

MANAGING DECLINE

Global Change Requires Local Action

TREVOR HANCOCK

Abstract

Ecosystem decline and collapse is not just a plausible alternative future but an unfolding present-day reality. It will be accompanied by the decline and collapse of societies and communities that depend on those ecosystems, and will have a dramatic impact on population health. Decline can be thought of as a form of long, slow crisis or a slowly unfolding disaster, and may be the prelude to collapse. After briefly reviewing the declining condition of some key elements of the global ecosystem, I conclude that we need a game plan to guide us through the ecological decline that we are already experiencing, and through the social changes this will require. I call this 'managing decline'; it begins with a willingness to acknowledge and accept the reality of ecological decline, and may need to include setting up 'decline management' units, rather as we have set up disaster management units, to help us manage the transition through decline and avoid collapse. As with so many important innovations, managing decline will begin at the local level. Indeed, this is beginning to happen, best exemplified by the synergy between *healthy* and *sustainable* cities and, more recently, the emergence of the Transition Towns movement.

Context: Declines in All That Sustains Life

As a health futurist with a particular interest in alternative futures and preferable futures, I have long recognised that 'decline and collapse' is a plausible alternative future that we face (Bezold and Hancock, 1993, 1994). Indeed, we face the real option of both the decline and collapse of ecosystems and the accompanying decline and collapse of the societies and communities that are embedded in and depend on those ecosystems. Yet, it is in many ways the future whose name we

dare not speak – or at least, that we prefer not to explore. In workshops, it is, of course, seen as an undesirable future, although not improbable – and nobody likes to examine the undesirable.

But, the reality is that decline and collapse is not just a plausible alternative future but an unfolding present-day reality. In the 20 years since Tony McMichael wrote *Planetary Overload* (McMichael, 1993) the state of our planetary ecosystems and the sustainability of our natural resources have declined significantly.

Average annual global CO₂ emissions increased from 22.6 billion tonnes (Bt) in 1992 to 33.9 Bt in 2011, an increase of 50 per cent (Olivier *et al.*, 2012), with CO₂ levels at Mauna Loa, Hawaii hitting 400 ppm in May 2013 for the first time in about three million years (Gillis, 2013), while the average annual global temperature has increased from 14.15°C in 1992 to 14.53°C in 2012 (December–November),¹ and the Arctic summer sea ice minimum in 2012 was the lowest ever recorded and has declined ‘49 percent below the long-term average (1979–2000)’ (NOAA, 2012).

The Global Living Planet Index (LPI – a measure of the state of the world’s biological diversity based on vertebrate population trends from around the world) has declined from 0.82 in 1992² to 0.72 in 2007. Even more seriously, the Tropical LPI has declined from 0.55 in 1992 to 0.40, while the Temperate LPI has actually increased from 1.22 to 1.29 (Zoological Society of London, 2010), suggesting the temperate (and mostly high-income) countries have preserved and even enhanced the condition of their living species at the expense of the tropical ecosystems located largely in middle- and low-income countries, which have been exploited largely to maintain the way of life of the high-income countries.

The Global Ecological Footprint in 1990 was 2.7 hectares (ha) per person, and was the same in 2008, but since the population had increased from 5.3 billion to 6.7 billion, this actually represents a 26 per cent increase in the total footprint. This is reflected in the fact that the footprint/bicapacity ratio increased from 1.18 in 1990 to 1.52 in 2008, which is an increment of 2.5 times the demand for nature’s renewable resources since 1961 (Global Footprint Network, 2012). Thus, we went from using just over one planet’s worth of bicapacity to using more than one and a half planet’s worth. Clearly, this is unsustainable, and yet most standard projections of population and economic growth show that demand on the Earth’s bicapacity will continue to expand as the new population and economic engines of China, India, Brazil, Indonesia, Russia, Nigeria and many

1 Calculated from ‘Global Land–Ocean Temperature Index in 0.01 degrees Celsius (base period: 1951–1980)’ raw data available from NASA’s Goddard Institute for Space Studies at data.giss.nasa.gov/gistemp/tabledata_v3/GLB.Ts+dSST.txt, accessed 28 December 2012.

