Savannah

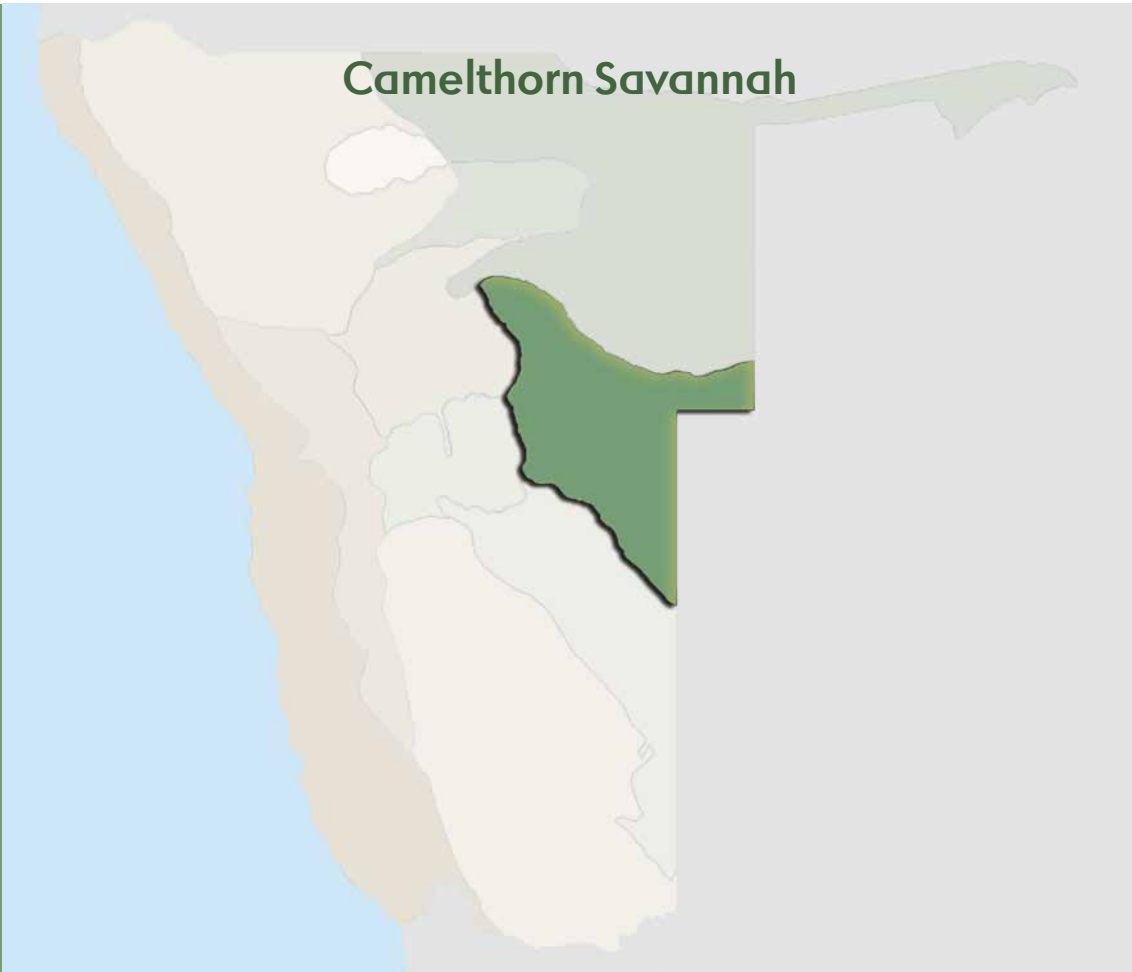
Onomola yethano 11

2150 Ongushu yiikulya yimuna mohekita





## Camelthorn Savannah



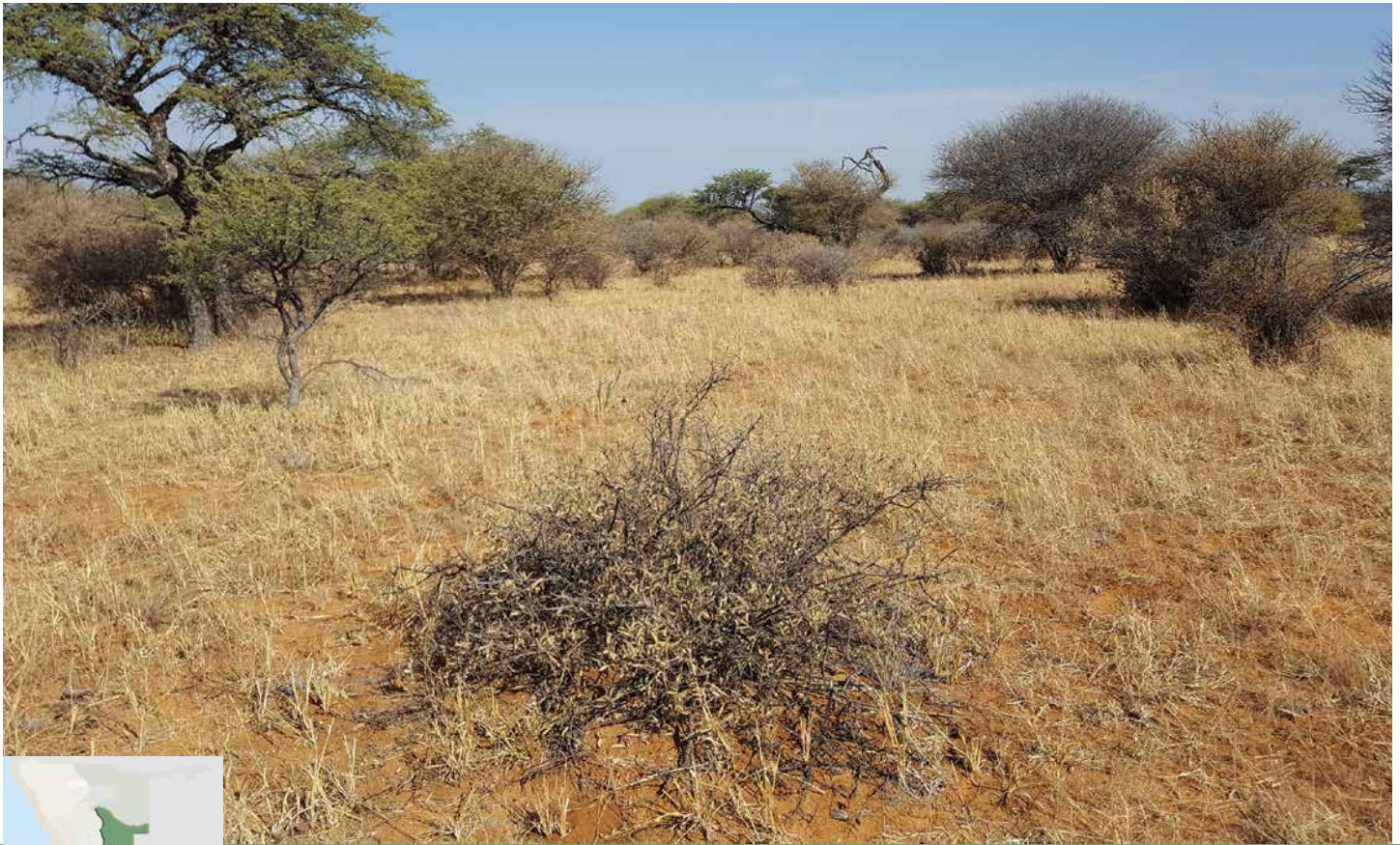


Camelthorn Savannah

Onomola yethano 1

80 Ongushu yikulya yimuna mohekita





melthorn Savannah

Onomola yethano 2

246 Ongushu yiikulya yimuna mohekita



Camelthorn Savannah

Onomola yethano 3

287 Ongushu yiikulya yimuna mohekita





Camelthorn Savannah

Onomola yethano 4

620 Ongushu yiikulya yimuna mohekita



Camelthorn Savannah

Onomola yethano 5

824 Ongushu yiikulya yiimuna mohekita





Camelthorn Savannah

Onomola yethano 6

1009 Ongushu yiikulya yimuna mohekita



Camelthorn Savannah

Onomola yethano 7

1297 Ongushu yiikulya yiimuna mohekita







Camelthorn Savannah

Onomola yethano 8

1430 Ongushu yiikulya yimuna mohekita



Camelthorn Savannah

