

OASIS LANDSCAPES

A JOURNEY BETWEEN NATURE AND CULTURE



United Nations
Educational, Scientific and
Cultural Organization

منظمة الأمم المتحدة
للتربية والعلم والثقافة



Arab Regional Centre for
World Heritage (ARC-WH)
under the auspices of UNESCO



المركز الإقليمي العربي
للتراث العالمي
تحت رعاية اليونسكو

Side event in the 42th WHC

MANAMA, BARHAIN

26 June 2018

IPOGEA
Centro Studi sulle
Conoscenze Tradizionali



GENESIS

The making of an oasis requires the integration of geographic and a social components. These elements are inextricably bound together. Local geomorphologic circumstances, subjected to social action based on coexistence, alliance, and careful management of equitably distributed resources, define the oasis space. The oasis is not simply the palm grove it comprises the settlement and all the environmental devices, including the water catchment and management, expertly organized by desert peoples. It can be defined as follows: *an oasis is a human settlement in an arid geographical environment that uses the scarce resources available locally to increase the growth of positive interactions and to create a fertile and self-sustainable environmental niche whose characteristics contrast those of its unfavourable surroundings* (Laureano 1988).

The oases are formed by small-scale local communities possessing environmental understanding specific to sites made habitable by applying techniques whose invention and preservation requires considerable effort.



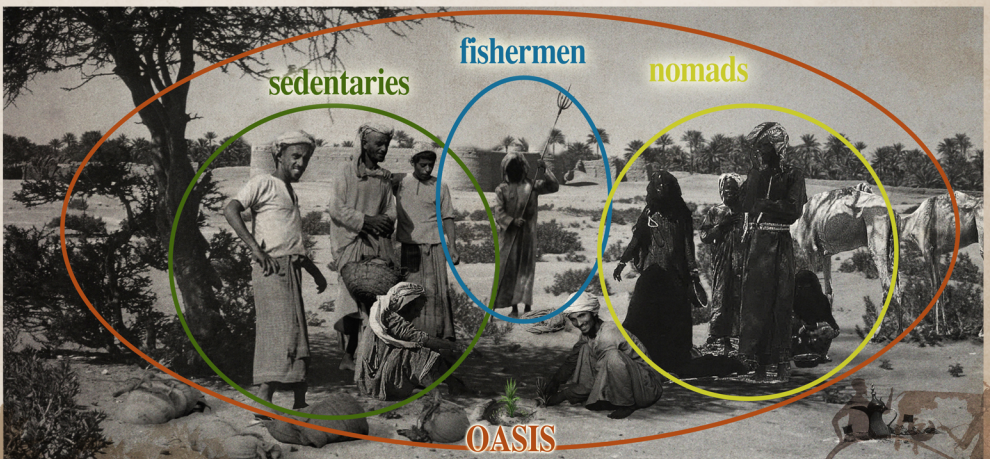
Al Faroun - Sebhka Timimoun, Algeria

SYMBIOSIS



The oases are the fruit of the union of the environmental know-how of nomadic hunter-gatherers and herdsmen, with the techniques of farmers and, often, fishermen.

Through the interaction of specialized groups, the oasis is capable to solve difficult environmental problems by progressively associating new solutions with elements drawn from other contexts, sometimes distant in space and in time. Thus, its complexity increases until it evolves into a complete package of skills, adapted technologies, knowledge (both material that intangible) that includes social, legal and economic norms. The oasis package, applied in different comparable environmental situations, determines remarkably similar results.



ORIGINS

The genesis of the oasis can be summarized as follows:

- As early as the Neolithic Age, there were experiences that anticipate the creation of oases, using elaborate techniques to deal with difficult situations.
- From the 4th-3rd millennium BCE, under pressure from climatic and environmental changes, oases were established in an effort to protect social investments in structures, settlements, forms of society, staging points and ritual sites made in more favourable times and under better environmental conditions. To ensure existence under the changed conditions, specialized skills were incorporated.
- The oasis as settlement device was used to create safe havens for refugee populations or communities seeking protection, hermitages and holy place.
- The oasis network became the basis for securing commercial exchanges over caravan routes that, thanks to the intercontinental extension of desert areas, enabled information and goods to circulate throughout the entire Afro-Eurasian landmass.



