

Population panic obscures urgent solutions

Written by Richard Corin

Wednesday, 22 September 2010 11:57 - Last Updated Thursday, 23 September 2010 11:33

Amidst a growing awareness that climate change and critical resource shortages threaten the lives of billions through disease, famine and war, some environmentalists and concerned citizens are demanding an immediate end to population growth. Although I agree that world population will have to stop growing voluntarily or our numbers will inevitably collapse one way or another, it is clear that we have more urgent and more tractable problems to address, rather than demanding an instant end to population growth.

Focusing on population as the root of all sustainability problems is attractive because it allows us to ignore the destructive impact of our own civilisation's unsustainable practices and to pretend that we don't have to change the way we do things. For a country with birth rates near or below replacement level, the simplistic solution appears to be - stop those foreigners coming here and then population growth will be somebody else's problem. But telling people in poor countries: "Population is the problem - it's *your* problem - and *keep out!*", smacks of denial to me.

To start with, economic reform demands a higher priority than stopping population growth simply because it has to occur first. The present design of the money system relies on new loans to stave off economic collapse. Housing loans are a major source of new debt-money flowing into the economy, providing liquidity for economic activity. The flow rate is set by the combination of household incomes and the number of qualifying borrowers – which depends upon population growth. (See essay:- *Growth Economy needs Growing Population.*) Although we need a money system to facilitate exchange and investment, the current model is flawed because it is structured as a pyramid scheme that requires continuous growth in order to generate ever greater volumes of new debt-money to forestall its own collapse. Until this mechanism is restructured, the *growth imperative* will maintain its extortionate strangle-hold.

I sometimes sense a desire to escape in some kind of "lifeboat", perhaps resembling a physical or metaphorical walled city, but this medieval instinct could lead us into dangerous fantasies. Civilisation has reached the global scale and we are all in this together now, along with the ecology of the Earth. The failure of *Biosphere-2* demonstrated that isolated sustainable environments do not exist. *Us-and-them* is only

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relevant in the context of the ideological struggle to convince civilisation to transform itself, or continue with the deification of

The Market

- acknowledged failures and all. When (the fabled and, hopefully correct, work-in-progress known as)

ecological economics

changes the paradigm, I expect that the real costs and benefits of immigration will come into balance and the need for global cooperation will override any tendency to hide behind an illusion of secure isolation.

Although I understand the impulse to shut out the world, I have to oppose groups who call for an end to immigration. I believe that lobbying to stop immigration is counterproductive for creating a sustainable planet and I think it is better to learn how to design and build attractive new eco-cities on less fertile land. Successful immigration policies help to dissolve xenophobia and engender a sense of human unity. They also weaken conceptual frames such as the traditional one of nation-states engaged in suspicious, intense and often violent competition.

Several sustainability crises are expected to arise during this century and some are already with us. I will call this complex of challenges *The 21C Crunch*. Efforts to prevent or manage global threats such as climate change, ecological disruption, resource depletion, growth economics and over-population itself will require at least, internationally compatible policies, if not a global jurisdiction for managing the global commons. Competition for depleting resources can produce violent, destructive and bloody conflict, but it is time that the wisdom of enlightened self interest inspired cooperation towards a just distribution. I feel that the only real solutions are global in scope, and slamming the doors on immigration reflects a bunker or siege mentality which tends to fragment rather than unite the peoples of the world.

Even if it was possible to stop population growth today, it would not prevent the consequences of unsustainable practices multiplied by existing human populations - it would not prevent climate related crop failures, nor counteract the effects of resource depletion. I recommend that we focus our attention on our most urgent challenge - to successfully prevent, circumvent or minimise *The 21C Crunch* - so that humanity may enjoy the luxury of still having a high population to stabilise after these foreseeable crises. Changes in birth rates take an average human lifetime to flow through to aggregate population figures, while the solutions to civilisation's sustainability problems already require deeper and faster "adjustments" than can happen through legislating fertility rates. Although population is relevant, efforts to control it should not be the focus nor a top priority.

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To prevent runaway global warming, for example, it is necessary that every civilisation changes its technologies and economic practices in order to achieve zero emissions. Zero times 9 billion is still zero. The point here is that population is almost irrelevant. Greenhouse gas emissions will be eliminated through legal and economic frameworks that drive the universal adoption of zero emissions technologies. Population growth is only a major concern for business-as-usual scenarios, where changes are assumed to be as slow as population growth itself.

Another issue is the ambiguity or "instability" of numerical estimates of what a *sustainable population* might be. Any figure for a *sustainable population* is based on somewhat volatile assumptions about per capita rates of consumption of particular resources - factors which are more rapidly and easily "adjusted" than population itself. While it is true that population growth has exposed the "footprint" or "impact" associated with current economic practices to be clearly unsustainable, zero-population-growth can only marginally delay the onset of various resource depletions. As a civilisation, we have to change our inefficient and wasteful practices if we are to avoid painful shortages capable of triggering population reductions measured in mega-deaths.

