Bernd Walter Mueller

THE SECRET OF WATER AS A BASIS FOR THE NEW EARTH

Healing the Water Cycle through the Creation of Water Retention Landscapes

Based on an unscripted speech by Bernd Mueller, May 2011
Translated from the German by Rabea Herzog and Jeff Anderson

"Water, energy and food are freely available for the whole of humankind!"
Dieter Duhm, from the Tamera Manifesto for a New Generation on Planet Earth.

I put this quote at the beginning of my speech because I want to ask you to see this vision of a healed world as often and vividly as you can. We must not get accustomed to a state where something that is actually self-evident appears to us as an unrealistic utopia. A world in which all people have free access to enough water, energy and food is thoroughly feasible. More than eighty years ago similar ideas were described by the Austrian Viktor Schauberger, a brilliant water researcher, a pioneer and thought-leader of the highest level. Even then he could foresee the global problems that we face today and he showed how they can be solved. A key point in the solution is the right treatment of water. Therefore I would like to address the issue of water in this lecture. Water is life – and where there is life there is also nutrition and energy.
The years 2010 to 2020 were declared by the United Nations as the "Decade for Deserts and the Fight Against Desertification". Progressive desertification is currently one of the biggest global problems. More than 40% of the global land-mass today is classified as dryland. Also in Europe, for example here on the Iberian peninsula, the desertification process is dramatic. One third of the land area of Spain has already transformed into dryland. But most of these dry areas are located in the even poorer countries of our planet Earth. Billions of people today have no access to good and fresh water. Even though we still try to push it aside, we know that this is partly connected with our lifestyle in the industrialised countries, which daily, hourly, minute by minute leads to a situation in other regions of the Earth where children fall sick and die because of bad water, where humans fight over the last remaining water and animals die of thirst. Water, which is essentially the source of life, is today the cause of war, power-struggles, disease, and an incredible amount of suffering.

Therefore, the Bolivian President Evo Morales demanded in 2008 in his "Ten Commandments to Save the Planet, Life and Humanity" that we deal with this global water crisis and declare the access to water as a human right.
I fully go along with this demand. I am holding this speech so that all people and all animals regain free access to good drinking water. For this, the idea of Water Retention Landscapes and 'model universities' has been developed.

DESERTIFICATION RESULTING FROM INCORRECT WATER MANAGEMENT

We humans have the knowledge of how to transform deserts and semi-deserts back into living landscapes traversed by fresh spring-water streams. Desertification is in most cases not a natural phenomenon but the result of incorrect water management on a global scale. Deserts do not arise because of a lack of rain, but because humans treat water in the wrong way.

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One example: Our landscape, the Alentejo, is considered semi-arid. But in the last week there has been very heavy rain. The amount of rain that fell over a few days would have been enough to supply the whole population of this area with water for drinking and household use for one year. But instead it flowed away unused and in addition to that even caused damage: washing away the fertile soil, eroding the foundations of bridges, and flooding roads, villages and towns. People are now busy repairing the damage inflicted. This is costly and time-consuming, and with the next rain the same happens again, so they have no time to think about investing in new systems where they would have water all year round and could at the same time prevent floods.
In Portugal we have a lot of rain in winter and in summer it is dry. Only a few decades ago Southern Portugal was a region where the streams flowed with water all year round, even in summer. Today the streams swell only during the rainy season and afterwards they become dry again. The system has fallen completely out of balance. This situation can be found worldwide, in according forms in all climate zones. Almost everywhere we can see widespread flooding and landslides with catastrophic consequences for humans, animals and nature. People then speak of natural disasters, but in reality they are man-made disasters.

THE SMALL WATER CYCLE

How can we change this situation locally and globally? What does system change mean in the case of water management and how can we initiate it? To find answers for this we have to look again at the actual state we nowadays find everywhere. It corresponds to the small (or 'half') water cycle as described by Viktor Schauberger: Water evaporates, forms clouds and precipitates. The rain strikes the ground which can no longer absorb the water because the forests have been cut down and the barren land used as pasture. The vegetation has been weakened through overgrazing and the topsoil has been washed away; the now unprotected ground warms up, but if the earth has a higher temperature than the rainwater it cannot absorb the rain, it closes itself, becomes hard and the water runs off. It accumulates in large streams which flow away quickly. Where there is still a layer of topsoil or loose fertile earth, it strips it away, thus leading to the fatal problem of erosion.

