

# Roads to Ruin

A spectre is beginning to haunt the world. It is not some phantom menace. It is the all too real possibility of irreversible ecological and therefore social collapse. Modern society faces the ruination that once brought down seemingly invincible civilisations in the past. Then, the collapse was comparatively local in scale; today it is potentially global in dimension.

From destabilised climatic patterns, devastated forests, eroded soils and drained aquifers to the unusually severe and frequent fires, floods and storms that have ravished many parts of the planet, there is mounting evidence that humanity is beginning to face an unprecedented crisis. It is not a matter of this or that individual trend, be it the accelerating extinction of lifeforms, fears about future food supplies or the coming downturn in the ready availability of cheap fuel. Rather it is the cumulative impact of a variety of destructive changes wrought by just one species, humankind.

Other issues such as terrorism, street crime, job losses or house prices may grab the headlines but the threat to the Earth's life-support systems is the fundamental issue of our times. Those apologists for the current social order who talked about the "end of history" might turn to be right after all... but in the completely opposite way to what they smugly envisaged.

Those who try to ring alarm bells about the coming 'sustainability' crunch are routinely decried by those in power, by mainstream politicians, business leaders, leading media commentators and other supporters of the dominant social order. They are widely denounced as enemies of Progress, reactionary Luddites, ecofascists, misanthropists, pathological pessimists, lily-livered doubters of human potential, 'nimbyists', who their selfish whims in the way of needed development... and so on.

Actually there is sufficient evidence that those call for the abandonment of conventional goals of 'moreness' are the ones who are facing reality. The most important fact of life today is that the Earth cannot sustain the pressures being put upon it. According to the 2007 *Global Environmental Outlook* from the United Nations Environment Programme, for example, "humanity's very survival" is at risk". This was a study produced by almost 400 scientists, all experts in their fields, whose findings were subjected to review by another 1,000 of their peers.

The threat to other forms of life is even more dire and urgent as a veritable massacre of the world's once rich diversity of flora and fauna rages yet more destructively. This document echoed the 1992 *World Scientists' Warning to Humanity* was, for example signed some 1,700 leading scientists, including a majority of the Nobel Prize laureates in the sciences.

Of course, it is hard to be precise about broad trends, not least their speed of development. It is also easy to dismiss such warnings as 'crying wolf' when predicted disasters do not happen in the immediate future. Yet, in broad historical terms, a few decades one way or the other is of minuscule significance. Even more important is the stark reality that the damage being done by human activities to the Earth's life-support systems is cumulative and can cross the point of no return without anything dramatic highlighting the fact.

Even if the threat from global warming turns out to be no more than hot air, many other trends seem set to undermine 'business-as-usual'. Consider what will happen to the dominant 'western' lifestyle without cheap petrol. Imagine what will happen to the world's teeming millions as food supplies fall behind population growth. Think about the wars likely to be triggered by competition for land, water and all the other resources on which modern life depends.

The novelty of today's situation, then, is, firstly, the sheer number of different problems, secondly, their spread across most, if not all, continents, and, thirdly the rate at which most are getting worse. Even when generous allowance is made for uncertainty and exaggeration, it seems that humanity faces a situation of unprecedented danger. Some issues, notably global overwarming, have tended to grab the headlines, compared to less 'sexy' subjects like soil erosion. The most destructive of peacetime human activities - the sterilisation of land by paving over it with brick, concrete and tarmac - is the most neglected.

It remains true that the depletion of water aquifers, soil denutrition, salinisation, eutrophication, deforestation, toxic contamination, air pollution, and so forth remain, for the most part, both local in origin and local in consequences. But they are happening at the same time in so many different parts of the world. It is the total impact thus created that is novel.

Furthermore, in more and more cases, such impacts are not just local but damages land and water way across whole river basins, as in the case of upstream deforestation, and across continents, as, for example, acid rain generated in one country falls in another (at present, acidification of sea water is the more serious issue). The advent of large-scale transportation also transports pests and diseases on an unprecedented scale, one sign being the sickening state of many woodlands.

The overall prospect is not significantly altered if, say, global overwarming were to be balanced by counter-balancing cooling factors (recent volcanic eruptions have been one such force, though they are scarcely cause for much celebration). Revelations that a particular predicament has been exaggerated or news of successes against another menace do not alter the fact that problems are piling up and that many past victories (for instance in the war against infectious diseases) are turning out to be short-lived.

This 'external' crisis is sufficient cause for radical reassessment of contemporary values, institutions and lifestyles. The case is amplified by equally worrying signs that society's internal problems also constitute a crisis of unprecedented seriousness. One reason is the degree of global economic integration. Instability in one region quickly infects the rest of the world economy as never before. This is partly due to the role of multinational corporations but the more significant trend is the computerisation of currency and other financial transactions. The money now sloshing around the world's money markets far exceeds the national reserves of most countries who are thus left exposed to speculation and caprice.

A second aggravating factor in the present situation is the degree of social homogenisation across the world. Unprecedented numbers of people lead essentially similar lifestyles and many millions more aspire to live the same way. The social sicknesses of, say, California are likely to be the diseases of all those

countries desperately trying to give their peoples the same way of life. Under the shackles of agreements like GATT, people won't even be able to choose which seeds they plant. Culturally we are, as it were, putting all our eggs in one basket and, if it fails, common ruin must result, instead of localised collapses as used to happen in history.

The planet is not self-destructing. There is no environmental crisis as such: in reality it is a people crisis. The latter parts of this bibliography explore the factors that are driving society down this perilous road. Hopefully it will show that simplistic explanations that blame every problem on, say, capitalism, lack of technology or poor planning. Unfortunately the roots of the sustainability crunch are many. Sometimes 'external' problems like land degradation are the by-product of exploitation and oppression of one set of people by another. However, it is often the case that the road to hell is indeed paved with good intentions.

## Coming to the Crunch

Brown, L. (2005). *Outgrowing the Earth*. Earthscan.

