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By Brian Griffith

In Libya recently, Muammar Gaddafi informed the ministers of 50 European and African nations that cross-border migration is “inevitable”. “God”, he said, “commands all human beings to migrate on Earth to seek a living, which is their right.” For Europe, trying to restrict the tide of migrants from Africa would be “like rowing against the stream.” (1)

This reminds me of similar concerns in the Americas, where the United States is building a wall along its border with Mexico. It is not only people, however, who are crossing this border without official sanction. For at least a century desert trees and bushes have been spreading northward into the U.S. Southwest. The authors of *The Changing Mile Revisited* capture the picture in Arizona clearly. By comparing photos of the same places taken decades apart, these botanists track a dramatic shift in plant species over time.(2) As the cool-weather plants retreat up the mountain slopes or off to the north, the desert plants move in like a tide from Mexico. It’s just one of the faces of global warming, along with advancing deserts and migrations of more or less desperate people. It is a global theme with a deep history.

Back in North Africa, the spreading deserts are a major cause of migration off the land. As a BBC children’s program recently explained, “In Mali, the Sahara Desert is steadily growing, and nomadic tribes are being forced to settle near water as climate change and farming techniques turn once fertile areas to dust.”(3) The environmental refugees are moving to Africa’s mega-cities, or to greener fields in the West. And as the land’s capacity to support life shrinks, people are fighting over what remains in Darfur, Chad, Nigeria, or Somalia.

I experienced this shifting relationship between humans and the Earth while living in rural India in the 1980s. Each year the tree population declined, and it got harder to find firewood. The dry season came a bit earlier and the wells dried up sooner. Some villagers said the water table was falling at a foot or two per year. The villagers worked like miners with digging spikes to deepen their wells, chasing the water downward. When several wells in our village struck bedrock, the people nearby needed permission to use other people’s wells. And due to various issues between families or castes, plus concern that the supply was not enough for all, this permission was sometimes denied. I wondered how bad this could get. As a visitor from the West I could leave at any time. But still the prospect of having no water touched a level of fear I had never known. For those with no other home, the psychological impact was perhaps indescribable.

When we Western urbanites talk about environmental problems, we tend to deal in predictions about the future. And doubters can easily dismiss forecasts as mere speculation. But actual experience from the past is more difficult to dismiss. The

archaeological record reveals that vast regions of North Africa, the Middle East and Inner Asia used to be far greener, supporting substantial populations of hunters, gathers, and gardeners. Then, in various periods over the past 7,000 years, the people of these regions suffered what Jared Diamond calls an environmental collapse, though probably in very slow motion. To this day the same slow wave of environmental catastrophes is spreading further into Africa, Asia, and to a lesser extent the Americas. We are learning how we have helped cause this decline, and how it has affected human history. The consequences for our economic and political life, our social traditions, even our religious values, have been enormous.

The Social Impact of Desertification

In the string of deserts now stretching almost unbroken from Mauritania to Manchuria, each region's biological and cultural diversity has been diminished in a different way. Each community of people has adjusted to the wasteland in its own style. But for all local differences between situations, desert history holds certain common themes. The increasing scarcity of food and water has changed the conditions of life in similar ways across the arid belt. In coping with those conditions, certain cultural patterns emerged in the ancient Middle East and seemed to spread with the desert itself. At the risk of over-generalizing, here are four of these cultural patterns:

1. In the non-productive lands, women were commonly viewed as the non-productive sex.

In the pre-desert environments of North Africa or West Asia, women were very often the primary breadwinners. Their gardens, field gleanings, groves of trees and barnyard animals probably supplied most of their peoples' food. Where the land was relatively productive, women managed all these kinds of work while mothering their children. But where the land turned to desert, such household production became more difficult, less fruitful, and therefore less respected. Women's gardens were blighted by drought. The wild plants they gathered in nearby fields grew ever scarcer. Their household animals could no longer find enough grass near the yard. Care for domestic animals soon required ever-longer treks through the wilderness, searching for food. The more arid the grasslands grew, the more difficult it was for anyone to manage both the children and the animal herds at the same time.

Where the land grew barren, women's capacity to market their household products also gradually faded away. Since few places could sustain a community for long, most permanent settlements dispersed. Trade in the desert then became a long-distance operation. Later the caravan trade evolved to carry supplies through a killer landscape, to and from distant trading centers at the desert's edge. This also was hard, dangerous, and wholly incompatible with caring for children.

A third important activity in the desert economy was raiding. Under periodically desperate conditions, raiding grew accepted as crucial for survival. But of all economic activities, this was the least compatible with mothering. It was men, not mothers, who could best take the risks of living by the sword.

So the hardship of desert conditions tended to force a growing separation between economic work and childcare. In such an impoverished and hostile landscape, women could be increasingly seen as dependents of male herdsmen, traders and warriors. The whole female dimension of humanity became subordinate to the male and was increasingly seen as inevitable in the eyes of both men and women.

