

Collapse: What is it? Can we avoid it? When it does occur, how can we best respond to it?

What is it?

The term collapse with reference to the fate of human societies probably has many different definitions. Some may look to the ideas of Joseph Tainter or Jared Diamond.

My take is this: in simple practical terms, for you and I, for individuals and families, **collapse means the breakdown of the essential services on which we depend**. What are the essential services? They are:

- Energy – we rely on electricity (mostly coal fired) and to a lesser extent on gas to run our appliances and for comfort and home entertainment. Physical comfort is no small thing. For example, heating in winter in cold countries or cooling during summer heatwaves can make the difference between life and death.
- Fresh water supply
- Food supply
- Sewage disposal
- Waste disposal
- Shelter and security (law and order)
- Transportation and transport fuel
- Health services
- Communications (probably the most robust of the systems due to multiple redundancies but also relatively less important compared to the other essential services)

Interruption of one or two of the above can be regarded as a narrow spectrum collapse.

In the wider context, disintegration of the framework which facilitates the delivery of all those services (ie the economy) will cause paralysis of society as a whole and therefore a broad spectrum collapse. Accordingly, even if there are no actual resource constraints but if there is breakdown of the economic system (which governs the production and distribution of goods and services), the result will be the same as a physical broad spectrum collapse. Greece in the near future may be an interesting case in point, notwithstanding the bandaids measures taken so far by the EU.

On a personal note, as a consequence of the South East Queensland floods in January 2011, I had no mains electricity for two weeks. I could still use battery powered devices such as torches and radios and I had a gas barbeque for cooking. The main inconvenience was lack of refrigeration. A friend in an unaffected suburb kindly let me use her washing machine. Interestingly, the night before the Brisbane river broke its banks, the supermarket shelves had emptied of bread and other perishable essentials, because the flooded highways were impassable to supply trucks. This highlights how local stores have limited stock to cater for interruptions. For me, this was a narrow spectrum and temporary (only brief) collapse, trivial compared to the hardship experienced by others.

Other people lost their homes and all the contents. For them it was a broad spectrum (loss of all residential systems) but still a temporary collapse (although a much longer disruption of 6 months to a year). Luckily only a handful of deaths occurred as a result of those floods.

Examples of more disastrous contemporary events befalling others in 2011 which caused broad spectrum and even longer term collapses were the earthquake in Christchurch and the tsunami in Japan which claimed considerably more lives.

We can also consider the degree of collapse by geographic extent. The Brisbane floods affected only a few suburbs and coping with the aftermath was comparatively easy. Destruction in Christchurch was extensive but not universal, however even if a whole city is destroyed, so long as road and railway lines are quickly restored, resources can be brought in from other parts of the nation to mitigate the harmful consequences. The rest of the country can pitch in to rebuild the destroyed area. New Zealanders and Japanese have a reputation for being able to deal with their natural disasters efficiently and stoically. The example of hurricane Katrina affecting New Orleans however was one of woeful incompetence and disregard of the general (mainly poor and black) population by the Bush regime.

You may recall the catastrophic floods of 2010 in Pakistan in which an estimated 2000 people died and 20 million people were displaced. That could be regarded as a nationwide collapse. Relief had to be brought in internationally.

What does broad spectrum permanent nationwide collapse look like? Unpleasant to think about but

important to consider, because most countries are headed inexorably in this direction. We know what dysfunctional societies look like, so called "failed states" which we see on the news broadcasts every day: people dying of dehydration, starvation and infectious diseases due to lack of basic services. Extreme hardship, misery and suffering. Exploitation of the vulnerable and weak by gangs of armed thugs, tribal warlords and extremist militia such as the Taliban. Think of Ethiopia, Somalia and large areas of Pakistan, Afganistan and Iraq (especially the refugee camps).

In the great unravelling of modern industrial society as we know it, how are things likely to pan out? Short of a nuclear war, we will not experience broad spectrum, global and permanent curtailment of all goods and services immediately. Disruptions due to resource constraints are likely to be sudden but stuttering: initial interruptions will probably be narrow spectrum, infrequent and brief, but as time goes by curtailments will become broader in spectrum, more frequent and more prolonged and finally there will be permanent loss of all necessary services in those societies which fail to adapt to the new realities, causing widespread chaos and death. Shortages will be patchy: different geographic locations will have different spectrums of shortages. Some will be completely unaffected. The petroleum rich countries will initially not feel the pinch at all¹ as their oil profits skyrocket and their international purchasing power escalates. However they too will ultimately be doomed with the inevitable depletion of their oil fields, unless they can transition to sustainability. Only those societies which have planned ahead, which learn to do more with less, which have resilience and have redundancy of systems will be able to repair and restructure their systems to become more sustainable. Societies like France and Germany, which have non fossil fuel based electricity and transport (electric railways) have an advantage. In others we will see turmoil and a great die off. Interruption of the petroleum supply alone will result in the broad spectrum collapse of most of the USA, which has defiantly refused to address their addiction to oil and their hugely wasteful consumption. Their armed populace will take to the streets and shoot each other for the last remaining crumbs on the supermarket shelves.

