REVERSE THE CONTINENTS

A UTOPIA WITHIN REACH

BY MARTIN SPANG OLSEN

MSO PRODUCTION

RICH AND POOR ALONGSIDE

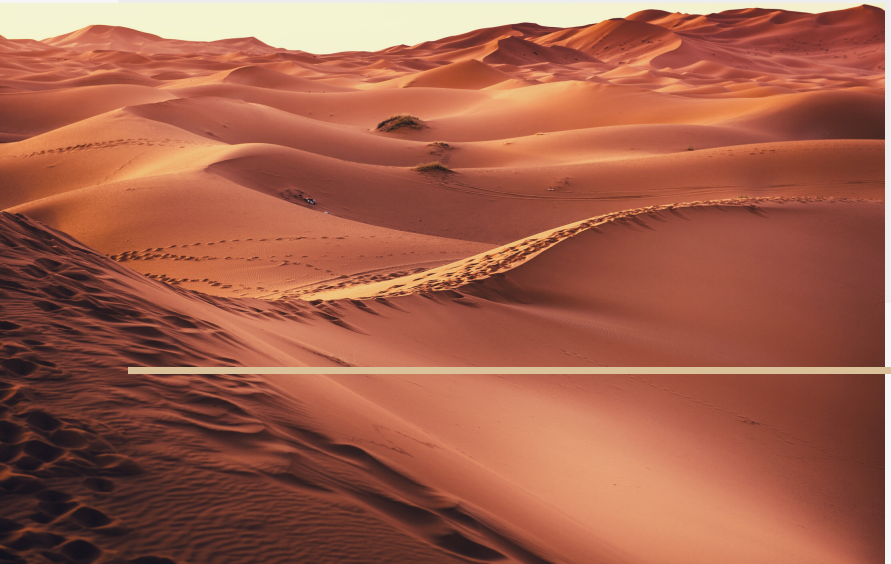
The increasing difference in wealth between Europe and Africa constitutes one of the greatest challenges of the future. If Africa is not able to create more balanced social and financial conditions, poverty, illnesses, starvation, and emigration will continue to increase in the region, while farmland and wildlife will continue its rapid deterioration.

SAHARA

One of Africa's biggest problems for years has been the growth of the Sahara Desert. Just a few years ago the region of Sahel and Lake Chad, just south of Sahara, were green and fertile. As the area has dried out, attempts to pump up water from the ground made the groundwater level sink by 20% and increased salinization in the water.

A GREEN PAST

Contrary to common belief, Sahara was not always dry. A few thousand years ago the desert was a green and fertile swamp, and due to global warming, it now has good chances of being fertile again. In fact, satellite photos show a small increase of grassland and forest vegetation in southern Mauritania, North-western Niger, central Chad, as well as in Sudan and parts of Eritrea. However, increased pressure on the farmland in these areas leaves few chances for general increase in vegetation.



THE SITUATION AGGRAVATES

Due to the draining and the consequential deterioration of farmland, starvation, illnesses, Poverty, and emigration has been increasing in the regions surrounding Sahara. Apart from the obvious problems this unbalance causes to human beings, the desertification represents an ecological disaster. Flora and fauna have undergone tremendous devastation, and wildlife is by many standards now almost non-existent in North Africa.

Unfortunately, the imbalance represents a vicious circle: When the farmland dries out and the soil disappears, grazing (first by cows, then by goats) replaces growing, and soon the land will be ever drier and less suited for the raising of crops. By then, of course, all the above-mentioned problems will have increased even more. Any attempt to stop the vicious circle will fall short, unless a sustainable plan for the entire desertification problem is involved.

AFRICA - A HISTORICAL PARADOX

During 18th and 19th Century, as European colonial empires began to show Africa serious attention, everybody agreed that the continent had to be the most desirable part of the world: Apart from its abundance of slaves, hard-wood, ivory, oil, diamonds, and costly minerals, the country was extremely prosperous and fertile. Even today, in many areas it is possible to harvest four times a year. With a ruler, and with no consideration for the local nomadic culture, Africa was split between its colonial masters, who in the following centuries devastated the continent beyond recognition. Today, the cornucopia of the past is a shadow of itself, and challenges such as incompetent leadership in many African states, foreign exploration, brain-drain, EU-subsidized agriculture, and toll boundaries puts Africa on its heels. Respectively, migration from Africa has become one of the biggest challenges to Europe's welfare systems.