Evidence suggests that fertility rates tend to fall with increased education, social security, wealth, and cultural factors such as equality, autonomy and economic opportunities for women. This tells us that the morally acceptable way to reduce fertility rates involves a significant increase in average levels of affluence in poorer countries. Ironically, traditional development pathways would worsen per capita *environmental impact* - so sustainable economic principles and low-impact technologies must be implemented at the same time. Anything other than clean, low-impact development should be unaffordable.

Population is the least malleable factor contributing to environmental impact

The following is a famous formula which helps us think more clearly about these matters. http://en.wikipedia.org/wiki/I_PAT

Impact = Population x Affluence x Technological inefficiency; (I = P.A.T)

As well as *Population* there are two other major factors or multipliers which determine the level of environmental *Impact*, and therefore, ecological sustainability. Both the

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other factors,
much greater potential for reducing environmental
Impact
than merely slowing or stopping the growth of
Population

Affluence and Technology offer

In this equation, the technology factor "T", is best described as *Technological inefficiency*. The "

T
" factor is the average amount of environmental impact per unit of production (consumption or affluence) - some would say, per dollar of income. It is meant to account for the damage of exploiting the natural environment for (living and non-living) materials, energy and waste services to satisfy human needs, wants and desires. This

Impact

is effected by the

recycling ratio

because recycling replaces the throughput of natural resources and waste products into the environment. Natural resources will have to be priced so it will be more economical to extract, sort, clean and transform raw materials from waste streams. Humanity has grown too big to continue expecting Mother Nature to provide whatever we want, deal with our mess and do our washing for us.

No recycling occurs when we burn fossil carbon because no combustion products are converted back into fuel. Therefore the impact of each unit of energy "produced" by burning fossil fuels is quite high. On the other hand, "T" approaches zero when we use renewable energy because the small impact of the materials "consumed" in fabricating, delivering and installing equipment is divided by the energy recovered over the whole lifecycle. I believe the "

T

" value for

civilisation

itself can be dramatically reduced with appropriate management and policy measures, once there exists the incentives to bother trying.

Apart from the amount of physical space covered by human habitation and allocated for harvesting energy, it is *theoretically* possible to have near zero additional impact on the planet's natural systems by continuously recycling the same stuff - recombining essentially the same atoms into new products, food and clean water using the energy provided by the sun. That is what

life has been doing on this planet for geological ages and is what every long-lived human culture understands and seeks to emulate. For a given sustainable level of environmental impact, a low "

T"

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value allows a large population to enjoy a high level of affluence.

There seems to be a misconception amongst some sectors of the environment movement that environmental impact increases with technology - that less "technology" or low-technology means low impact and more "technology" or high-technology makes it worse. I would argue that increases in environmental impact associated with improved technologies are almost always due to greater affluence - per capita consumption, or wellbeing - than to an increase in impact per unit consumption. "*Jevon's Paradox*" is defeated if the exploitation of natural resources is priced to reflect their scarcity value and the revenues are redistributed to the public.

Seen this way, our most important "*Technology*" is the way we structure our economic processes. If the resource footprint of a "decent quality of life" can be slashed, then poverty and inequity can be overcome and population stabilised over a realistic time frame. I believe our economy's recycling factor can be improved by at least an order of magnitude, with corresponding reductions in environmental impact. I recommend that people concerned about human sustainability focus their energy and influence most urgently on this aspect of the solution and only mention in passing that more population means less resources for each person.

Achieving something like a ten fold reduction in our civilisation's per-capita impact depends mainly on two broad factors:-

1. The scale of the renewable energy supply, because energy is critical. We will need to harvest large amounts of energy directly from ecologically sustainable renewable sources rather than converting fossil fuels, and living ecosystems, into pollution.
2. The quality of laws and principles employed to create a zero-waste economy built around dust-to-dust design principles. Cost structures and economic incentives will make it more desirable and convenient to recycle materials than to exploit scarce natural resources. Market failure will no longer be tolerated.

Supporting current populations into the future, and achieving a decent quality of life for all, are more urgent priorities in my view than attempting a sudden end to population growth. Our adversary is not humanity, but the ideological grip of a dominant economic paradigm whose time has passed. An ever increasing competitive exploitation of nature always was going to be a recipe for tragedy.

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The rich can no longer assume that the Earth's resources belong to whoever can exploit, consume and convert them into waste faster than anybody else. This is an ethic of destruction fuelled by competitive greed to grab as much as possible before someone else gets it and before it's all gone. It is a madness which has to end and be replaced by an ethic that recognises an equal right to access the free gifts of nature, so resources can be respected, conserved and recycled justly and sustainably. If our institutions fail to evolve to meet this requirement, civilisation and its large populations have no future.

Probably since the days of Rev Thomas Malthus, the human population has been too large for the Earth's living infrastructure to support without artificial energy supplies and other intelligent interventions. Our unnaturally large population has been enabled by various technologies, especially the energy derived from exploiting fossil fuels, and will only be maintained by building alternative sources of energy and minimising our dependence upon the living and non-renewable resources of this precious living world.

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