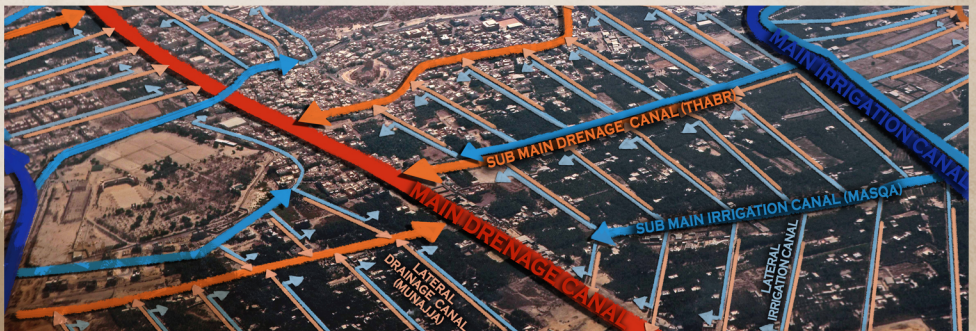
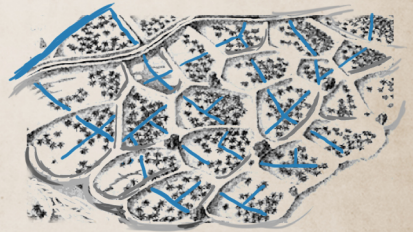
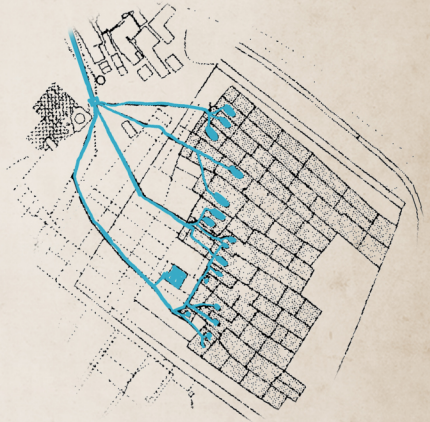
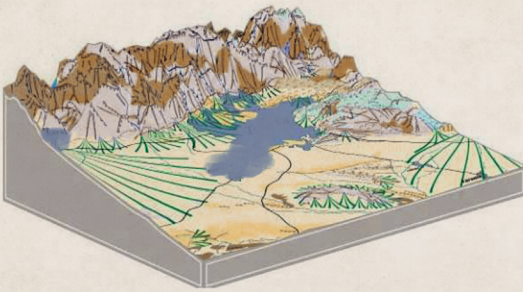
The land of Dilmun is sacred

