Greening of Deserts

with multifunctional agroforestry
with water management
& without irrigation

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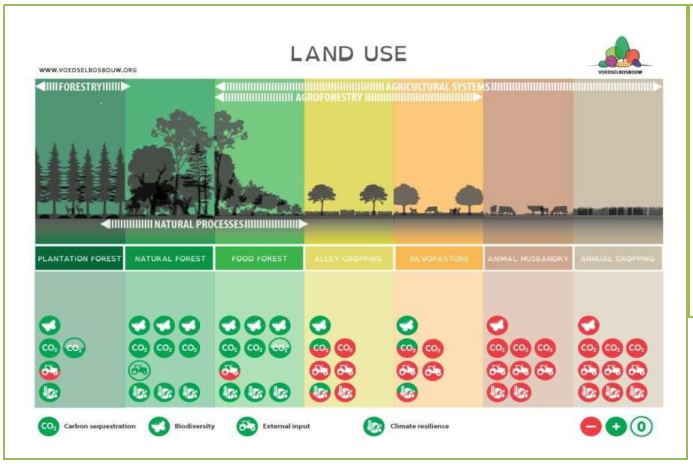

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Agriculture of the future:
Consists of - **4 Goals and Challenges**

1. Productivity
2. Stability – includes
3. post-fossil solution
4. in times of climate variability

(which "must" be solved together in order to be future proof, sustainable, viable for the future and - as nature teaches us as our supersystem - can also be solved relatively easily by closing cycles, synergies, etc.)

Edible, multi-diverse, multifunctional
(important to achieve goals 1. Productivity & 2. Stability together!- Short-, medium- and long-term stability includes,)
tree-based, horticultural agriculture
(important to achieve goals 3. post-fossil solution & 4. in times of climate variability, together!)

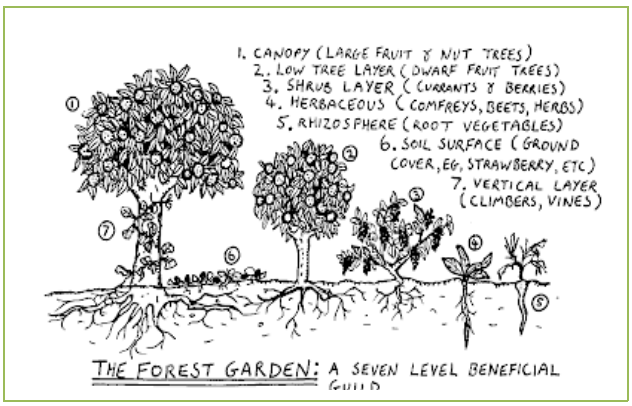
„**Multifunctional Agroforestry Systems** as **Contribution to a future-proof, viable, sustainable Agriculture** and the **Healing of Climate Damage“**

This is an agroecological solution:

Greening with

1. ecosystem service plants for
(1.1. collect atmospheric nitrogen, 1.2. water, 1.3. minerals & trace elements &
1.4. more (habitat for all kind of organisms, (microorganisms, bacteria, fungi, worms, insects, birds, etc.)
climate, water cycles (condensation and evaporation)
1. in the air, 2. between the plants in the air & 3. between the roods of the plants in the soil ,etc.)

2. edible plants as
(2.1. nut trees,
2.2. fruit trees,
2.3. shrubs (currants & berries),
2.4. herbaceous (beets & herbs),
2.5. rhizophere (root vegetables),
2.6. soil surface (edible ground cover),
2.7. vertical layer (climbers, vines),
2.8. mycelial, fungal layer
2.9. wetland, aquatic layer)



In the beginning, when very little moisture is retained in the microclimate, it is plants such as the particularly drought-resistant or the Canary Island pine that are much more efficient at managing the various forms of moisture (dew and water), condensing many times the amount of water on their surface than they need themselves and thus supplying other plants and living organisms of all kinds with moisture. Later, when - little by little - the humidity in the microclimate increases and stays longer, plants that need more and more moisture can be sown and planted without any problems.

If there is sufficient moisture between plants and plant roots - it is often the dew, caused by condensation during the night due to high temperature fluctuations, that provides the plants with sufficient moisture. Prevent moisture loss by planting pioneer trees around a not too large area.

With more moisture and thus - gradually - more vegetation, more dead organisms are produced, which in turn are first decomposed by soil organisms and then built up into humus. This growing humus brings and retains water, oxygen and nutrients to and in the soil - and provides further living space in the soil.

