

Sustainability, Part I

On the Edge of an Oxymoron

by Lindsey Grant

The term “sustainable development” has become fashionable, but it is regularly used in the sense of “sustainable growth”, a self-contradictory concept beloved by those who want to continue at the same old stand – growth as a solution to all problems – and yet couch it in terms that will not offend environmentalists. The United Nations has a Commission on Sustainable Development (supported by an elaborate bureaucracy), which will meet in April to prepare for a UN General Assembly Special Session on “Agenda 21”, scheduled for late June. We may anticipate torrents of words in praise of an oxymoron.

“Sustainability” contains no such internal contradiction and is perhaps the single best word to express environmentalists’ goals. It is a word under which they could unite with population policy proponents, if somehow they could come to see that material growth is mathematically unsustainable.

On the face of it, one can hardly take exception to the definition popularized by the Brundtland commission (the World Commission on Environment and Development):

*Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.*¹

An excellent characterization, but it got off to a wobbly start. The WCED itself, because of its diverse international membership, could not agree on the need for policies to deal with population growth; moreover, it foresaw a five to tenfold growth in world GNP in fifty years, to meet the minimal needs of the world’s poor. It even concluded that “the international economy must speed up world growth while respecting the environmental constraints.” Others have pointed out that it never really addressed how those antithetical goals could be achieved. Note that the WCED report spoke of “sustainable development” rather than “sustainability.” Growth is deeply ingrained, and the WCED view of “sustainable development” comes perilously close to being an intellectual inanity.

The WCED led to the “Rio Conference” in 1992 (the UN Conference on the Environment and Development), which in turn passed a set of

environmental proposals (“Agenda 21”) and spawned the groups described above. “Sustainable development”, with its fuzziness about growth, is firmly enshrined in the language of the world bureaucracy.

Very few people seem to have grasped the simple fact: growth – demographic or economic – is unsustainable. This century is unique. Worldwide growth has never before lasted for so long at such levels. Any math teacher will tell you that perpetual growth is mathematically impossible in a finite space such as the Earth. Give them a starting figure and a growth rate – the rate is more important than the starting level – and they can show just when the assumption of continued growth becomes absurd, by any standard you may choose. This is not a theoretical exercise. Current growth rates would reach the absurd very fast. As the United Nations Statistical Office pointed out in 1992, world population would reach the absurdity of 694 billion people in 2150 if current fertility and mortality rates were maintained.

Growth will stop. Will it stop in benign or catastrophic ways? That depends largely on whether or not we recognize what is happening and take steps to deal with it.

President Clinton fell into the trap. Even as

he created the President's Council on Sustainable Development (see *NPG Forum* paper "Sustainability, Part II"), he charged it with helping to "grow the economy and preserve the environment...", objectives that are bound to conflict in any but the shortest time frame. The Council itself was caught in the same conflict. It called for stabilizing U.S. population and helping other countries to stabilize theirs, but it also called for a growing economy and growth in "jobs, productivity, wages, capital and savings, profits...". It did not really explore what sustainable development means. It was not prepared to advocate early population stabilization to escape the treadmill of economic growth.

An acceleration of GNP growth is hailed; a slowdown generates jitters. Politicians regularly reach for economic growth as a panacea, because it offers a vision of perpetually rising consumption. That is a swifter way to disaster than population growth itself, because it is our activity, not simply our presence, that does the damage. Growth is necessary, but why? To provide jobs and goods for an expanding population. Bring one form of growth under control, and the need for the other subsides.

Beware of those who profess an enthusiasm for sustainable development if by "development" they mean "growth." Another tricky phrase is "managed growth."

An oxymoron is a great cover for ambivalence. Precisely because of its popularity in the environmental community, the phrase "sustainable development" is in danger of being coopted by people who want to give the appearance of environmental commitment while avoiding the harsher decisions that a true commitment would require. Beware of those who profess an enthusiasm for sustainable development if by "development" they mean "growth." Another tricky phrase is "managed growth." Granted, one may mitigate the immediate impacts of growth by restricting the ways in which it develops, and thus perhaps defer the day of reckoning. However, such compromises should be seen for what they are: temporizations.