2. Where the earth seemed hostile to humanity, culture grew hostile to the earth.

In the pre-desert nature religions of the ancient Middle East, the Lord of heaven was commonly seen as a male deity, whose sperm fell as rain on the female earth. The earth then brought forth life like a divine mother. But where the land grew barren and lifeless, people no longer experienced the Earth as a living goddess. In the Sahara or the Taklamakan, the once nurturing Mother Earth seemed to turn hostile. Frequent dust devils and sand storms appeared to be incarnations of malice, and the "forces of nature" seemed primarily forces of death. In that case, only the heavens above still seemed holy. In the common themes of desert mythology, this Earth was seen as a fallen world, an abode of evil, or a place of trial and exile for the human soul.
When migrants from the deserts of the Middle East came to other lands as conquerors, they brought their views of the world with them. Religions from the ancient Middle East spread north into Europe and south into Africa to become foundational to Western cultures as we now know them. Out of that heritage "western science and economics" came to presume that the planet is a dead resource, and only human needs matter. Later the worldview of "nature is enemy" played out in the European conquest of North America, as settlers sought to "tame the wilderness" by clearing away the trees, the native grasses and wild animals. Only recently did many Western people start to question the inherited assumption that human welfare requires a battle against nature.

3. In the lands of scarcity, the means of coercion were often more important than the means of production.

Experience in the desert seemed to prove there could not be enough for all. And where this was accepted as a fact of life, the main question was who would claim what was available. The issue of a pecking order emerged, and often took on central political importance. Of course scarcity was a problem in every part of the world as population grow, but it was most extreme in the desert. There, production of food and supplies was often so unpredictable it seemed beyond human control. What the rulers could control was the distribution of whatever little there was. Traditional desert rulers therefore relied less on fostering production than on gaining military control of supplies. Down to the present time autocratic rule is characteristic of the arid zone, and budgets for military security commonly dwarf investments for human development or environmental security. It is an inversion of priorities that creates a self-fulfilling prophecy of scarcity that now threatens our very survival.

4. Where the countryside no longer supported its people, waves of migrants moved toward greener lands

As desiccation spread over the past 7,000 years, wave after wave of environmental migrants moved toward the greener lands of Europe, tropical Africa, India, and China. Sometimes these migrants came as beggars, as when the starving Hebrews went down into Egypt. Other migrants came as invaders or conquerors. According to Marija Gimbutas and Riane Eisler, the basically peaceful farming cultures of Old Europe were overwhelmed by nomadic tribes, who imposed a social order of "force-backed ranking" under military strongmen. A similar series of "dominator" invasions repeatedly overran every region bordering the arid zone from China, to India, to Eastern Europe and Africa. In *The Chalice & The Blade*, Eisler says these various conquerors generally came from "the less desirable fringe areas of our globe".(4) Those "fringes" were Inner Asia, Arabia, and North Africa—the regions that were then turning to deserts.
In most history books, these invaders from the harsh lands are described either as superior conquerors or as scourges of the earth, depending on the writer's point of view. The ancient Chinese and Romans both looked on the steppe or desert people as subhuman barbarians. But many modern Europeans, Indians or Iranians, romanticize "the Aryans" from Inner Asia as the bringers of all "higher" civilization. The kinds of civilization these invaders brought were generally what Eisler calls "dominator culture", as opposed to traditions of partnership. And to this day our loyalties are divided between such traditions. Probably most people in the world are mixed descendants of the old desert migrants and the village gardeners they often conquered. A certain clash of cultures, values and environments lies imbedded in our minds.

Implications for the Future

Of course people are far more than a product of their environments. We cannot strictly predict that the above described patterns will appear wherever environments collapse in the future. Technological change has continually shifted the ways people deal with environmental decline. Still the problems of desiccation are massive, and their effects may be very persistent. During the closing years of WWII in Germany, Adolph Metternich wrote a manuscript later published as *The Deserts Threaten*. In this he described the course of environmental destruction in ancient times, how modern industry and plantation agriculture have accelerated the process, and how a terminal degradation of nature would be the ultimate threat to human survival. Building on Metternich's warning, plus that of more recent writers such as Vandana Shiva, James DeMeo, Jeremy Rifkin or Pierre Rabhi, we can summarize some of the likely social costs of desertification as follows:

1. The less biological wealth remains, the more people tend to compete for what is left.
2. The more desperate the competition for organic resources becomes, the more society is fragmented along ethnic, racial, and sexual lines.
3. The more impoverished the landscape grows, the more people are cast adrift as economic refugees.