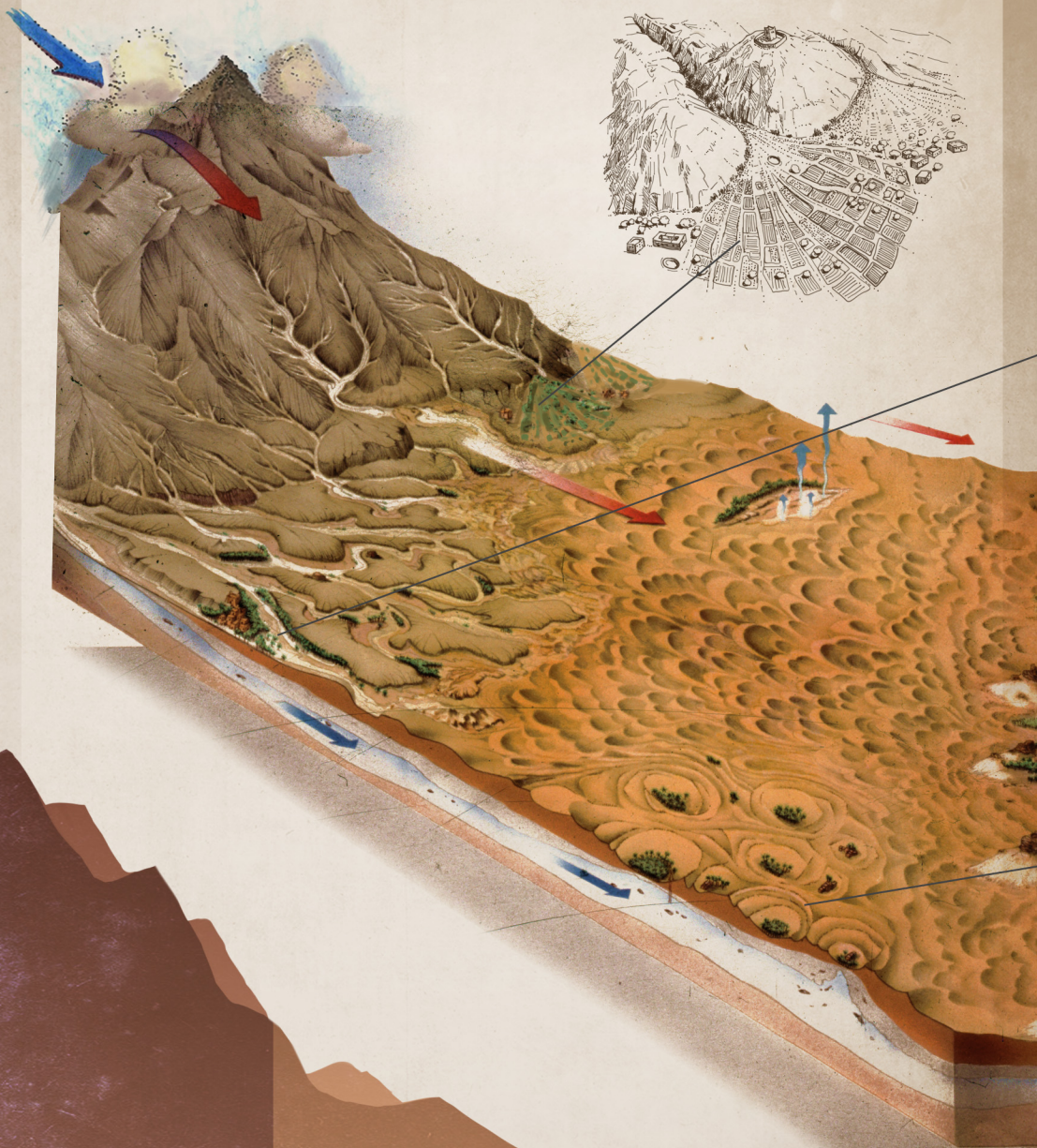


TYPOLOGIES

Depending from the natural morphology and to the catchment methods and management of the water, oasis can be of different aspects: mountain oasis on highlands and rocky pinnacles, little oasis isolated in the middle of the sand, row of oasis along the wadi, archipelagos of oasis to the edge of the depression, giant oasis in large alluvial plains.