2 Baseline for all measures of 1.0 in 1970.

other countries continue to grow. If the whole world had the same consumption patterns as the USA (8.0 ha per person in 2007) or of high-income countries as a whole (6.1 ha per person), we would need, respectively, more than three or more than two Planet Earths to meet our global demand.

In 1968, an international think tank of industrialists, scientists and politicians – called The Club of Rome – asked a group at the Massachusetts Institute of Technology, USA, to model the effects of major global trends on the health of the planet. The MIT group built a world computer model to investigate five major trends of global concern – accelerating industrialisation, rapid population growth, widespread malnutrition, depletion of non-renewable resources and a deteriorating environment. The results were published in their 1972 book, *The Limits to Growth* (Meadows et al., 1972). The first of their three general conclusions was:

If the present growth trends in world population, industrialization, pollution, food production, and resource depletion continue unchanged, the limits to growth on this planet will be reached sometime within the next 100 years. The most probable result will be a sudden and uncontrollable decline in both population and industrial capacity. (Meadows et al., 1972)

Although the authors were widely attacked for their conclusions, in their 20-year review, they found the trends relatively unchanged. They stated that they would rewrite their first basic conclusion as follows:

Human use of many essential resources and generation of many kinds of pollutants have already surpassed rates that are physically sustainable. Without significant reductions in material and energy flows, there will be in the coming decades an uncontrolled decline in per capita food output, energy use, and industrial production. (Meadows et al., 1992)

Almost 20 years after that, Turner looked back at the original Club of Rome scenarios and the actual record since then and concluded that:

Thirty years of historical data compare favourably with key features of a business as usual scenario called the ‘standard run’ scenario which results in collapse of the global system midway through the 21st century. (Turner, 2008)

In short, as the UN’s Millennium Ecosystem Assessment noted:

Human activity is putting such a strain on the natural functions of Earth that the ability of the planet’s ecosystems to sustain future generations

can no longer be taken for granted ... Nearly two-thirds of the services provided by nature to humankind are found to be in decline worldwide. (Millennium Ecosystem Assessment, 2005)

Clearly, ecological decline is well under way, and given the inertia and time lag built into Earth's natural systems, it will continue for many years to come, even were we to start doing everything right today – and there seems little prospect of that, given the inertia and time lag that is also built into our social systems. Given that bleak reality, it seems logical that we should begin to treat ecological decline as a present-day reality, not an improbable or undesirable future, and act accordingly.

But, ecological decline is not in some way separate from us. We, as biological beings, as a species, and the societies and communities we have created as a social animal, are ultimately dependent on the so-called 'ecosystem goods and services' that the Earth 'provides' for us.³ These include such basic necessities as the production of oxygen, water and food, the great cycles of water, nitrogen and carbon, the recycling of 'wastes', and so on. So, when ecosystems decline or collapse, so too do the communities and societies that are embedded in and dependent on them (Diamond, 2005). Thus, we face the very real possibility, indeed, the probability, that at least some communities and societies around the world, if not the entire edifice of our modern technological society, will decline or collapse in the coming decades.

Faced with such a prospect, we need a game plan to guide us through the ecological decline that we are already experiencing, which will only get worse, and through the social changes this will require. I call this 'managing decline'.

Managing Decline

'Decline' is a complex concept that can be thought of in several ways:

- It is a slow process and, as such, may be thought of as a form of long, slow crisis or a slowly unfolding disaster.
- It is, or may be, the prelude to collapse, which might also be just an accelerated form of decline, or could be sudden and unexpected, a sort of phase shift.
- Ecological and social decline and collapse are likely to be interwoven.

³ In stating this, I am not taking an anthropocentric view. I do not believe that the Earth's ecosystems were put there for our benefit, but that, like all species, we depend on the natural processes that 'produce' a set of 'goods and services' essential for life, goods and services that we have to share with all other species because they are part of the web of life that we, too, are part of.