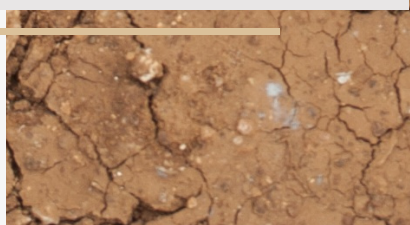
"even today it is possible to harvest four times a year"

THE AREA SURROUDING SAHARA IS LEFT WITH A SERIES OF ALMOST UNSOLVEABLE PROBLEMS:

- Destruction of the environment
- Deterioration of farmland
- Sand drift
- Desertification
- Poor drinking water quality
- Lack of energy sources
- Lack of natural resources
- Overpopulation
- Starvation
- Illnesses

LEADING TO:

- Lack of resources and know-how to stabilize the situation
- Decreased ability to administer and cultivate the local wildlife
- Environmental catastrophes
- Increase in violence
- Civil unrest and wars
- Emigration
- Disparity
- Apathy



CAN ALL THIS BE CURED IN ONE GO?

Yes, for the most part - but only if we include both Europe and Africa in the process. The concept being that the two continents switch in function: Europe shall be the exotic holiday country with widespread nature parks, megafauna and tourism, and Africa shall be the agriculture hotspot par excellence. **Sahara as The Larder of The World.**

AGRICULTURE IN PRESENT EUROPE

Presently, the proud farmland of Europe is largely occupied with growing feed for pigs, the preferred food of the West. Environmentally, however, the raising of pigs is highly dubious, and the industry's energy consumption is profligate when compared to grain and vegetables production. Like the African nature is worn down, so is the European in many respects. Fertilizers, pesticides, herbicides, slurry, monoculture, loss of topsoil etc. has made its perceptible marks on the biosphere. Unfortunately, no sustainable alternative to the present situation has yet emerged. **Until now, that is….**

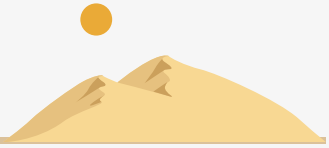
A SCARY EXAMPLE

Denmark, a country of some 6 million people, is considered one of EU's more wholesome economies. It has been an agriculture-based nation since way past, so let's look at some numbers:

- Since 2000 the Danish agriculture has lost circa 1.50 billion Euro.
- The farming industry consumes 30% of the country's drinking water, even though the industry is based on less than 1% of the population.
- 90% of the farmland (plus 1,5 million hectares abroad) is used for growing feed for pigs.
- 9 million pigs die yearly due to stress and are consequently destructed.
- The agriculture is causing 20% of the country's greenhouse effect.
- Biogas produced by the agriculture industry forms only 0,5% of the country's energy supply.
- Experts estimate that a minimum of 66% reduction in the agriculture industry will be necessary if the country shall meet its international CO2 obligations.

HM...

Not even a rich country like Denmark possesses sustainable agriculture. It seems the Danes would attain a considerable financial improvement by abolishing the entire industry, at least in part. The remaining question of course being: How and where is the food then going to be produced? **The answer is simple: In Africa – more specifically in Sahara.**