The fast-flowing water quickly fills streams and rivers. In heavy rain they swell up and carry a lot of soil and other material with them, but they cannot deposit this at the next bend in the river because the water is no longer allowed to meander, as the rivers have been straightened and their banks additionally reinforced. The precious soil that is so urgently needed on the land now causes the rivers to silt-up downstream. They become shallow and breach their banks, leading to great damage especially in the cities lying at the river mouths.

In the small water cycle we have rivers that no longer flow with clear spring-water but with muddy polluted rainwater. There are no places where the water has time to gather itself, to rest, to mature, and to enrich itself with minerals and information. When I look around here in this room and see all these young faces, I think that hardly any young person from Europe still knows streams that flow with clear spring-water.

THE FALLING WATER TABLE

If the water cannot sink into the earth-body, then it is lacking there. Due to this lack, the soil life suffers, the micro-organisms retreat, the fertility of the land decreases significantly,

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and fewer and fewer plant and animal species can survive. Soil dryness and the loss of biodiversity are the most important indicators of desertification.
The water table is falling – worldwide and dramatically so. The global supply of drinking water is diminishing. Here we face the actuality directly leading us to apocalyptic scenarios if we do not manage to halt this process. Due to the falling water table, counter pressure can no longer be built up in the ground, salt water infiltrates unhindered deep into the land, and the soil and deeper lying freshwater reserves become saline. The ecosystem collapses – an almost irreversible situation. In many coastal areas worldwide this process is already happening. Also here in the Iberian peninsula many bore-holes and wells in the coastal areas have already become saline. But what kind of times does humanity approach if there is no more drinking water? Here we may not turn away and allow something to happen that could be prevented. The knowledge for this is available; now it is about applying it. We know: This is not how planet Earth is meant to be. This is not how the coexistence of humans, animals and Earth is meant to be. This is not how life is meant to be.

THE LARGE WATER CYCLE

Let us look again at the healthy picture – it is the picture of the large (or 'full') water cycle. The rain that falls on the earth is absorbed by a layer of humus that soaks it up like a sponge. Not long ago on the land of Tamera there was a living fertile soil layer of up to half a metre in depth. It was more or less like this over the whole of Portugal and in principle across the whole of Europe. This humus soil layer, which was shaded and rooted by plants, soaked up the rainwater and thus gave the water time to seep into the deeper ground layers and fill up the earth-body. In this way a saturated earth-body acted as a storage organ. There, underground, the water rests at different depths, sometimes over long periods of time. We still know little about what really happens to the water down there in the darkness. I feel this as the 'female' or 'soul' part of the water cycle. What we can say is that the water matures there by mineralising itself and taking on information. This ability to take on and store information is one of the essential and most mysterious qualities of water.
At different depths in the saturated earth the water cools down differently. Where it is the coldest it rises back to the surface as mature spring-water. Spring-water has a great healing power for the Earth and all her creatures. Streams and rivers flowing with spring-water that are allowed to meander in accordance with their beings have healing power for the land. The water vitalises itself increasingly over the course of its flow. On the banks of such streams and rivers, diverse habitats develop where life unfolds itself.
The water in the large water cycle is flowing continuously and steadily. The earth acts as a buffer, as it can absorb a large amount of water at once but releases it only slowly. In this way floods are prevented, and at the same time the streams carry water all year long. The balance is reached between the rainy winter months and the dry summer. This applies in principle throughout all climate zones. A large water cycle in which the earth-body completely fulfils its function once again creates stability and equilibrium everywhere.