The Conflict Over Growth

The industrial revolution, with its apparently unlimited prospects, created the myth of perpetual growth. At the same time, some thinkers began to recognize that such growth contains its own eventual destruction. John Stuart Mill in 1848 proposed the concept of a "*stationary state of capital and wealth*" and said that despite the "*unaffected aversion so generally manifested towards it by political economists of the old school ... I am inclined to believe that it would be, on the whole, a very considerable improvement on our present condition.*"

He went on to point out that the lack of growth does not mean the end of improvement of the human condition; it would more likely lead to the improvement of "*mental culture and moral and social progress...*" At that early date, he thus challenged the stereotype that growth and progress are synonymous.

It has been a hard lesson to learn, especially in America.

The environmental and population communities have historically had a hard time recognizing how deeply their goals are interlinked. Thomas Malthus and his successors have long argued that population growth becomes unsustainable at some point. On the other hand, some of the great environmental writers – John Muir, Aldo Leopold, and Rachel Carson – led the American environmental awakening but paid little or no attention to the population connection.

The Dust Bowl of the 1930s dramatized the damage we were inflicting on our resources. It led to President Roosevelt's conservation policies such as creation of the Civilian Conservation Corps and the Soil Conservation Service. At that stage, population was hardly seen as a factor in the destruction. U.S. fertility was momentarily below replacement level, and net migration was around zero. The population issue came later.

The post-World War II surge in U.S. population forced us to look at the connections. By 1969, President Nixon was asking whether projected population growth would lead to a deterioration of American living standards. He and Congress created the Commission on Population

Growth and the American Future and asked John D. Rockefeller III to head it. In 1972 the Commission reported that *"we have concluded that ... no substantial benefits will result from the further growth of the Nation's population, rather that the gradual stabilization of our population would contribute significantly to the Nation's ability to solve its problems."*

That message did not reverberate in America. The faith in growth is deeply rooted. Growth is invoked as a solution to current problems by both political parties and by most pundits.

The WCED was not alone in equivocating about "sustainable development." Others, even while claiming the mantle of sustainability, have tried to straddle the contradiction and argue that, somehow, "good" growth is possible. Dennis Pirage's introduction to *The Sustainable Society. Implications for Limited Growth* is a good example. He called the introduction "A Social Design for Sustainable Growth." He admitted that "sustainable growth is a difficult concept", but nevertheless he chose it as "the best guide to the future" by a bit of sophistry: "...even steady state advocates have foreseen significant growth in the quality of life taking place within the constraints of limited resource consumption."² He thus did an injustice to Herman Daly and "steady state" advocates; and in pretending that quality and quantity are synonyms he fell into an error that John Stuart Mill had avoided more than a century earlier.

That argument is regularly heard: growth is somehow desirable if it can be described as an improvement in "quality". It is never spelled out in detail, and it is a fallacy. "Quality" in the popular modern idiom means monster trucks and all-terrain vehicles, 30-foot trailers, yachts and bass boats, trophy homes, vacation houses, and ski trips to distant places. As we are defining it, "quality" eats up many more resources and does more damage than the simple life.

There is a better definition for quality, but a string quartet generates much less GNP than a pro football team. A hill to climb, a clean breeze, a walk down a quiet country lane, silence and solitude, a glimpse of a lonely sea; these are all aspects of quality, but they do not

generate much GNP. In fact, population growth makes them less accessible. A quality house costs less over its life cycle than a shoddy one, and thus creates less GNP. Quality thus defined is more likely to be at war with growth than a justification for it.

The real issue is this: can physical growth continue? for how long? and at what cost? Quality is a legitimate and desirable pursuit, but one cannot simply wave the word in the belief that it will dispel those questions.

Writers have wasted a lot of misspent effort trying to cling to the faith in growth in face of the evidence of the damage it leads to. We owe thanks to writers such as Herman Daly, the Ehrlichs, Donella and Dennis Meadows, E.F. Schumacher and William Catton for taking the lead in recognizing the contradiction between growth and sustainability and addressing it, in different ways.

As the connection between growth and environmental damage became apparent, the conflict became intense. The proponents of growth recognized that the new awareness threatened their fundamental mindset. Conventional Keynesian economists, practicing a discipline that contains no conceptual process for studying limits, regularly attempt to avoid the philosophical issue of growth by assuring us that pollution is declining and that no resource scarcities stand in the way of continued growth because of "the infinite substitutability of resources". This is dogma rather than a proven proposition. They have yet to name good substitutes for food and water – to name two critical resources. A former President of the Royal Society of Canada stated their problem briefly and elegantly:

The economists largely ignore population growth and consumption because they ignore the ecosystem. They think in terms of an infinite world. Because of population growth, however, most inhabited regions tend to be overpopulated in terms of stress on local ecosystems, and far beyond sustainability. Standard economic theory depends on a closed system with a circular flow of exchange values, to which the environment and the reservoir of resources are externalities. The future looks bright because no

*heed is paid to uncosted materials such as water, air, forests, animals, plants and soils, without which the ecosystem would cease to exist and so inevitably would we. Economics as a science must become concerned about the ecosystem because we are part of it, cannot manage it, and cannot live outside it.*³

Nevertheless, economists are heeded, in a world that worships GNP growth, and thus growth is accepted as the solution to our problems.