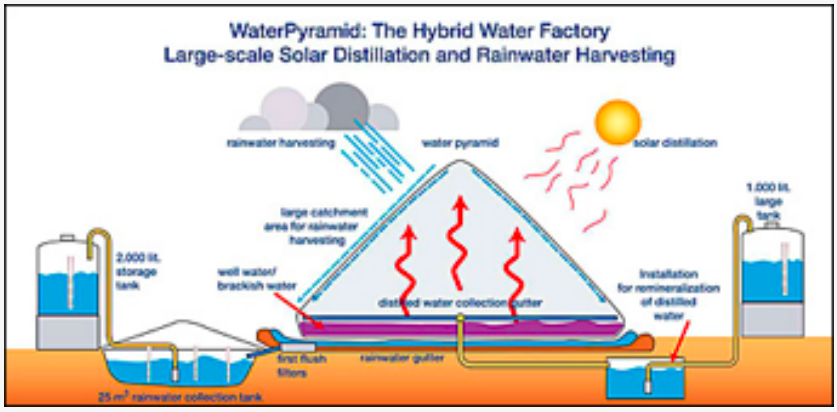


SAHARA - THE WORLD'S LARDER

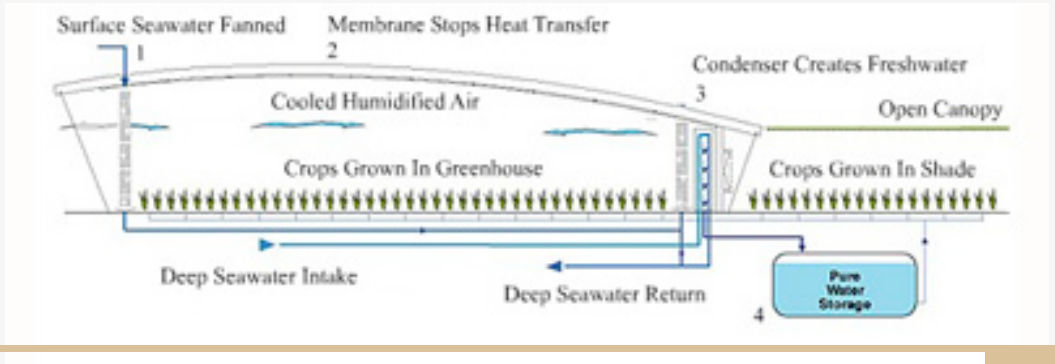
Practically, reclamation of Sahara can be done in several steps:

1 A research area close to the coast is hired from the local government.

2 Next to the ocean non-technological desalinization units based on evaporation are erected.



3 Covered greenhouses are adapted with seawater cooling systems. The cooling method facilitates a temperature suited for crops used to a Northern Hemisphere, as well as the system produces fresh water, which can be used for watering (see example below).



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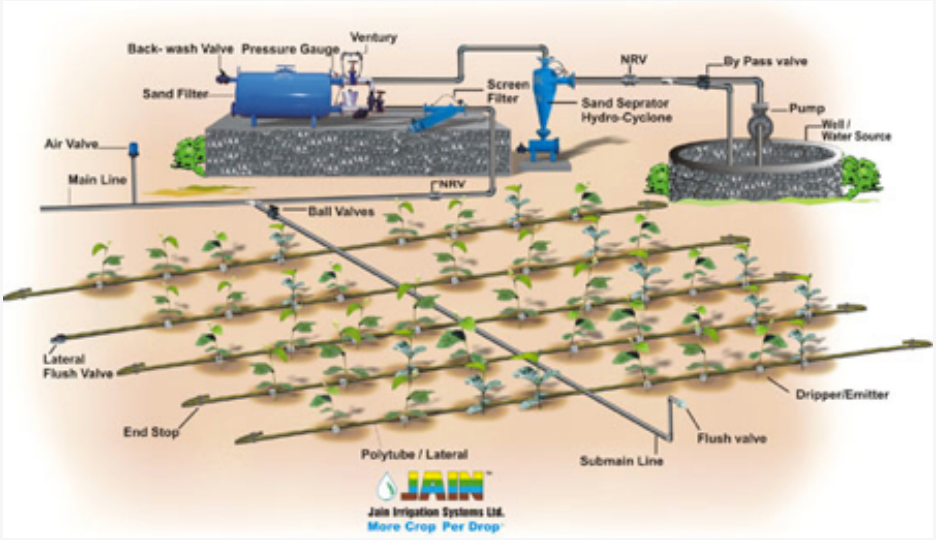
Wells driven by wind and solar energy may supplement with the water-retrenching drop irrigation systems.

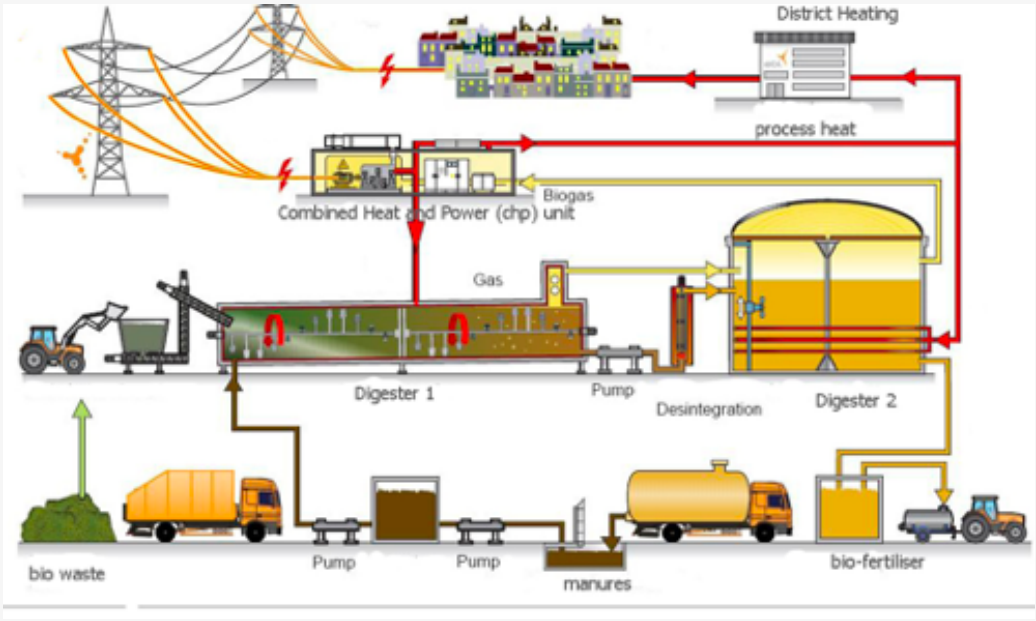


5

Since a seawater-cooled greenhouse most often produces more fresh water than it needs, the surrounding area is gradually planted with trees and other crops, as well. The Sahara soil is usually fertile enough for many plants to grow by just adding water.

