

... water care for life!



Water is the source of life since ancient times and the cradle of many civilizations. Many people were born on the banks of rivers and take from this what is necessary for their sustenance and development.

THE PROBLEM

Many regions in the world suffer for the following issues:

- Drought;
- Climatic conditions inaccessible;
- Water scarcity and mismanagement of the same;
- Famine;
- Plague;
- Pollution;
- War;
- Natural disasters.

OBJECTIVE

Water Care for Life aims to:

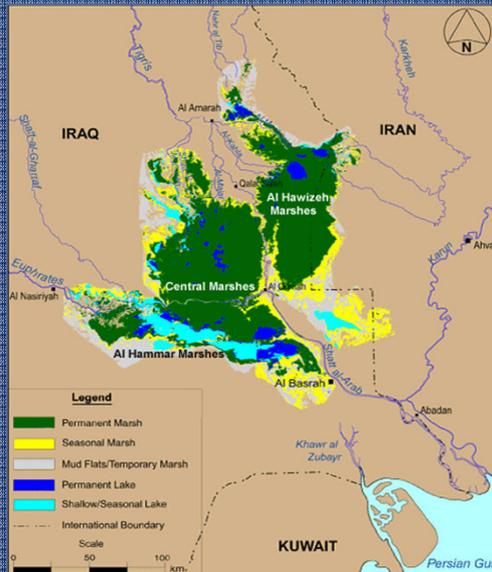
- Develop company stable, self-sufficient and sustainable;
- Contain the phenomenon of nomadism;
- Improving the health, social and economic resources of persons;
- Give education to people.

IT IS ... WATER CARE FOR LIFE!

WCL was founded around any water source (well, new or existing dam, river, lake, sea, ocean). It's making water potable, accessible, and work for creating around it a real community and providing all those infrastructures that lead to economic and social development in the region.

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WHERE: Iraqi marshlands.
PROBLEM: Water scarcity, no-potable water with no-homogeneous propagation.
PURPOSE: To make the water from the Tigris and Euphrates drinking and repopulate the site.
ACTUAL SITUATION: After the 1991 war, Saddam Hussein ordered to drain through the construction of dams, the Iraqi marshlands. Only after the intervention of American troops in 2003 it was possible to intervene with the aim of restoring the fishery, the harvest of sugar cane and reeds of the water buffalo and cattle: activities that characterized this site since the past and now necessary for the livelihood of the people and the basis of their small economy.







