

Oases Ecosystems



The Oasis: a Unique Ecosystem

The Saharan oases are part of the largest desert on Earth, stretching from the Saharan Atlas to sub-Saharan Africa, from the shores of Mauritania to those of the Red Sea.

Within these sandy or rocky stretches, which are subject to extreme aridity, the oases are a haven of green; ecosystems built and maintained by the genius of man, through the expert management of natural resources and the creation of sophisticated irrigation systems such as *foggaras* or *khattaras*.

These oases, which were mainly created as vital stop-off points along trade routes and for caravans crossing the Sahara, constitute a unique example

of solidarity between pastoralists and farmers in the Sahara.

A Fragile Environment

The traditional oasis system relies heavily on the palm grove, its orchards and vegetable crops, which with the aid of sustainable water resource management, can last for centuries.

Increasingly however, oases are subject to various pressures, heavily influenced by the effects of climate change, decreasing groundwater levels and a gradual loss of cultural heritage due to a fading historical memory concerning traditional water management techniques. These natural pressures are compounded by

demographic pressures and the introduction of modern water pumping techniques that can disrupt traditional resource management schemes, particularly in the North Saharan oases.

Indeed, the use of motor pumps and deep-water drillings, the introduction of new irrigation techniques – including spraying or localized irrigation – have resulted in a significant increase in areas covered by other agricultural crops, including cereals, fruits and vegetables.

Sustainable Development of Oases: Balancing Tradition and Modernity

The impact of such modern programmes on already

fragile natural resources highlights the need to strike a balance in a rapidly changing and globalized context, between the preservation of traditional palm grove management systems and at the same time, the integration of the oasis in a market economy.

This matter falls within the broader context of changing rural structures within traditional societies and their economic and social openness.

The Oasis: a Central Component of the Great Green Wall

The future of the oasis is inextricably linked to the development of the entire Great Green Wall region, since it constitutes the natural link between North and South. Not only are oases strategic areas for major regional resource development projects, they are also vital for the production of photovoltaic solar energy, large-scale deep-water drilling, as well as a potential exploitation of the huge mineral resources of the Saharan basement. In fact, oases are at the very heart of the overall development of peri-Saharan countries due to their

geographical location and the fact they are preferred migration routes in times of famine or insecurity in the region.