Onomola yethano 9

1900 Ongushu yiikulya yimuna mohekita



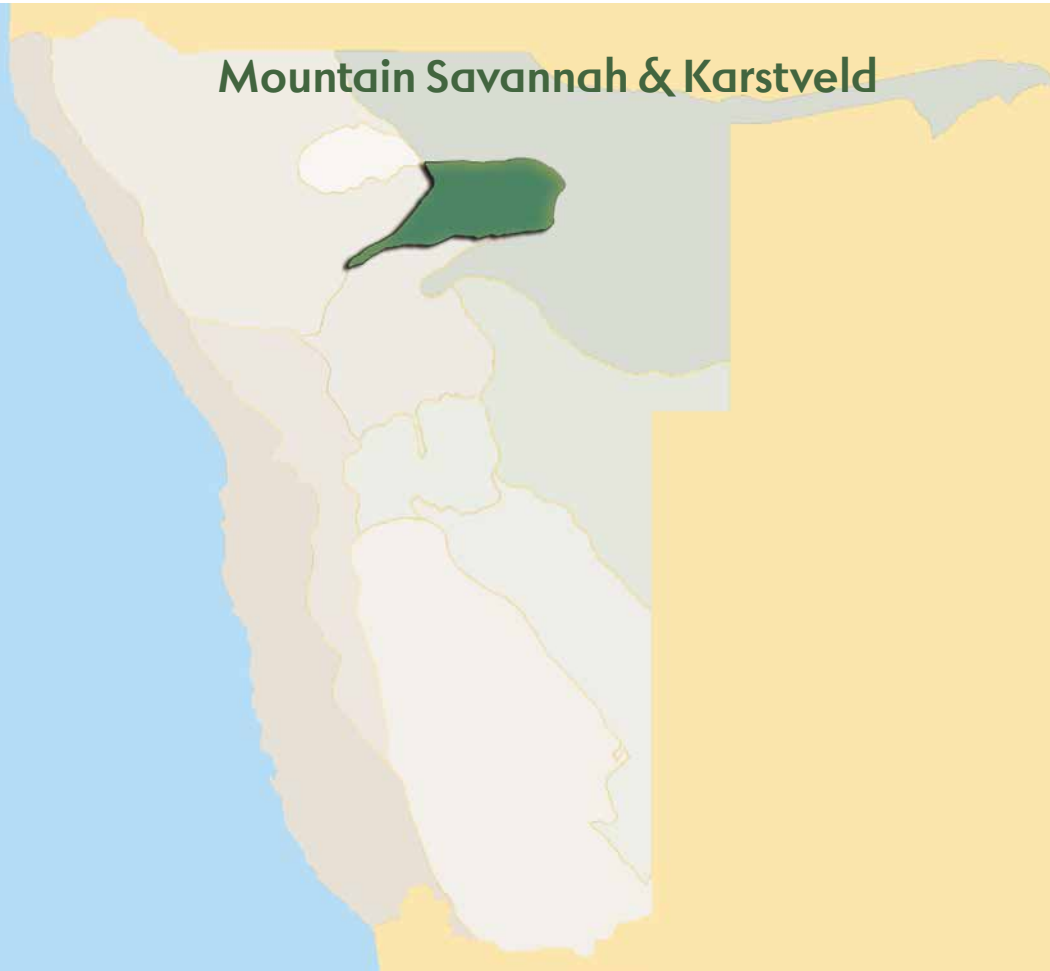


Camelthorn Savannah

Onomola yethano 10

2523 Ongushu yiikulya yiimuna mohekita

## Mountain Savannah & Karstveld





Mountain Savannah & Karstveld

Onomola yethano 1

36 Ongushu yikulya yimuna mohekita



Mountain Savannah & Karstveld

Onomola yethano 2

213 Ongushu yikulya yimuna mohekita





Mountain Savannah & Karstveld

Onomola yethano 3

539 Ongushu yikulya yimuna mohekita



Mountain Savannah & Karstveld

Onomola yethano 4

723 Ongushu yiikulya yiimuna mohekita







Mountain Savannah & Karstveld

Onomola yethano 5

749Ongushu yikulya yimuna mohekita



Mountain Savannah & Karstveld

Onomola yethano 6

1092 Ongushu yikulya yimuna mohekita





Mountain Savannah & Karstveld

Onomola yethano 7

1279Ongushu yikulya yimuna mohekita



Mountain Savannah & Karstveld

Onomola yethano 8

1662 Ongushu yikulya yimuna mohekita





**Forest Savanna & Woodlands**



Forest Savannah & Woodlands

Onomola yethano 1

35 Ongushu yikulya yimuna mohekita





Forest Savannah & Woodlands

Onomola yethano 2

397 Ongushu yiikulya yiimuna mohekita



Forest Savannah & Woodlands

Onomola yethano 3

591 Ongushu yikulya yimuna mohekita







Forest Savannah & Woodlands

Onomola yethano 4

974 Ongushu yiikulya yimuna mohekita



Forest Savannah & Woodlands

Onomola yethano 5

1205 Ongushu yikulya yimuna mohekita





Forest Savannah & Woodlands

Onomola yethano 6

1404 Ongushu yiikulya yiimuna mohekita



Forest Savannah & Woodlands

Onomola yethano 7

1809 Ongushu yikulya yimuna mohekita





Forest Savannah & Woodlands

Onomola yethano 8

2921 Ongushu yiikulya yiimuna mohekita