Can we avoid it?

In a word, no. In the past I was naive enough to think that if we used rational evidence-based argument to engage the wider public and the government with these issues, that it would be possible to effect change. Arguably my misplaced faith in the goodwill and good sense of humanity can now be regarded as a foolish notion, justification for a misanthropic viewpoint if ever there was one. However at least I tried my best. There is perhaps a 1% chance we may not be too late and it may still be possible to persuade everyone to reduce their consumption and waste, to restructure our economy from a delusional endless growth to a sensible steady state system and to build a 100% renewable electricity grid and an electric rail system for the nation. I continue to encourage, support and work towards such worthy goals but at the same time I suggest that we should all plan for the 99% probability of global disruption. Hope for the best but plan for the worst.

From the previous examples, we can roughly grade the degrees of collapse according to the spectrum (narrow or broad), the duration (short, medium or long term) and the geographic extent (regional, national or global).

Collapse may be caused by "natural" disasters (although it is increasingly harder to argue that the more frequent and more extreme weather events we are witnessing are natural).

Collapse may be caused by economic mismanagement and wild sharemarket speculation as in the case of the Great Depression (which many historians believe contributed to the genesis of World War Two). The Global Financial Crisis of 2008 in particular exemplified an economic disruption caused by corporate malfeasance which almost brought down the entire global economy. The root causes of that event have not been eliminated, merely plastered over and temporarily suppressed and will therefore explode more dramatically and more destructively in the near future. The other reason why global financial collapse is inevitable, quite apart from unsustainable debt, is that the present pyramid scheme we call the economy depends on endless growth - which has now halted in most countries. When a Ponzi scheme can no longer grow, it collapses. That is a simple fact.

Triggers for collapse have in the past and will in the future also be related to resource scarcity. Petroleum depletion will result in confrontation between nations. Competition between countries for other crucial resources such as water will also trigger conflicts and war, which will exacerbate the already considerable human suffering. There is an intimate link between the true economy (production and distribution of real and worthwhile goods and services)² and resource availability. Disruption of one affects the other.

What we are now witnessing is an unholy convergence of multiple factors, a gathering of the perfect

storm. In this context, a New Scientist article in January 2012 revisited the projections of the MIT scientists who published the seminal work "*Limits to growth*" way back in 1972:

<http://www.newscientist.com/article/mg21328462.100-boom-and-doom-revisiting-prophecies-of-collapse.html?full=true>

Some excerpts:

"..instead of stabilising at the peak levels, or oscillating around them, in almost all (computer) model runs, population and industry go into a sharp decline once they peak. "If present growth trends in world population, industrialisation, 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 rather uncontrollable decline in both population and industrial capacity," the book warned (forty years ago)...

The most strident criticisms came from economists, who claimed *Limits* underestimated the power of the technological fixes humans would surely invent. As resources ran low, for instance, we would discover more or develop alternatives.

Yet the *Limits* team had tested this. In some runs, they gave World3 (the simulation program) unlimited, non-polluting nuclear energy - which allowed extensive substitution and recycling of limited materials - and a doubling in the reserves of nonrenewables that could be economically exploited. All the same, the population crashed when industrial pollution soared. Then fourfold pollution reductions were added as well: this time, the crash came when there was no more farmland. Adding in higher farm yields and better birth control helped in this case. But then soil erosion and pollution struck, driven by the continuing rise of industry. Whatever the researchers did to eke out resources or stave off pollution, exponential growth was simply prolonged, until it eventually swamped the remedies. **Only when the growth of population and industry were constrained, and all the technological fixes applied, did it stabilise in relative prosperity.**

The crucial point is that overshoot and collapse usually happened sooner or later in World3 even if very optimistic assumptions were made about, say, oil reserves. "The general behaviour of overshoot and collapse persists, even when large changes to numerous parameters are made," says Graham Turner of the CSIRO Ecosystem Sciences lab in Crace, Australia.

In 2008, Turner did a detailed statistical analysis of how real growth compared to the scenarios in *Limits*. He concluded that reality so far closely matched the standard run of the World3 simulation program.

There will be no more sequels based on World3, though. The model can no longer serve its purpose, which was to show us how to avoid collapse. Starting from the current conditions (2012), no plausible assumptions produce any result but overshoot. "There is no sense in only describing a series of collapse scenarios," says Dennis Meadows, another of the original authors of *Limits*."

Hence global collapse is all but certain. Particularly the way things are going now with the failure of climate mitigation agreements, the relentless pursuit of business as usual and with arrogant and ignorant fools determining policy in our societies. Policies in which the short term greed of the few is given priority over the long term need of the many. One only needs to consider the recent antics of Clive Palmer and his delight at the LNP win in Queensland to realise the truth of this insight. True democracy, rule of the people, by the people and for the people, cannot work properly if the majority of people are too stupid to realise that they are being royally screwed by vested interests and being given false hope and illusory promises by the likes of Tony Abbott.

