Soil Mapping and Advisory Service Project BOT/85/011

PRELIMINARY LAND SUITABILITY MAP FOR SORGHUM - SOUTH EAST DISTRICT

FAO/UNDP/GOVT. OF BOTSWANA

SCALE 1 : 100 000

Metres 1000 500 0 1 2 3 4 5 6 7 8 Kilometres

INDEX TO ADJOINING SHEETS

2425 D1 | 2425 D2 | 2426 C1
2425 D3 | 2425 D4
2525 B1 | 2525 B2
2525 B3

TOPOGRAPHICAL LEGEND

- International Boundary
- District Boundary
- State Land/Tribal Trerritory
- Main Road
- Secondary Road
- Track
- Railway Line
- Capital, Town (Built up Area)
- Built up Area
- Major Village, Other Village
- Power Line
- River, Stream
- Dam

Note: Topography based on Department of Surveys & Lands 1 : 50 000 Sheet Numbers 2425 D1, D2, D3, D4, 2426 C1, 2525 B1, B2, B3.

GABORONE SUB - ZONE

LOBATSE SUB - ZONE

GABORONE

TLOKWENG

RAMOTSWA

LOBATSE

Notwane Dam

Mogobane

Mogobane Irrigation Scheme

Botswana Agricultural College

To Francistown

From Molepolole

To Zeerust

From Kanye

From Mafikeng

LAND SUITABILITY FOR IMPROVED TRADITIONAL DRYLAND FARMING

Main crop: Sorghum

Suitability class	Area coverage per mapping unit (%)
S1	60 - 80
S1	40 - 60
s1	20 - 40
S2	60 - 80
S2	40 - 60
s2	20 - 40
S3	60 - 80
S3	40 - 60
s3	20 - 40
S4	60 - 80
S4	40 - 60
s4	20 - 40
N1	60 - 80
N2	60 - 80

S1 **Highly suitable:** Land which is expected to be highly productive for the defined use. High returns amply justify required inputs. No significant limitations.

S2 **Moderately suitable:** Land which is expected to be moderately productive for the defined use. Moderate returns justify required inputs. Limitations reduce crop yield 20 - 40% and/or increase recurrent costs for production and conservation.

S3 **Marginally suitable:** Land which is expected to have a low productivity for the defined use. Yield benefits are just high enough to justify required inputs. Limitations reduce crop yield 40 - 60% and/or considerably increase costs for production and conservation.

S4 **Very marginally suitable:** Land which is expected to have a very low productivity for the defined use. It is doubtful whether yield benefits alone justify required inputs. Severe limitations reduce crop yield 60 - 80% and/or considerably increase costs for production and conservation.

N1 **Currently unsuitable:** Land with very severe limitations, which at the present can not be corrected economically.

N2 **Permanently unsuitable.**

Land suitability subclasses (limitations)

Edaphic and agro-climatic suitability
(c) correct temperature regime, day length and air humidity
(f) absence of damaging floods
(g) adequacy of conditions for germination
(m) moisture availability
(n) nutrient availability
(o) oxygen availability in the root zone
(r) adequacy of foothold for roots
(t) absence of toxic substances

Management and conservation suitability
(a) accessibility
(e) resistance to soil erosion
(w) workability

The land suitability subclasses refer to the suitability of the land for sorghum as the main crop of a farming system, which includes a variety of other crops such as: millet, maize, cowpeas, water melon and fodder (Dolichos lablab).

The suitability of maize can generally be considered as one class lower as compared to sorghum, while the other crops are generally one class higher.

It should be noted that tractors are considered as draft power.