

## Article

# Evaluation and Structuring of Agrodiversity in Oases Agroecosystems of Southern Morocco

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**Abstract:** Oases play a crucial role in human societies and the conservation of biodiversity, especially in harsh environments like arid zones. They serve as sanctuaries for agrodiversity, preserving diverse agricultural resources under challenging climatic conditions. However, these agroecosystems are becoming increasingly vulnerable to climate fluctuations, droughts, and other environmental changes. Understanding these unique agroecosystems is essential for developing effective strategies to protect them. Agrodiversity serves as a key indicator of the overall health of traditional agroecosystems. To assess the richness and diversity of agrodiversity, field surveys were conducted in six representative oases in southern Morocco. Within each oasis, we interviewed 20 farmers in five *ksour*. Our findings confirm the widespread practice of polyculture and reveal significant diversity among the oases. A total of 55 crops were identified, consisting of 183 varieties. Specifically, the oasis of Tata employed 42 crops, Alnif had 41 crops, Guelmim had 38 crops, Aoufouss had 32 crops, Rich had 29 crops, and Zagora had 28 crops. The profiles of varieties clearly distinguish between *ksour* and oases, highlighting the unique identities of each oasis. The modernization of farming practices is influenced by factors such as farm size, plot fragmentation, dispersal, and irrigation methods. However, its consequences are concerning. There is a risk of losing agrodiversity and compromising the food security of local populations. The shift from household consumption crops to cash crops has negative implications for the availability of diverse and nutritious food. Moreover, modernization often leads to increased water consumption, further straining the already limited water resources in these oases.

**Keywords:** oasis; southern Morocco; agrodiversity; local varieties; agroecosystem; vulnerability



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