

Water and a Sustainable Quality of Life

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Introduction

The 2007 Regional Water Symposium asks a very important question—one that must be dealt with seriously and systemically, and not by merely looking at water as either an isolated or abstract concept.

I have an answer to the Symposium's question, "Sustainable Water, Unlimited Growth, Quality of Life – Can We Have It All?" This answer, based on natural systems principles, is an unequivocal and resounding *No!* But is this even the right question to be asking? I believe it can be better framed as, "How can quality of life inform the growth debate based on diminishing supplies of potable water?"

This paper answers the latter question. I present a hopeful and realistic alternative to the status quo approach to problems that has some distinct advantages: it is available now, it can be enacted, and it improves what people generally mean by 'quality of life.' The framework, mind set, or paradigm currently in use in our culture has some underlying assumptions that I believe are erroneous: we must regulate for a little less harm, growth is necessary for prosperity and well-being, we will find a technological savior, and we can ignore both biospheric and ecosystem carrying capacity. This status quo approach to our water problems is much like the current crop of proposed "solutions" to global warming and Peak Oil: Any solution is off the table if it doesn't, first and foremost, protect the economy. Profit is put above people and planet.

I find it fitting that the technical session on New Technologies has the topic "*New*" water supplies in which the word "New" is in quotation marks. The earth has been in balance for billions of years, and has always moved in the direction of increasing the diversity of life. The natural process used to create and sustain this balance is neither linear nor caged—and is therefore not congruent with the concept of "new" water supplies.

If we start mucking around even more than we already are with the Earth's natural balance to increase our fresh water supply (think desalinization plants and cloud seeding in particular), and use linear mathematical equations to prove the "correctness" of our theorems, what type of disastrous consequences might we next witness? We already have shifting global weather patterns due to catastrophic climate destabilization (known as global warming in the common parlance), massive oceanic deadzones from pollution and industrial agriculture runoff, and coastal wetland loss from river straightening, dikes for "flood" control, and unrestrained shoreline development—and we suffer the increased damage which then follows from natural events such as hurricanes and tsunamis.

Once we find ourselves in the position of needing to start tapping ancient aquifers which cannot be replenished on a time scale relevant to human civilization, we should realize

we've gone too far. Global fresh water supplies have been dwindling over the past fifty years, with some of the major reasons being overuse driven by excess demand, misuse and waste, and pollution. And now we can add melting glaciers and diminished winter snowpack to this list.

These are just some of the "benefits" of unlimited growth as it pertains to water supplies.

Sustainability

Our first need in answering either the symposium's question or my reframed version is to define what we mean by sustainability. Is there a process for becoming sustainable (implicit here is the acknowledgment that whatever it is we're doing now is *not* sustainable)? How can we use a definition of sustainability to measure quality of life?

Having a strong definition of sustainability provides a number of benefits. An accepted definition is important to ensure we're heading in the right direction, and to ensure we have a way to measure our success. An agreed upon definition can be used to evaluate decisions and policies for their adherence to the stated goal of a sustainable future, to see if proposals are merely (sometimes necessary) holding actions, or to see if they actually support the status quo that we're trying to implement an alternative to.

There are over a dozen definitions of sustainability in common use around the world today that are based on the root meaning of sustain: to preserve desirable qualities. When used in a context other than preserving a growth economy, these definitions share three core commonalities that can be distilled into a definition that will meet the requirements I laid out above. True sustainability is the antithesis of unlimited growth, and real-world consequences demonstrate that sustainable growth is an oxymoron.

Sustainability is: integrating our social and economic lives into the environment in ways that tend to enhance or maintain ecosystems rather than degrade or destroy them; a moral imperative to pass on our natural inheritance, not necessarily unchanged, but *undiminished* in its ability to meet the needs of future generations; finding, and staying within, the balance point amongst population, consumption, and waste assimilation where watersheds and bioregions maintain their ability to recharge and regenerate.

We must also dispel the myth that sustainability is an environmental movement. The Earth already knows how to be sustainable. Sustainability is a *community* movement. It is the human built environment, social institutions, right down to our very lifestyles and ethical framework that must deeply embody the concepts of sustainability into their fabric. This is the weave of the web of life that humans must learn. It can also be seen that a basic truism of sustainability is that one region can not become sustainable at the expense of another region. Not only must the Santa Cruz River start flowing again, but the Colorado River must once again reach the sea. This puts Central Arizona Project proponents in an awkward, indeed rather difficult, position.

There is an often overlooked aspect of the commons—the land, air, and water that provides the basic sustenance to support a healthy life and the human economy. This aspect requires taking the concept of commons to its logical conclusion: The earth is our common life support system. Quality of life is meaningless without equitable access to and distribution of these commons.

There can be no equity on a dead planet.