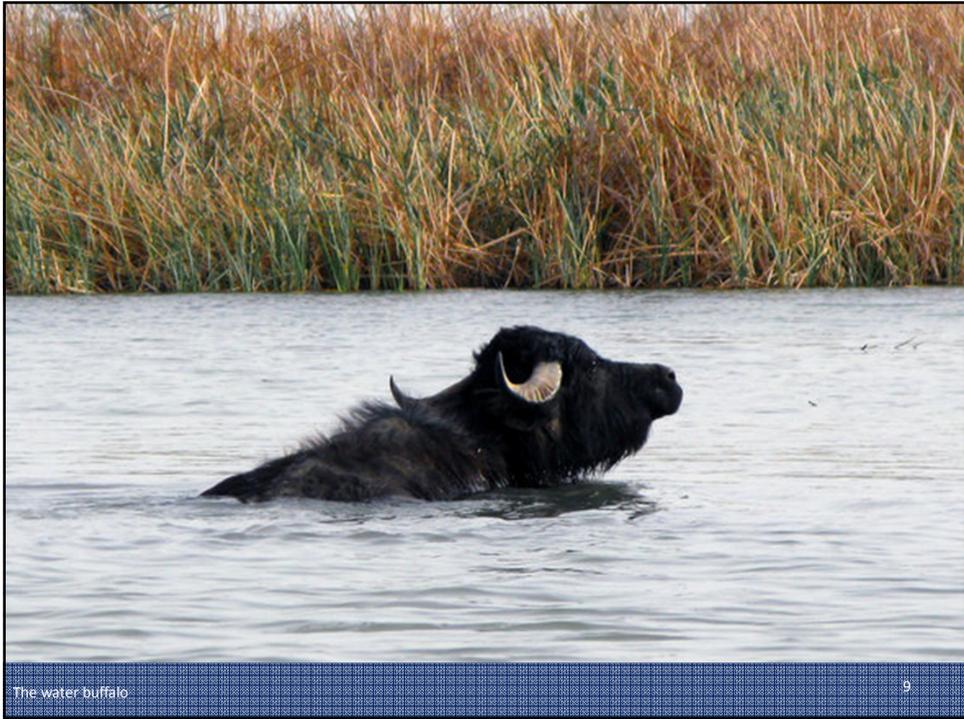
Part of navigable river

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More prevalent and profitable crops are sugar cane and crabs

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The water buffalo

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Fishing and the typical boats used

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PHASES:

1. Identification of source water (river, well ...);
2. Analysis of the organoleptic characteristics of water, the potability degree and the water flow;
3. Choosing the type of water purification plant to be preferred and its dimensions;
4. Planning and management of land surrounding the source;
5. Editorial estimated expenditure and sent this to aid organizations, non-profit, banks and major industries to raise donations and funds;
6. Realization of works and installation of technological equipment on site;
7. Education of the local staff on how to place the management of the drinking water;
8. Delivery of jobs to the community which, being empowered as an active part in the realizable work and co-management, over time, will keep active the entire project.

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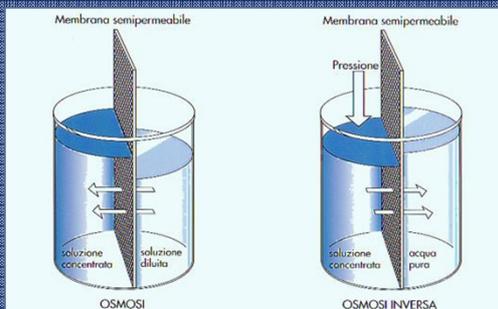
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TREATMENT AND WATER MANAGEMENT

Having identified the source of water and carry out the sensory analysis it is extracted / collected by suction submersible pumps. The reverse osmosis water purification plant is divided into four modules CONTAINER.

MODULE 1 water pump, filtration and purification of the water with the reverse osmosis system.

The natural process of osmosis: having two solutions that communicate with a semipermeable membrane, the more dilute solution passes to the most concentrated (as a backwash) for the osmotic pressure found in nature. If in the concentrated solution I apply a higher pressure than the osmotic, the water filter in diluted water tank. The loose particles will be retained by the membrane and filtered water is so pure. This is the principle of reverse osmosis.



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MODULE 2: Treated water storage tank;

MODULE 3: Tank for storage of water which is supplied by distribution pumps;

MODULE 4: Container for electricity generator for the treatment plant, with a diesel fuel storage tank; the generator will activate when the photovoltaic system exceeds its run time. A small photovoltaic system for the use of clean energy has been designed and installed on the top of each module to meet the electricity requirements of the treatment plant. As well as the distribution of water in-situ, a 30 km long distribution network has also been set up with water taps every 500 m.

A number of people may be trained in site, and they will then be able to manage the entire system. Making the inhabitants of the village responsible for the system will make them feel that they form part of the community and in this way the phenomena of nomadic ways of life will be reduced.



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Containers of water purification plant with solar panels

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SURROUNDING LAND PLANNING

The area surrounding the zone of water extraction will be designed and analyzed in order to gain a comprehensive knowledge of the condition of the premises. Depending on the properties we will proceed by identifying the various activities, services and destinations to be filled.

STAGES OF ANALYSIS OF SITE

The study of the site will be fully using the following analysis:

- Verification of the geomorphological characteristics of the land;
- Check characteristics / climatic changes during the year;
- Verification of temperature between day and night;
- A study of sun exposure, air currents and Climate;
- Study of rain and various atmospheric phenomena;
- Check flora and fauna as well as captive animals in the surrounding areas that may cause injury to people, animals and crops.

