Sustainable development means, first, setting physical limits on the "throughput" of the human economy. Throughput means all the materials and energy flowing through the economy -- all the things we make and use, and all the energy required to do so. Another phrase for "throughput" is "total consumption," which is total human population multiplied by per-capita consumption.

The total throughput of the human economy must be kept small enough to avoid exceeding two physical limits of the ecosystem: its capacity to regenerate itself, and its capacity to absorb our wastes. Each year now, scientists report new evidence that the human economy has exceeded both of these ecosystem limits.

For example, nature creates (regenerates) new topsoil each year, but in much of the world (particularly in the U.S.) humans are destroying topsoil faster than nature can create it.[2] Loss of topsoil reduces our future farming capacity in a fundamental way. Topsoil destroyed today is topsoil taken from our children and grandchildren.

Pesticides provide an example of humans producing wastes faster than nature can absorb them. If nature could absorb pesticide residues as fast as humans created them, then there would be no buildup of toxic residues. But there has been a measurable buildup of pesticides at the north and south poles, and the bottom of the deepest oceans, in the drinking water of much of the midwestern U.S., and in the breast milk of women worldwide. We have clearly exceeded nature's capacity to absorb pesticide wastes, thus denying our children their rightful share of nature's detoxification capacity.

In sum, there really are "limits to growth" and we have already exceeded some of those limits. This means that, at some point, continued economic growth (growth of throughput) will create bads faster than it creates goods (an economist would say "marginal costs will exceed marginal benefits"). Daly (pg. 40) argues, for example, that the U.S. chemical industry may have already passed the point at which its toxic discharges are costing society more than the benefits provided by its products. If this were the case, then society would receive net benefits by shrinking the chemical industry instead of promoting its growth.

Unfortunately, we have no way of measuring whether our economy has passed the point at which costs have begun to exceed benefits because, in our national accounting system (in which we measure "gross domestic product"), we count all production of goods and services as "goods." In tallying up gross domestic product (GDP) we never subtract any bads. Chemicals are counted as goods, and the products they allow us to make are counted as goods. This matters sense. But when our chemical factories produce chemical waste dumps that must be cleaned up at huge public expense, those costs are counted as "goods" too, instead of being subtracted as bads. If a few hundred or a few thousand children get cancer from exposure to chemical wastes, their hospitalization, their radiation treatments, their chemotherapy, and their funeral expenses are all counted as "goods" in our total GDP. If their parents sue, all the resulting court expenses are counted as goods, not bads. In sum, the nation's brightest economists maintain our national accounting system with a calculator that has a plus key but no minus key.[3] Therefore we have no way of knowing whether the costs of economic growth have exceeded the benefits. The nation's economists (and politicians and business leaders) simply assume that if GDP is rising, our standard of living is rising too. But, as the song goes, it ain't necessarily so. (For substantial evidence on this point, see REHW #516.)

Historically, growth is an aberration; a steady state economy is the norm. Only during the past 500 years has growth begun to seem like the normal condition for human economies. The physical limits to growth (which we are now perceiving because we have exceeded some of them) require us to return to the steady state sooner or later. If we do so by choice, we may be able to guide the process and achieve a steady-state economy with a reasonable approximation of the "good life" for most people, world without end.[4] On the other hand, if we continue to blindly accept the ideology that growth is good, then natural limits will reduce our numbers with an ecological meat axe and the suffering will be immense.

Why do we have so much trouble imagining a no-growth economy?

Daly believes there is one central reason: because a steady-state economy, one that is no longer physically growing, will force us to confront the problem of inequality, which is another name for the problem of poverty. So long as the total economic pie is growing we can say, "The poor will be lifted out of poverty by growth, so we need not take any special steps to alleviate their condition -- in fact we hardly need to think about them at all because the market will take care of them."

In a steady-state economy, we will have to decide what is a fair distribution of the benefits of the economy because, in the steady state, as the rich get richer the poor must get poorer. In this situation, the only way to make sure that a fair share is available for everyone (whatever society decides "a fair share" means) is to set a limit on how much the powerful and the predatory can take for themselves. Daly says simply, "In a steady state, if the rich get richer the poor must get poorer, not only relatively but absolutely. If the total [throughput of the economy] is limited there must be a maximum limit on individual income."