Goodstein, D. (2004). *Out of Gas: The End of the Age of Oil*. Norton

Heinberg, R. (2007). *Peak Everything: Waking Up to the Century of Declines*. New Society See also his *The Party's Over: Oil, War & the Fate of Industrial Societies*. New Society.

Kunstler, J. (2005). *The Long Emergency: Surviving the Converging Catastrophes of the 21<sup>st</sup> Century*. Atlantic Books

Lovelock, J. (2006). *The Revenge of Gaia*. Allen Lane. Explains how humanity has gone to far in its war against the rest of nature, though his prescriptions, especially his advocacy of nuclear power, can be perverse.

Lynas, M. (2004). *High Tide: News from a Warming World*. Flamingo. Snapshots of unfolding disaster from all corners of the globe,

Mason, C. (2003). *The 2030 Spike: Countdown to Global Catastrophe*. Earthscan.

Meadows, D et al (2004). *Limits To Growth: The 30-Year Update*. Chelsea Green

Rogers, P. et al (2007). *Beyond Terror: The Truth About the Real Threats to Our World*. Rider & Co.

Some times government documents come to light that confirm the above prognosis. Amazingly one surfaced in February 2004 from the bowels of the Bush administration, the Report by Peter Schwartz and Doug Randall, whose extremely alarming findings were reported by the London *Observer*, 22/02.04, p3 (though most of the rest of the paper, not least the adverts and features in the colour supplements seemingly inhabited a different planet while 'top' economic commentator Will Hutton assured his readers on p30 that "things are getting better").

[see <http://www.guardian.co.uk/environment/2004/feb/22/usnews.theobserver> ]

References on compulsive optimists like Julian Simons and born-again 'ecorealists' who now say that things are getting better (Gregg Easterbrook et al) are found in both the Economics and Ideas sections.

## General overviews of the loss of sustainability

Catton, W. (1982). *Overshoot*. Univ. Illinois Pr.

Diamond, J. (2004). *Ecocide*. Allen Lane.

Ehrlich, P. & R. Harriman (1971). *How to be a Survivor*. Pan. An older book but still an excellent introduction. It might be useful to use it as a text to judge the accuracy of gloomier environmental prognoses, which came closer to the truth than most recent writing on 'sustainable development'.

Ehrlich P. & A. Ehrlich (1996). *Betrayal of Science & Reason: How Anti-Environmental Rhetoric Threatens Our Future*. Island Pr. Devastating refutation of the denialism that once thought that the *Titanic* was unsinkable.

Goodland, R. & et al. (1992). *Population, Technology, Lifestyle: The Transition to Sustainability*. Island Pr.. The most academic of the works cited here but complementary to the punchy style of the others.

Gordon, A. & D. Suzuki (1991). *It's A Matter of Survival*. Harper Collins. No punches pulled survey from Canada of how humanity is heading for ecological suicide. The website run by the Suzuki Foundation provides up-dated material: <http://www.davidsuzuki.org/>

Rees, W. (2002-2003). 'Is humanity fatally successful?' *Journal of Business & Public Administration* 30-31: 67-100. Posted @ <http://www.steadystate.org/HumanityFatallySuccessful.pdf>

Shepard, P. (2004). *Coming Home to the Pleistocene*. Shearwater. Argues that current problems must be put in context of a human nature that is the product of eon-old genetic endowment and that current civilisation works against, not with, that inheritance.

## The Outer Limits

Life is constrained biophysically by the three 'E's:

1. *Earth* and its physical finitude which limits both the space that can supply resources as well as acts as sinks for the wastes inevitably caused by the second 'E' plus other sources of pollution
2. *Entropy*, the unavoidable 'overheads' as energy and matter are dissipated through their conversion and use
3. *Ecology*, the web woven by geology, climate and lifeforms which give the Earth its self-replenishing, self-repairing and self-regulating capabilities but which is vulnerable to pollution and degradation.

The following is a core literature on biophysical or 'outer' limits-to-growth and the way the combined burden created by human numbers, per capita consumption and technological choice is overloading what the Earth can sustain. There is a parallel literature on both the history of the concept (see the *Ideas* section) and on what might be called the inner or social limits-to-growth (see the *Society and Lifestyles* section).

Ehrlich, P. & J. Holdren, eds. *The Cassandra Conference: Resources and the Human Predicament*. Texas A&M Univ. Pr., 1987. Some of the key advocates of the Limits perspective are united in this volume.

Georgescu-Roegen, N. *The Entropy Law and the Economic Process*. Harvard UP, 1971. A truly profound and ground-breaking study of biophysical constraints with species attention paid to way the laws of thermodynamics limit energy and material conversions. Jeremy Rifkin's *Entropy* is a popularisation of this fundamental work.

Glasby, G. (1988). 'Entropy, Pollution and Environmental Degradation'. *Ambio*, 17(5): 330-335. Why physical expansion, no matter how well managed, must come against a brick wall, doing increasing damage en route.

Hall, C.A.S. (1975). 'The Biosphere, The Industriosphere, and their Interactions'. *Bull. Atom. Scientist*, 31: 11-21

Mueller, R. (1971). *Thermodynamics of Environmental Degradation*. NASA TM X-65492, Goddard Space Flight Centre.

Ophuls, W. *Ecology and the Politics of Scarcity*. Freeman, 1993. Part One of this book is perhaps the most comprehensive and effective statement of the whole limits thesis. Part Two, which explores its political implications, contains an equally good exposition of the Tragedy of the Commons argument, though other sections have been criticised for their authoritarian overtone.

Schnaiberg, A. & K. Gould (2002). *Environment & Society: The Enduring Conflict*. Blackburn Pr.

Woodwell, G. (1974). 'Success, Succession, and Adam Smith'. *Bioscience*, Feb.: 81-87.

