

Environmental assessment of natural rangelands and their management potential in Iraq

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Abstract

The lands of the world covered with grass or fodder crops that are used to feed the animal in any way of feeding without exploiting that land in the cultivation of other crops for humans because the cultivation of this land with field crops requires soil service operations to be prepared for cultivation and that such a process leads to the gradual eradication of natural plants, pasture grasses and grasses growing in that land. Rangelands are the main source of the necessary fodder resources for livestock, which in turn convert unpalatable materials by man into animal products of high nutritional value with their amino acids necessary for the human body. These rangelands may be cultivated fields or lands covered with mostly green plants belonging to the falconry and legumes and used in grazing animals or feeding them in any of the different feeding methods. It is known that each pasture has an energy called the pasture load, which is the ability of the pasture to support the largest number of animals so that we get the largest animal yield without damage or degradation of the pasture's plants or soil. The United Nations at the Desertification Conference has developed critical numbers to identify the extent of animal pressure on the land. These numbers are an animal unit (29) per five hectares in dry areas and an animal unit per hectare in semi-arid areas. Otherwise, the pasture and its soil will be degraded, and the load of the pasture is affected by many factors

Keywords: Natural pastures, Rangeland management, Soil degradation
Desertification, Sustainable livestock, Biodiversity conservation, Climate impact

Introduction

Rangelands are considered one of the main land use patterns in the world, where 11% of the land area is used for agriculture, 24% is considered sustainable pastures, 31% is considered forest, 34% is considered deserts, frozen areas, high mountain peaks, and civil and industrial facilities. Natural rangelands that vary in their vegetation and area according to different geographical conditions, especially those related to climatic conditions. Before we enter into the discussion of rangelands, we must address the definition of grazing because natural rangelands derive their name from grazing, which is: Domesticated and wild animals consume plants (both) suitable for consumption and are thus divided into natural pasture lands and industrial pastures. Industrial pastures are the pastures in which humans enter by planting desirable plants that serve as a basis for grazing. In this lecture, we will focus on pastures only.

The problem of the study:

- 1- What is the geographical distribution of rangelands in the world
- 2- What are the main factors causing degradation of natural rangelands
- 3- How natural resources can be managed and maintained

Hypothesis of the Study

- 1- There is a disparity in the distribution of rangelands in the world
- 2- There are natural and human factors affecting rangelands

3- There are many ways to maintain rangelands in the world

Purpose of the Study

The study aims to reveal the importance of rangelands and their types with the data of their geographical distribution and the factors affecting them, indicating the methods and methods used to maintain rangelands

Structure of the study:

The research was divided into four sections:

- 1- The concept of rangelands and their importance
2. Geographical distribution of rangelands in the world
3. Main factors causing degradation of natural rangelands
- 4- Management and maintenance of natural rangelands

The first topic: The concept of rangelands and their importance

Natural pastures:

These are those lands of the world covered with grass or fodder crops that are used to feed the animal in any way of feeding without exploiting that land in the cultivation of other crops for humans because the cultivation of this land with field crops requires soil service operations to be prepared for cultivation and that such a process leads to the gradual eradication of natural plants, pasture grasses and grasses growing in that land, and there are several types of pastures that can be limited to two groups:

Natural pastures:

Artificial rangelands

We will focus only on the study of natural rangelands:

It includes all lands (pastures) that man did not interfere with their service or construction, but mainly contain endemic plants suitable for grazing. These pastures depend on rainfall because there is no fixed irrigation system and the following patterns fall under these pastures: -

1-Lawns (wide open pastures), which are very wide pasture lands that humans may resort to fencing to protect and control them.¹

2-Forest pastures: These are the lands covered by coarse short grasses and small shrubs.

3-Forest land pastures: in which weeds and dry plants suitable for grazing grow.

4-Logged forest pastures: These are lands that have been cut down and still have some green plants after logging.

Rangeland Management Science

Rangeland management can be defined as: -

The science and art of exploiting rangelands as a renewable natural resource to obtain the highest and best products and services (the highest economic return). This is without negatively affecting these resources. Rangeland management deals with humans, plants, soil and animals together. So that the vegetation remains well distributed and suitable and keeps the soil from eroding. And the concepts built me one of the most important of them .