The argument is regularly made that growth is acceptable “up to a point.” In most respects, we are already beyond that point. I hardly need remind *Forum* readers that the country – far from being in a sustainable state – is on a course that will be catastrophic if long continued. Farmlands are losing soil at a net rate of about 12 tons per hectare annually and the best ones have lost half or more of their topsoil in little more than a century. We are losing better farmland to urbanization and industrialization than we can recover from wasteland. Agricultural yields are stagnating while the demand for food grows.

Our per capita timber resources are declining, and old growth forests and their genetic resources are being destroyed. The forests are under attack by a man-made combination of “ozone, acidic deposition, sulfur dioxide, and nitrogen oxides.” These in turn affect “plant physiological processes that provide resistance to insects, pathogens and climatic stress.”⁴ We know that there is a complex synergy leading to forest decline, but we do not yet understand it or its potential consequences.

We are still losing wetlands, and pollution accelerates the collapse of fisheries. We are drawing down groundwater tables where the water is most needed. We are altering biological systems and playing a sort of Russian roulette with the natural systems that support us. We cannot stop the growth in our emissions of carbon dioxide, and we are thereby affecting global climate. I could go on.

It is sometimes argued that economic growth is needed to make environmental reforms affordable. This is the ultimate squirrel cage. The

growth of population and consumption generates problems that must be solved by further growth. Even economic activity directed toward benign ends is itself polluting. Building an interceptor sewer may cost billions of dollars; it will relieve some of the water pollution – though it will not eliminate the nitrates and phosphates that are a byproduct of population growth – but in the process it contributes to air pollution, carbon dioxide releases and climate change.

There are other environmental problems that cannot be solved by investment, no matter how intense. Preservation of our farmlands is a case in point; it needs reversion to good conservation practices – even if they yield less food – more than it needs massive investment.

Briefly, this sums up the case. Economic growth is the problem, not the solution, and population policy is a central element of environmental sustainability.

In Europe, population growth is on the verge of turning around, unless immigration stops the trend. Those who know of the European experience may argue that population growth is a fading issue in the industrial world, and hardly a matter for concern.

Were it not for immigration, one could perhaps make that case for the United States. At present fertility levels, we would peak at something over 300 million if natural increase alone were the driver. The problem, of course, is that immigration drives population growth in this country. Some 43% of growth in this century has been post-1900 immigrants and their descendants. The comparable projection for the next century – when we are headed for a half billion Americans – is about 91%. (This estimate is conservative. It assumes a lower level of immigration than we are now experiencing, and it assumes that immigrants’ fertility will move down, whereas in fact it is driving the average fertility upward.) Starkly put, this means that the issue of growth *is* the immigration issue in the United States right now. What does this mean? Immigration policy becomes population policy, which becomes environmental policy. Many environmentalists don’t want to hear that. Somehow, we must bring them around.

On To Sustainability

Socrates complained that classical Athens in its glory was destroying the forests and farmlands of Attica, but he offered no thoughts as to how to stop the process. Sustainability states the goal of avoiding that degradation. The WCED definition at the start of this paper fits the goal of “sustainability” better than it does the ambiguous term “sustainable development.”

“Sustainability” has a lot going for it. It has broader connotations of human well being than “environmentalism”, and it is less easily lampooned as an excessive concern for whales and wolves at the expense of other humans.

It is popular with environmentalists. It is particularly felicitous because, mathematically, it embodies the recognition that true environmentalism demands an end to growth. This should commend the word to population policy advocates, which in turn suggests that we might well adopt it as a shorthand for the population movement, which has never really had a satisfactory title.⁵ Adoption of “sustainability” by population policy advocates might help to bridge the rift that exists between them and environmentalists. Although some environmentalists are reluctant to face up to the mathematical truism described above, it is hard to imagine that even the most insular of them would dare to stand up and claim that perpetual growth is sustainable.