The first step in managing decline is to recognise reality, not turn away from it. An analogy is that we do not think denial is a healthy response to a serious and life-threatening disease. One has to face it and deal with it, both in terms of managing the disease and managing the impact of the disease on one's life. Well, as a society and as a planetary civilisation, we have to face the reality of ecosystem and resource decline, try to manage it, and try to manage the impact of the decline on our community, society and global well-being.

'Managing decline' has several dimensions:

- Understanding the types of ecological decline we face, their scale and likely timelines, and their implications for society.
- Finding ways to handle the social disruptions that will result (at different times and in different places around the world) with the least harm to people; a form of long, slow disaster management plan.
- Finding ways to slow and reverse the ecological decline, which means slowing and then reversing the impact of humans on the Earth's ecosystems, which, in turn, means a radical shift in the way our societies work.
- Finding ways to identify the potential 'tipping points' where either or both of ecological and societal decline can slide off swiftly into collapse and chaos, so that emergency action can be taken to try to avert the situation.

If we are going to come to these understandings and find our way forward, we need intellectual, social, political and organisational mechanisms to help us do so. What I propose is really no different to something we have become quite accustomed to; namely, setting up disaster management organisations. However, I am unaware of any organisation or institution that has a mandate at present to address decline, rather than an acute disaster.

The first challenge is perhaps largely an intellectual one – to understand the dimensions of ecological decline and its implications for societal decline, to begin to 'map' this and to try to understand what might be the early warning signs of impending collapse. As such, universities would seem to be the place to start, or perhaps a dedicated think tank. This would necessarily have to occur in more than one place, because ecosystem and societal characteristics vary from region to region, even from country to country. But, it would also be necessary for there to be a global organisation, perhaps at the United Nations (UN), or through a global non-governmental organisation (NGO), or a university with a global reach and mandate. These groups or units would also need to be effective in communicating their work to the general public and political and other societal leaders, because action requires awareness.

The next stage, although perhaps occurring simultaneously, would be to start to set up 'decline management' units and programmes, rather as we have set up disaster or emergency management units. These would have to be government organisations, and indeed might be added to existing emergency management units. Again, they would need to be established at both a global and a regional level, and within individual countries. And, as is the case with existing disaster management programmes, public communication would be an important role for them, too.

Of course, all this is predicated on there being a willingness to acknowledge and accept the reality of ecological decline in the first place, and its implications for our communities and societies. Sadly, but perhaps predictably, as the crisis worsens, there seems to be even less willingness today to face the facts than what was seen a generation ago. So, regrettably, as has been the case only too often in the past, we will likely need to experience disaster – sometimes several times – before we develop the political and public will to respond. But, given the scale of the decline and collapse that we face, the question is whether, by then, it will be too late.

Global Change, Local Action

I first became involved in thinking about healthy cities in the early 1980s at the city of Toronto, and by the early 1990s, about the time that Tony McMichael published *Planetary Overload* (McMichael, 1993) I was involved in the development of the emerging global movement for healthy cities and communities. My focus was on linking the concept to that of *sustainable* cities (Hancock, 1994, 1996, 1997, 2000). It seemed to me then, and still does, that health and sustainability are two sides of the same coin, and that there is much to be gained on both sides from a closer collaboration; indeed, a synthesis.

Moreover, my involvement with Healthy Cities since the movement first started in Europe and Canada more than 25 years ago has confirmed for me that if there is any hope, it will be found at the local level. Following the Second International Conference on Health Promotion in Adelaide, Australia, which was focused on healthy public policy, Kickbusch, Draper and O'Neill remarked that the local level

is where the practice of healthy public policy is developing most rapidly and where its effects are most visible. There are clear reasons for this: many of the problems that have environmental or service dimensions are most obvious at the local level. So are the changes needed. Politicians at this level are more closely in touch with their electors and respond more clearly to their concerns. Governmental structures, even in large cities,

interact more easily with each other and find ways to coordinate their planning and action more readily than at the national level. (Kickbusch et al., 1990)

In that same publication, I suggested characteristics that might make healthy public policy both more easy and more difficult to undertake at the local level. Local-level characteristics that make healthy public policy easier include:

- a degree of local intimacy among key actors in the smaller social networks and the more human scale of the community;
- policymakers (politicians and staff) live close to where they work and their decisions affect themselves, their friends, neighbours and family;
- smaller bureaucracies may make response times faster and feedback easier;
- closer links between the community and policymakers;
- the possibility of linking community advocacy and community action directly to policy change and to policymakers.