*See the other writings of Georgescu-Roegen as well as those of Herman Daly.*

Dietz, R., & B. Bridgeland. 'Economic growth & biodiversity conservation,'  
Diagrammatic analysis. Posted @

[http://www.steadystate.org/Dietz\\_and\\_Bridgeland\\_Poster.pdf](http://www.steadystate.org/Dietz_and_Bridgeland_Poster.pdf)

## **Up-dates of the Limits Perspective**

Catton, W. (1987). 'The World's Most Polymorphic Species: Carrying Capacity Transgressed Two Ways'. *Bioscience*, 37(6), June: 413-419.

Goodland, R. (1992). 'The Case that the World Has Reached Its Limits: More Precisely that Current Throughput Growth in the Global Economy Cannot Be Sustained'. *Population & Environment*, 13(3): 167-182.

Meadows, D. et al (2004). *Limits To Growth: The 30-Year Update*. Chelsea Green. See also: Meadows, D., et al. (1992). *Beyond the Limits*. Earthscan, 1992. A prior up-date of the original Limits to Growth study.

Trainer, F. (1985). *Abandon Affluence*. Zed. A study that paid particular attention to the unsustainable levels of resource depletion, pollution and environmental degradation that would accompany any attempt to generalise across the globe western levels of consumption. It locates environmental problems firmly in the economy's need, as currently structured, to seek further expansion.

Vale, R. ed. (1986). *Progress Against Growth*. Guildford Pr.

Vitousek, P. et al. (1986). 'Human Appropriation of the Products of Photosynthesis'. *Bioscience*, 34(6): 388-373. How humans are not only eating bigger and bigger slices of the Earth 'cake' but are also threatening, thereby, to destroy the 'bakery' itself.

## Limits-to-Growth: Local and national case studies

Goldsmith, E. (1977). 'The Future of the Affluent Society: The Case Study of Canada'. *The Ecologist* 7(5): 160-194. Countries like Canada (and Australia) are good indicators since, their comparatively low populations and advanced technology combined with vast open spaces and seemingly limitless resources, they might seem, at least to the myopic, able to defy the limits-to-growth for centuries to come. Reality is rather different.

## Historical Perspectives: General

Boydon, S. (1989). *Western Civilisation in Biological Perspective*. Clarendon.

Broszmitter, F. (2002). *Ecocide*. Pluto Press.

Crosby, A. (1986). *Ecological Imperialism: The Biological Expansion of Europe*. CUP.

Diamond, J. (1987). "Worst Mistake in the History of the Human Race". *Discover*, May, 1987: 64-66. Critique of the agricultural revolution and its consequences.

Posted @

[http://www.environnement.ens.fr/perso/claessen/agriculture/mistake\\_jared\\_diamond.pdf](http://www.environnement.ens.fr/perso/claessen/agriculture/mistake_jared_diamond.pdf)

Diamond, J. (1998). *Guns, Germs and Steel: A Short History of Everybody for the Last 13,000 Years*. Vintage.

Diamond, J. (2006). *Collapse: How Societies Choose to Fail or Survive*. Penguin.

Fagan, B. (2000). *Floods, Famines and Emperors: El Nino and the Fate of Civilizations* Pimlico.

Hughes, J. Donald (2002). *An Environmental History of the World: Humankind's Changing Role in the Community of Life* Routledge.

Hughes, J. Donald (2006). *What is Environmental History?* Polity.

Manning, R. (2004). *Against the Grain: How Agriculture Has Hijacked Civilization*. North Point Pr.

Ponting, C. (1991). *A Green History of the World*. Penguin. A popular presentation of the ecological view of history, taking the people-environment interaction as the crucial feature of any society and the most decisive determinant of its future. Very readable.

McNeil, J. (2000). *Something New Under the Sun*. Penguin (UK).

McNeill, J. R. And W. McNeill (2003). *The Human Web: A Birds-Eye View Of World History*. W.W. Norton, 2003.

Roberts, N. (1998). *The Holocene: an Environmental History*. Blackwell.

Russell, E. (1997). *People and the Land Through Time: Linking Ecology & History*. Yale UP.

Shepard, P. (1998). *Coming Home to the Pleistocene*. Island Pr. Particularly good on the impact of the impact of agriculture, in many ways *the* fateful change in the people-planet interaction.

Slotkin, R. (1985). *The Fatal Environment: The Myth of the Frontier in the Age of Industrialization, 1800-1890*. Antheneum. The poisonous dream of an ever-open door to fresh pastures in American culture.

Worster, D. ,ed. (1989) *The Ends of the Earth: Perspectives on Modern Environmental History*. CUP.

Wright, R. (2005). *A Short History of Progress*. Canongate. A fairly short but magisterial overview.

York, R., et al (2003). 'Footprints on the Earth: The Environmental Consequences of Modernity.' *American Sociological Review* 68(2): 279-300.

## **Historical Perspectives:**

### **People-in-Nature to People-Over-Nature**

Catton, W. (1986). 'Homo Colossus & the Technological Turn-Around'. *Sociological Spectrum*, 6, 1986: 121-147.

Dasman, R. (1976). *Environmental Conservation*. 4th ed. John Wiley. See also his (1988). 'Towards a Biosphere consciousness'. In Worster, D, ed. *The Ends of the Earth : Perspective on Modern Environmental History* CUP. Dasman stressed the critical distinction between 'ecosystem people', living-in-place, and 'biosphere people' devouring resources from around the world.

Diamond, J. (2006). *Collapse: How Societies Choose to Fail or Succeed..* Penguin.

Kellert, S. R. (2003). *Kinship to Mastery: Biophilia in Human Evolution & Development*. Shearwater.

Pyne, S. (1998). *World Fire: Culture of Fire on Earth*. Washington UP. Human exploitation of fire, one of the first 'technologies'.

Ryan, C. (1980). 'The Choices in the Next Energy and Social Revolution'. *Technological Forecasting and Social Change*, 16, 1980: 191-208.

Sale, K. (2007). *After Eden: the Evolution of Human Domination*. Duke UP.

Vale, T. (1999). 'The Myth of Humanised Landscape'. *Wild Earth*, Fall: 34-40.