The latest bean counting bufoon to expose his astounding grasp of unreality is David Murray, retiring chairman of the the Future Fund (and documented global warming denialist) who in his last few days of office took the opportunity to fire some broadsides at the carbon tax. Yet another economic delusionist who knows the price of everything but the value of nothing. Of course, as an experienced banker, his opinion about global warming supersedes that of thousands of climate researchers around the world – he knows better. To bankers, money is magically and mystically created by conjuring it up from debt³, requiring no effort on their part. This is the fractional reserve banking system which has now brought us to the verge of catastrophe. You cannot get more removed from reality than that.

When it does occur, how can we best respond to it?

This is like asking, "how can we best respond to being hit in the head?" The answer is to avoid being hit in the head in the first place. Or at least to wear a helmet.

The key to confronting collapse is advance planning. Waiting for trouble to occur then trying to respond to it is basically useless. However that is the situation most people (the clueless sheeple) will find themselves in. What are the keys to avoiding or minimising personal disaster when faced with societal collapse (whether narrow or broad spectrum, temporary or permanent, local or global)? Everyone's starting

circumstance will be different, however everyone's considerations will be the same: to ensure ongoing access to energy, fresh water, food, sewage disposal, waste disposal, transportation and transport fuel, physical security, health services and communications.

The broad principles are:

- to do more with less resources (eg increase energy efficiency) and to minimise waste
- to be as self sufficient as possible, ideally to be capable of getting completely off-grid (and hence be immune to any grid failures)
- to establish redundancy of systems
- to widen your social support network (the local Transition Towns group will be a good place to start) and find a practical skill useful to others

What specific action can we take? For possible action at a community level, I wrote the "Gaia Village project" article (see www.d3sj.org). For possible action at an individual level, I wrote the "low footprint catamaran project" article which has been published in the latest edition of Multihull World Australia magazine. That article does not purport to give all the answers, only some suggestions. Many aspects of the catamaran project are directly applicable to land dwellings (apart from a reverse osmosis watermaker - unless you live by a river or on the coast). The main difference is that yachties are far more parsimonious with their resource consumption, especially fresh water. The main problem with living on a boat is that you cannot grow your own food.

Whereas moving into an ecovillage which is completely self sufficient in water, food and energy seems like the best response, there are a number of caveats.

Firstly, if your community becomes successful and is known to be thriving while the rest of society around you is crumbling, be prepared to defend your turf. Will you build electric fences around the perimeter? Will you deny those pleading at your gate for food? (If you feed them, word will get out and more people will come asking for more food). Will you be willing to shoot violent intruders?

Secondly, insular communities can become dysfunctional and personalities can clash causing breakdowns of the establishment. Many an idealistic village has turned dystopian. Open and fair participatory processes for the resolution of disputes must be established and no single charismatic individual can be allowed to gain absolute control.

Thirdly, consider the worst case scenario. If, for example, the "guaranteed" supply of water from your local creek or spring runs dry and there is no rainwater to harvest, what will you do? Can you access an alternative supply such as a bore hole? Or will the whole community have to disband? This highlights the importance of redundancy of supply (the need for backup) of vital resources.

The most important ingredient to facing collapse is mental preparedness. In that respect, I hope this little article has been helpful.

There are numerous uncertainties we face and all we can do is go by the best information available to us (which most emphatically does NOT come from the Murdoch press). Each of us tends to be only interested in our own little microscopic patch of the world and how things affect us personally. Nevermind if billions are dying and suffering elsewhere, if it is not happening here, it is not happening. To think that events at a distance are not going to affect us in this interconnected world is unrealistic. Particularly if Australia remains addicted to imported petroleum for all its needs, especially for the production and distribution of food.

My critics would say to me, *"You are a pessimist and an alarmist. I, on the other hand, am an optimist and I believe in a rosy future for humanity. So stop upsetting me and go away because I want to watch Celebrity Big Brother"*.

My reply is this: There is a difference between the optimist who accepts the evidence based reality of the situation, then plans appropriately to achieve the best possible outcome, and the fool who simply denies the indisputable avalanche of facts laid before them.

Geoffrey Chia, Cardiologist, Brisbane, April 2012 <www.d3sj.org>

Footnotes:

1 Unless they are invaded by America in the name of "the war against terror", "removal of a brutal dictator" or "spreading democracy"

2 As opposed to the bogus economies and illusory numbers of sharemarket speculation, cyberwealth and Internet bubbles. Those who claim that most of the wealth in our modern world is generated by the Internet are delusional. As Colin Campbell says, you cannot eat the Internet.

3 Sounds utterly bizarre but is in fact true. Look it up!