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ABSTRACTS



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Desert Forages Of The Arabian Peninsula - A Solution For Enhancing Conservation And Combating Desertification

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The native plant biodiversity of the Arabian Peninsula, which comprises over 3500 species, is being rapidly depleted. The primary cause is overgrazing, particularly by the large population of small ruminants, (24 million and growing steadily). Increasing amounts of supplementary feed in the form of alfalfa and Rhodes grass is being produced to accommodate the shortfall from the rangeland. These irrigated species consume huge volumes of water, mainly applied through irrigation from groundwater. Groundwater reserves have fallen dramatically thus salinity levels have risen. The combined effects have meant that the potential productivity of the land has fallen, desertification is accelerated and in some cases the land has had to be abandoned.

Some of the National Agricultural Research Systems of the Arabian Peninsula, working with the International Center for Agricultural Research in the Dry Areas (ICARDA), have taken steps to address the resulting degradation. This paper describes step by step a holistic approach that was begun in 1997 to address the problem. It started with the collection of indigenous knowledge and interviews with local Bedouin farmers in the United Arab Emirates; continued through a series of training programs for human resource development, germplasm collection missions in the UAE, the Sultanate of Oman and the Republic of Yemen; the development of herbaria, databases and one large genebank in the Republic of Yemen as well as a working collection in the UAE. Seed has been multiplied and evaluations for water use efficiency and nutritive values are underway. Initial data shows that not only do the desert forages use less water than irrigated forages, but also their nutritive value is as good.

In addition to determining a sustainable forage production system, research is underway to define appropriate restoration and rehabilitation methodologies, and small enclosures have been selected, in some countries viz. Kingdom of Saudi Arabia, Kuwait and UAE, for this purpose. Some of the collaborative research at the Range & Development Research Center at Al-Jouf in Saudi Arabia is briefly described.

This research will not only benefit the Arabian Peninsula countries, but also all countries that are likely to face the increasing impacts of global warming, salinity, droughts and desertification in the 21st century.