Important refutation, using Yosemite as a case study, of the pervasive notion that there has never been a 'wild nature' and that pre-industrial peoples as much as environmental manipulators as their descendants today, a view which of course rationalise the smash-and-grab ethos of industrial consumerism and technological laissez-faire.

Vale, T. R., ed. (2002). *Fire, Native Peoples & the Natural Landscape*. Island Pr. Explodes the argument that 'primitive' people wreaked havoc by using fire, implying that the destruction caused by modern society is just part of the natural order of things.

Worster, D. (1997). 'The Wilderness of History'. *Wild Earth*, Fall: 9-13. Important refutation of several fallacies about wilderness and people, not least the myth that it simply is a human construct.

## **Historical Perspectives: Case Studies of Human 'Own Goals'**

Catton, W. (1993). 'Carrying Capacity & the Death of Culture: A Tale of Two Autopsies.' *Sociological Inquiry*, 63(2), 1993:202-223. Looks particularly at the ecological suicide of the Easter Island culture in Polynesia.

Chew, S. (2001). *World Ecological Degradation: Accumulation, Urbanization, and Deforestation, 3000BC-AD2000*. Altamira Pr.

Crosby, A. et al, eds. (1997). *A Plague of Sheep: Environmental Consequences of the Conquest of Mexico*. CUP.

Diamond, J. (2000). Ecological Collapses in Pre-industrial Societies. Posted @ [http://www.tannerlectures.utah.edu/lectures/Diamond\\_01.pdf](http://www.tannerlectures.utah.edu/lectures/Diamond_01.pdf)

Goldsmith, E. (1977). 'The fall of the Roman Empire: A Social & Ecological Interpretation'. *The Ecologist*, 5(6), 1977: 196-206. Posted @ <http://www.edwardgoldsmith.com/page53.html>

Hughes, J. Donald (1993). *Pan's Travail: Environmental Problems of the Ancient Greeks and Romans*. John Hopkins UP

Janssen, M. & M. Scheffer. (2004). 'Overexploitation of Renewable Resources by Ancient Societies & the Role of Sunk-cost Effects.' *Ecology & Society* 9(1):6. Posted @ <http://www.ecologyandsociety.org/vol9/iss1/art6/>

Redman, C. (1999). *Human Impact on Ancient Environments*. Arizona UP.

Tainter, J. A. (1990). *The Collapse of Complex Societies*. Cambridge UP.

Weiskel, T. (1989). 'The Ecological Lessons of the Past: an Anthropology of Environmental Decline'. *The Ecologist* 19(3), 1989: 98-103.

Wehrheim, J. (1971). 'Paradise Lost?' *The Ecologist*, 1(10), 1971: 4-8. Case study from Hawaii.

Wright, R. (2005). *A Short History of Progress*. Canongate. Includes very useful case studies of Easter Island, Sumer and Mayan civilisation. Its analysis of such societies: and contemporary industrial 'civilisation': as 'pyramid selling schemes' is very apt.

## Pressure Points & The 'PAT' formula

Three major pressures are ruining the Earth. They are often analysed using the so-called *PAT* formula. It is:

1. *population size* x
  2. *affluence* or particularly per capita consumption x
  3. impact per unit of *technology*
- = pressure on environmental and social systems

The point is that one factor exacerbates the others so its impacts cannot be analysed in isolation. That said, the population factor is the most significant since each an every increase to the overall population necessarily augments the impact of harmful consequences of per capita consumption ('affluence') and of the particular technologies employed to deliver the goods and services thus consumed.

Dietz, T., et al (2007). 'Driving the human ecological footprint.' *Frontiers in Ecology & the Environment* 5(1):13-18. Posted @ [http://www.steadystate.org/Dietz\\_et\\_al\\_on\\_Ecological\\_Footprint.pdf](http://www.steadystate.org/Dietz_et_al_on_Ecological_Footprint.pdf)

Ehrlich P. et al (2003). 'Effects of household dynamics on resource consumption and biodiversity'. *Nature*, 421 (30) January. 530-533

Ehrlich, P. & J. Holdren (1972). 'One-Dimensional Ecology'. *The Ecologist*, 2 (2), 1972: 11-21. A crucial article which argues that all three factor count together,

each magnifying the effects of the other two. The article was written with specific reference to the thesis advanced by the American biologist and socialist Barry Commoner that the problem is 'flawed technology'. See, in particular., his famous work, *The Closing Circle*. His subsequent books specifically deny any population dimension to the environmental crisis.

Hall, C.A.S., et al (1994). 'The environmental consequences of having a baby in the United States'. *Population and Environment*, 15 (6), 1994: 505-524. The need to see population growth in context of material expectations and consumption patterns.

Holdren, J. (1991). 'Population and the Energy Problem'. *Population and Environment*, 12(3), 1991: 231-255. A very important essay which looks at the USA's profligate levels of energy consumption, showing that the decisive factor in the country's globally unfair and ecologically unsustainable demand for energy was not increased per capita consumption nor, surprisingly, the switch to energy-wasteful technologies like the private motor car, but simply that there are more Americans. In other words, population growth has been a potent force in itself and in its capacity as a multiplier of other factors at work.

Myers, N. & J. Kent, eds. (2004). *The New Consumers: The Influence of Affluence on the Environment*. Island Pr. Impact of rising per capita consumption in countries like China and India.

Nelson, G. et al (2006). *Anthropogenic Drivers of Ecosystem Change: an Overview* Ecology and Society. Posted @

<http://www.ecologyandsociety.org/vol11/iss2/art29/>

Ramesh, R. (2007). 'India gears up for mass motoring revolution with £1,260 car'. *Guardian*, 11/01/07. Posted @

<http://www.guardian.co.uk/india/story/0,,2238983,00.html> See also

<http://news.bbc.co.uk/1/hi/business/7180396.stm>

## Root Causes of Ruination

The above PAT formula tries to picture the different kinds of pressure being put on environmental: and social: systems. However babies do not conceive themselves, products do not throw themselves off supermarkets into shoppers' trolleys and technologies do not spontaneously emerge.

