

**Introduction:**

Rangelands are vast natural landscapes in the form of grasslands, shrub lands (bushy lands), woodlands, wetlands, and deserts. Types of rangelands include tall and short grass, prairies, desert grasslands and shrub lands, woodlands, savannas, chaparrals, steppes, and tundras. It is perhaps easier to define rangelands by clearly describing what they are not. Rangelands are not: barren desert, farmland, closed canopy forests, or land covered by solid rock, concrete and/or glaciers.

**Definitions:**

**Range:** Natural and uncultivated grasslands, shrubs land and forest land that produce forage for grazing and browsing for livestock and wildlife

**Rangeland:** Land on which the potential plant community is composed periodically of native grass, forbs and shrubs valuable for forage that are in sufficient quantity to justify grazing use.

Natural grasslands, savannahs and certain types of woodland useful for grazing.

**Pasture:** Land area with annual perennial fodder/forage mostly with domesticated species managed by more frequent cultivation and other cultural operations and harvested directly by grazing animals. It may be permanent or temporary. Permanent pastures are composed mainly of perennial grasses and legumes that are grazed year after year. These pastures have a high carrying capacity. Temporary pastures are comprised of annual grasses that are grazed during their growth and maturity period.

**Herbage:** Non woody flowering plants that can be considered in the same sense as fodder and forage but in this case the plants may be both palatable and unpalatable to the animals.

**Browse:** Shrubs or bushes plant communities of which the twigs, small branches, shoots and leaves are chewable by the animals, they are mostly palatable to the animals.

**Range science:** Science that deals with the use of rangeland to obtain return of the resource's benefits to meet the need and desire of the people in a sustainable ways.

**Types of Rangeland**

**Prairies** are considered part of the temperate grasslands, savannas and shrub lands biome by ecologists, based on similar temperate climates, moderate rainfall, grasses, herbs, and shrubs rather than trees, as the dominant vegetation type.

**Grasslands** are areas where the vegetation is dominated by grasses and forbs (non-woody plants). Grasslands occur naturally on all continents except Antarctica.

**Steppe:** The term is used to denote the climate encountered in regions too dry to support a forest, but not dry enough to be a desert.

**Pampas** are the fertile South American lowlands that include the part of Argentine. The climate is mild, with precipitation of 600 mm, more or less evenly distributed through the year, making the soils appropriate for agriculture. These plains contain unique wildlife because of the different terrains around it.

**Shrub land** is a plant community characterized by vegetation dominated by shrubs, often also including grasses, herbs and geophytes. Shrub land may either occur naturally or be the result of human activity.

**Woodland** is a low-dense forest forming open habitats with plenty of sunlight and limited shade. Woodlands may support an understory of shrubs and herbaceous plants including grasses.

**Savanna** is a grassland ecosystem characterized by the trees being sufficiently small or widely spaced so that the canopy does not close. The open canopy allows sufficient light to reach the ground to support grasses.

**Desert** (less than 250 mm rainfall per year) is a landscape or region that receives an extremely low amount of precipitation, less than enough to support growth of most plants.

**Tundra** is a biome where the tree growth is hindered by low temperatures and short growing seasons. The term tundra means treeless mountain tract. In tundra, the vegetation is composed of dwarf shrubs, grasses, mosses, and lichens. Scattered trees grow in some tundra. The eco-tone (or ecological boundary region) between the tundra and the forest is known as the tree line or timber line.

### **Characteristics of Rangeland**

1. Low rainfall/moisture stress
2. Not suitable for agriculture
3. High or low temperature
4. Degraded land (rocky/stony)
5. Shallow soil (low soil fertility)
6. Shorter growing season of the vegetation
7. Prevalence of rain shadow
8. Poor drainage
9. Desert like environmental situation

**Range management:**

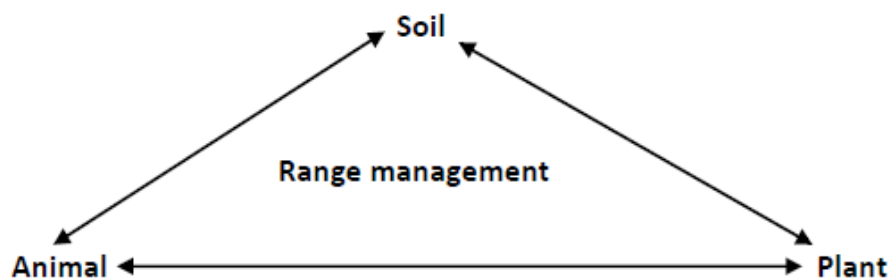
It is an art and science of planning and directing the use of rangelands to obtain optimum sustained return based on the objectives of land ownership and the need and desire of the society. It may be defined as the science and art of obtaining maximum livestock production from the rangeland being consistent with the conservation of land resources.

It is the sum total result of the integrated aspects of forestry, agronomy, plant ecology, plant pathology, entomology, animal husbandry, veterinary science, wildlife management, watershed management and so on.

It also may be considered as an integrated system within the soil-plant- animal complex with the emphasis on management of the plant and soil on one hand and the management of the other. None of these elements can be considered separately and independently. The basis of the plant management is to provide rest or recovery period to the plants between grazing cycles during which plants build up reserves to ensure its continued vigor. In addition, care of palatable species of plants is necessary in the control of the growth of unpalatable species and scrubs or bush that competes for light and nutrients.

In this management system, some plants are more valuable and palatable than other which is referred as key species. Range managers should keep these species into utmost consideration in order to ensure quality of rangeland. Not more than half of the top growth of these key species is allowed to graze. The system also must safeguard against soil erosion at all times of the year.

The underlying principle of the range management is to maintain the vegetation at the best stage in the succession for the grazing animals and to ensure the continued vigor of the palatable and nutritious species.



**Difference between Rangeland and Pastureland:**

<b>Rangeland</b>	<b>Pastureland</b>
<ul style="list-style-type: none"><li>• Natural and open uncultivated</li></ul>	<ul style="list-style-type: none"><li>• Cultivated land mostly enclosed</li></ul>
<ul style="list-style-type: none"><li>• Perennial grass</li></ul>	<ul style="list-style-type: none"><li>• Annual/perennial</li></ul>
<ul style="list-style-type: none"><li>• Indigenous species</li></ul>	<ul style="list-style-type: none"><li>• Exotic species</li></ul>
<ul style="list-style-type: none"><li>• Permanent in nature</li></ul>	<ul style="list-style-type: none"><li>• Temporary in nature</li></ul>
<ul style="list-style-type: none"><li>• No frequent cultural operations</li></ul>	<ul style="list-style-type: none"><li>• Frequent cultural operations</li></ul>
<ul style="list-style-type: none"><li>• Naturally or Ecologically maintained/managed</li></ul>	<ul style="list-style-type: none"><li>• Artificially maintained/managed</li></ul>
<ul style="list-style-type: none"><li>• Harsh climatic condition</li></ul>	<ul style="list-style-type: none"><li>• Favorable climatic condition</li></ul>
<ul style="list-style-type: none"><li>• Stony/desert like environment/not suitable to grow forest and agriculture</li></ul>	<ul style="list-style-type: none"><li>• Good soil and high productivity</li></ul>
<ul style="list-style-type: none"><li>• Highly diversified</li></ul>	<ul style="list-style-type: none"><li>• Less diversified</li></ul>