6

Biogas plants driven by organic waste are erected in all adjacent cities. This can be done as part of a general sewage program. With the relevant technology, any organic waste can form part of a biogas process, but it most likely will demand a subsequent cleansing of the by-product, namely soil, which in this case is the main objective (se fig. below).



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The soil from the biogas plants is used for topsoil in the greenhouses. Over time, the soil contributes to a parallel, fenced-in plantation of Elephant-grass (or other products suitable for biogas production), thus creating a parallel compost-to-energy production.

8

The biogas is sold inexpensively (or given away) to the citizens as part of the aid programme.

9

This distinctly grain and vegetable production can be supplemented by traditional free-range meat production, or circular units as the traditional Chinese, hydroponic cycle. In this, water plants and carps are raised in a water tank. Pigs, sheep (or other animals) eat the plants. The fish, whose excrements in turn are consumed by the plants, eat the excrements of the animals. All three live from each other, but each can be “harvested”, as well, using only the energy from the sun - our eternally loyal energy source.

BUT THAT'S ONLY HALF THE PLAN..

EUROPEAN AGRICULTURE IN AFRICA

Few people seem to disagree the relevance of desert plantation. The remaining question being: What's in it for the investors? Hence the idea that part of EU's agriculture subsidies is relocated under privileged European farmer a 'start-up-kit' in Sahara. This way substantial ROI for all parties is possible.

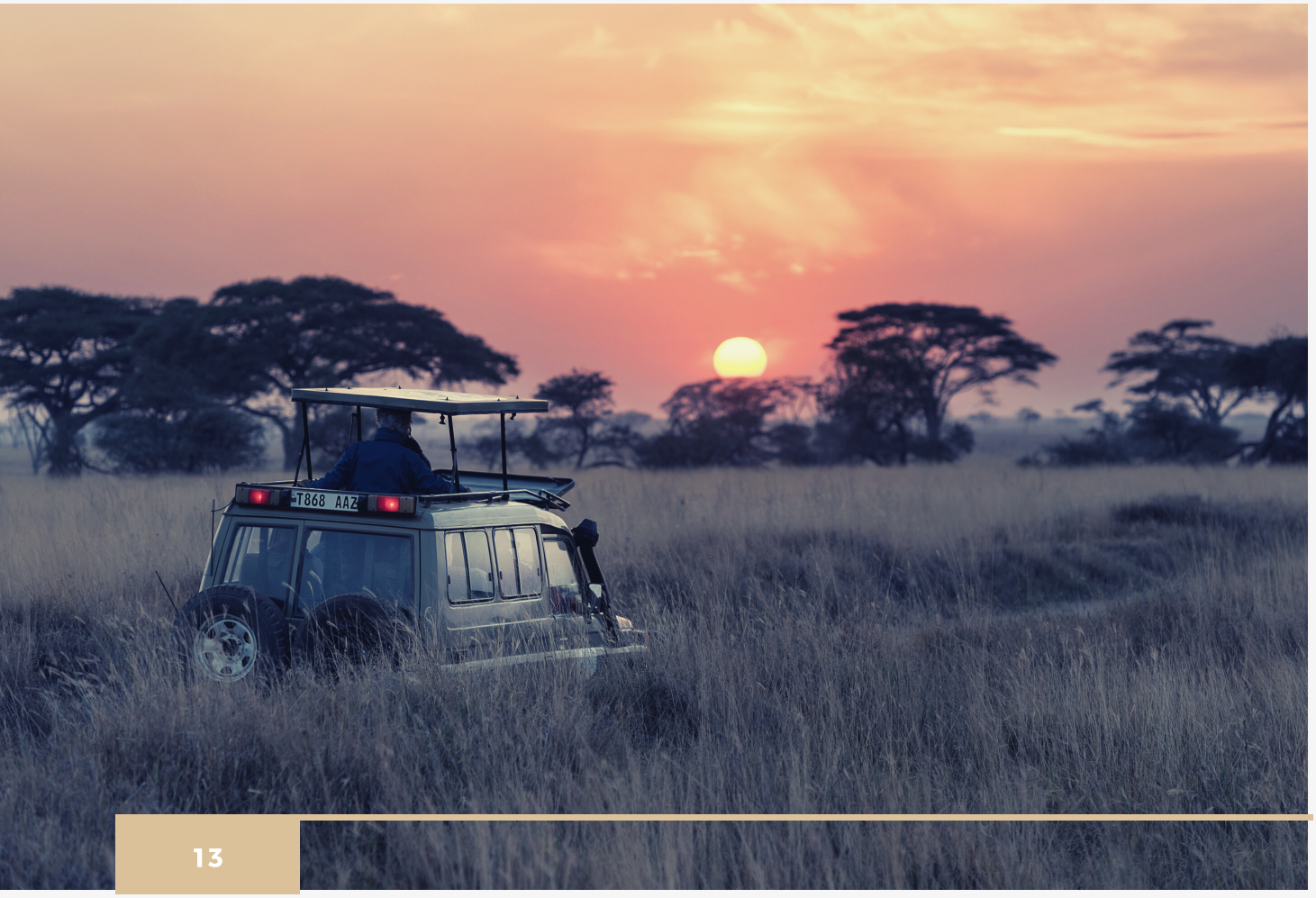
EUROPE AS THE WORLD'S NATURE PRESERVATION