In all three cases, the question is begged why wrong choices are made that in turn lead to overpopulation, excess consumption and the development of environmentally and socially inappropriate technologies.

There are two discrete groups of explanation:

1. 'Vested interests'
2. 'Tragedy of commonplace decisions'

The first root cause lies in the intervention of certain vested interests whose self-interest and self-serving behaviour and sometimes sheer tunnel vision variously leads society down the wrong road. Often the way society is organised leaves individuals, especially its poorer members, with little choice but to do things that harm the long-term interests of themselves and society as a whole. Under this

heading come a whole range of forces: capitalist profiteering, bureaucracy, religion, political factionalism, mechanistic science, caste and class discrimination, patriarchy, racism... and many more 'isms', not to overlooking the deepest, broadest and, ultimately, most destructive 'ism' of them all, anthropocentrism.

Many such forces feed off each other, sometimes to an extent it is impossible to say what causes the other. Examples include egotism and 'free market' economics, though sometimes links are exaggerated as with the connection frequently but inaccurately made between Protestantism and Capitalism. Sometimes these forces coalesce into a web of which the grouping named the "military-industrial complex" by President Eisenhower is perhaps the most famous. Such labyrinthine webs ensnare bodies such as government departments, the judiciary, public commissions, and research institutes as well as business directorships and other commercial circles. Often other shorthand terms are used to describe these vested interests such as 'ruling class', the 'Establishment', the 'system', 'hierarchy' or simply, 'them' (as opposed to the 'good guys', i.e. 'us').

Then there is the second set of root causes. They might be summed up under the heading "the tyranny of commonplace decisions". In this case this is no exploitative, oppressive or otherwise wilful dynamic necessarily at work. This other dynamic is all the more important since, if unaddressed, it will persist in making things go from bad to worse, even if all other structures of exploitation and oppression were magically removed.

The dynamic functions most explosively in anonymous mass societies where the social constraints of local opinion and 'community policing' are removed, another reason why population growth is the biggest single threat to the future.

The core 'text' of this debate is:

Hardin, G. (1969). The Tragedy of the Commons *Science*, 162: 1243-1248.

The Tragedy of the Commons is one of the most widely cited and reprinted articles of all time. It has been attacked for ignoring the fact that many traditional societies had value systems and social structures which prevented their members from overexploiting common lands. Hardin has returned to the theme in a variety of books since then, all of which are well worth reading.

Other useful resources are:

Andelson, R. ed., (1991). *Commons Without Tragedy: Protecting the Environment from Overpopulation--A New Approach*. Barnes & Noble

Costanza, R. (1987). 'Social Traps & Environmental Policy'. *Bioscience*, 37/6, 1987: 407-412

Kahn, A. E. (1968). The Tyranny of Small Decisions *Kyklos*, 1, 1968: 23-47.

Odum, W. (1982). 'Environmental Degradation and the Tyranny of Small Decision'. *Bioscience*, 32(9), 1982: 728-729.

Ophuls, W. *Ecology and the Politics of Scarcity*. Freeman, 1993. Part Two contains a strong exposition of the Tragedy of the Commons argument, though other sections have been criticised for their authoritarian overtone.

Schelling, T. C. (1971). 'On the Ecology of Micromotives'. *The Public Interest*, 25, 1971: 59-98.

Examples of how communities have managed their common property resources sustainably, albeit usually in much, much smaller scale circumstances than today's societies with far less powerful technologies, can be found in:

Berkes, F., ed. (1989). *Common Property Resources*. Belhaven.

McKay, Bonnie J. & Acheson, J. M., eds. (1987). *The Question of the Commons*. University of Arizona Pr.

Examples of the 'tyranny of small decisions':

- riots in parts of China May 2007 by adults against single child policy. Couples might want: might be personally pleased by or otherwise benefit from more than one child: but each addition would add to the crippling weight of the existing Chinese population, i.e. the 'whole' would suffer by tiny choices made by individuals.
- the freedom of the open road and resultant congestion (the same is true of river traffic etc)
- the cumulative destruction of hedgerows and copses by a myriad of small 'cuts' made by individual farmers propelled by many motives, from convenience (easier use of farm machinery) to the economic (tapping of government grants).

## **'Personal footprints'**

Herbert, I. & J. Brown (2006) 'Your carbon footprint revealed' *Independent* Dec. 9, 2006. Posted @

[http://environment.independent.co.uk/climate\\_change/article2060002.ece](http://environment.independent.co.uk/climate_change/article2060002.ece)

## **'Vested Interests'**

The following are but a short sample of assorted vested interests whose self-serving behaviour both deepens the crisis of sustainability and blocks action to address the issue. By fair but usually foul means, they sacrifice the well-being of the rest of society on the altar of their own greed and power craziness. The various webs spun by the super-rich are one category. So too are all kinds of commercial and industrial interests. State bureaucracies and professions such as lawyers often promote their well-being at the expense of those they are meant to serve. But sometimes groups like labour and trade unions stand out in the way of measures that might improve collective well-being.

- agribusiness: large-scale farmers (who often control farmer's unions like Britain's NFU), agrochemical manufacturers and genetic engineers;
- particular food producers & traders like cattle ranchers, 'big sugar' (sugar corporations) and 'big tobacco' (tobacco corporations);
- superstore chains like Wal-Mart;

- the 'infrastructure' lobby (e.g. road and airport construction firms)
- energy businesses, most obviously the fossil fuel conglomerates but also the nuclear 'barons';
- medical drugs corporations;
- organised crime, the annual takings of criminal gangs around the world being £984bn in 2007, twice the world's combined defence budgets;
- military-industrial complex': weapons manufacturers, the arms trade and military establishment
- lawyers, estate agents, & other professions who use their stranglehold on certain aspects of life to live 'high on the hog';

Some of the above form united fronts like the *Wise Use Movement* and the *Climate Coalition* to stop any moves that would curb their activities and influence. Most of the above are recipients of enormous subsidies from the public purse and all kinds of other positive discrimination ('corporate welfare'). This does not stop them complaining about public interference in their 'private' affairs.