(Rangelands are a renewable natural resource)²

Natural pastures:

Natural pastures are of great importance, the most important of which are the following: -

Rangelands play a major role in providing humans with animal products in all parts of the world except those areas covered with ice. In some countries, 80-90% of the food comes from livestock meat and dairy, for example, the countries of Africa. These animals are also used as a cash crop to buy other types of food. The large size of the pieces helps to ensure its reconstruction from the remaining animals after the expiry of the periods of barrenness.

Feral animals

Rangelands are the main habitat for all high value wild animals as a source of meat, hunting and enjoying aesthetics. The economic importance of wild animals in rangelands is receiving increasing attention in developed developing countries.

Wild pasture animals are of great importance as a source of meat for human consumption in a number of African countries.

Trekking

The increase in population in the countries of the world has given pastures greater importance as places frequented by people to spend time in hiking. Climbing, setting up camps, driving bicycles and trips, fishing, fishing and picking stones are the most important hiking activities in pastures.

¹ Grazing, web search <http://www.factuly.com>

²Grazing Research published on the Internet <http://www.factuly.com>

Agricultural Products

Rangelands produce a large number of different plants that can contribute significantly to meeting our future needs, such as medicinal and nutritional herbs that humans can benefit from. Potential salinity shrubs have high production capabilities of both that qualify them to be suitable types for areas that are going through long periods of drought and that contain a large amount of salinity. A number of rangeland shrubs appeared to be used for coordination purposes and used as ornamental plants.

Its importance in holding the soil and preserving it from erosion and erosion in wet and dry areas, as the process of water erosion is active in wet areas with a steep slope, and wind erosion processes are active in dry and semi-arid areas.

The importance of vegetation cover in influencing climatic characteristics and the role it plays in the processes of exchange, balancing, freedom and reduction in dry and semi-arid areas.

The second topic: The geographical distribution of rangelands in the world

Grasses: They are the areas where many herbaceous plant communities grow and are overcome by the grassy family, and they are one of the richest pastures, where they are found, including:

A. Savannah Areas

The savannah makes up most of the grass areas in the tropical or tropical climate, and its vegetation consists of tall or medium grasses distributed among individual trees or in groups

In general, the extent of these grasses extends around the ranges of tropical forests to the extent of hot deserts, and rain falls in the savannah region in the hot season of the year, so the growth of grasses flourishes, and when the dry season comes, they dry and die, and the height and density of savannah grasses depend on the amount of rainfall. They may reach a height of two meters and sometimes up to (4) meters, but they are usually shorter than that. It is noted from Figure (1) that the area of the savannah region is small in the continent of Asia, due to the abundance of seasonal rainfall that leads to the growth of tropical forests, and in the continent of Australia, they spread in a large area extending south of tropical forests in the north of the continent, while in Africa the savanna reaches its maximum breadth, as it covers one third of the continent's area and extends between tropical and tropical forests and between the desert.

Tall grass areas (prairies)

The prairie areas occupy areas with light to flat terrain and are covered with long grasses that are usually more than (1-2) m long.

These grasses grow in temperate areas between two latitudes (25-50), that is, in the transitional area between forest areas and stubble grass. These grasses are characterized by their ability³ to resist drought. The prairies are found in the continent of Asia in northern China on the side between Machoria and northwestern China. They are found in North America in the central plains region and extend to the eastern slopes of the Rocky Mountains. In South America, the Brazilian region extends in the form of a crescent known as the Pampas region between two latitudes (30-40) in the south, while in Africa it is located in the Field region in the south of the continent, and in Europe, it is represented in a small range that extends from Romania in the north and then east through Ukraine to the southern end of the Ural Mountains.⁴

Prairie grass is one of the best areas used for grazing because of its moderate climate and its suitability for the growth of grasses and its high suitability for feeding livestock and sheep, as well as the presence of these pastures in mostly developed countries that can improve their exploitation.

The proximity of the pastures of Europe and North America to the centers of industry and the overcrowding of the population on the two continents resulted in the transformation of large areas into agricultural fields, so the areas that were allocated for grazing in contrast and budged in North America towards the west and settled in the Estes range in the western part of the central plains and on the semi-arid plateaus to the east of the Rocky Mountains. Since these pastures are relatively poor, the snitch in which they are raised is often meager.

Therefore, it is transported to the agricultural areas in the east where it feeds on corn to fatten and slaughter it. As for the continent of Europe, the grazing areas have also shifted towards the east and become concentrated in the pastures of Central and Western Asia. As for South America, Africa and Australia, the percentage of what has been transferred from weed areas to agricultural lands is still less, and the grazing craft remains dominant in each of them.⁵

³Fathi Abdel Aziz Abu Radi, Climatic and Botanical Geography, Dar Al-Maaref for Publishing, Alexandria, 1983, p. 558.

