Question: **Describe the grassveld types in Zimbabwe, stating their grazing capacities.**

The vegetation of Zimbabwe has been classified and mapped by a number of people. These were classified according to the woody component or the grass component of the veld. The grass forms the major portion of the diet of the grazing animals. The grass types are usually more sensitive to variation in climate and soil than are woody species. The grass component is also more sensitive to management, so we find in mismanaged veld the grass cover changes relatively quickly, whereas the woody component may show no or only slow change.

1. **Mountain Grassland**

   This is a short perennial grassland. It is found in the eastern border areas of Zimbabwe where the mean annual rainfall is above 1000mm. Altitudes of above 1700m above sea level. Mean annual temperature is below 15.50°C. The sward is dense and composed of short (less than 45cm), perennial, tufted grass species. Herbs and shrubs may be significant.

   The sward may consist of almost pure communities of one species, such as Themeda triandra and Andropogon schirensis. Tall Hyparrhenia species are found on warmer drier slopes. The main increaser species we find are Cymbopogon validus, Eragrostis acrea and Elionurus argenteus. The mountain grassland is a sourveld with a potential grazing capacity of 1Lu: 2-3 ha.

2. **Hyparrhenia Tall Grassveld**

   This type varies from woodland with a sparse perennial cover to open tree savanna almost devoid of trees, due to clearing, with a dense perennial cover.

   Characterised by species including Brachystegia spiciformis, Brachystegia boehmii and Julbernadia globiflora. It is mainly found mostly on the main plateau or watershed of the country. It has altitude varying from about 1200 to 1700m. The mean annual rainfall varies from 750 to 1125mm and mean annual temperatures vary from 15.5 to 21°C thus we find it in the cooler moister parts of the country.
The most common species of grass we find include the tall species of Hyparrhenia thatch grass such as Hyparrhenia filipendula, Hyperthelia dissolute and Melinis repens. On very poor granite sands Aristida vestita and Perotis patens are characteristic species. On fertile red clays and clay loam soils, Hyparrhenia species grow very tall and Themeda triandra may become locally dominant. These can be regarded as generally being decreaser species, that is, species that decrease in proportion as veld condition deteriorates.

The main increaser species are Heteropogon contortus, Stereochlaena cameronii and Sporobolus pyramidalis. The Hyparrhenia tall grassveld is a sourveld with a grazing capacity between 1Lu: 2.5-3.5 ha where there are not more than 15 trees per hectare to 1Lu: 10 ha in dense woodland. It is relatively resistant to heavy grazing and mismanagement, recovering relatively quickly.

### 3. Hyparrhenia-Other species Grassveld

This is a tree savanna or bush clump savanna with tall perennial grasses. Like the previous type, we find this type occurs mainly on the watershed at altitude above 1200m. Rainfall is less than 750 mm and less reliable and temperatures are slightly warmer than in Hyparrhenia tall grassveld.

Associated woody species include Terminalia sericea, Burkea Africana, various Combretum and Acacia species, whilst Brachystegia spiciformis, Brachystegia boemii and Julbernadia globiflora may occur in places.

The increaser species are similar to those we find in the previous type and also include Eragrostis rigidior. This veld is a sourveld type and its grazing capacity is 1Lu:4-5ha. It is relatively resistant to overgrazing and can recover relatively quickly.

### 4. Heteropogon-Other Species Grassveld

This is a tree savanna or tree bush savanna in which we find medium height perennial grasses. It is found at altitudes between 750 and 1200m with a mean annual temperature range between 20 and 24°C and rainfall between 500 to 750mm.

It is found as an intermediate type between Hyparrhenia grassveld and Aristida-other grassveld and Eragrostis-other grassveld types in places. The common species we encounter include Heteropogon contortus, Themeda triandra and Cymbopogon plurinodis, Woody species associated include Acacia and Combretum species. Increaser species we find include Cymbopogon plurinodis, Heteropogon contortus and Bothriochloa insculpta.

On granite sands we find Eragrostis rigidior and on fine grained sands Aristida species. This is a mixedveld and the grazing capacity is 1LU:5-6ha. It is very sensitive to overgrazing.
5. *Eragrostis*-Other Species Grassveld

This is a tree bush savanna with predominantly perennial medium height grasses. We find it occurs at altitudes between 450 and 1050m and rainfall between 375 and 600mm and where droughts are common. It is found mainly on light textured soils. Mean annual temperatures are between 21 and 25°C.