The commons has been appropriated by a few special interests on the assumption of some sort of perceived right of privilege. But this privilege is a self-proclaimed right based on hubris and arrogance, not on any known natural systems principle. These few interests are the drivers of the growth machine and its practice of what can only be described realistically as economic cannibalism, whose increasingly energy-intensive activities further consolidate power, control, and wealth—with wealth being measured exclusively in monetary and materialistic terms—and further degrade the commons.

This brings us deep within the quality of life issue.

Quality of Life and Growth

One thing we must become acutely aware of is that the Earth is not dying. She is being killed, not by accident, but through a ruthlessly calculated course of premeditated murder. The evidence for this heinous crime has been available to our political and business leaders for examination since at least the 1940s. But the goal of the global growth economy, protected by Western military might when economic restructuring fails, is still to extract the last drop of oil from its victim as quarterly profits reach historic record levels.

We must face the inconvenient truths that arise from answering the questions about the true full costs of extracting natural capital, of cleanup and other after effects, and how do these costs compare to not extracting or polluting in the first place? How much is enough? Is a growth economy that assumes the Earth can be an endless supply of resources while simultaneously acting as a bottomless receptacle for waste reconcilable with the concept of a sustainable future which must be based on ecological wisdom and social justice?

Social studies that have been carried out for decades conclude that what the majority of people really want is inherently sustainable. The things people long for are more time with family and friends, healthy and mutually supportive interpersonal and community relationships, more time enjoying nature, furthering their education, and a desire to have more quality leisure time. The irony of Western industrialized culture is that instead of having more leisure time, Americans spend approximately one billion working hours per year in order to buy more leisure wear.

Other studies show that people tend to say that if they just had twice as much money they'd be happy. Over the decades that these studies have been done, GNP and personal spending have both doubled, but people still reply that they need twice as much money. The question I'm left wondering is, if all the stuff that we have now isn't making us happy, will acquiring *more* of it make us happy—or even unhappier?

Another indicator of quality of life is our body burden. This is a measure of how many of the 210 chemicals commonly found in consumer products and industrial pollution have accumulated in the body. The average American has 91 of these industrial compounds, pollutants, and other chemicals in their body. These compounds are known to cause cancer, are toxic to the brain and nervous system, cause birth defects or abnormal development, interfere with the hormone system, and are toxic to the immune system. The adverse health effects of various combinations of these chemicals has never been studied. Some of these toxins, such as arsenic, mercury, PCBs (banned in the US in 1976), and dioxins, are found at levels elevated to the point that if the EPA regulated human bodies they would qualify as Superfund cleanup sites.

A separate pesticide study by the Centers for Disease Control and Prevention collected samples from 9,282 people nationwide. 100% of the people tested had pesticides in their blood and urine, with the average person carrying 13 of the 23 pesticides analyzed.

Prescription drug use provides another indicator of quality of life. Approximately 50% of the American population takes at least one prescription drug per day, with 20% taking three or more. If you add in the number of people who self-prescribe alcohol and other recreational drugs, you find that about three-quarters of the American population requires some type of chemical salve to either make it through their day or to be able to tolerate their day. It has also been reported that stress is responsible for over three-quarters of illnesses.

None of these indicators are signs of a healthy society. We have seriously confused standard of living with quality of life.

Growth occurs in nature until it reaches the point of maturation and then a steady state is maintained. Development, the process to improve or bring to a more advanced state, does still occur though. The growth economy, however, depends on bankers loaning more money than they have on deposit, on the assumption that tomorrow's growth will pay for today's debt. Growth in the industrial economy is entirely dependent on ready access to cheap and abundant fossil fuels (which are no longer either) to power our factories, move us around, grow our food, produce our plastic trinkets, and create our increasing number of medicines—which are increasingly necessary to overcome the ill-effects of all of the above.

The rejection of growth is not just a viable policy option, it is a survival strategy.

Relocalization: The Process for Sustainability

All of the above is not the forerunner for a call to return to the cave and start carrying our own water. The technologies and knowledge that have accumulated since the Enlightenment have delivered many benefits and are pregnant with more possibilities. But is there an antidote, an elixir, that can salve the myriad near fatal wounds on the body of the Earth and within our own souls.

Yes, I believe there is. There is a viable new framework, a positive alternative that systemically addresses the systemic roots of our global crises instead of applying band-aids to symptoms. This framework uses a process known as relocalization to create a sustainable culture and is thoroughly grounded on natural systems principles. This framework is dynamic, self-organizing, and is not based on power over, but on power with—the natural world, each other, and our own full, innate capabilities as an intimate part of the natural world. This alternative provides a method to relocalize our communities and reconnect our senses to their nurturing roots in the natural world.

Relocalization is the antithesis as well as the antidote to corporate globalization that can be applied to the human built environment and our social institutions while working to protect and preserve the environment. Relocalization includes the precepts that we must

- rebuild our local economies to be self-reliant, vibrant, resilient, and provide right livelihood (meaningful jobs providing a living wage);
- recapture and rekindle our sense of place and belonging;
- reclaim our sovereignty from the legal fictions who have usurped it; and
- restore our communities to places capable of providing safety, security, and fulfillment.

