



## WITHOUT WATER, AREN'T OASIS JUST MIRAGES...?

*“Oases play a key role in the territorial, geographical and ecological system of the northern Saharan countries. In addition to their central role in local and national economic development, these ecosystems are a major source of life in the arid regions of the Greater Maghreb.”*

*Hasna Assini, AOFEP, Raddo Maroc*

In the oases, agriculture is not only the main resource of the local populations, but also an autonomous economy that has enabled them to survive in a vast and austere territory. For millennia, oasis people have developed ingenious techniques, adapted to local conditions, to survive in a hostile environment. These techniques are also combined with social forms that are closely aligned with the former. Water control is a central pillar in this highly hierarchical collective organisation, the result of a consensus in some cases, but also sometimes of a power struggle. (Battesti, 1996 in Zella et Smadhi, 2016)<sup>1</sup>.

The intrusion of the modern world into oases through technology, motorisation and industrialisation has caused major upheavals. The urban way of life has set in and agricultural work has declined to the benefit of the secondary and tertiary sectors. Subsistence farming in oases has become market farming. This has led to a drying of the groundwater table, through the rise of the surface water table and the salinisation of agricultural land (Zella and Smadhi, 2016)<sup>2</sup>.

The observation made today is the depletion of water supply. This is caused by the overexploitation of groundwater by deep drilling systems, by the development of private pumping (often illegal), by the development of water-consuming crops not adapted to the oasis climate and by global warming.

<sup>1</sup> Battesti, 1996 in Zella et Smadhi, 2016

<sup>2</sup> Zella et Smadhi, 2016



According to expert forecasts, the region, where temperatures are already high, is expected to experience a rise in temperatures in the coming years and an increase in droughts. The rise of urbanisation also has consequences for oasis life, as inhabited areas (douars/ksours) tend to encroach on cultivated areas (palm groves), creating competition and additional pressure for water. The water level is falling more and more, some plant varieties are disappearing. The marginalisation of these regions by central authorities, low investment and the development of market agriculture are not helping. (*Jeune Afrique*, 2017) <sup>3</sup>.

Although water potential is relatively abundant in the Maghreb, its climatic and spatial characteristics make it a scarce resource. Despite significant investments, the combined effect of urbanisation, industrialisation and an expansion of agricultural demand (linked, of course, to a strong demographic growth) (Perrenes, 1990) <sup>4</sup> leads to an increase in water scarcity in oases.

*"Agricultural water use has increased considerably over the last thirty years under the weight of demographic pressure and thanks to technological advances that make it possible to extract water for irrigation in large quantities. The overexploitation of surface and groundwater as a result of this change can jeopardize the functioning of ecosystems and lead to water shortages with disastrous consequences."*

*Adel Moulay, APEB, Raddo Algérie*

### ***Without water, aren't oases just mirages?***



**The Maghreb countries are among the 17 African countries affected by water stress, in the poorest countries in terms of water potential category, i.e. below the theoretical scarcity threshold set at 1000 m3 per inhabitant per year by the World Bank.**

<sup>3</sup> *Jeune Afrique*, 2017

<sup>4</sup> *Battesti, 1996 in Zella et Smadhi*, 2016



**Raddo encourages donors to support oases in order to:**

***To finance studies for in-depth knowledge of water resources:***

**The evolution of the qualitative and quantitative availability of water resources**

**Characterising, enhancing and perpetuating the knowledge in water resource management**



***To support the oasis territories for an adapted and efficient management of water resources***

The entire agricultural system is based on having a perfect knowledge of the availability of water resources. But this precise information must be available and accessible. It is therefore essential to have quality hydrogeological studies that are specific to the different oases, and for the results to be popularised and made accessible to all development actors. We have unfortunately witnessed first-hand the States lack of resources to carry out quality studies and to disseminate them. Yet, it is crucial to carry out this inventory to identify the groundwater tables and determine the state of the resource and its evolution. This will contribute in avoiding its overexploitation and the mis-sizing of water-related projects, whatever the scale.

For thousands of years, the oasis populations have been implementing capture, drainage and management techniques adapted to their oasis context. But today, these skills are sometimes poorly known, and their transmission is lost. Nevertheless, it is imperative to use this knowledge to propose new models of water technology and management, built collectively by local stakeholders and technical services, with the support of scientists. Only then can we achieve the establishment of rational and collective water management systems that will save this major resource.

***We ask for a real financial commitment to support the implementation of this type of study in the oasis zone***

***We ask for a characterisation and recognition of oasis know-how in the process of developing new modalities for the territorial management of water resources***

Combine hydrogeological studies with local knowledge and innovation will enable the identification of relevant projects to a given local context in order to identify appropriate strategies to be implemented in the event of a water shortage, to strengthen oasis agriculture and its economy to maintain oasis areas.

**The water issue is inseparable from sustainable development in that water must meet the needs of current generations without compromising future generations' needs. Let us not neglect it....**