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Technical Report

Frequent Rangeland Grazing Mistakes in Balochistan

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Abstract: Balochistan's rangelands are managed under two property regimes, classified as common or open rangelands. Common rangelands are traditionally owned by tribes, with customary institutional arrangements for their management. Open rangelands have unrestricted access thus are usually in poorer condition with an increase in area, while common rangelands have undergone degradation and have been abandoned by their owners. Grazing management involves a number of decisions, including the kinds and numbers of animals to be stocked, and the distribution and timing of grazing. Annual stocking rate decisions are made before the year's forage production can be known. These decisions affect the quality and quantity of the forage produce and performance of livestock. Over time, cumulative grazing management decisions affect the productivity and health of the rangeland and farmer's financial solvency.

Mistakes do occur, due to complex rangeland ecosystems, communal ownership and varying livestock demand in markets. However, rangeland owners can learn from their mistakes and make better decisions in the future. The most successful livestock raising communities plan conservatively so that they can handle unexpected situations, recognize the warning signs of unacceptable risks, and correct their management strategies before the rangeland resource is harmed.

Keywords: Rangeland, Balochistan, Common, Mistake

INTRODUCTION

Balochistan is situated in the south western part of Pakistan in a desert belt between 25°N to 32°N latitude and 60°E to 72°E longitude with an area of 34.7 million ha. Balochistan has an arid or semi-arid climate with annual precipitation varying from 50 mm in the west to over 400 mm in the east. The rainfall distribution pattern is erratic with extremely low and high temperatures. Physically the area consists of an extensive plateau of rough terrain divided into basins by mountains. The unfavorable topographic, edaphic and climatic conditions in Balochistan limit cultivation practices, leaving most of the area to be used as rangeland grazing. In Balochistan, as in most parts of the world, livestock rearing is the most productive use of semi-arid zones bordering the desert. Out of the total area of the province, 21 million ha (60%) is used for grazing. Nearly 12 of the 21 million hectares are classified as poor grazing which hardly provide 30-50 kg dry matter (DM) per hectare annually, whereas there are only 2.9 million hectare of better rangeland providing 250-280 kg DM per hectare. Balochistan ranges provide a diversity of uses and are the major source of feed for 90-95% of sheep and goats. Range based livestock production is the major economic activity in the region. According to the latest livestock census, about 25 million sheep and goats have been reported in province. Rangeland degradation has been a major problem in most parts of the province. The objective of this paper therefore, is to highlight major management gaps in rational utilization of this valuable natural resource for domestic livestock production.

COMMON MISTAKES

Failure to follow stocking rate: In Balochistan flocks size is based on social status of the farmer and in practice traditional livestock production system of the area. Nowhere in province is the flock size is determined by the forage that can be produced in years of medium rainfall. Neither, has farming community any access to rainfall records, it's analyzes and forecasting to set the stocking rate. Stocking rates must be flexible from year to year, because weather patterns are uncertain in Balochistan. Using the same stocking rate year after year often results in rangeland degradation.

Failure to leave a forage reserve: In Balochistan failure to leave forage reserve in rangelands during and after a drought is a big problem. Stocking rates is not based on forage production in years of average rainfall. Forage not used in above-average rainfall years can provide carryover feed and improves plant vigor and watershed health. Approximately 25% forage produced in a normal year can be utilized by the livestock leaving behind enough ungrazed forage (residue) to protect the resource. As such conservative stocking is recommended.

Failure to defer pastures: In Balochistan deferment practice is uncommon so the forage recovery is less to graze again. Deferment allows the forage to regain vigor and reproduce, which in turn helps to improve rangeland health. Removing livestock from pastures at different seasons of the year through use of a grazing system to ensure all forage plants have the chance to regain productivity.

Thinking that the more livestock grazed, the more profit can be made: This idea is also very common among livestock farmers of Balochistan which can only prove to be true to a certain extent when there is under stocking, but once the forage resource is depleted due to the large numbers of livestock, animal performance and animal health will decline, toxic plant problems will increase, effectiveness of rainfall will decrease, soil erosion will increase and undesirable plants will increase thus causing decreased profits.

Mixed livestock grazing: In Balochistan mixed livestock grazing is very common. The mixed livestock herds not only complement each other's requirements but can more effectively utilize most

of the forage in rangelands. Different types of livestock prefer different types of forages. There is overgrazing of preferred species and underuse of less preferred species. Competition is increased thus decreasing animal performance.

Overgrazing: In Balochistan overgrazing is a big issue which results in deterioration of the plant community. Rangeland deterioration results from animals continually and closely eating the most palatable plants until those plants are stressed so much that they either fail to reproduce and/or die.

Overgrazing typically increases soil erosion. Reduction in soil depth, soil organic matter and soil fertility impair the land's future natural and agricultural productivity. Soil fertility can sometimes be mitigated by applying the appropriate lime and organic fertilizers. However, the loss of soil depth and organic matter takes centuries to correct. Their loss is critical in determining the soil's water-holding capacity and how well pasture plants do during dry weather.

Early grazing: Early grazing is another big issue which results in deterioration of the plant community. Due to varying seasonal changes the plants grow at different rates during the grazing season. The stage of growth at which grasses are grazed influences how well they survive and regrow. Grasses are made up of individual tillers, each having a growing point, a stem, leaves, roots and dormant buds. In the vegetative growth stage the growing points are close to the ground - safe from being eaten - and produce new leaves after being grazed. A break in grazing is required to minimize plant deterioration by promoting growth of maximum plants to flowering and reseeding stage.

CONCLUSION

Good system of grazing can be defined as one that manipulates animals in order to obtain maximum sustained animal and forage production at a low cost. Grazing management requires planning ahead and making adjustments based on current and projected forage resources. Annual planned stocking rates are established before forage production occurs, thus timely adjustments are necessary to prevent overuse even with conservative stocking during drought years.

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