The common grasses we find include *Eragrostis rigidiior*, *Eragrostis superba* and *heteropogon contortus*. Associated woody species include *Terminalia sericea*, various *Combretum* (including *C. apiculatum*), *Commiphora*, *Acacia* and *Grewia* species. Various *Combretum* and *Grewia* spp. are found in the hotter areas which have not been subjected to fire; they can lead to thick bush with little grass underneath.

The increaser species we find include *Eragrostis rigidiior*, *Enneapogon cenchroides* and a number of other annual species. This is a sweet to mixed veld and the grazing capacity varies from 1LU:7.5-10 ha to 1LU:15ha. It is sensitive to overgrazing.

6. *Aristida*-Other Species Grassveld

This is a woodland with sparse perennial and annual short and tall grasses. We find it at altitudes between 900 and 1200m consisting of rainfall of about 400 to 650 mm and mean annual temperatures are as high as 24°C.

Common species we find include *Aristida graciliflora* and *Aristida pilgeri*. Associated woody species include *Baikaea plurijuga*, *Pterocarpus angolensis*, *julbernadia globiflora*, *Brachystegia spiciformis*.

The increaser species we find include various *Aristida* spp., *Triraphis schinzii*, *Eragrostis pallens*, annual species and forbs. This is a sour to mixed veld type, depending on the proportion of perennial and *Aristida* species present which affect palatability. It is very sensitive to overgrazing and the grass cover can be completely eliminated quite quickly by overgrazing. The grazing capacity is 1LU:10-16 ha.

The presence in this type of poisonous plant, *Dichapetulum cymosum*, can be a serious limitation to its use, especially when there is little grass at the end of winter.

7. *Cenchrus*-Other Species Grassveld

This is a tree bush savanna, with medium height perennial and annual grass species. It occurs at altitudes of 450 to 1000m with rainfall of 325 to 400mm. We find it mainly on heavy clay basaltic soils. Mean annual temperatures are between 21 and 23°C.

The common species we find include *Cenchrus ciliaris*, *Bothriochloa radicans*, Associated woody species include *Colophospermum mopane* (sometimes stunted), *Grewia* and
Acacia species increaser species we find include Enneapogon cenchroides and other annual (mainly Aristida) species. Its grazing capacity is 1LU: 7.5-10ha.

8. Aristida-Dactyloctenium-Eragrostis Grassveld

This is a woodland or bush scrub savanna with sparse short annual grasses predominant. We find it at altitudes below 600m with rainfall of 300 to 600mm, mainly in the Zambezi and Save River Valleys. Droughts are very frequent. Mean annual temperatures are between 22 and 26°C and so rainfall effectiveness is severely reduced due to high evaporation.

The common species we find include Aristida adscensionis, Eragrostis viscose and Dactyloctenium giganteum, associated woody species include Combretum celastroides, various Commiphora species and Schrebera trichoclada. The increaser species we find include annual species, especially Aristida spp., but often there is bare ground. This is a sweetveld and its grazing capacity is 1LU: 12-20 ha, depending on bush density. It is very sensitive to overgrazing which results in bare ground. Fire can also have a major effect on grass cover. Woody species offer our animals valuable browse in winter and during droughts.

**Question:** Comment on the management of grazing capacities in the main beef holds.

Grazing capacity is defined as the total number of animals which may be sustained on a given area based on total forage resources available, including harvested roughages and concentrates. It is the relationship between number of animals and area of land at any instant of time, expressed as animal-units per acre, animal-units per section or AU/ha. Current grazing capacity is the grazing capacity of vegetation in its present condition. Units: LU/ha or ha/LU whilst potential grazing capacity is the grazing capacity of vegetation in its optimum condition for grazing. Units: LU/ha or ha/LU.

The grazing capacity in the main beef holds depends on rainfall, soil type, grass types and current veld condition. In the beef industry, veld condition assessments are done regularly to get an up-to-date grazing capacity. Our main beef holds are large scale commercial and small scale beef hold. The management aspect is mainly focused on the grazing systems which include continuous grazing, rotational grazing, rotational resting, rotational grazing and resting and zero grazing. Zero grazing (cut and carry) is usually practiced in the large scale commercial sector than in the small scale sector. To successfully manage the grazing capacity in these systems, there is need to take serious note of the stocking rate to avoid overstocking. Overstocking consequently leads to overgrazing.
REFERENCES