Putting these bloated beasts on a tight diet would be probably the most cost-effective moves to put society on a more sustainable footing. One reason why the ordinary citizen knows so little about such vested interests is the fact their 'cousins' control the means of public communication via the media industries. Many vested interests are now active in schools and public sporting events to further socialise people into thinking that there is no alternative to 'business-as-usual'. Some sponsor environmental projects to put a lick of green gloss on their image.

Groups like trade unions have a more ambivalent role, sometimes articulating their members' interests and sometimes looking after the welfare of their own officials at the expense of the rank and file. Frequently the best run and most democratic trade union can oppose the public interest by lining up with employers and/or governments against long-term well-being. For example, many unions have supported nuclear power industry and opposed anything that threatened jobs (as if any jobs will survive once the Earth's life-support systems go into terminal decline).

At times, many elements, consumers and producers, corporate 'fat cats' and humble citizens join together to oppose necessary measures. Perhaps the biggest such grouping is the 'car lobby'.

## **Some Vested Interests: Some case studies**

Bosch, R. van den (1980). *The Pesticide Conspiracy*. Prism. The lurid title notwithstanding, a rigorous critique of the pesticide industry.

Gow, D (2007). 'Car firms put power before need to go lean and green'. *The Guardian*, Sept. 12<sup>th</sup>, 2007. Critique of German car manufacturers who have been in the forefront of car industry claims about greener vehicles. Posed @ <http://business.guardian.co.uk/story/0,,2167054,00.html>

McGinn, A. (1997). 'The Nicotine Cartel'. *WorldWatch*, 10(4), 1997: 17-27. Meet some of the most ruthless drug pushers in the world, the cigarette corporations.

Miller, J. (1997). *Egotopia* Univ. Alabama Pr., 1997 One of the powerful industrial groups is also one of the smallest, the billboard industry. Its products defile many a landscape, a veritable commercialisation of open space if ever there was. See the discussion of its activities behind the scenes in though, of course, compared to issues like global overwarming, billboards are trivia, no matter how offensive to the eye. See also Charles Floyd's *Highway Beautification: The Environmental Movement's Greatest Failure* (Westview, 1979).

Moran, A. (1971). *Dams and other Disasters: A Century of the Army Corps of Engineers in Civil Works*. P. Sargeant. The Corps has a record of enormous financial waste and environmental ruination. Morgan focuses on its one-dimensional mindset and cliquishness. This dire track record demonstrates that private capitalists are not to blame for every economic and environmental folly.

Rabin, R. (2006). 'The Lead Industry and Child Lead Poisoning'. *Synthesis*, 41, Fall, 2006. Another story of denial and cover-up.

Posted @ <http://www.greens.org/s-r/41/41-02.html>

Seagar, A. (2007). 'Housebuilders win battle against green technologies'. *Guardian*, August 20<sup>th</sup>, 2007. Report on successful efforts by British building industry to subvert greener building policies: and government surrender to their wishes. Posted @ <http://www.guardian.co.uk/environment/2007/aug/20/energy>

Smithers, R. (2007). 'Dangers to children from food and drink additives is exposed'. *Guardian*, Sept. 6, 2007. Report on in-depth study by the University of Southampton, published in *The Lancet*. The report confirmed what campaigners had been saying for years (back in the 1970s, scientists like the American Ben Feingold had been warning of the risks from artificial colours, flavours and preservatives. It also revealed the failure of the so-called Food Standards Agency and its subservience to the food additive industry which has relentlessly denied any problems and blocked necessary action. The global additives market is worth over £12.4bn and was growing by 2.4% per annum between 2002-2004. Posted @ <http://www.guardian.co.uk/frontpage/story/0,,2163226,00.html>

St Clair, J. (2004). *Been Brown So Long It Looked Like Green To Me*. Common Courage Pr. A more general study of the web that links corporate 'fat cats', bureaucrats & a servile media.

*See also:*

*The European Automobile Manufacturers' Association* ( <http://www.acea.be/> )

They wasted a decade by failing to meet previous promises under a voluntary agreement in 1997. In 2007, they prevented the EU from setting a 2012 target of 120g of CO<sub>2</sub> per kilometre by negotiating it upwards on the pretence that biofuels could make the "difference".

## **Microcosms**

Part of the danger is that the road to ruin is usually marked by a myriad small steps rather than giant strides. These tiny bites out of the Earth's life-support systems often go unnoticed precisely because of their tiny size. They often seem quite justified in and of themselves. Because they seem so unimportant and because they are so diffuse, it is very hard to stop them.

Yet their cumulative consequences when added together do bring total ruination much closer. In the meantime, they can be having harmful effects anyway. A longer than usual list of references is provided in order to catch the sheer diversity of human nibbling at the earth's life-support systems.

Anon (2002). 'Stop using perfume'. *Earth Island Jnl*, 22/03/02. All those tiny drop of perfumes, toiletries like soap and air fresheners add up. Perfume emissions from the Texan city of Houston alone may well exceed five million pounds annually. Everything always must end up somewhere. Many of these products are sources of volatile organic compounds, regulated in industrial usage but not elsewhere. These products are ecological stinkers!

Arnot, C. (1999). 'Survival in the green belt jungle'. *Guardian*, 06/Wed./99. Proposed technology park versus wildlife site in English Midlands.

Brown P. and I. Sample (2003). 'The sky you won't see at night'. *Guardian*, 07/10/03. For reasons of road safety, security on the streets as well as the floodlighting of public buildings and commercially driven attempts to spotlight shop windows, petrol stations, and leisure venues like clubs and restaurants, illumination at night time increases, virtually banishing the stars in many regions due to 'sky glow'. By 1987 there were 7,000,000 million street lights in Britain alone, with some 100,000 added each year since, often due to new road building and increased lighting on existing roads. High-pressure directed lights reduce light pollution but use more energy, another example of the absence of any ecological free lunches.