PLANNING AND LAND SURVEY

After these surveys I identify the area of the oasis which will be urbanized by careful measurements and subdivided into the specific intended use that are:

- Areas where we find the water purifying system;
- Area of distribution of water with its shady areas;
- Small business / craft and exchange;
- Small cultural centers, aggregation, religion and health;
- Residences, housing for animals and tool shed;
- Green areas and cultivated areas.

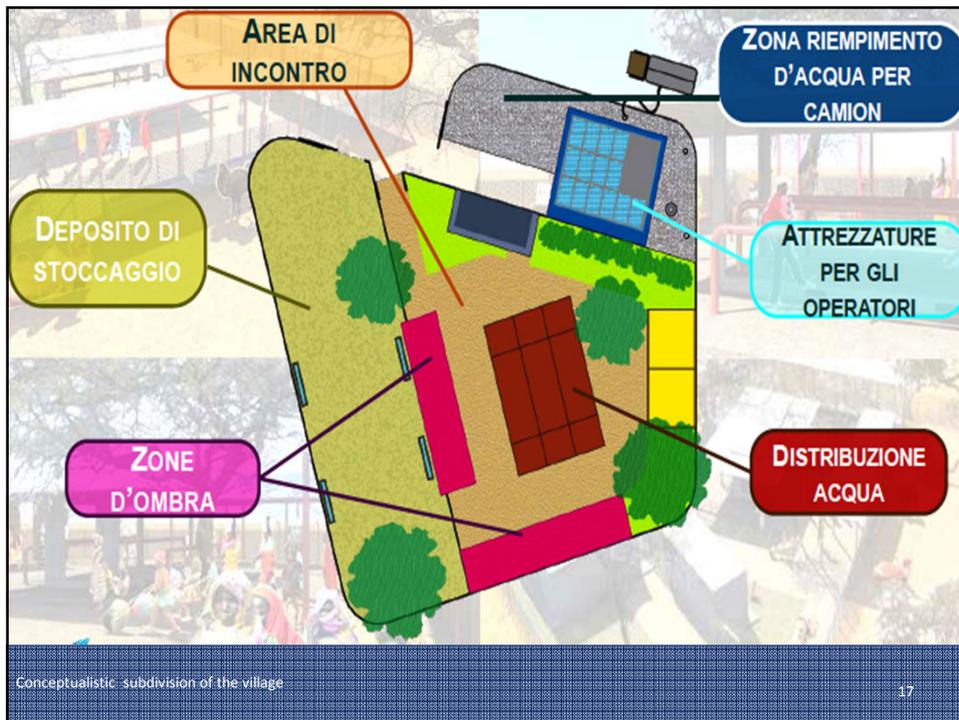
The size of the village vary depending on the number of people who live in but in this case the site was so large that it allowed me to expand freely as needed.