HEALING NATURE THROUGH WATER RETENTION LANDSCAPES

Today the earth-body, the humus topsoil, has disappeared from a large percentage of the Earth's surface. The erosion process, especially over the last decade, has progressed so rapidly and extensively that one can speak of a global disaster. This is why we must not delay ourselves by developing ecosystems which create a thin layer of humus only after thirty, forty or even more years. We need this balancing sponge-effect sooner. In order to

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complete the water cycle again we have to find a way in which the water can be absorbed by the earth despite the missing topsoil layer. This is how the idea of Water Retention Landscapes developed.
Water Retention Landscapes are systems for the restoration of the full water cycle by retaining the water in the areas where it falls as rain. A Water Retention Landscape consists of a series of interconnected retention spaces, from pond-sized up to lake-sized, in which the rainwater can collect behind a dam constructed from natural material. The retention spaces themselves are not sealed with concrete or any artificial film, so that the water can slowly but steadily diffuse into the earth-body.

The term 'Water Retention Landscape' is always connected with the concept of nature-healing. The construction of Water Retention Landscapes is an active and effective answer to the destruction of nature. In Tamera we have gained this knowledge from the Austrian permaculture specialist Sepp Holzer with whom we have been working together intensively for some years. There are no regions of human inhabitation unsuitable for the construction of Water Retention Landscapes. Wherever ecosystems have been destroyed or degraded, Water Retention Landscapes can and should be created, on every type of land, in every climate zone, on every hillside, and especially in areas with low precipitation as here they are particularly important. The less the amount of precipitation that falls in an area, and the greater the length of time between rainy periods, the more urgent the creation of a Water Retention Landscape becomes.

But also in tropical high-rainfall regions Water Retention Landscapes will be a great step towards healing. They act in place of the fragile humus layer, which is sometimes washed away completely during only one rainy season after the clearance of the rainforests. And through their high water absorbing capacity they also help to prevent fatal landslides, which nowadays are caused more and more often by heavy rainfall. Thus they also directly save human lives.
Perhaps there are still a few forested areas on Earth where it is not yet necessary to intervene because there is still enough humus. But, unfortunately, today these are only rare cases.

Water Retention Landscapes are the healing impulse urgently required by the Earth and all her creatures. And they can and must arise in every place where people regain the courage, strength and also of course the knowledge needed to create them.
For this we now need a common and determined power and direction. In order to create Water Retention Landscapes worldwide, special educational centres are required. We call them 'model universities'. Here the knowledge of how Water Retention Landscapes function is taught in theory and practice. In this way a change-in-thinking process is initiated that naturally also includes all other aspects of human life. A Water Retention Landscape is sustainable only if the individual and social life is re-embedded into nature and the higher orders of creation.
How such an embedding functions in modern times and which technological and social knowledge is needed for it – this all should be researched and taught in the models and be available for all people who seek this knowledge.
The change-in-thinking process will ultimately only be completed when there is no longer a single living being on Earth lacking in water, nutrition and human compassion.

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GETTING TO KNOW THE BEING OF WATER

The first step in the change of thinking begins with a new perception of water itself. A water retention space is not only to be understood technically but also exists in order to give an understanding of the being of water to a new kind of engineers. A water retention space has to be shaped in a way that the water does not stagnate, but on the contrary is able to move according to its being.

Water is not only a physical or chemical substance that the human may deal with at his convenience or merely according to industrial norms. Water is a living being. We modern people have to learn to understand this all over again. The shaping of the water retention spaces is therefore not arbitrary. We observe water: How does it want to move? Which shapes of banks does it like? Which temperature and which differences in temperature does it like? Does it like to form waves or not? All of these aspects are incorporated into our work.

As with every living being, water also needs to be allowed the freedom to move in accordance with its being. Water wants to roll, swirl, curve and meander – then it remains vital and fresh. By such movement it purifies itself, at the same time it also calms down and has time to seep into the earth-body.

There are three important principles for the shaping of such water retention spaces:

The longer side of the retention space is, if possible, laid out in the same direction as that of the prevailing wind. The wind then blows over a long surface thereby forming waves which oxygenate the water: oxygen is an important element for the purification of water. Wind and waves carry particles of debris to the shores where they are trapped by aquatic plants and eventually absorbed by them.

Banks are never straightened or reinforced, but created in meandering forms with both steep and gently sloping parts so that the water can roll and swirl. At least one part of the shore is planted with aquatic and waterside plants.

Deep and shallow zones are created. In this way different temperature zones emerge which provide healthy thermodynamics in the water. Shaded shore areas support this process. Thus the diversity of aquatic organisms finds its suitable habitats.

