



MERJA ZERGA

A WWF *One Europe,* *More Nature Pilot Project* Site

WWF “One Europe, More Nature (OEMN)” has initiated an innovative pilot project in Merja Zerga, a lagoon located on the Atlantic coast of northwest Morocco. Its goal is to make the cultivation of strawberries in the area more sustainable with local ecosystems while continuing to provide incomes for local farmers.

The mechanisms for achieving this goal include implementing good agricultural practices, identifying an appropriate market mechanism for farmers and improving the management of plastic waste. The identification and implementation of the mechanisms will be laid out in a new overall management plan and vision for the area, taking advantage of the experience gained by WWF-Spain and OEMN in Doñana, Spain.

About the Project Area

Location

Merja Zerga is a lagoon located in Kenitra Province on the Atlantic coast of northwest Morocco. It encompasses three communes (administrative sub-divisions): Moulay Bousselham, Lalla Mimouna and Bhara Ouled Ayad. Land ownership is complex given the many administrations managing local lands and resources.

Significant landscapes, habitats and species:

The Merja Zerga lagoon is a semi-enclosed marine ecosystem separated from the ocean by dunes. A natural entrance similar to a “bottleneck” allows sea water to enter the lagoon, making it the only inter-tidal wetland in the Mediterranean basin and one of the most important wetlands in North Africa. Freshwater also feeds the lagoon through a natural stream, the Oued Drader, as well as through an artificial canal for irrigation water drained from the agricultural zones of El Gharb.

Fauna include many species of fish such as eel, bream and European sea bass. Amphibians and reptiles include three Moroccan reptile species endemic to the area. The site is visited by more than a hundred species of migratory water-birds of which 50 species are regularly observed and 16 are rare, vulnerable or globally threatened, including the slender-billed curlew, marbled teal and Moroccan marsh owl.

Human presence:

Merja Zerga was a port frequented by the Phoenicians and Romans. During the Islamic age, it was a meditation place for religious people such as My Bousalham who is known to be the founder of the village. The village was also known for bee-keeping and the weaving of reed-based mats, as well as a pilgrimage centre for My Bousalham worshippers. Today, 21,000 people live around the wetland in eight villages.

Economic status

Agriculture is the most important economic sector with 90% of households participating. Modern intensive agriculture is expanding throughout the area. A partial census of the livestock in Merja Zerga (3,000 individuals) stressed the potential for pastoral activities to grow in the area in the future. Cutting reeds to make mats and thatch roofing is a common practice in the area. Fishing is also one of the main economic activities in the region, practiced by 15% of all households.

Finally, the Merja Zerga lagoon is classified by Morocco’s Ministry of Tourism as an „average interest resort“ where thousands of national tourists stay during the summer. Outside this period, hundreds of foreign tourists also visit the area for bird-watching.

Problems



By the late 1990s it became clear that agricultural activity in the area had significantly increased and intensified, including the establishment of new irrigation schemes in the Gharb and Loukkos areas. The focus of agriculture had also gradually shifted from a reliance on traditional cereal crops (that depend on rainfall) to one on agro-industrial crops, especially major increases in lands used for fruit and vegetable cultivation dominated by strawberries and watermelons.

The area was found to provide a particularly favourable climate for early strawberry production, with appropriate soils and cheap and plentiful labour. As a result, over the last decade, a significant expansion of strawberry cultivation occurred in the eastern and southern areas of Merja Zerga, driven mainly by foreign investors. Strawberry cultivation has brought positive economic results to the local population. However, it has also come with a number of problems with numerous associated risks for local wetland biodiversity.

One problem is land use, where lands claimed for new cultivation have led to losses in habitat for many local species. Examples of encroached habitat include coastal dunes, natural floodplains and reed beds. Examples of species already at risk include numerous bird species (e.g. *Circus pygargus*, *Vanellus vanellus*, *Asio capensis*), the endemic amphibian Moroccan spadefoot (*Pelobates varaldii*) and aquatic fauna such as eel (*Anguilla Anguilla*) and clams (*Ruditapes dissucata*).

Strawberry cultivation requires high demands for water for irrigation, especially from local groundwater and shallow surface waters. The resulting excessive pumping and over-exploitation is now threatening the area’s water supply. Also, the use of fertilizers and pesticides has intensified, threatening local water quality. For example, over 6,000 hectares of irrigated crop lands in the Gharb area now drains directly to the lagoon through the Nador Canal, an artificial canal built in 1950. This water is heavy with pesticides and fertilizers that affect considerably water quality and biodiversity.

Finally, plastics used for greenhouses are being dumped as waste into natural areas.

Solutions and Results



In 2007, the WWF Mediterranean Programme Office (MedPO) carried out an assessment of the impacts of strawberry cultivation on the Merja Zerga lagoon, and an analysis of Morocco's strawberry market in Europe. This was assisted through financial support from WWF's "One Europe, More Nature (OEMN)" project and technical advice from WWF-Spain. Based on these preliminary studies, WWF MedPO is now implementing a follow-up pilot project in Merja Zerga with OEMN financial support.

The overall goal of the project is to make the cultivation of strawberries in the area more sustainable with local ecosystems while continuing to provide incomes for local farmers.

The mechanisms for achieving this goal include:

(1) implementing good agricultural practices; **(2)** exploring market-based mechanisms that could drive natural resource protection; and **(3)** improving the management of plastic waste. The identification and implementation of the mechanisms will be laid out in a new overall management plan and vision for the area, and will take advantage of the experience gained by WWF-Spain and OEMN in Doñana, Spain.

1) Implementing good agricultural practices

In cooperation with local farmers as well as local administrations and other key stakeholders, a vision for the strawberry fields in Morocco will be developed, after having defined the main threats from strawberry cultivation to local ecosystems. The project will define the changes and improvements needed in strawberry cultivation to achieve the vision, followed by raising the related awareness and capacity of farmers, and implementing the required changes in the field.

2) Exploring market-based mechanisms that could drive natural resource protection

The main driver behind the development of strawberry farming in Merja Zerga has been the export of produce to nearby European markets. In this area, despite the predominance of foreign companies in the plant, processing and marketing business, numerous commercial agents and intermediaries are also present, marketing the production of several small farmers. As a result, overall benefits for the farmers themselves decrease. WWF is exploring which market-based mechanism will assure that farmers receive more benefits. These could then drive positive changes in farming practices so that cultivation remains profitable.

3) Improving the management of plastic waste

In cooperation with local administrations, concrete solutions will be proposed to improve the management of plastic waste. These could include the creation of a small-scale plastic waste disposal site, and an agreement with recycling companies or NGOs working on plastic sheeting.

OEMN Mission

WWF's One Europe More Nature (OEMN) project uses an innovative approach to forge unusual partnerships so that business and nature can co-exist. Its mechanisms lead to win-win solutions for all, allowing Europe's rural workers to make incomes from the countryside while protecting nature. OEMN, tested at many pilot rural locations throughout Europe, is now mainstreaming conservation into everyday European business life.

Other WWF OEMN pilot project sites

Prespa (Albania, Former Yugoslav Republic of Macedonia, Greece), Vainameri (Estonia), Tisza Floodplains (Hungary), Gelderse Poort (Netherlands), Maramures (Romania), Sinca Noua (Romania), Doñana (Spain)

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PHOTO CREDITS

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