Daly believes this is the key reason why we refuse to confront limits to growth: we cling to the path of unsustainable growth so that we will not have to think about limiting inequality. (pg. 215)

Daly argues that establishing the principle of limited inequality is a necessary (but not sufficient) condition for achieving a modern steady state. He argues that the precise range of inequality that we allow is not as important as establishing the principle that inequality should be limited.

If inequality is to be limited, this implies that there will be a maximum allowable income and a minimum income. (These standards would have to be developed within each society because needs are culturally determined.) Daly argues (pg. 210) that the minimum income "would be some culturally defined amount sufficient for food, clothing, shelter, and basic health education." The maximum income might be four times as great as the minimum (which is what Plato advocated), or it could be 10 or 20 times as great. The exact number isn't terribly important. The point is that there must be a limit on inequality -- the precise limit can be worked out in practice. (The overarching goal would be to provide sufficient incentive so that all necessary jobs are filled voluntarily by qualified people.)

Daly argues that limiting inequality in a steady-state economy is a way to achieve 3 things:

1) It is a way to keep the rich from leaning too heavily on the poor;
2) It is a way to keep the present generation from leaning too heavily on future generations;
3) It is a way to prevent humans from "leaning too heavily on other creatures whose habitats must disappear as we convert more and more of the finite ecosystem into a source for raw materials, a sink for waste, or living space for humans and warehouses for our artifacts."

In addition to the matter of fairness (the meaning of which each society or culture must decide for itself), in a steady-state economy we would need to limit inequality for another reason as well: to limit total human consumption, which is total population multiplied by
per-capita consumption. It is total human consumption that stresses the ecosystem.

Because total consumption has two parts (human numbers and per-capita consumption), to limit total consumption, we would need to limit inequality AND limit total human numbers. In a steady-state economy (one whose total size is established by the Earth’s limits), the more people there are, the lower their average standard of living must be. Controlling growth requires us to limit both human consumption AND human population. Both limits are ESSENTIAL if we aim to control the total size (throughput) of the global economy.

In recent decades we have invented several technological fixes aimed at circumventing the natural limits of ecosystems, so that growth can continue. The “green revolution” tried to speed up the growth rates of the edible portions of wheat and rice plants[5] -- but these changes were achieved at the expense of stability, resilience and resistance to disease. The latest technical fix is genetically engineered crops. The hidden costs of this latest agricultural gimmick have yet to be measured, but we can be sure that they will become apparent as time passes. Daly says, “It is for now certainly better for us to slow down our own biological growth rate than to attempt to speed up the growth rates of all the species we depend upon.” (pg. 85)

It seems logical that we in the northern hemisphere must confront (and achieve) the limits to growth first be-

Individual countries will find it more difficult to limit their consumption as the “free trade” ideology is imposed on them by powerful traders like the U.S. “Free trade” hides the ecological costs of consumption. If Americans are doing the consuming but the related ecological limits are being exceeded in Mexico or in Indonesia, Americans can feel no incentive to reduce their consumption. Free trade even makes it difficult to keep relevant accounts because benefits are being enjoyed in one locale while costs are being created in another, thousands of miles apart.

There is considerable evidence that free trade doctrines are increasing inequalities within and between countries. As Herman Daly says (pg. 156), free trade will bring with it “a further writing off of the laboring class in this country, an increasing disdain toward uneducated and rural people by the corporate and university elite, and an increasing devotion by the former to the one thing about themselves that at least vaguely concerns the latter -- their growing arsenal of guns.”

Within countries, great inequality creates civil conflict. Between countries, in a full world, high rates of consumption create international conflict. To the extent that free trade makes nations less able to control their rates of consumption, to that degree it will promote war within and between countries. To promote peace, nations need to become more self-sufficient and to consume less.

We have said before and we say again: We know of only one organization committed to tackling every part of the "sustainable development" problem: Sustainable America. We urge all our readers to join and support Sustainable America. This is important. Please do it. Telephone (212) 269-9550; fax (212) 269-9557; or www.sanetwork.org.

--Peter Montague (National Writers Union, UAW Local 1981/AFL-CIO)

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[4] Daly (cited above in note 1) never precisely defines the "good life" but on pg. 14 he says, "...most would agree with [British economist Thomas] Malthus that it should be such as to permit one to have a glass of wine and a piece of meat with one's dinner. Even if one is a teetotaler or a vegetarian that level of affluence is desirable, and would serve by itself to rule out populations at or above today's level."


Descriptor terms: sustainable development; herman daly; economy; inequality; poverty; growth; free trade;