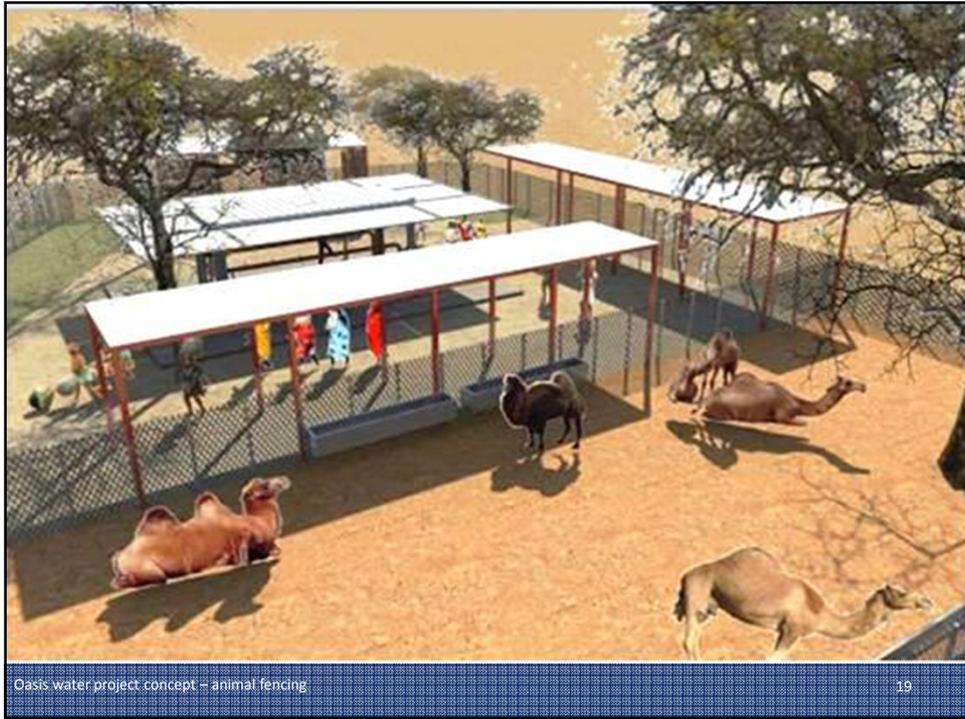
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Oasis water project concept—panoramic view

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Oasis water project concept – animal fencing

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Excavation of water distribution network: 30 km long with a fountain every 500 meters

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Construction of small drinking water network

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Water supply points, to be carried to distant villages by tankers

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Fountains: Water distribution points one every 500 meters



Another view of the oasis

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SIZE OF VILLAGE

The village will be born on a base of 3,710 people of which:

- 2400 people are currently living on both sides of a tributary of the Euphrates, the Gurmet Hassan;
- 960 people are currently living on both sides of a tributary of Gurmet Hassan, Jigair Um;
- 350 people are displaced and come to different sites, they would stabilize in the village only if the drinking water would be guaranteed the full year.

Our village has been so scaled up 4000.

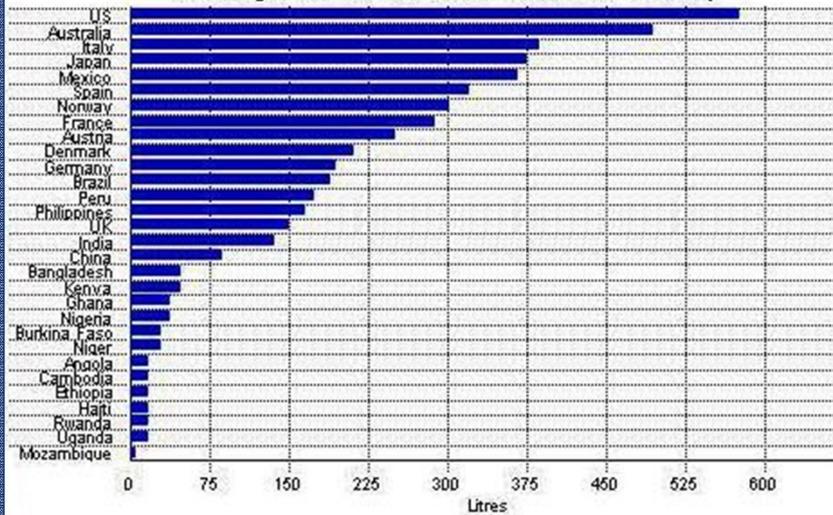
As the chart on the world's consumption of water per person per day we estimated a daily requirement per capita 50lit so that the whole village will be required 200.000lit of water per day.

In this particular case just one plant reverse osmosis water purifying capacity of 200 cubic meters of water per day.



