



Water Retention Landscapes

A Model for Ecological Restoration of Dry Regions

Tamera Peace Research Center (Portugal) has created a model and an educational project for natural decentralized water management and a basis for forestation, horticulture and agriculture in regions threatened by desertification. It is a globally adaptable model which can be applied in all regions in various appropriate forms.



The realization of the vision of a world in which water and food are freely available to all depends only upon humanity's decision. The situation on Earth today demands that we shift from a system based on violence, mistrust and scarcity, to a new model of living based on contact and co-operation with nature.

We are currently in the midst of a global water crisis. More and more areas of the world are threatened by rapid desertification, more and more people suffer from hunger and lack of access to safe water. Forest fires, summer droughts and the loss of biodiversity accompany a widespread loss of valuable land which has lost its capacity to retain water. Simultaneously erosion washes away fertile soil due to strong winter rainfalls and flooding leads to great damage downstream.

Desertification, flooding and forest fires are symptoms of one problem: a damaged water balance caused by industrial agriculture, over-grazing, monoculture forestry and deforestation.

In Southern Portugal, a region threatened by the same desertification process happening across vast areas of the world's drylands, the Tamera Peace Research Center has been building a model for natural water management since 2007 with the help of the Austrian permaculture specialist Sepp Holzer. The core of the project is a water landscape with a system of interconnected rainwater retention spaces (or "lakes") that are built into the landscape in a harmonious way. The water is stored behind a dam of natural earth material. Deep and shallow zones are created so that movement in the water results from the different temperature zones. The vitality, oxygenation and self purification of the water is assured. Further sealing of the lakes with concrete or other artificial layer is neither necessary nor desired: this way the water has time to slowly seep into and sustainably soak the earth-body that had been drying out for decades.

Impressive results could already be seen in the first year after the building of the first retention space. Positive effects increase every year: new springs appeared in the surroundings of the lake, the moisture stimulates life in the earth-body, vegetation has recovered, wildlife has returned. Throughout the year, vegetables and fruit trees are growing on the lakeside terraces. The necessary irrigation could be reduced greatly and requires less energy due to the proximity of the lakes. Mixed species reforestation is enabled and natural forest regeneration is encouraged. The land becomes fertile again.

The project shows how local self-sufficiency in the area of water and food is actually possible with the retention of rainwater. It shows how quickly a landscape regenerates once the water budget is restored. With this knowledge a global shift is possible: desertification can be stopped and reversed.



Banks are designed in meandering forms with both steep and gently sloping parts so that the water can roll and swirl in accordance with its nature.



The longer side of the retention space is laid out in a way that the wind can create waves which vitalize the water.



The dam consists entirely of natural material: the sealing effect of the core is achieved by compacting earth-moist clay, loam or comparable local material.



Mixed aquaculture is established to support the purification of the water. Trees are planted around the lake and once again provided with water from below as is appropriate to their nature.



Tamera's water landscape plan – all rain water is retained on the land and the water flowing away comes from springs.

**“WATER IS INFORMATION.
WATER IS LIFE. WATER IS CAPITAL.
SOMEONE WHO WORKS THE LAND AND LETS
THE WINTER RAIN FLOW AWAY IS LETTING
HIS WEALTH DISAPPEAR UNNOTICED.”**

*Sepp Holzer, permaculture expert
and “Rebel Farmer”, Austria*



Tamera's first lake before, during and after construction.



Reclaiming the Holy Land

This concept of water retention landscapes can be transferred to practically all climate zones on Earth. Knowing the crucial role of water scarcity in the Middle East's political conflict, we are seeking places in the region where this method can be introduced and developed as a model for the healing of nature. Especially in the Middle East, courageous people are needed who are open to the idea that not all deserts on Earth were meant to be deserts, and who are willing to make the shift in thinking required for a new approach to water management.

In the desert we can retain flash floods and by this not only prevent erosion and road damage, but also create oases in the valleys. The special combination of abundance of water and a hot year-round climate, as we experience all along the Jordan Valley, can provide a lush vegetation giving a necessary answer to the survival questions of our time.

The Nabatean tribes who lived in the Middle East two thousand years ago built numerous dams all over the desert. Combining these ancient agricultural methods with modern knowledge and technology we will have much faster and more effective results.

Through utilizing the available rainfall and supporting a healthy groundwater balance, a new intelligent form of regional autonomy can be created, and bring healing not only to the environment, but to human beings as well. Creation has been entrusted to us in order for us to perceive and care for it. This is the original role for humankind on Earth.

“HEALTHY WATER, FULL OF ENERGY, IS A KEY TO COMPLETELY HEALING THE EARTH. HEALTHY GROUNDWATER AND HEALTHY DRINKING WATER IS THE BASIS FOR A HEALTHY SUBSISTENCE ECONOMY, FOR THE HEALING OF NATURE AND HUMANS AND FOR A HEALTHY CONNECTION OF NEW COMMUNITIES WITH THE CORE POWER OF LIFE.”

Dieter Duhm, co-founder of the Tamera Peace Research Center



Peace
Research
Village
Association

Peace Research Village in the Middle East
www.prvme.org • info@prvme.org
+972-50-9596868



Tamera
Healing Biotope I

Tamera – Healing Biotope 1
www.tamera.org • ecology@tamera.org
+351-283635313