Sustainability demands a redefinition of consumption goals and a search for the least damaging ways of providing for them. Above all, however, a smaller population would make the pursuit of sustainability less difficult and the conflict between it and other goals less intense. A smaller population, or even slower growth, makes it less necessary to reduce consumption (e.g. for the poor) or to restrict freedom than does a large and growing population. It would be less damaging to the environment, at any given level of conservation or technological solutions. A successful policy to stop population growth makes sustainability less painful to achieve. This should be welcomed by those who are pursuing other goals such as social justice or urban revitalization or human rights.

A Cautionary Note

There is a delicate line at which “sustainability” itself can degenerate into a burlesque.

How broad is its meaning? The term requires clarification. Some proponents apply it simply to humans. Others point out that human well-being depends on preservation of the ecosystem in which our species evolved.

Among national and social objectives, what priority does sustainability have? Does it have an absolute priority over individual freedom (e.g. in forest management or wetlands preservation)? If not, where are the compromises drawn?

One can argue that preservation of the nation is essential to the “*ability of future generations to meet their own needs.*” Is national defense therefore a prerequisite for sustainability – and at what level – even though defense expenditures may divert funds from resource preservation or environmental protection?

Is sustainability more important than the maintenance or – for the poor – the improvement of living standards? What are the specific measures of sustainability, and how are they to be achieved? What degree of certainty is needed to persuade the nation to forego current consumption in pursuit of a better future?

What claim does sustainability have on the budget, and what costs can be borne in its pursuit? Conversely, is a balanced budget a goal of sustainability, since growth of public debt cannot be sustained forever?

Writers have defined “sustainability” to include everything from justice, social equity, women’s rights and budgetary reform to decentralization of economic power. Such wide definitions can cause any campaign for sustainability to degenerate into generalizations. It would seem wise, for the purposes of this paper, to accept Prof. Herman Daly’s restrictive elaboration of the WCED definition of a sustainable economy:

- Its rates of use of renewable resources do not exceed their rates of regeneration.
- Its rates of use of nonrenewable resources do not exceed the rate at which sustainable renewable substitutes are developed.

■ Its rates of pollution emission do not exceed the assimilative capacity of the environment.

How far do we carry it? This is a beginning, but even here we encounter problems. Zero soil loss is not really compatible with any agriculture. Some soil, even if it is replaced, descends into streams, accelerating siltation and change. Humans do not control all the elements of sustainability. Change and degradation can occur without human involvement; the Mississippi delta was being formed out of prairie topsoil long before humans arrived (though much more slowly). Aluminum constitutes 8% of the Earth's crust. One can contemplate running down the resource with equanimity; the argument for recycling, aside from aesthetics, is the high energy cost of extracting the aluminum from the ore. A similar and even more compelling argument can be made concerning the use of silicon to make glass.

Advocates of sustainability should define their goal in clear and limited terms. Otherwise, they may be dismissed as flower children for demanding the impossible, or on the other hand they may become encumbered with "allies" who demand that they advocate other social goals that – while they may be desirable enough in themselves – are irrelevant to the central task of sustainability. That task is to confine human activity so that it can be pursued without peril to the natural systems that support us.

Sustainability too rigidly defined does not admit of much compromise. No goal, even sustainability, is absolute. We must develop guidelines for its application. Perhaps as a start we should pose the issue in these terms: For every contemplated policy or action, how serious is the threat to sustainability? are the anticipated gains so overwhelming that they would justify bending the absolute?

All Together, Now: "Sustainability!"

These are cautionary notes only. My real message is that "sustainability", properly defined, is a great rallying cry for both environmental and population policy advocates. By its nature, it forces them to recognize that they share the same goals. Continued growth is not

just a failed "solution" but indeed an eventual impossibility. And "eventual" may be closer than we think.

Notes

1. *Our Common Future*, report of the World Commission on Environment and Development (WCED or "Brundtland commission"), 1987
2. *The Sustainable Society. Implications for Limited Growth* (New York: Praeger, 1977), p.10.
3. Digby J. McLaren, past Director General of the Geological Survey of Canada, "Population and the Utopian Myth", in *Ecodecision*, June 1993, pp.59-63. In fairness, be it said that a large and growing number of economists recognize the frailty of the Keynesian assumptions and are beginning to recognize the limits to growth.
4. National Acid Precipitation Assessment Program (NAPAP), 1992 Report to Congress (U.S. Government Printing Office, June 1993), p.3.
5. I am indebted to Alan Weeden of the Weeden Foundation for the genesis of this idea.

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