Campbell, D. (2000). 'Scandal of playing fields that Labour didn't save'. *Guardian*, 13/Feb./00. The de-greening of Britain has been hastened by the collusion between government and developers to build on school playing fields, while the nation's youth gets fatter and fatter, partly through lack of regular exercise. New Labour agreed to the destruction of over 1000 between late 1998 and early 2000, yet again betraying one of its election pledges

Carrell, S. (2007). "Just go home: what the Scots fisherman told Donald Trump" *Guardian*, Oct. 10, 2007. Just another golf course, in this case a development being promoted by billionaire Donald Trump to be carved out of the Aberdeenshire countryside, with a lone resistor in the way. Posted @ [http://www.guardian.co.uk/uk\\_news/story/0,,2187421,00.html](http://www.guardian.co.uk/uk_news/story/0,,2187421,00.html)

Cox, S. (2006). 'Turf wars'. *Synthesis*, 40, Summer, 2006. How 'care' of garden lawns increases ecological damage. Posted @ <http://www.greens.org/s-r/40/40-05.html>

Ellis, R. (2005). *Tiger Bone and Rhino Horn: The Destruction of Wildlife for Traditional Chinese Medicine*. Island Pr.

Harrison, D. (1998). 'Is it worth this wildlife site to build another petrol station?'. *The Observer*, 18/Jan./98. English Partnerships, a development corporation, & its plan to build a petrol station, drive-through restaurant, hotel, and industrial estate on Rainham Marshes in London.

Jowit, J. (2007). 'Trendy trees add to waste mountain at Christmas' *Observer*, Dec. 16, 2007. Britons prepare to celebrate the season of peace and goodwill by

thoughtlessly and selfishly taking a few more bites out of poor old Mother Earth then dumping it all back over her again. Posted @

<http://www.guardian.co.uk/environment/2007/dec/16/recycling.waste>

LaDuke, W. (2006). 'The Seri, Sea Turtles and Cleavage'. *Synthesis*, 40, Summer, 2006. How tourist development is destroying habitat while direct killing for allegedly aphrodisiac eggs is wiping out Mexican turtle populations. Posted @ <http://www.greens.org/s-r/40/40-04.html>

Lovegrove, R. (2007). *Silent Fields: The Long Decline of a Nation's Wildlife*. OUP. Part of this chronicle of the long-term destruction of British biodiversity is the story of the Preservation of Grain Act of Henry V111 which incited a veritable holocaust of birds and animals in 16<sup>th</sup> century England and Wales, something that cannot be blamed on capitalism since it was a response to bad harvests.

Madeley, J. (1986). 'Tobacco: A Ruinous Crop'. *The Ecologist*, 16(2/3): 124-129. Quite understandably, people campaign about the human health risks of active and passive smoking yet they are outweighed by the ecological consequences of cultivating tobacco.

McKie, R. (2000). 'Rat poison wiping out our wildlife. *The Observer*, 09/Jan./00. Another of chemical warfare, rodenticides, destroying other species.

Monbiot, G. (2007). 'The new coal age'. *Guardian*, Oct. 9, 2007. Despite Britain's already massively excessive contribution to global carbon levels, more coal mining goes ahead. Posted @

<http://www.guardian.co.uk/environment/2007/oct/09/energy>

Nicoll, R. (1997). 'Revolt in the Glen'. *The Guardian*, 18/Nov/97. A classic case form the Cairngorms of people being prepared to ruin another bit of planet Earth, this time in the name of 'economic development' and jobs.

Orr, J. (2007). 'US tycoon gets go-ahead for Scottish golf resort'. *Guardian* Nov. 21, 2007. Posted @ <http://www.guardian.co.uk/usa/story/0,,2214594,00.html>

Sample, I. (2008). 'Environment: Climate risk from flat-screen TVs'. *Guardian*, July 3<sup>rd</sup>, 2008. Posted @ <http://www.guardian.co.uk/science/2008/jul/03/scienceofclimatechange.climatechange>

Townsend, M. (2004). 'Death of the British front garden leaves cities in peril of flooding'. *The Observer*, 15/08/04. How more and more land is being paved over to created extra parking on heavily congested streets. The new surfaces reduce rain water absorption, provide no wildlife habitat... and are ugly.

Tuckman, J. (2000). 'A burning issue of farmers & rebels. *The Guardian*, 02/Sept./00. Local people fighting for the right to settle and keep hacking away at protected forests in Mexico.

Other case studies include:

- The pouring of oil down household drains, an act which, in toto, adds more oil to the seas than do ruptured oil tankers.
- An ageing and its effects on the number of cars on the road (by 2006, Britain had 30,000 drivers over 90 years old).

- The loss of gardens. According to a report from *Natural England*, front gardens in London with a total area 22 times the size of Hyde Park are now paved over and lost, reducing havens for wildlife, increasing the risk of flash flooding and contributing to climate change. It is happened because of a myriad of decision by individual property owners to construct patios, barbeque decks and driveways where once there was uncovered soil and vegetation. They do it for convenience, ease of maintenance, leisure activities and car parking space.

## Accelerating into More Danger

Perhaps the most fateful delusion at present is the one that believes that, instead of changing course, society should accelerate down its present unsustainable course. The worst example is the desperate search to squeeze out, what in the scheme of things, are a few more drops of oil from places like Alaska The UK, Russia and others have their greedy eyes on the Arctic. The price is not only the ecological devastation for the sake of only short period of respite before shortages bite. Others look to 'oil shale' and tar sands, as in the fever of exploitation now trashing northern Alberta in Canada. The escape from oil addiction will be that much harder for not starting now.

