

DESERTIFICATION

By Raymond White

How wonderful are all those free-range animals of Africa — those elephants and rhinos, and lions and giraffes and zebras and so forth. And how mean we humans are to lock some of them up in our zoos.

Now, fact check: By the year 3000, all those free range animals we cherish and try so hard to protect will be dead. And why is that? Not because of hunting or poaching but because of desertification. The sands of the Sahara are moving south at an astonishing speed, about six miles per year submerging whole villages in silt, and wiping out irrigable farm land as well as the natural habitats of those marvelous free range animals. Over the next 10 years, approximately 50 million people will be displaced and the loss of human life is incalculable — unless we find a way to solve this ecological disaster.

Desertification is not just a problem of Africa, it's also a problem of North America, and China (the Gobi desert), and Australia (almost all of it) and other places. Half the topsoil on our planet has been lost over the last 150 years. That's terrifying.

But in Africa, the problem is most dangerous and most immediate.

[1] AFRICA

How did it happen? I mean, how did it happen *in Africa*?

In the time of the Pharaohs, Egypt was not a desert, it was lush forest. In the time of Imperial Rome, it was the breadbasket of their empire. So, why is it a dead desert now? One theory (the prevailing theory and it's probably right) is nomadic goat herding.

Goats eat differently than cows. Cows, when they eat a plant, eat just the leaves and leave the roots. Goats, and sheep, however, when they eat a plant, they eat the leaves then dig down and eat the roots as well leaving nothing to re-germinate.

I saw this quite visibly a few decades ago when I visited the Wild Animal Park near San Diego, California. I, along with my wife and kids, took the tram ride and enjoyed all the animals in the central common area, animals that played nicely together. And, as well, we enjoyed the separate paddocks along the way of animals that didn't play so nicely.

In addition to the animals, there was grass and weeds everywhere. Everywhere, that is, except in the goat paddock. In there, there was nothing but, well, goats — and rocks, and dirt, but not a single living plant. And that is why, if you need to clear some land of weeds, the best way is to rent a goat herd for a week. The weeds have no chance against a herd of goats and you don't need weed-whackers. Goats will lay the land bare and it will stay bare until you plant it.

Now, couple that reality with the idea that since goats and sheep sterilize the land, their herders, therefore, need to keep traveling to keep their flocks fed. That moving about, then, is your recipe for wide-spread ecological disaster.

Now, I have another theory. Maybe we destroyed the forests of Egypt to build the pyramids. After all, Egypt was the birth of civilization, maybe civilization came with a price, a high price. It's one thing to carve a granite block from a quarry, but it's quite another to move that block to a building site. That takes wood, lots of wood, both for wheels for overland transport and also for barges for river transport. And maybe it took *so* much wood that the deforestation actually changed the weather pattern, which then killed the grass and began an

irreversible cycle of drought — irreversible, that is, to ancient man, but not necessarily irreversible to us modern, scientific man.

One thing is for sure: there is no going back. To try to return to the “good ol’ days,” to try to live as primitive man lived, would doom the planet absolutely. To restore Africa (and also Arabia) to its former fertile state, we need science and lots of it, and water, fresh water, and lots of it, and drought resistant vegetation, principally, grass.

Where will the water come from? Well, the oceans of course: the Atlantic Ocean, and the Red Sea, and the Mediterranean Sea — and from hundreds of desalination plants ringing the continent, and from pipelines bringing water to the interior. There might even be a use for Antarctic icebergs which come already desalinated if we can move them far enough, and fast enough, and cheaply enough.

Where will the energy come from? Solar energy, of course — it is, after all, a massive desert. And wind, and ocean waves, and, when necessary, oil fuel — it is, after all, OPEC, the oil center of the world.

Where will the money come from? I just said, this is OPEC, oil and cash rich. What better use could they make of their money than to restore North Africa and Arabia. And who would better benefit from restoring Arab lands than the Arabs? All we have to do is to persuade them that this massive financial investment is in their best interest.

[2] NORTH AMERICA

But the United States has its own desertification problem. In addition to the long dry south west (Arizona, New Mexico), the massive grasslands and farmlands of the Midwest are turning to sand at an alarming rate.

How did it happen? An easy answer, which is probably wrong, is overgrazing. A harder answer, which is probably right, is undergrazing.

Here’s what happened —

Following the American Civil War, Americans found themselves at war with the plains Indians — in the Dakotas with the Sioux, in Wyoming and Kansas with the Kiowa, and all the way south into Oklahoma and Texas with the Cheyenne and Comanche. Meanwhile, in the Whitehouse, President Grant — formerly General Grant, our most capable field officer during the Civil War, who basically won the Civil War — wanted to put a quick end to these hostilities with minimal lost off life. And he came up with a plan.

Grant understood the importance of logistics in warfare, that you cannot field an army for long without feeding the army. And the single reason the Indians were so effective in their resistance was because they had an inexhaustible source of food supply *which moved* — namely, the great buffalo herds.

Grant surmised, then, that victory against the Indians would be most economically achieved by destroying that food supply. And so he ordered, quite intentionally, the massacre of the great herds. And that is exactly happened. Free range buffalo were shot by the millions, not for their meat, but simply to deprive the Indians.

Well, Grant’s military plan worked. The hostile Indian nations were brought to their knees and sued for peace. It was peace or starve and they wisely choose peace.

(Side note: The massacre not only left the Indians wanting for meat, it also left New Yorkers and the east coast wanting for meat. Then the Texans realized they had a ready source of

meat-on-the-hoof: free range Texas Longhorn Cattle which were everywhere. But there were no railroad tracks from New York to Texas, the tracks ran to Kansas. And so began the “cowboy” business of trailing herds of Texas cattle up the now famous Chisholm Trail to the stockyards of Kansas to board cattle cars headed to the slaughter houses of New York. So now you know how cowboys came to be. But that was, as I said, a side note. Now back to the real story.)

And so peace was achieved. Now, the bad news. The slaughter of the buffalo herds had an unintended consequence that President Grant could not have possibly foreseen. Buffalo did four things for the land: (1) They ate grass and left the roots which stimulated growth. (2) They broke up the hard caked soil with their hooves as they ran across the plains thus providing irrigation holes for water seepage and for seeds to germinate. (3) They pooped a lot thus fertilizing everywhere. And (4) they moved about creating a rotation that benefited the land greatly. When the buffalo herds died, the land began to die too, which is likely *the* cause of the Oklahoma dust bowl in the 1930s, more so than over-farming.

What is the solution? Restore the free-range buffalo herds, of course. That should be done. But in lieu of that, there is a Plan B, which is —

Ranchers now understand all this, thanks to Allan Savory, a rancher in Zimbabwe, Africa. Of course buffalo would be better, but without buffalo, cattle do the job nearly as well *if* they are moved around a ranch to mimic the travels of buffalo herds. This is called Holistic Management. Ranchers have noticed that when cattle are penned up, grassland turns to sandy desert. But when cattle roam free and are led to affected areas, the desertification disappears and the land becomes fertile again.

This strategy is being applied to 40 million acres around the world with good results. In 2010, Savory won Buckminster Fuller Prize for his “strategy that has significant potential to solve humanity’s most pressing problem.”

For more information about Holistic Management, visit —

<http://www.csmonitor.com/Environment/2011/1024/Saving-US-grasslands-a-bid-to-turn-back-the-clock-on-desertification>

But it still stands that, if possible, restoring the buffalo herds would be even better. So, also visit —

<http://www.washingtonpost.com/wp-srv/style/longterm/books/chap1/bringbac.htm>