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Growth responses and inorganic ion regulation of four bermudagrass (Cynodon spp.) cultivars under salinity stress
   Ran Xu and Hideyasu Fujiyama

Alfalfa is sensitive to salinity but tolerant to sodicity
   Emi Kaburagi and Hideyasu Fujiyama

Evaluation of water status indicators in olive trees under different water regimes
   Kanako Nitta, Koji Inosako, Mladen Todorovic, and Tadaomi Saito

Modeling stomatal conductance of durum wheat (Triticum durum) in drylands by field experiments
   Asa Kitagawa, Koji Inosako and Mohammed Karrou

Theme 8: Arid lands communities, their indigenous knowledge and heritage, and socio-economic studies

Economic evaluation of regional water supply policy in Zhangye, China
   Ryoma Fujioka

Farm level rainwater harvesting for dryland agriculture in India: Performance assessment and institutional and policy needs
   Shalander Kumar, B. Venkateswarlu, Khem Chand and M. M. Roy

Assessment of the agricultural productivity of a traditional agricultural system in Tunisia
   Hikaru Takatsu, Yoshinobu Kitamura, Mohamed Oussar, and Katsuyuki Shimizu

Managing irrigated activities under water scarcity: Impact on farmers’ revenue and the sustainable use of the water resources
   Fraj Chemak, Meriem Oueslati, and Marwa Miri

Experiences of governments/JICA/Tottori-University tripartite cooperation in capacity development on dry land agricultural technologies
   Hajime Nabeta

Contribution of livestock to the livelihood of local communities in dry coastal zone of Western Desert in Egypt
   A.M. Aboulnaga, V. Alary, M. Osman and J.V. Tourand

Sustainable resource management in dryland Arabia
   Ahmed Abdulrazzaq Nasser Al-Aghbari and Loo-See Beh

Effects of dust events on daily outpatient counts
   Haosheng Mu, Kazunari Onishi, Shinji Otani, Takenobu Hosoda, Mikizo Okamoto, and Youichi Kurozawa

IV. Panel Discussion

V. Concluding Session
   • Recommendations
   • Beyond 2015 – Beijing Statement

VI. Appendix
   • List of Participants
   • Committees
Sustainable resource management in dry land Arabia
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Abstract

The Arabian Peninsula is classified as one of the most hyper arid regions in the world. The peninsula has huge land area, surrounded by salty water. It faces serious issues of limited fertile land and water scarcity. Although rich in oil and gas resources, the region’s water and food resources are insecure; the region imports over 70% of its food requirement. The sustainable resource management is widely used in rural development globally, but has been under-used in dryland regions. It is a framework of thinking and short listing factors that impact various stakeholders and natural resource condition. Currently, there is a low level of public awareness about the challenges that are faced by the region to achieve sustainable resource management. There has been, however, some political and social attention given to sustainable resource management championed by the Global Dry Land Alliance (GDLA). The region’s resource constraints should be addressed and community-based natural management should be the basis of any human-nature nexus evaluation. Collective approach is needed to achieve sustainable results. This paper aims to contribute to improved understanding of the dynamics of regional socio-ecological systems.

Introduction

Among the world’s major ecosystems, those of the drylands have received the least attention, disproportionate to their size, population, and importance for global sustainability. They are inadequately understood by the world’s policy makers and even by those of dryland countries. Drylands cover approximately forty per cent of the earth’s land surface and provide a means of livelihood for about one billion people, mainly in developing countries. Drylands are defined by water scarcity and characterized by seasonal climatic extremes and unpredictable rainfall patterns. Temperature extremes are very common. Tropical drylands may have very hot summers and temperate ones, very cold winters. Most soils in drylands have low fertility together with moisture limitations; hence their capacity to support woodland, grassland or crops is quite limited (Mortimore et al. 2008).

The Arabian Peninsula is classified as a hyper-arid region as shown in Figure 1. The climate of the Arabian Peninsula is widely considered as one of the driest on record (Kotwicki and Al Sulaimani 2009). The Arabian Peninsula has been undergoing a process of steady desiccation, a drying up of rivers and a spread of the desert at the expense of the cultivable land. The declining productivity, together with the increase in the number of the inhabitants, has led to a series of crises of overpopulation and consequently to a recurring cycle of depopulation of the Peninsula, when people migrated in search of more rain (Homiedan 2008).

At present, the Arabian Peninsular region is 99 percent arid and hyper arid (HA) as per UNESCO (1997) classification as follows (Table 1). In addition to the fact that the region has the lowest rainfall on the planet, rainfall distribution is unfavorable, falling in sudden and erratic showers.