a) HYDRO-AGRICULTURAL PATTERNS





MOUNTAIN

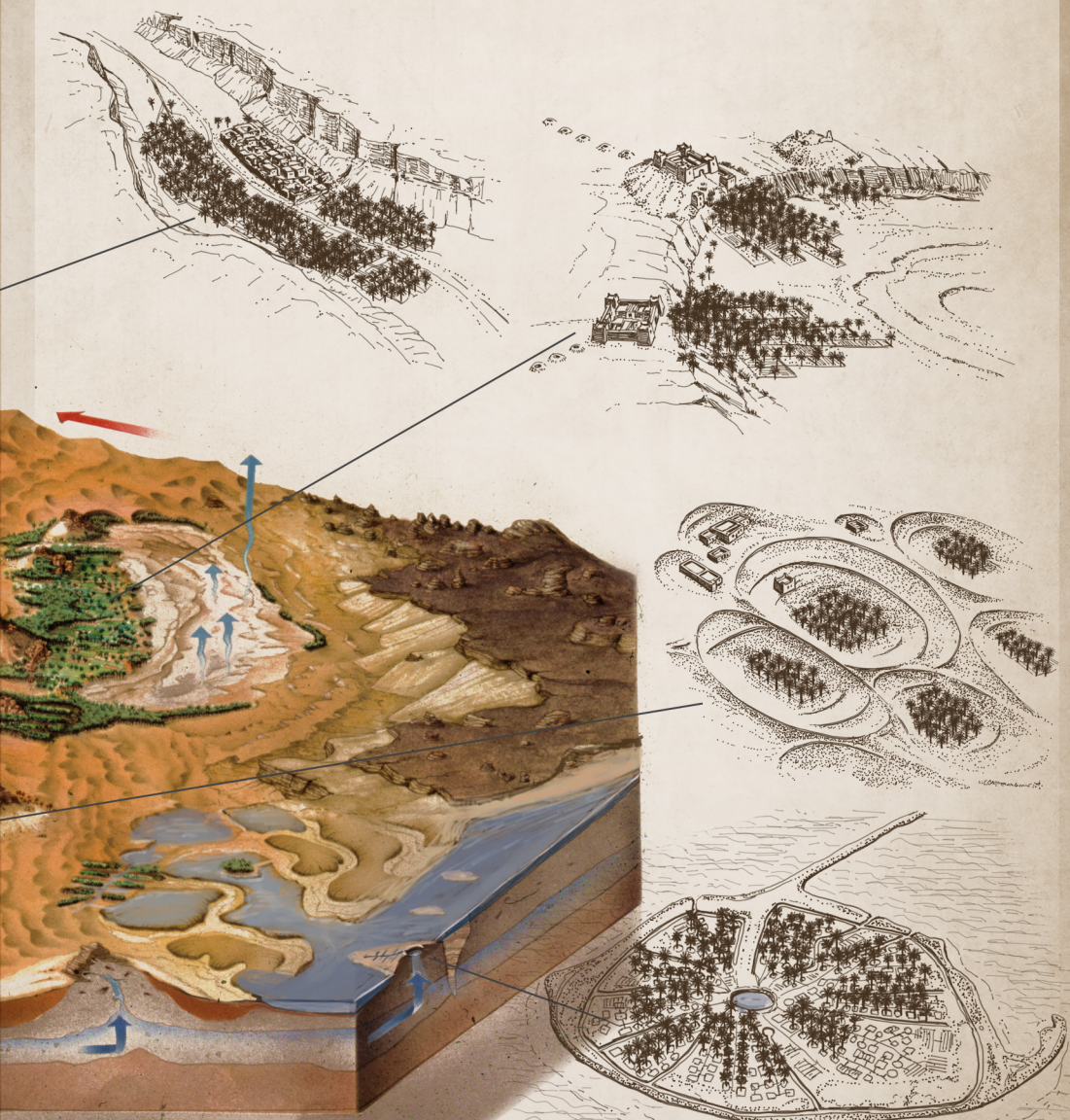
HILL

WADI

PLAIN

CANYON ALLUVIAL

b) NATURAL MORPHOLOGY



DEPRESSION
SEBKHA ALLUVIAL

SAND

SEA

c) WATER CACTH MENT

Uptake of the slope



C1
CHANNELING AND CONCENTRATION OF RAIN ALONG THE SLOPES



C2
WATER HARVESTING IN POOLS

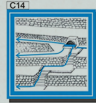


C2c
LARGE OPEN-AIR CISTERNS

Dams and teracing



C8
STONE AND OTHER MATERIALS DAMS



C14
WATER MANAGEMENT ON TERRACED FIELDS

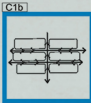


C13a
SUNKEN DAMS

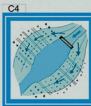
Rivers and wadi water intakes



C1a
SYSTEMS OF COMMUNICATING BASINS FOR SHARING THE FLOODS



C1b
TORRENT STREETS

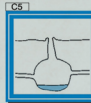


C4
CREATION OF GARDENS ON THE SIDES OF THE RIVERBED

Springs of water



C12a