4. Where large numbers of people cannot find adequate sustenance, either the rule of law breaks down, or the law of the strongest prevails.
5. Where the health of the environment declines, human health breaks down as well.
6. The more lifeless the environment becomes, the less people regard the Earth as a sacred source of abundance; the more they see this world as a hostile place, and the more commonly they hope for salvation in a different world.

Making Civilization Good for Nature

In resistance to these trends, a great diversity of people around the world are struggling for a different kind of future. Vandana Shiva, for example, speaks of a growing "Earth Democracy" for healing our land and our social divisions at the same time. David Korten describes the same trend as a "Great Turning" — from the past values of dominator empires, toward partnership in a real earth community. As the old story of a hostile Earth created self-fulfilling prophecies of scarcity and war, so a future story of Earth as our nurturing mother may call us to honor and restore the Earth's fecundity, creating a self-fulfilling prophecy of abundance. We see growing evidence of an Earth-honoring culture appearing among farmers, mothers, teachers, and engineers. These are all precursors of the urgently needed economic system that in her book T*he Real Wealth of Nations* Riane Eisler calls a "caring economics."

For farmers experimenting with no-till planting, the immediate goal is to reduce the speed of erosion. The real long-term goal is to grow back the soil richer than before. Tradition and science both demonstrate that ecological capital can increase over time. So for millions of years, over most of the earth, the soil has generally grown deeper and more fertile. It has only been during the past few thousand years that human activity began accelerating rates of erosion, sometimes exceeding soil formation by 300 percent.(5) If we choose, we can restore the long-term trend.

The positive leadership in this effort is, in almost every instance, coming from ordinary people rather than our centers of wealth and power. A disproportionate number of these leaders are village peasants, who are often the foremost workers for protecting and restoring the planet. On the arid zone's frontiers in China, Iran or Kenya, there are strings of villages standing before the desert. Their people are largely traditional farmers, skilled in the arts of nurturing plants and animals. In many cases they have to revive their soil from virtually lifeless sand and clay by mixing in layers of wild grass and compost. They try to protect their seedlings from harsh wind with shelters of earth, shrubs and trees. Where their efforts succeed, they slowly regenerate a microclimate favorable to life. Perhaps in the future their powers of nurturance will accomplish more. A future economy could arise that enriches nature as it grows. That, as Indian environmentalist Anil Agarwal said, would be the real green revolution. Such a civilization would be environmentally literate. It would have a vast working knowledge of how people and environments can help each other.

I want to end with a hopeful story about some village women I had the honor to meet in Kenya. "Mama" Benedetta Ndolo was the leader of a local women's association in the

Iveti hills of Machakos District. From the top of the hill in her village you could see for miles to the northwest, over the dusty countryside stretching towards Somalia. For a whole afternoon Mama Ndolo took me around her village, showing off her group's various accomplishments. We toured the hill slopes terraced by village work parties. We examined cement rainwater jars, paid for one at a time by funds from the women's group gardens. Then we looked at the many small nurseries of fruit tree seedlings. Ndolo's friends had begun planting tree nurseries of mango and other seedlings three years earlier.

Several years before that, at the UN Conference on Desertification in Nairobi, a number of African governments had proposed planting two great belts of forest, one across North Africa and the other south of the expanding Sahara. But after the conference most governments did little about it—perhaps due to pressures to cut spending in order to pay interest on World Bank loans. So the work of environmental restoration fell mainly to village women. They were the ones committed to saving the land beneath their feet. Nobody paid these women or reimbursed the costs of their efforts. The trees were their only pay. And now, at the time of my visit, the new forests of Mama Ndolo's village stood around 12 feet tall.

I stood on the hillside listening as the breeze sifted through a whole forest of young trees. It was a sound like whispering or the purring of cats, as if the trees had moods. As if they felt confident that Mama Ndolo's women are here, and this place will never become desert.

Brian Griffith is a Canadian writer who spent seven years in village development projects with the ICA in India and Kenya. This article is based on his book *The Gardens of Their Dreams: Desertification and Culture in World History* (Halifax, Nova Scotia: Fernwood Publishing, 2001).

1 BBC News, Nov. 23, 2006

2 *The Changing Mile Revisited: An Ecological Study of Vegetation Change With Time in the Lower Mile of an Arid and Semiarid Region,* by R.M. Turner, Robert H. Webb, Janice E. Bowers, and James Rodney Hastings, University of Arizona Press, 2003.

3 CBBC Newsround, Africa Week, January 14, 2003

4 Eisler Riane, *The Chalice & The Blade: Our History, Our Future,* Harper & Row, San Francisco, 1988, 43.

5 Eisenburg, Even, *The Ecology of Eden*, Random House of Canada, Toronto, 1998, 30.
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___ Suzuki, David, *The Sacred Balance: Rediscovering Our Place in Nature*, GreyStone Books, Douglas & McIntyre, Vancouver, Toronto, 1997, 100.