

BEEF ENTERPRISE STRENGTHENING AND TRANSFORMATION PROJECT



Livestock Management in Drought Situations



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Droughts have become a common phenomenon in Zimbabwe especially in natural regions IV and V. This has been further exacerbated by climate change. It is therefore important for farmers to prepare a feeding strategy as a disaster mitigation measure all the times. Success of a drought mitigation programme will depend on the standard of handling facilities and herd management both during and after the drought. The options below can be adopted individually, a combination of any two or all the three. However, public awareness on the need for a combined effort is paramount in this situation considering that all farmers should buy in these strategies since the grazing is communal.

Smallholder Farmers Drought coping options and strategies

- Fetch water from protected wells, boreholes and other sources and give to livestock
- Relocate cattle to neighbouring small-scale commercial farms, resettlement areas or drought relief grazing farms where there are better pastures
- Exchange older animals for young ones which have better chances of surviving
- Destock (disposal of excess and less important animals) by selling and bank money for use in future restocking
- Make use of conserved hay
- Buy in feed such as Rhodes grass hay and supplementary commercial feed
- Make use of local legume trees e.g. Acacia (thorn trees) and *Piliostigmathorningii* (musekesa) pods that are fed to cattle
- Slice and feed water melons to cattle. They provide both water and feed because water melons are normally plentiful during drought years.
- Harvest and feed fallen tree leaves and fruits e.g. Muchakata, Muonde, Mutobwe, Musuma
- Cut and bag grass that grow on road sides and feed to livestock in drought situation.
- Adopt supplementary feeding
- Survival feeding where animals are fed just to keep them alive. At 70% of normal maintenance, animals can survive with negligible activity.
- Priority feeding where preferential allocation of feed to one class of stock compared to the other.

Suitable Feeds and Feeding in Drought

A number of options are available ranging from properly formulated feeds to the IFRB (Indigenous Feeding Resource Base).

- Commercial Feeds
- Home mixed diets
- Crop residues



- Bush-meal

Commercial Feeds

Complete diets are the best alternative if affordable.

- They cut down on costs of searching for ingredients, cost of mixing and there is no challenge of formulating a balanced diet.
- However they are usually not affordable to communal farmers.
- Transport costs are high

Home Mixed Diets

Commercial feeds are very expensive and the transport costs are high. Indigenous feeds are cheap, but are available in low and unbalanced proportions. These are the challenges the communal farmer faces in utilizing indigenous diets.

1. Crop Residues

These include: Sorghum, Millet, Maize, Beans, Groundnut, Round-nut stovers etc. Allocation of the roughages to cattle per day depends on availability. Crop residues can be fed up to 5 kilograms/day. If quantities are limiting, animals must be allowed to continue foraging. Crop residues are often poor in quality.

2. Bush-meal

The classification of brushwood as a meal (bush-meal) appears when farmers have no other feed sources for cattle besides the common Lowveld trees and bushes. Cattle always seem to survive on many browseable bush and tree species towards the end of each dry season. The common grasses, though quite palatable, are of low spatial frequency. Because of high stocking rate and the often low moisture availability, grass growth is minimal. These grasses as a result quickly disappear leaving only the trees and bushes as the sole feed in the dry season. The milled brushwood of *C. mopane*, *Combretum*, *Terminalia* and *Acacia* is used widely in survival rations by farmers. The importance of bush-meal is only realised when all grass and litter are finished.

Step by Step Preparation of a Bush-meal

Collection

- Large quantities of leaves and green twigs can be harvested from trees by hand, using knives, small axes or machetes.
- Small bushes or low-lying branches should be left out if directly available to cattle.
- Cutting down whole trees is unnecessarily disastrous and must be avoided all the time.
- The green brushwood is dried under a shed before it is stored.



- The brushwood is then baled and transported and stored at home where it is not accessible to any animal except during normal feeding.
- Collection of leaves depends on season quality and the stock-feed situation.
- In the dry areas if no rains are received by December the operation starts in January before leaves fall to the ground.
- The communal farmer should be able to collect up to 6 x 30 kg bags per day
- The collection process itself is demanding and requires a high level of commitment.

Milling

- Milling of brushwood produces small ingestible particles that mix well with other ingredients
- A hummer mill produces the best results but it is not easily available to communal areas.
- A normal grinding mill can be used with a 1.55-2.5 cm screen or none at all

Possible Simple Survival Rations

Diet 1:

Bush meal (Mopane).....	57%
Molasses.....	37%
Cottonseed cake.....	4%
Urea.....	1%
Salt.....	1%

- This has 10% CP and 52% TDN. At 3kg per day, an animal can survive.

Diet 2:

Bush meal (Mopane).....	30%
Cotton bush.....	30%
Chicken litter.....	20%
Pen feeding meal.....	5.4%
Molasses.....	15%
Salt.....	1%

- 5kgs/day fed for maintenance

Diet 3:

Bush meal (Mopane).....	1kg
Maize/small grain.....	1kg
Poultry litter/indigenous legume pods.....	0.5kg
Total.....	2.5kg/animal/day

- Salt/pen feeding meal/molasses is required at the start for the animals to accept the feed

Forage Grasses

- Bana grass
- Napier fodder





- Star grass
- Giant Rhodes grass (*chlorisgayana*)
- *Cenchrusciliaris*(Buffalo/Foxtail grass)
- Can be established easily in the hot, dry areas of Zimbabwe and produce high yields of forage for livestock

Forage Legumes

- Siratro (*Macroptiliumatropurpureum*)
- Velvet Bean (*Mucunapruriens*)
- Fine stem stylo (*Stylosanthesguianensis*)
- Cassia (*Cassia rotundifolia*)
- SilverleafDesmodium (*Desmodium uncinatum*)
- Lablab Purpureus (*Dolicos lablab*)

Forage Legume Trees

- *Leucaenaleucocephala*
- Pigeon pea (*Cajanuscajan*)
- *Sesbaniasesban*
- *Caliandracalothyrsus*

References and further reading

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