⁴Abdulaziz Tareh Sharaf, Climatic and Vegetarian Geography, previous source, p. 388.

⁵Ali Hussein Shalash and Abdul Ali Al-Khafaf, Geography of Life 1982, p. 118.

Short grass areas (steppe – estebes)

These wide areas are occupied by light to flat terrain covered with short grass (usually less than 60 cm in length) or medium height grass (60-100 cm).

It means the areas covered by relatively poor weeds that receive less rain from the prairie regions, as the rain ranges between (250-500) mm. Stubbs may be present in the same widths of prairie weeds and their height reaches between one and two meters and their density varies from one region to another. In some parts they appear as continuous grass cover and in other parts they appear as distant grass clusters, especially in the adjacent parts of deserts. Stubbs generally⁶ appear in the dry regions of Eurasia from the Black Sea to the Manchuria border in China.

This region is the widest range of stubbornness in the world.⁷ There is also a specific area of stubble in the continent of Africa near the desert sides. It is also found in the south of the continent in the east of the entire desert, irrigation, and some parts of the plateau in the south. It is also found in the central plains of North America, between the prairie region in the east and the semi-arid region in the east of the Rocky in the west, extending from Canada in the north to near the Gulf of Mexico in the south. In the southern African continent, stubble is found in the middle of the Petaconia plateau in Argentina, and in the continent of Australia, it is found in the central plains of the Marri and Darling rivers basins.

Desert plants: The most important feature of the desert climate is that its rainfall is very low, so that it does not exceed 250 mm per year, and that the daily, annual and seasonal range of temperatures is very high, and the sunlight is shed on the surface of the earth throughout the day without being obscured by anything. This has resulted in the emergence of poor plant life.⁸

There are two types of desert plants in terms of their suitability for climatic characteristics, a sustainable type such as the plants of aloe, acacia and limb, and this type fits itself with drought conditions, and the second type represents plants that avoid drought and have no resistance properties: -

Herbaceous plants: - This species grows immediately after rainfall and its life cycle does not exceed a few weeks and consists of grasses whose seeds remain dry in the dry season lurking in the soil, until rain falls, so it germinates, grows and blooms quickly, as this species consists of (50-60%) of desert plants.⁹ Desert plants are generally used economically for grazing goats and camels, which do not need rich pastures as they can feed on short grassy plants, shrubs and desert thorns. Shrubs

It is one of the largest pasture areas in the world and is characterized by a dry climate (less than 25 cm of rain per year) and poor soil. Vegetation cover is characterized by the sovereignty of small shrubs (their height is less than two meters) and can be divided into two parts: -

Hot desert shrub areas

They are prevalent in tropical and subtropical regions, such as the Arabian Desert, the Sonora Desert in the United States, and the Sahara Desert.

Cold desert shrub areas

The deserts of Russia, Mongolia and Iran are spread in the temperate areas.

Tundra Areas

These are areas covered by herbaceous plants and characterized by a short growing season. It is either Arctic or high (3000-4000) meters above the surface of the earth (called Alpine). The first is deployed in the Arctic regions and wildlife lives on it. The second is used for grazing in summer.

The third topic is the main factors causing the deterioration of natural rangelands

- Permissible and early grazing

It is known that each pasture has an energy called the pasture load, which is the ability of the pasture to support the largest number of animals so that we get the largest animal yield without damage or degradation of the pasture's plants or soil. The United Nations at the Desertification Conference has developed critical figures to identify the extent of animal pressure on the land. These figures are an animal unit (29) per five hectares in dry areas and an animal unit per hectare in semi-arid areas. Otherwise, the pasture and its soil will be subjected to degradation. The load of the pasture is affected by many

⁶Fathi Abdel Aziz Abu Radi , Climatic and Vegetarian Geography, previous source, p. 562 .

⁷Wafik Hussein Al-Khashab et al., Climatic and Vegetarian Geography, op. Cit., P. 79 .

⁸Khalis Hosni Al-Ashab and Anwar Mahdi Saleh , Natural Resources and their Maintenance , Dar Al-Kutub , Mosul University, 1988, p. 127 .

⁹Fathi Abdel Aziz Abu Radi , Climatic and Vegetarian Geography, previous source, p. 563 .

factors, the most important of which are.¹⁰

The type of pasture, the fodder crop and its ability to produce vegetables.