The dam of a water retention space consists entirely of natural material: no artificial film or concrete is used. The vertical sealing layer of the dam consists of as fine a material as available – ideally clay – for which optimally the material excavated from the deep zones is used. It is connected to a watertight layer of subsoil that sometimes lies a few metres below the surface. The sealing layer is compacted and built-up layer by layer with fine, earth-moist material. Then it is piled up from both sides with mixed earth-material, covered with humus or topsoil, and can then be landscaped and planted on.

Through this natural construction method the water retention spaces fit in with the landscape and do not become incongruous with their surroundings. After only a short time life reappears on the shores. Finally the plants, especially the trees, are once again provided with water from below as is appropriate to their nature. And we need rely less and less, and eventually not at all, upon artificial irrigation from above.

THE HELPING FORCES

In the construction of Water Retention Landscapes there is an abundance of helping forces from the kingdom of nature that stand by our side. Knowing this, the new engineers get in contact with these forces and ask them for their co-operation. There are millions

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upon millions of micro-organisms that immediately start their work the moment they notice that there is water even after the rainy season. They are our best co-workers. Most of them live invisibly in the earth. These beings sense that a sustainable healing process has been initiated here from which everything benefits. For a long time we might not see their effectiveness but we may know that they exist and quickly start their work. Eike Braunroth, an expert in the area of co-operation with nature, impressively describes in his book Harmonie mit den Naturwesen ("Harmony with Nature-Beings") what happens when animals, previously considered as pests or vermin and fought against correspondingly, are finally recognised as co-operation partners. He writes about the example of slugs, aphids, voles, potato beetles and ticks:

"Their plentiful occurrence, their rampant reproduction, their unstoppable eating orgies in my garden, their resistance against my tricks opened my senses to a different consciousness of life... Today they all live an unimpeded existence. They showed me what nature is capable of: unconditional friendship."
In our ecological work in Tamera this aspect of co-operation is strongly incorporated. Birds, for example, are necessary co-workers for afforestation, because some seeds need to pass through a bird's stomach in order to germinate. Here lies a fascinating area of work and research.

There are also helping forces still quite unfamiliar to us. Through Dhyani Ywahoo, a Cherokee spiritual teacher, we learned that lightning is an important factor in the revitalisation of weakened soil if it is again moist enough. In her book Voices of Our Ancestors: Cherokee Teachings from the Wisdom Fire she writes:
"As those aquifers are depleted, the electrical energy of lightning has no place to be called to. The lightning activity is the pulse, just as the nervous system is the pulse that animates your body. So, as these aquifers are further depleted, there is less and less energy for growth, for life. There are also more subtle effects of the lightning."

Sepp Holzer has discovered that thunder is also a helping force for the growth of various species of edible mushrooms.

We see with these examples how much exciting research work still lies in front of us.
With the establishment of Water Retention Landscapes humankind re-enters the co-operation with the spirit of the Earth, and with the spirit of plants, animals and human beings that live or are meant to live in this space. In creating these systems it is not only about engineering but about the art of contact with the living and about the recognition that we humans are not the only beings living on this planet. Creation has been entrusted to us in order for us to perceive and care for it. This is the original role of humankind on Earth. Here the knowledge which in former times all indigenous people possessed is reawakened and transferred into modern life.

THE WATER RETENTION LANDSCAPE OF TAMERA

In Tamera we began in 2007 with the construction of the first water retention space. The proposal for it came from Sepp Holzer, who has supported us for a long time in the renaturalisation and healing of Tamera's land. Until then we thought we lived in a dry country. When he showed us the dimensions of the first planned water retention space the question

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arose of how long it would take for such a large hole to fill up with water. ‘Lake 1’, as it is known today, is located in the centre of our site. The idea of having to watch over a dusty, half-empty pool for years did not motivate us to take this first step towards the planned Water Retention Landscape. Then, to make things clear to ourselves, we had the idea of calculating the average annual amount of precipitation falling upon the catchment area of the retention space. In our minds we filled this water into containers, each with a capacity of one cubic metre, and placed them one after the other in a row that reached a length spanning the almost one thousand kilometres from Tamera to Barcelona. That was enough to launch us out of the system of scarcity thinking.