EXCAVATION AND DRAINAGE SYSTEM USED IN MINES

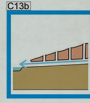


C5
COMBINED USE FOR CATCHMENT, DISTILLATION, AND CONDENSATION



C2a
THOLOS-CISTERNS, BELL-CISTERNS AND PIT-CISTERNS

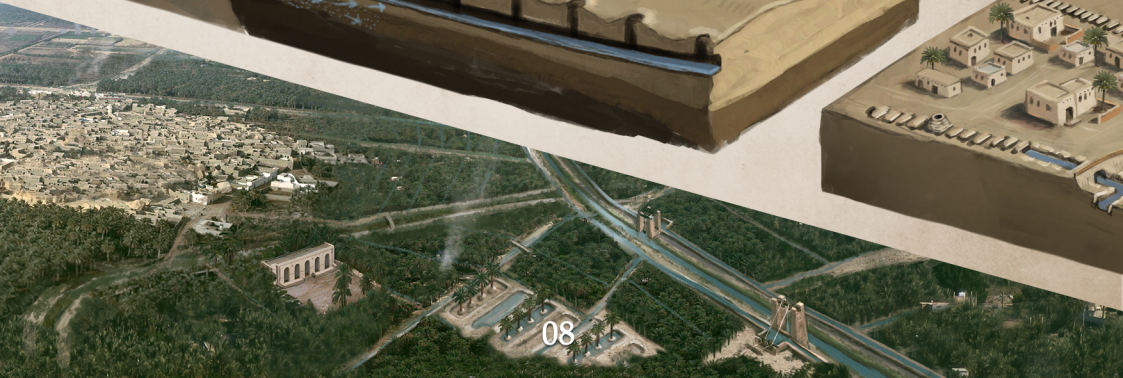
Uptake tunnels (falaj; qanat; etc)



C13b
UNDERGROUND CATCHMENT TUNNELS



www.tkwb.org



Distributions channels



WATER INTAKES AND CHANNELS

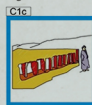


TECHNIQUES OF SOIL IRRIGATION



DIKES AND WOODEN OBSTACLES

Partitions systems

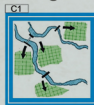


WIDE "COMB" SHARING SYSTEMS



COMB-SHAPED SHRINING SYSTEMS

Sewer systems on a large scale



DIVERSION SYSTEMS ON A LARGE SCALE AND USE OF FLOODS

Lifting systems



ROCKER ARMS WELLS

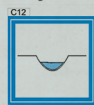


WELLS PULLED BY ANIMALS



BIG LIFTING DEVICES (NORIAS)