On the other hand, some of the issues that make healthy public policy more difficult at the local level include:

- a number of 'mega issues', especially economic issues, may be nationally or even internationally determined;
- local government may lack the jurisdiction or power to alter policy;
- central government may be opposed to local initiatives and autonomy;
- central government may dump on local governments, decentralising the burden or responsibility for policy, but not the power and resources to implement it;
- local politicians may claim they are powerless to act, thus shifting blame upwards;
- local jurisdictions (especially the smaller ones) may lack adequate resources and expertise (Hancock, 1990).

Nonetheless, in spite of these potential difficulties and obstacles, it remains the case now, as it was then, that there has been relatively little development of healthy public policy at provincial and national levels. On the other hand, there has been considerable experience in the development and application of healthy public policy at the local level. In recent years, we have seen such leadership in the development of, for instance, municipal by-laws to control smoking, the development of biking paths and an increased emphasis on walkability, the creation of food policy councils and other approaches to creating food security at the local level, and so on. The same is true with respect to the creation of

sustainability policy, where many of the major advances have come at the municipal level, from action on climate change and energy efficiency to recycling, from bans on cosmetic pesticide use to the restoration of natural areas.

There is, moreover, another interesting difference about local governments when compared with provincial/state or federal/national governments, and that is in how they measure progress – and what that says about their values and their focus. While higher levels of government are focused – indeed, fixated – on the gross domestic product (GDP) (which was never intended to measure social progress anyway), I have never known a municipal government measure its progress in that way; rather, they focus on quality of life. For example, the Federation of Canadian Municipalities has been developing and supporting a Quality of Life Reporting System for some 20 years.⁴ What this tells us is that municipal governments value people rather than just the economy, and are focused on the environmental, social, economic and other conditions that enable people to have a high quality of life; higher orders of government could learn a lot from municipal governments!

So, I believe that it is to the local level that we should now look for the first steps towards managing decline.

Indeed, this is precisely what is happening with the emergence in the past few years of the Transition Towns movement, which began in the small town of Totnes, Devon, in the UK, in 2005. Described as being focused on ‘small-scale local responses to the global challenges of climate change, economic hardship and shrinking supplies of cheap energy’,⁵ this grass-roots movement has expanded to encompass over 1000 initiatives worldwide, in 34 countries, with 13 national hubs. Taking the view that we cannot continue to ‘operate on the assumption that our high levels of energy consumption, our high carbon emissions and our massive environmental impact can go on indefinitely’, and that we need to make the transition to a lower energy future, the Transition Towns movement believes that ‘the best place to start transitioning away from this unviable way of living is right within our own communities, and the best time is right now’.

Moreover, and importantly, their work is not focused simply on avoiding the worst that could happen.

Transition Towns are ‘actively and cooperatively creating happier, fairer and stronger [and, I would add, healthier] communities, places that work for the people living in them and are far better suited to dealing with the shocks that’ll accompany our economic and energy challenges and a climate in chaos’.

4 See www.fcm.ca/home/programs/quality-of-life-reporting-system.htm.

5 All quotes about Transition Towns are taken from their website, www.transitionnetwork.org/support/what-transition-initiative, accessed 13 January 2013.

Conclusion

The focus on models of change to cope with declines in all that supports living systems needs to be located at the local level. Transition Towns are taking the first steps in managing decline, and are doing so in a positive and locally based manner that engages people. From the global perspective, optimism is hard to muster. However, locally based, realistic approaches such as Transition Towns provide the hope that we can, indeed, manage decline and transition to a more positive future.

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