

Sustainability of grassland resources in Afghanistan: A review

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Introduction

Afghanistan is land locked country with arid and semi-arid climatic conditions. Out of 65 million ha of its land area, grassland and pastures cover 30 million ha. The grassland is reducing significantly from last six decades mainly due to poor governance in the last three decades of war and conflict, non-existence of scientific capacity and capability, land encroachment, increasing population, urbanization, poor policies and support from the Government, consistent increase in the population of cattle (291%), goats (160%) and (donkeys 290%) during the last two decades (World Bank, 2011).

Materials and Methods

A review of existing literature was conducted for a foresight study of the grassland sustainability options in Afghanistan.

Results and Discussion

The literature shows little or no attempt from government or private sector or international organizations to collect the genetic resources of the grasses in the country. Biodiversity of grassland/rangeland do exist in Afghanistan but no attention has been paid to native germplasm of the country's grass genetic resources. There was a small Gene Bank in Darul Aman National Agricultural Research Station and samples of field crops were collected and conserved, but during the war it was destroyed from the foundation and everything was looted. The sporadic conducted studies result also got lost in war. Another important constraint arising in this new era of climate change overgrazing of existing grassland/rangeland due to increased livestock population and their fast depletion due to frequent drought. Whereas, livestock production is a significant contributor to the Afghan economy, accounting half of the agricultural GDP. Therefore, depleted grasslands and insufficient feed availability and production for ruminants are the key constraint for the livestock sector (GIRoA, 2009). The lack of forage of sufficient grasslands and quality limits productivity, and the effects worsen during years of drought or where fodder imports from neighboring countries are restricted. To achieve increased productivity and reduce seasonal feed gaps for livestock, will require an increase in forage and fodder productivity, production and diversity. ICARDA in its IFAD funded project on women livelihoods through small ruminant raising (goats) in the marginal areas of Afghanistan concluded that availability of forage/fodder was critical for keeping animals during the winter season, and unavailability of forages forced poor people to sell their assets (ICARDA, 2009). Afghanistan, a mountainous country with diverse climatic condition (macro & micro climates) and diverse genetic resources would need to emphasize on collection and preservation of genetic resources before it becomes extinct during current unstable political scenario. Although there is no plant breeder in Afghanistan now and the experienced breeders have left the country during the war for safety of their life but still there is a urgent need to initiate the strong breeding programme on grasslands. The availability of the quality seeds is another major problem in grassland and fodder crops in Afghanistan. The major research for development would include: emphasized efforts to increase grassland and fodder crops area, introduction and adoption of improved varieties, development and dissemination of improved production technologies, increased investments in research and knowledge creation, sustainable production technology development, timely availability of inputs including seeds and fertilizers, and major investments in capacity development. The effective grassland management in Afghanistan should have a multi-disciplinary strategy involving clear rights and responsibilities, promote community participation and adaptive grazing management, productivity enhancement, identify and develop alternate energy and livelihood options, education, training and research on rangeland management (Ismail *et al.*, 2009). Ali and Shaoliang (2013) also stressed on increasing fodder production, developing alternate sources of energy, strict monitoring of highland ranges, suitable policies for sustainable use and climate change adaptation for effective range management in Afghanistan.

Conclusion

Therefore, concentrated efforts are needed on “*Research-for-Development interventions to increase feed resource base with varieties suitable for resource poor farmers*” as in the war-torn country.

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