Drainage and recycling



EXCAVATIONS AND DRAINAGE SYSTEMS



INTEGRATED USE OF WATER CATCHMENT, HARVESTING AND DISTRIBUTION

Hydro agricultural industrialization



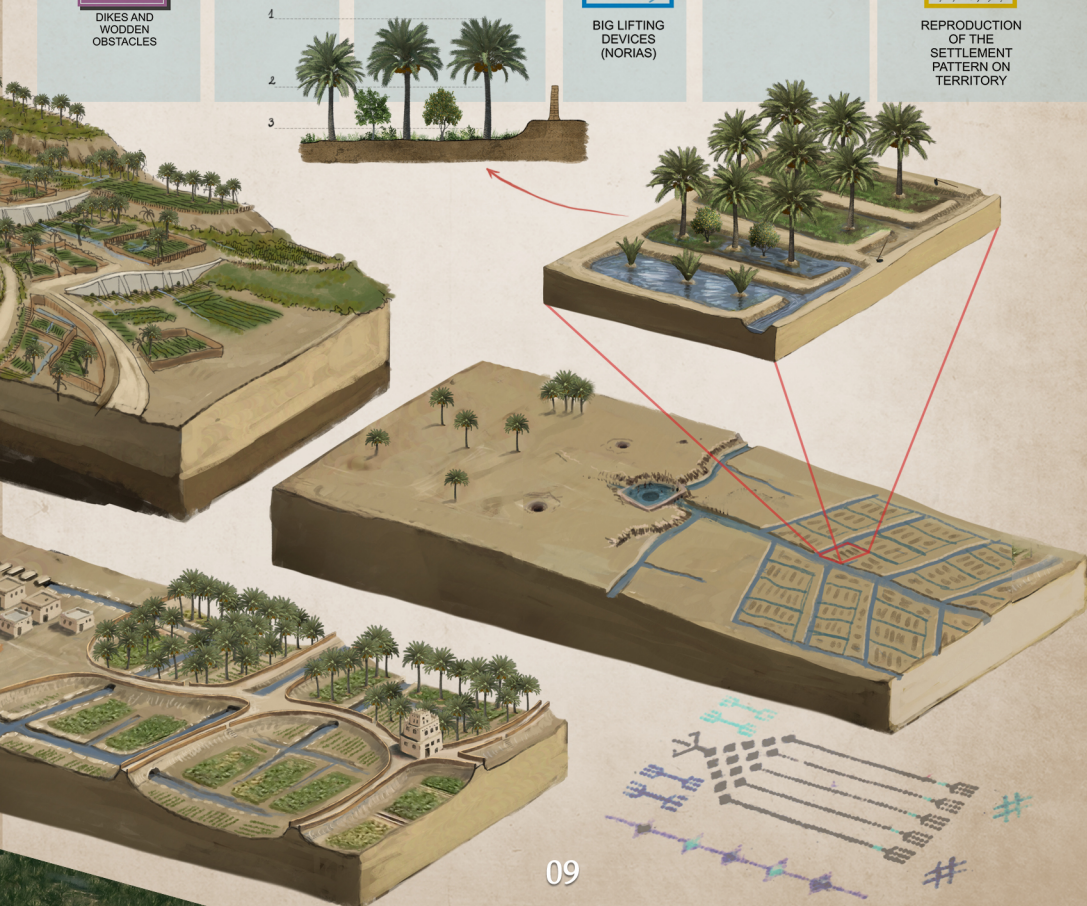
URBAN LAYOUT FOR WATER MANAGEMENT



INTEGRATION OF TOWN AND COUNTRYSIDE



REPRODUCTION OF THE SETTLEMENT PATTERN ON TERRITORY

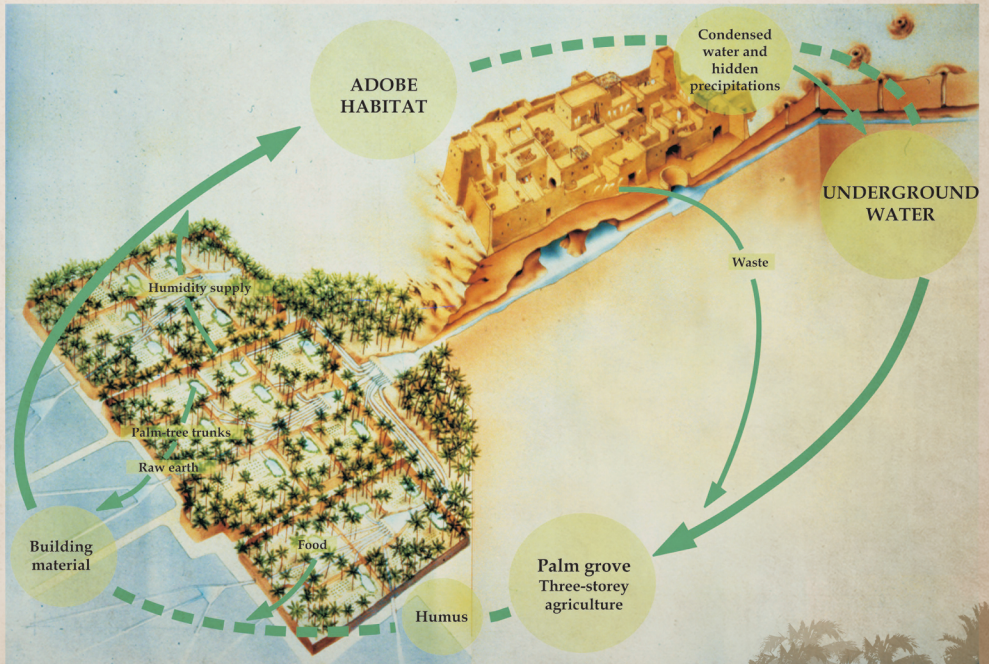


ECOSYSTEM

Although it may be small in scale, an oasis is never an isolated system. The built-up area forms a continuum with the agropastoral space and its semi-nomadic and nomadic surroundings, which extend outward to link up with the much broader, interregional area of the nomadism of the great caravans and its network of trade routes.

Hence it is possible to speak of constellations and archipelagos of oases, and of an oasis basin formed by a physical space, a social space and a background of relations that can be quite extensive.

The oasis is the greatest challenge launched by the humanity to survive in the arid zones. In the landscape of the oasis, where the extreme climatic conditions don't forgive mistakes, every action is functional to the maintenance of the overall system. The tight relationship between human activity and protection of the places create an identification between the individual and the ecosystem, the harmony between the community and the cosmos.



WATER

The use of the water and of the local resources without finishing them in a continuous re-cycle and re-use, anticipate the researches of today about sustainability and circular economy.