In the very same year we began with the construction. In the first winter the lake and the adjoining earth-body filled up a good two-thirds with water. After the second rainy season, which had below-average precipitation, only a few centimetres to the high-water level remained to be filled. In the third winter, so much rain fell that we could have filled several more retention spaces. Today, only four years after the construction began, it is as if there had never been anything other than a water retention space. Many people who visit Tamera for the first time cannot believe at first that it is anything other than a natural lake. On the terraces by the shore we have created an edible landscape and planted thousands of fruit trees and shrubs. Wild animals such as the otter have settled here. And the birds have returned: we now have 93 different species of birds in Tamera, some of which are very rare species found only in water-rich areas. Already within the first year a new seepage spring arose which since then has flowed continuously throughout the year.

The construction of Lake 1 was only the beginning. Since then we have created a number of further water retention spaces. In 2011 we want to start the construction of a water retention space with approximately three times the capacity of Lake 1. This will signify the breakthrough from a landscape with a lot of water to a Water Retention Landscape that will then be able to absorb the entire rainfall of an average winter. A number of additional springs will form and of course the water table will rise, or at least will fall no further. **A water retention landscape is fully realised when no more rainwater leaves the land but rather all water flowing away comes from springs.**

This next large water retention space will be located on the highest part of our land, so the water pressure will be high enough to irrigate of all of the land as long as this is still necessary, without having to supply additional energy for pumping. With the water from this highest-situated retention space the water level of the subsequent retention spaces will remain almost stable all year round.

Here in Tamera we want to demonstrate a model of how it could look everywhere in the Alentejo and basically everywhere in the world. Without water there is no life. Positively said: With water there is life. We are becoming ever more able to see and maintain the picture that is emerging in front of our eyes if we ask ourselves ‘how does it look if we live with water and not without water?’ How quickly we come to visions of paradise and how quickly we can step out of scarcity thinking on all levels! I would like to conclude with a quote from Viktor Schauberger. It comes from an essay he wrote in 1934, from the book Das Wesen des Wasser (“The Being of Water”):

“From water everything originates. Therefore, water is the universal natural resource of every culture or the foundation of every physical or mental development. The unveiling of the secret of water will put an end to all manner of speculation or calculation and their

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excesses, to which belong war, hatred, envy, intolerance and discord of every kind. The thorough investigation of water therefore truly signifies the end of all monopolies, the end of all domination and the beginning of a socialism arising from the development of individualism in its most perfect form. If we succeed in unveiling the secret of water, in understanding how water can emerge, then it will become possible to produce all qualities of water at any location, and then one will be able to make vast areas of desert fertile; then the sale value of food and also that of machine power will fall so low that it will no longer be worthwhile to speculate with it."

I ask everyone to perceive this vision. I ask everyone to see how the human being is meant to be, to see the true standing of the human, and the role the creation of models plays in this. A person who takes his human rights back into his own hands also takes a stand once again for the rights of water, as demanded by Evo Morales, and will enter into co-operation with nature and its beings. When we have again found the inner picture of reconnection with nature then we begin to understand the sentence "Water, energy and food are freely available for the whole of humankind!"

This is how life is meant to be.
Thank you for listening.

ABOUT THE AUTHOR:

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Born 1962 in Cologne, Germany.
Nature researcher, specialist in the construction of Water Retention Landscapes, permaculturist, dowser.
Since 2007, co-worker of the Peace Research Centre Tamera in Portugal, in close coopeation with Sepp Holzer. Today Bernd Mueller is director of the Ecology Department of Tamera and teacher of the Global Campus, an international training centre for peace workers.
In 1986 he abandoned his engineering studies in the traditional university system because he did not find the answers he sought. He started his own business, ran a health food store, worked in landscape gardening and later in tree care.
In 1989 he emigrated to Spain and managed an organic farm in the Sierra Nevada. There he found the necessary calmness to study natural processes through intense observation. He discovered a new, more sublte possibility of cooperation between man and nature.
Today he transfers the insights from this process of self-education into the practical development of ecological models for landscape healing and the restoration of the Earth.

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