Animal type and its feeding type.

Pasture topography.

The prevailing climate in the region.

The main purpose of the pasture.

Grazing season

The grazing system followed.

Degree of pasture protection (fencing)

Availability, quality and places of drinking.

- Reclamation of pasture land for agriculture

It is to intensify agricultural use or load the soil beyond its biological capacity, especially since the expansion of rain-fed agriculture is often at the expense of pasture land, and then the pastoralists retreat towards less wet areas or pasture poverty, and the result is rapid deterioration and imbalance in the environmental balance in both pasture land and agriculture.¹¹

- Changing the animal structure of the pasture: Each pasture must have its own animals that the pasture can support without changing the quality of the animal, which may cause the depletion of the plant.
- Increasing the movement of machinery and unregulated means of transport in pastures, which leads to the dismantling of the rank and thus affects its vegetation.

- Failure of legislation to address violations and protect rangelands:

- Negative effects of degradation of natural rangelands.

The decay of vegetation cover, the disappearance of good grazing plants and the prevalence of unpalatable species.

- Low grazing capacity of grazing lands and their inability to support large animals.
- Increasing the dryness of rangeland lands, as a result of shrinking vegetation cover, which allows the disintegration of the soil and exposes it to the risk of erosion or erosion.
- Degradation of soil properties, and low fertility.
- The problem of overgrazing is exacerbated by the lack of vegetation cover and low productivity.
- Lack and low productivity of the animal unit.
- Increased resource demands
- Lack of numbers of wild animals as a result of the loss of the appropriate environment and food.
- The spread of the phenomenon of desertification.
- Some of the measures taken to reduce this deterioration and provoke the bad establishment of natural reserves and give an opportunity for vegetation to reproduce and spread.
- Introducing the cultivation of some grazing shrubs suitable for the region to raise the productivity of the pasture and secure the micro-environment that helps the flowering of plant life.
- Proposed plans for the development and reconstruction of degraded pastoral resources:
- Attention to grazing management.

It is the art of planning and directing the exploitation of pasture lands to obtain the highest economic production of pasture animals while preserving natural resources (plants, soil and wildlife) in a continuous and renewable production situation.

- Reviewing the grazing systems used to choose their genealogies.
- In order to determine the most appropriate ways to exploit rangelands, it is necessary to have full knowledge of grazing systems, which are¹²

1-Continuous grazing. This method is characterized by allowing animals to graze all year round in the same pasture or graze during a certain season and then move to another pasture. One of its advantages is that it allows the animal to select palatable parts of the grass continuously. As for its damage, it is an abuse of the natural pasture condition for the continuity of grazing and the deterioration of vegetation cover.

¹⁰Ramadan Ahmed Al-Tikriti et al., Fodder and Pasture Crops, Faculty of Agriculture , University of Baghdad , 1999, p. 157 .

¹¹Zayn al-Dīn ‘Abd al-Maqsūd, Environment and Human Relations and Problems ... ص

¹²Hussein Mohammed Al-Qahtani , Almarai Multi Exploitation Department [http// webcache. googleusercontent.com/search](http://webcache.googleusercontent.com/search).

2- Deferred grazing: It is the postponement of grazing until the formation and dropping of seeds to allow plants to continue to grow as well as allowing old plants to be active if the postponement period is appropriate. This method is characterized by the fact that plants are not at the peak of their nutritional value during grazing, while animal production is the least that can be obtained from continuous grazing.¹³

3- Periodic grazing: This method includes alternating between periods of grazing and periods of evaporation without emphasizing the production of seeds. The purpose of this method is to transfer animals from one piece to another so as to ensure that the same section is not grazed on the same date year after year. Alternate grazing may be called rotating grazing. One of the characteristics of this method is that it helps to preserve fodder vegetation well, but does not help to restore seeds naturally.

4- Deferred periodic grazing: It is the transfer of the postponement period of grazing from one plot to another and periodically similar to what is followed in agricultural cycles, but in this case the succession is in the postponement period, and the number of plots and the number of years can be controlled according to the quality of crops.