But there are many more examples of the widespread unwillingness to recognise that the game is up. Instead. Increasingly desperate ways are sought to keep an unsustainable show on the road. For instance:

Achenbach, J. (2008). 'USDA Rule Change May Lead To Crops on Conserved Land'. *Washington Post*, July 11, 2008. Example of how society responds to tightening limits by taking more bites on Mother Earth rather than curbing excess demands or eliminating wasteful practices. Posted @ <http://www.washingtonpost.com/wp-dyn/content/article/2008/07/10/AR2008071002550.html>

Bowcott, O. (2007). 'Sea of Troubles'. *Guardian*, Dec. 5, 2007. Rush to exploit the seabed and the devastation it will cause. Posted @ <http://www.guardian.co.uk/environment/2007/dec/05/energy.fossilfuels>

Bowes, G. (2007). 'High Altitude Building Boom'. *Observer* Feb. 18<sup>th</sup>, 2007. Climate change and other constrains are undermining many ski resorts. The response is not to curb industrialised tourism in areas like the Alps but to colonise previously unspoilt but ecologically more vulnerable areas further up the mountains. Posted @

<http://travel.guardian.co.uk/article/2007/feb/18/italy.skiing.wintersportsholidays>

Branigan, T. (2007) 'Days of the one-child rule could be numbered as Beijing considers change.' *Guardian*, Feb. 28, 2008. The one-child has caused all sorts of problems but none is worse than the consequences of renewed growth in China's already grossly swollen population. Posted @ <http://www.guardian.co.uk/world/2008/feb/29/china.population>

Calder, S. (2008). 'A revolution in the skies... a disaster for the planet'. *Independent*, March 1, 2008. Rush to more cheap flights despite al the evidence about aeroplane carbon emissions and global overwarming. Posted @

<http://www.independent.co.uk/environment/climate-change/a-revolution-in-the-skies-a-disaster-for-the-planet-790016.html>

Connor, S. (2007). 'Britain's Carbon Strategy "Up in Smoke"'. *Independent*, Dec. 19, 2007. Brown government plans more coal-fired power stations. Posted @ [http://environment.independent.co.uk/climate\\_change/article3258007.ece](http://environment.independent.co.uk/climate_change/article3258007.ece)

Glancey, J. (2008). 'The great eco-town land grab.' *Guardian*, June 25, 2008. Faced with the need to conserve wildlife habitat and protect farmland, the British government plans more urban sprawl under the grossly misleading banner of new 'eco-towns'. Posted @ <http://arts.guardian.co.uk/art/architecture/story/0,,2287264,00.html>

Gow, D. & W. Woodward (2008). 'Green laws and regulation risk energy crisis, say Europe's power companies'. *Guardian*, Feb. 7, 2008. Power companies, like most established institutions, can see only one road, the same old road that got us into so much danger in the first place. Posted @ <http://www.guardian.co.uk/environment/2008/feb/07/energy.renewableenergy>

Ionescu, C. (2007). 'Alps to get high-life makeover'. *Observer*, Sept. 16, 2007. Report on plans to build giant tower blocks across the Alps, full of shopping malls and leisure facilities so tourists won't notice that global warming has made regular skiing impossible. Posted @ <http://www.guardian.co.uk/travel/2007/sep/16/alps>

Macalister, T. (2007) 'Big Oil lets sun sink on renewables.' *Guardian*, Dec. 12, 2007. What oil companies Shell and the laughingly branded 'Beyond Petroleum' BP are really doing. Posted @ <http://www.guardian.co.uk/business/2007/dec/11/oil.bp>

Macalister, T. (2008) 'BP goes back to petroleum.' *Guardian*, Feb. 21, 2008. BP once advertised itself as 'Beyond Petroleum'. This is what the company really were about. Posted @ <http://www.guardian.co.uk/business/2008/feb/21/bp.oil>

Macalister, T. (2008) 'Production decline does not mean oil is running out, says BP'. *Guardian*, June 12, 2008. BP Chief executive calls for Arctic and other areas to be opened up for exploration. Posted @ <http://www.guardian.co.uk/business/2008/jun/12/bp.oil>

McKie, R. (2007). 'How Africa's desert sun can bring Europe power' *Observer*, Dec. 2, 2007. Example of desperate belief that there is some Aladdin's Lamp that can be rubbed to keep business-as-usual on the road and not make the inevitable radical cutbacks of total energy consumption. Posted @ <http://www.guardian.co.uk/environment/2007/dec/02/renewableenergy.solarpower>

Rackham, O. & J. Moody (2008) 'Harsh course of nature'. *Guardian*, March 5, 2008. Despite all the criticism, the tourist industry still seeks new areas to despoil, ignoring little details like aviation emissions, local water shortages, and rare habitats. Posted @ <http://www.guardian.co.uk/environment/2008/mar/05/endangeredhabitats.endangere species> See also the accompanying piece by John Vidal @ <http://www.guardian.co.uk/world/2008/mar/05/greece.pollution>

Sample, I. (2007). 'Brown must embrace GM crops to head off food crisis.' **Guardian**, Nov. 28, 2007. Also calls for more nuclear power plants— a good example of how scientific training is no guarantee against folly.

Temko, N. & J. Jowit. "UK will grind to halt without new roads'. **Observer**, Oct.14, 2007. Prime example of people who will never learn. A report on a study for the RAC which demands more road-building to solve traffic congestion. Posted @ <http://www.guardian.co.uk/transport/Story/0,,2190992,00.html>

Vidal, J. (2008). 'Severn barrage will be costly ecological disaster, say environment groups.' **Guardian**, June 12, 2008. Attack on proposed Severn barrage scheme for SW England, a project supported by the so-called Sustainable Development Commission. Posted @ <http://www.guardian.co.uk/environment/2008/jun/12/conservation.wildlife1>

Vidal, J. (2008). 'Decision time for the planet.' **Guardian**, June 25, 2008. Faced with global warming, the world burns more coal! In 2007, China built around 100 large coal-fired power stations, India 30 and Europe more than 20. More than 150 plants were planned for the US, 20 for Germany, and eight for Britain. Brazil, Mexico, Indonesia and South Africa all said they needed more. Posted @ <http://society.guardian.co.uk/thecarbonquestion/story/0,,2287186,00.html>

Williams, R. (2007). 'Study calls for 372 miles of new road lanes a year.' **Guardian**, Nov. 28, 2007. Posted @ <http://www.guardian.co.uk/transport/Story/0,,2218063,00.html>