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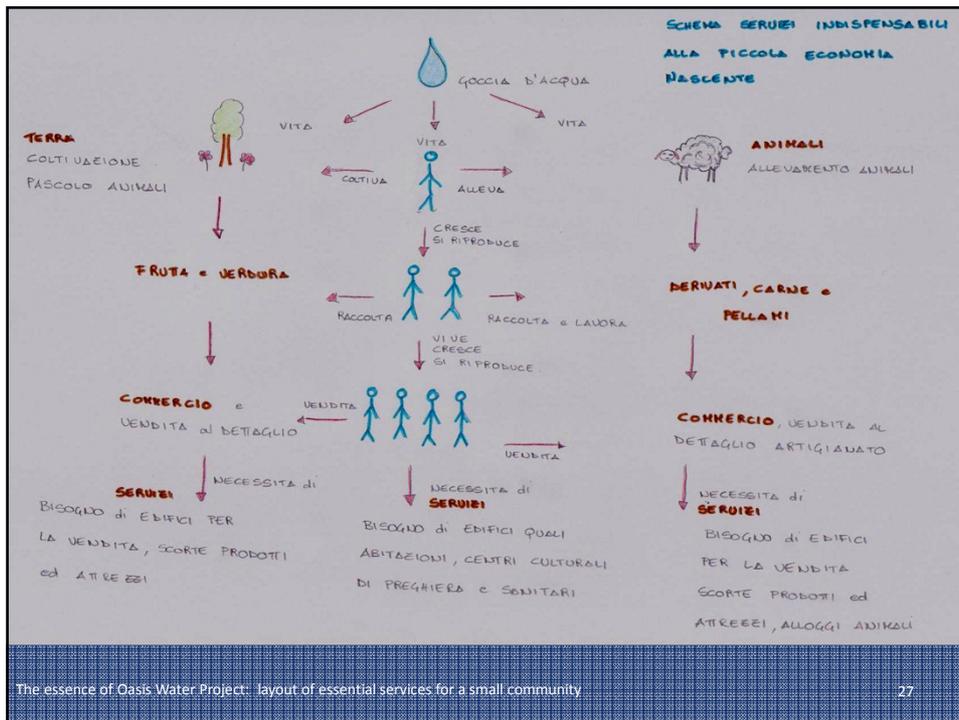
Average Water Use Per Person Per Day



United Nations Development Program - Human Development Report 2006

Diagram of water consumption per person per day in the world

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COST
A careful analysis of the site and water are key factors which impact heavily on cost estimates for presentation to potential funders of the work.

COSTS
The main factors affecting the project are the following:

- Nature of water, type of contamination and pollution level, availability.
- Proximity of the source to the village.
- Type of materials to be found for the realization of the village and they come with their duties.
- Type of system required;
- Type of additional modules required (medical centers, wind and solar stations, toilet ...);
- Type of renewable energy you prefer.

The equipment, construction of the works and their management involve also a significant employment contribution of local communities, so that they can acquire additional growth and development opportunities.

The project, already known and tested with positive feedback on behalf of both international charitable associations and civil society organizations, is focused to create a self-sustainable community and territory with the utmost respect for the environment and people.

The Oasis project is a simple and modular project which will grow and be modified in line with the needs of the community. The community living with the project and having been involved in its management from the very beginning will make it its own.

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CONCLUSIONS

The Oasis project is a simple and modular project which will grow and be modified in line with the needs of the community, which, living with it and having been involved in its management from the very beginning, will make it their own.

GOALS OF THE PROJECT

- improving the level of people's lives;
- improving the health of the community through the provision of improved water and the emergence of small health centers;
- improvement of health status as poverty and dam of famine;
- increase of maternity benefits by means of social welfare;
- Reduce child mortality and HIV, malaria and other serious diseases;
- reduction of nomadic people who are in a place where they must be settled;
- social development through the aggregation and enlargement of the community;
- economic development through the creation of small businesses and crafts, and extensive crop farming to achieve economic self-sufficiency;
- revaluations of women and children with their rights in society because they no longer need to research and collect water and food;
- reduction of cultural and economic gap with rural, urban and developing countries or developed surrounding
- achievement of a degree of sustainability by using renewable and alternative energy.



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THANK YOU FOR YOUR ATTENTION
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Thanks to the Italian surveyors National Council & surveyors graduates, the FIG and EUROMEC S.P.A.