Relocalization entails

- a return to local autonomy within bioregional networks of interdependence;
- the production and distribution of renewable and non-toxic food, goods, services, and energy as close to the point of consumption as possible; and
- providing an alternative to orthodox growth economics through the creation of steady-state local living economies.

What provides more than hope that this process can actually be effective is that at its very core relocalization is based on the way that nature works—or, in other words, the way that humans would naturally work when free from manipulation, exploitation, and domination.

Healthy ecosystems can be looked to for providing the models and metaphors humans need for becoming sustainable and creating mutually supportive relationships. A sustainable ecosystem is one that is healthy, vibrant, and resilient. Whatever it was that created ecosystems with this ability created us as well. We embody these same abilities within the very core of our being. All living systems have the tendency to self-organize in the creation of mutually supportive relationships. This can be said to be the prime activity of life—the creation of a web of life that continuously works to create and support more life. Using the core Natural Systems Principles—mutual support and reciprocity, no waste,

no greed, and increasing diversity—to inform the process of relocalization, we can replace the dominator paradigm of force-based ranking hierarchies with a paradigm of partnership, and we can overcome our disconnection and separation from the web of life.

I'll provide one example of how using these principles and applying them to sustainable development from the perspective of protecting and preserving our precious water resources could be put in place.

We start with the understanding that decreasing water supplies must be addressed by considering the needs of future generations. The water table must start coming back up across the entire region. Water rationing, or at the very least charging for what it costs to pump it uphill to sprawling developments, may be necessary while community wide water harvesting is put into place. Developing a vibrant local living economy that is based on sustainable development instead of mindless growth can be nurtured by local investment in industries such as a factory that builds waterless composting toilets using zero waste and clean production technologies. A cottage industry can develop that installs or retrofits greywater systems for watering landscapes with desert adapted vegetation. These all have to work cooperatively with local zoning, permitting, and health regulations—which also need to be examined for any current roadblocks to a sustainable system. Solar pumps can be locally built that connect a cistern to supply water for bathing and washing machines so that city supplied water is only necessary for drinking. Homes can be rebuilt to be energy efficient and require less cooling.

It is also entirely possible to become more by having less, and especially less often. Do we really need a new Ipod every time the color changes or they switch one of the function keys from the left to the right side? Our throw-away industrial model of endless consumption exists solely to feed the growth machine, not to improve our quality of life. Simply from the standpoint of water use in industry and agriculture, living within our means from an environmental standpoint would eliminate the need to think that we must find new water sources.

Conclusion

A meaningful answer to the quality of life question requires limits or outright constraints to growth, as no healthy ecosystem or individual organism grows beyond its normal state of maturation. Unlimited growth is the ideology of the cancer cell. Sustainable water must be understood within the context of the global ecosystem, not just how much water can we drain from the Colorado River to water Arizona's 300 golf courses and grow alfalfa for California cattle.

We also must address the fact that we've got almost a million people living in Pima County now, when the last time the Santa Cruz River was flowing there were well less than 100,000. The water table in the Tucson region has dropped from 20 feet to over 300 feet, yet we continue to approve trophy subdivisions in the foothills and more malls anchored by national chains that siphon the profits out of local economies. We delude

ourselves into thinking that having a signed agreement on a piece of paper will somehow assure future water supplies from a Colorado River that is already oversubscribed and drying up.

Not only must we start powering down in our use of energy, conserving and more equitably sharing the Earth's resources, and moving global human population toward a sustainable size (estimated by many objective analyses to be about two billion), we need to look at ways in which a powerdown scenario is compatible with quality of life.

By providing people with more of what really matters, and more time to spend on what really matters, we have the opportunity to combine our rationality and our passion in the creation of more opportunities to reach our unique individual potentials. We can make the conscious choice to shift from a society that values *having* more to one that values *being* more. We can overcome all the impediments to quality of life that we are currently suffering from.

We must be honest about carrying capacity in our bioregion, and undertake the scientific studies that can let us know where this point actually is based upon the quality of life we collectively agree we desire to maintain, as well as pass on to our grandchildren. Watering lawns in a desert ecosystem is a display of stupidity that borders on the criminal, and it's past time to honestly face up to this. If having a lawn is that important to someone's definition of quality of life they should move back to Buffalo, Cincinnati, or one of the other cities that have lost 50% of their population in the past few decades. But even in these areas planting an edible landscape is both more rational and more fulfilling.

We also must become more widely aware that there are legal mechanisms communities can avail themselves of to put constraints on growth. There is no requirement that we *must* accommodate growth. The Washington Supreme Court has ruled that human health and safety trumps vested development rights. But if we plan for growth, then that's what we'll get.

Let's plan for something more in balance with the natural world.

Bio

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