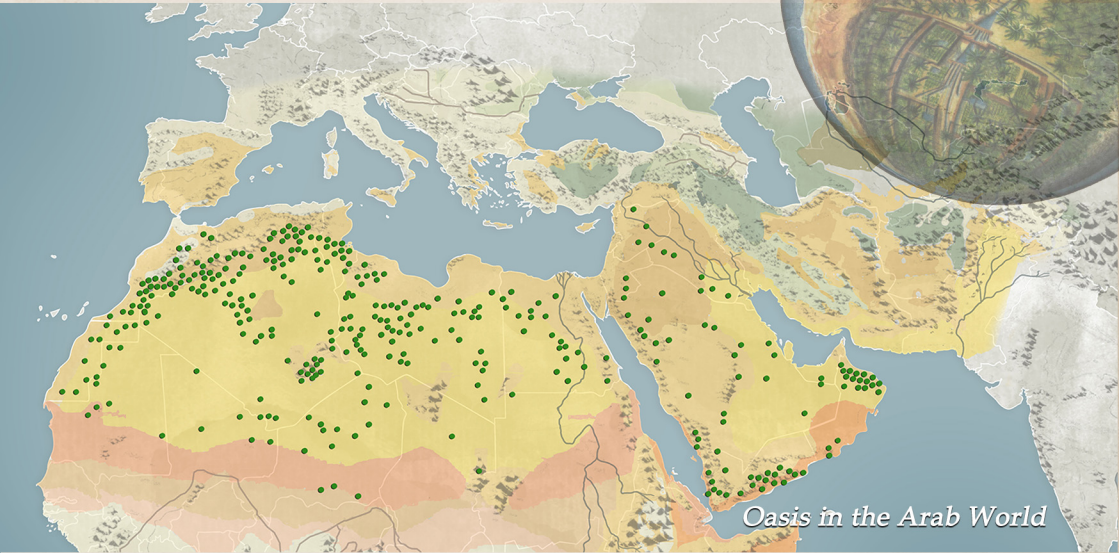
The oasis is the example of integration between nature and culture, of the indivisibility between tangible and intangible. The oasis introduces in the debate about management the necessity of evolution. In the oasis the conservation is not immutability, but the management of the change, sometimes necessary in order to perpetuate the heritage.

The oasis keeps traditions and knowledge useful for millions of people that lives in the deserted areas and fundamental for the whole planet respect the global challenges of climatic extremes and the lack of water.

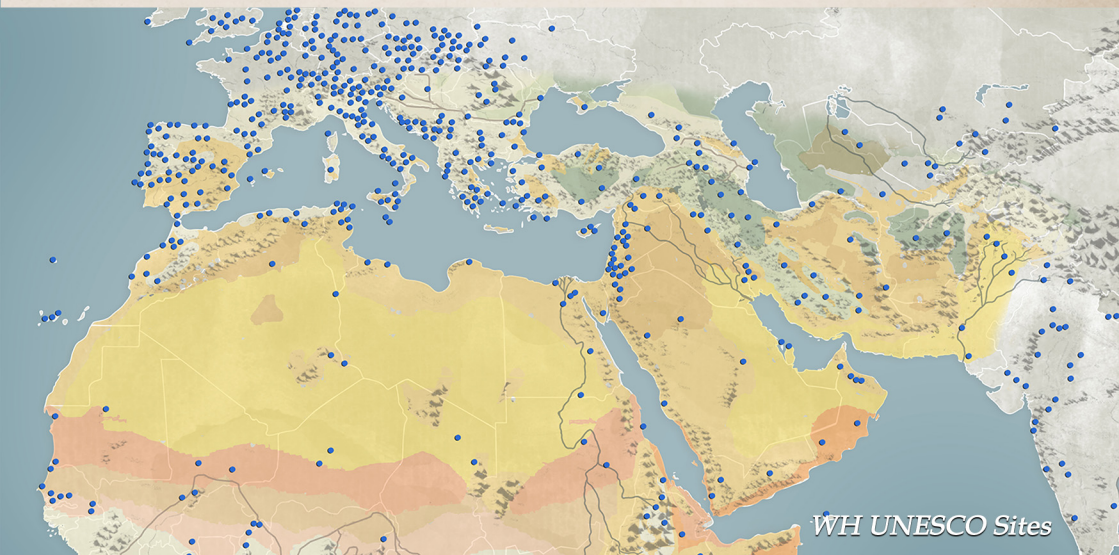


POTENTIALITY

The oases are for the Arab World an amazing opportunity for new inscriptions on the World Heritage List, potential of tourism and reservoir of cultural tradition and local folklore.



Oasis in the Arab World



WH UNESCO Sites

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