

Kraaling as a rangeland management & restoration tool

WHAT IS KRAALING?

Kraaling (using corrals or bomas) is a management practice often used in communal rangelands by farmers to enclose their livestock for a fixed period. Kraals are typically made of either natural material, fencing or synthetic mobile sheeting. Kraals in rangelands can be distinguished by **two types**:

MOBILE KRAAL

- A temporary enclosure that can be easily moved between areas.
- Used for short-term confinement, generally overnight for at least seven days.
- Used for rotational grazing and to protect specific areas from overgrazing.
- Used during breeding.



PERMANENT KRAAL

- A fixed enclosure often situated near the homesteads in local communities.
- Designed to remain in place for extensive periods.
- Used for grazing management and breeding.



Rangeland degradation

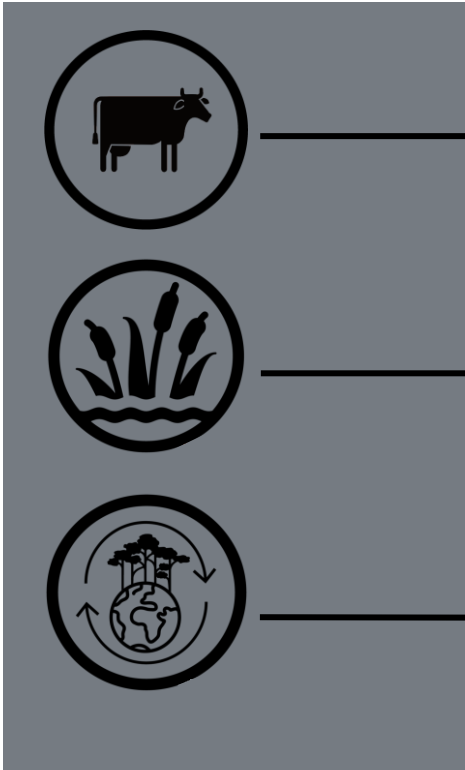
70%

The land area in South Africa that is covered by rangelands, which support the livelihoods of local communities. However, rangelands are often degraded due to livestock mismanagement, soil erosion and climate change.

87%

Proportion of South Africa's soil carbon that is stored in rangelands (grasslands, savanna, karoo shrubland). Soil degradation and erosion reduces carbon storage, further contributing to climate change. It is crucial that we rehabilitate rangelands to a desired state to maintain life.

WHY DO WE KRAAL?



Livestock management and protection

Livestock and wildlife are able to co-exist with minimal conflict or spread of disease

Soil Fertility

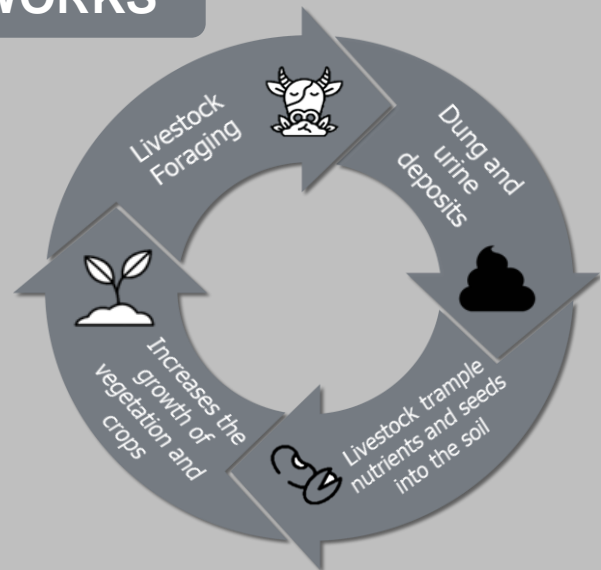
Content of soil carbon and nutrients (nitrogen, phosphorus, potassium) is increased in both crop and natural areas

Restoration

Can help manage overgrazing, increase plant cover (erosion gullies; post clearing of alien plants). If given supplements, livestock will even eat invasive plants that are re-growing.

HOW IT WORKS

- Livestock forage in the surrounding landscape, deposit dung (with nutrients and seeds) and urine, which get trampled into the soil.
- These digestive and physical processes make organic matter more bioavailable in the soil.
- Plant growth is increased in patches where kraals were, providing nutritious forage for livestock.



HOW IS KRAALING BENEFICIAL?

Strategic, short duration kraaling of livestock can be used as a useful **tool for land restoration** of communal rangelands. This is especially true where soil is bare of plant cover, invasive plants are re-sprouting (natural lands), or where soil lacks nutrients (croplands). However, kraaling must be carefully managed to avoid over-trampling or enriching the soil beyond the desirable range.

HOW TO KRAAL RESPONSIBLY

To avoid causing unintended negative impacts on the environment, it is recommended that livestock farmers:

- 1 Stock animals at the recommended stocking rate for the area.
- 2 Kraal animals first on degraded bare areas vs areas in good condition.
- 3 Consider the welfare of animals.
- 4 Kraal animals for short periods (overnight for a few days).
- 5 Regularly move animals in restoration areas.
- 6 Monitor effects of kraaling on soil and vegetation and manage accordingly.



Example of traditional permanent kraals (a) and mobile short-duration kraals in Mozambique within the Herding 4 Health Model (b). The inset in (b) shows an active kraal (left) next to an abandoned one (right), both of which have darker soil surfaces compared to the surrounding landscape, indicating the presence of organic material.

Sources:

Hawkins H-J, Mgwali N, Vetter S. 2022. Effects of short-duration kraaling depend on initial conditions in a mesic grassland. *African Journal of Range & Forage Science* 2022, 1-10. <https://doi.org/10.2989/10220119.2021.2012716>

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