5- The method of periodic evaporation: This method includes the evaporation of part of the pasture for a full year and the most common for five years, where the pasture is divided into five fenced pieces that prevent grazing for each piece and successively. Experiments have shown that the response of animals in terms of weight gain in this method is less than the method of continuous grazing, while fodder plants respond better to this method, and the purpose of this method remains, and the purpose of this method is to improve vegetation cover by allowing plants to reproduce in addition to maintaining a layer of straw on the surface of the soil to reduce erosion and help water leakage into the soil.¹⁴

Main factors causing degradation of natural rangelands

- overgrazing
- Reclamation of pasture land for agriculture
- Logging of bushes
- Changing the Animal Structure of the Pasture
- Failure of legislation to address violations and protect rangelands
- Increasing the movement of vehicles and unregulated means of transport in rangelands.
- Ignorance of the methods and methods of rangeland maintenance.
- Employing large capital in the service of livestock

Negative effects of degradation of natural rangelands

- Decay of vegetation cover, and loss of good pastoral vegetation.
- Low grazing capacity of rangelands.
- Low quality and productivity of vegetation.
- Increasing the dryness of rangeland lands, as a result of shrinking vegetation cover.
- The occurrence of water and air erosion, and the disintegration of soil grains.
- Degradation of soil properties, and low fertility.
- The problem of overgrazing is exacerbated by the lack of vegetation cover and low productivity.
- Lack and low productivity of the animal unit.
- Increased resource demands
- Lack of numbers of wild animals, as a result of the loss of the appropriate environment and food.
- The spread of the phenomenon of desertification.

Fourth topic: Management and maintenance of natural rangelands

Rangelands are the main source of the necessary fodder resources for livestock, which in turn convert unpalatable materials by man into animal products of high nutritional value with their amino acids necessary for the human body. These rangelands may be cultivated fields or lands covered with mostly green plants belonging to the falconry and legumes and used in grazing animals or feeding them in any of the different feeding methods [15-17].

Good rangeland qualities

The qualities of a good pasture can be summarized in the following points:

¹³Ramadan Ahmed Al-Tikriti et al., Fodder and Pasture Crops, Faculty of Agriculture, University of Baghdad, 1999, p. 180.

¹⁴ Ramadan Ahmed Al-Tikriti et al., Fodder and Pasture Crops, Faculty of Agriculture, University of Baghdad, 1999, p. 180.

- 1-The pasture should be young
- 2-It should be of high vegetation density and within reasonable limits.
- 3- Pastoral plants must be at an appropriate stage of growth and of appropriate length.
4. The quality and digestibility of green food determines how much a pastoral animal can eat.
- 5- Pasture location.
- 6- The pasture must have clean sources for watering animals.

The importance of natural rangelands and their relationship to livestock

Despite the large number of livestock , and the low per capita consumption of vital protein. Production is still not keeping pace with consumption needs, due to the low productivity of livestock, which is due to a number of reasons, the most important of which is the lack of fodder resources and their inability to cover the food needs of livestock.

Natural pastures:

Natural rangelands contribute to the provision of the necessary fodder resources for livestock, and since most of the area of natural rangelands is between the lines of 50-200 mm/ year, most rangelands are poor, characterized by low productivity and fluctuation from year to year [18-20]. The most important functions of natural rangeland plants are the following points:

- A major source of livestock food.
- Soil and Water Maintenance.
- Soil stabilization and stopping desertification
- Wildlife Conservation
- Tourism, Hunting and Recreation
- Medical and industrial uses.

Establishing the measures taken to reduce this deterioration and its bad effects

1-Attention to grazing management:

It is the art of planning and directing the exploitation of pasture lands to obtain the highest economic production of pasture animals while preserving natural resources (plants, soil and wildlife). In a continuous and renewable mode of production.

2-Reviewing the grazing systems used to choose the most appropriate ones:

In order to determine the most appropriate ways to exploit rangelands, it is necessary to have full knowledge of grazing systems, namely:

- 1-Continuous grazing.
- 2-Deferred Grazing
3. Periodic grazing
- 4-Deferred Periodic Shepherding
- 5-Grazingwith periodic rest

3-Reviewing the pastoral policies in force in the past to follow the righteous, including:

Pastoral policy is the investment system developed by countries to share the benefit between the earth's resources and its investors.

Rangeland management for multiple exploitation

Multiple exploitation is the harmonized framework for exploiting for more than one purpose

• Rangeland Hydrology:

Water is the main determinant of plant production in most of the world's rangelands. All water used in pastures comes from rain . Part of the rain moves above the surface into streams, ponds, lakes, dams, and oceans . This part is referred to as the water running above the surface and the gradient above the ground . Another part is preserved in the place of its precipitation through the leakage process (the transfer of water within the soil) and becomes available for plant growth, and part of the moisture moves to the depths of the soil to reach the water. Rangelands are the main source of water for domestic use, farm irrigation and industrial needs in dry areas. Failure to implement proper rangeland management procedures in the past has resulted in severe economic losses and human suffering [21].