Unprofitable European farmland (largely kept in production due to the subsidies it elicits) could be bought by the state or private investors and rented out for extensive farming that doesn't harm the environment. This process should be initiated in areas close to streams and in coastal areas thus creating adequate buffer zones for the washing-out of chemical agents and organic nutrients into the environment.

By and by, very large areas would be released for nature parks in Europe as the agricultural production in Africa increases. Payment for the rental of the desert farming areas might even, to a certain extent, replace the hither to largely ineffectual aid given to the same areas. Care should be taken to address local farming traditions, spirituality, architecture and so forth, in order to avoid any colonial backdrop. Crops should be produced in a co-operation between North and South, using local workforce, and residents should be able to buy the crops according to local price levels.

SAFARI IN THE NORTH

The eventually enormous European nature parks should be arranged with designated areas for resident, but extinct, wildlife (such as wolves, bear, bison, moose, etc. - or even ancient animals like aurochs, mammoth, sabre-toothed tiger, giant red deer, cave bear, etc.). Other areas should be designated endangered species from all over the world. As late as two thousand years ago, one could still find lions and tigers in Europe. Even today, many big felines thrive in cool climate. Ultimately, if desired, endangered species, like elephants, rhinos, gorillas, etc., could serve as an object of sustainable safari hunting. Subsequently, leisure, eco-tourism, eco-research, safaris, hunting, and so forth, would prove to be profitable for the park owners (be it private or public). The unwound farmland would make money again.



UTOPIA ON ITS WAY

First and foremost, however, the plan is to create a better world for everyone. Not only would migration from the South to the North stop (in fact, it would probably reverse after a while), countless other problems would more or less solve themselves as the plan marches along. Indiscriminately, this would mean a solution to: Drought, starvation, poverty, ailment, malnutrition, erosion, sand drift, lowering of aquifers, desertification, loss of biodiversity, extinction of species, CO2 problems, over-cultivation, social unrest, civil wars - to name but a few.

CAN WE AFFORD NOT TO?

LINKS

- Sahara desert frontiers turn green (BBC)
http://news.bbc.co.uk/2/hi/science/nature/2267652.stm

- Seawater used for cooling green houses
https://en.wikipedia.org/wiki/Seawater_greenhouse

- Reclamation of desert soil
https://en.wikipedia.org/wiki/Desert_greening

- Organic fertilizers produced at biogas units
https://energypedia.info/wiki/Organic_Fertilizer_from_Biogas_Plants

- Israel and Morocco co-operates in desert farming
https://pdfs.semanticscholar.org/f0df/ad6eb2b9167fa819aadf657866a75f758a17.pdf

- Desert fruit production
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- Desert farming in general
https://en.wikipedia.org/wiki/Desert_farming

- Desert farming and soil quality
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3166316/

- One in Four Mammals at Risk of Extinction
https://www.reuters.com/article/us-species/one-in-four-mammals-risks-extinction-idUSTRE4942RX20081006

- Reintroducing extinct animals into nature
https://en.wikipedia.org/wiki/De-extinction

- Nature parks in Europe – focus on large herbivores
https://ec.europa.eu/environment/nature/conservation/species/carnivores/case_studies.htm

- The preservation of natural biotic communities
https://www.jstor.org/stable/1932891?seq=1 bit of body text