This knowledge is urgently needed for:

Farmers, especially local sheep and goat farmers, medicinal plant growers and collectors,
foresters, gardeners, permaculture experts & nature conservationists
and **all inhabitants of arid and semi-arid areas,** as well as any interested person - **scientists & practitioners**

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How do we get there? …

especially in deserts, semi-deserts and deserted, desolate, desertificated landscapes in all climate zones?

1. Start to plant a wide variety of plants, **1. ecosystem service plants** and **2. edible plants,** so that there are **synergies** between the different organisms in the ecosystem for **productivity** and **stability** of the ecosystem.

2. Use the available water through clever water management:

2. 1. Water in the air through condensation due to large day and night temperature fluctuations in deserts, semi-deserts - through dew! - **to nourish plants.**
Creating a microclimate by transplanting plants to counteract the loss of humidity in the air.

2. 2. Water that falls on the surface of the earth from the air onto the ground = rain
- to start vegetation of plants - even if it only falls in extremely small quantities and only every 3 years. and according to current scientific knowledge, **over 60% of the world's deserts are directly or indirectly man-made**. Stone deserts can be revived with **very little effort, without irrigation**. With **1.** approx. **30 cm large dams** (+/ -, depending on individual precipitation), **every 20 cm contour line**, 100% horizontal, subdivided, created with a simple spade (simple plough). Together with **2. targeted, diverse seeds & plantations, multifunctional, for people & ecosystem together** new vegetation is created by infiltrating water and dew, and later also increased precipitation. (The colonization of sandy deserts works somewhat differently, according to the same principles and mechanisms). Here, too, it is always a matter of activating natural functioning system cycles. Multifunctional agroforestry systems bring **hope and perspectives for future generations** and thus, **counteract the rural exodus**.

2. 3. Water that falls on the surface of the earth from the air onto the roofs of houses or tents, photovoltaic systems, roads and squares, etc. - = collected rain on and for human infrastructure **this water - after a coarse water filter - is suitable for washing people (showers), clothes, cleaning, dishwashing, etc.**

2. 4. Water in the soil that enable the growth of plants and all kinds of other living organisms that live together with plants in the soil and have synergies. Other creatures that need water for their metabolism, for their nutrition and maintenance and to provide or support the nutrition and conservation of plants.

Our simple solution ideas for greening

At several locations **worldwide**, **starting** with **UNCCD Desertification** (COP17), **Ulaanbaatar**, Mongolia, 17-28 August 2026 and **UNCBD Biodiversity** (COP17), **Yerevan**, Armenia, 18-30 October 2026, and **UNFCCC Climate Change** (COP31), **Antalya**, Türkiye, November (9- 20, Bonn) 2026 - thematically grouped - **Teams of experts** (approximately 10-20 or more, everyone is welcome) from various countries and continents **will demonstrate** the different land reclamation and revegetation methods they have developed and use.

3 strips of land will be located in different countries and continents to raise global awareness of these methods.

1. Ca. 20 ha of individual plots for expert teams (1 ha x approx. 20 or more) to see, learn and experience each method.

2. Ca. 20 ha a combined methods plot and **synergies** of individual methods, so that everyone can see, learn and experience the benefits of each method - and the possible synergies by combining the methods **and the principles and mechanisms behind them.**

3. Ca. 5 ha for planting activities with prominent figures from **different countries** and **continents**.

Anyone can **now** access and **utilize** this knowledge and experience, **starting anywhere**, even without scientific support.

This is a unique opportunity for desert countries to present their knowledge and experience (also media-effective).

Important:

1. Sufficient water must be available for **seeds to germinate** (e.g. through condensation on stones, other vegetation, some rain)

2. **Involve the local population**, especially **local livestock farmers**, **on an equal footing**, **sharing local knowledge** and **explaining the purpose**, **benefits**, and alternatives.

Step 2.1. The local team develops the **local solution in detail**, utilizing local knowledge and working with the local population, particularly local livestock farmers (usually goats, sheep and camels), as equal partners.

Step 2.2. Convince the local population of the **sense, usefulness** and **benefits for themselves** and **their animals**, and **their short-, medium-, and long-term prospects** - for example, by **planting** or **sowing additional medicinal plants** valued locally by desert dwellers - and **offering them an incentive** or financial compensation **for their economic use**.

Step 2.3. The goal is to **convince the local population** that it is **necessary** and **essential for them** to only temporarily expose the area to be greened to grazing so that the plants already present on the area and the additional crops introduced can grow to a certain minimum size (and are not immediately eaten and the microclimate and vegetation immediately destroyed again).

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