• Leakage

When the raindrop reaches the surface of the soil , it seeps into the soil, evaporates, or becomes part of the water flowing above the ground .

The main factor affecting soil infiltration is vegetation and it can be controlled. When raindrops fall on unprotected soil, they mix soil grains and wash away its surface. The lower the vegetation cover, the less leakage, and this reduces the soil moisture available to produce both. This leads to the desertification of dry areas.

- Runoff

Runoff begins when the amount of rain exceeds the leakage rate and storage soil capacity. The most important factor affecting runoff is the amount of vegetation cover available to impede the movement of water above the soil surface and runoff decreases when vegetation coverage increases [22].

Erosion and sediment accumulation are important problems caused by surface runoff, and sediments are economically important, because they cover land and vegetation, reduce the storage capacity of dams, increase the risk of flooding, and pollute water sources [23].

Rapid erosion is the most severe consequence of overgrazing, because replacing lost soil is a slow process. Soil loss leads to almost no grazing load [24].

The best way to protect against erosion is to establish and maintain good vegetation cover. Rapid erosion can be overcome in its early stages by making adjustments in rangeland management [25].

Traces of grazing in waterfalls

- Livestock affect the properties of waterfalls by removing vegetation and by the physical influence of their hooves and shadows.
- The decrease in vegetation coverage increases the impact of rain drops, reduces organic matter and composite soil grains, and increases cracks in the soil surface.
- The most important occurrence of livestock hooves is the compaction of the soil surface. Devegetation and soil compaction reduce the leakage rate and increase runoff.
- The riparian areas (the sides of the rivers) constitute a small percentage of the pasture, but they are difficult to manage, and these areas and their fish are negatively affected by grazing.
- Wildlife Status
- Many wildlife abandon pasture when overexploited
- Heavy grazing harms birds with ground nests

The excessive increase of fungal species has a negative impact and changes the status of pasture (donkey horses, prairie dogs, loans, rabbits etc.) were targeted by people of domesticated species [26-28].

- When there are no grazing plants, wildlife is exposed to physiological stress, disease, and possibly death.
- Exploiting pasture to graze domesticated animals increases the risk of transmitting diseases to non-domesticated (fungal) species
- The system of continuous grazing of the entire pasture leads to the aversion of fungal species.
- Insects have an effect on plants no less than that of pastoral animals, as their grazing is deep and may reach the roots.
- Research suggests that wildlife diversity was highest under moderate grazing (Smith et al. 1996).

Hiking & Recreation

1-The use of pesticides to expel and kill insects for the convenience of tourists, led to environmental and vital problems for those areas.

2- The fencing of natural parks harmed fungal animals and their freedom of movement led to their decline.

3-Means of transportation (especially cars and motorcycles) cause great damage to plants and their small and large living creatures, as well as damage to the soil, which led to its compression and poor fertility.

4- Human activity, especially around water resources, causes disturbance to the animal's performance and its transition to areas of lower pastoralism.

As for the types of pasture exploitation for hiking, tourism and recreation, it can be limited to the following:

Activities with limited impact on rangelands, including:

- 1-Walking
 - 2-Setting up camps
 - 3- Fishing
 - 4- Snowboarding
 - 5- Boating
 - 6- Rowing in inflatable boats
- mountaineer

Activities with a significant impact on rangelands :

- 1- Hunting
- 2- Horseback riding
- 3- Riding Cycles
- 4- Riding SUV

Knowing all this, we can use natural pastures for hiking, medical uses and grazing after studying the circumstances. These circumstances determine the nature of use, that is, if we have a pasture with few plants, it is used in hiking and medical uses under specific controls, so as not to affect vegetation cover.

Conclusions

The natural pastures in Iraq are essential for sustaining livestock and maintaining biodiversity, yet they are under threat due to overgrazing, climate changes, and improper land management. The study highlights the significant degradation of rangelands, resulting in a decrease in soil fertility and biodiversity. The findings reveal that overgrazing and early grazing have severely impacted pasture productivity, leading to desertification and the decline of high-quality grazing species. The research suggests the need for improved management practices, such as rotational grazing, reforestation efforts, and stricter regulations to prevent overuse of rangelands. By adopting sustainable land management practices, Iraq can preserve its pastures and ensure long-term agricultural productivity and environmental health.

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