

Development, inequality and climate change

Professor Colin D Butler

Faculty of Health, University of Canberra ACT Australia

Co-founder, Benevolent Organisation for Development, Health & Insight (BODHI)

E: colin.butler@canberra.edu.au

Abstract

This paper argues that attempts by privileged populations to help 'development' have been undermined, even outweighed, by other actions. The changing attitudes to overseas development assistance since World War II are reviewed. Climate change, which will impact extensively upon India, is presented as a case study of global inequality, although, more hopefully, as technology drives the costs of renewable energy lower, some affordable solutions may be emerging.

Arguments that it is in the rational self-interest of societies and indeed the whole world to become more equal have also had little effect, despite phenomena such as the September 11, 2001 attacks and the rise of the Islamic State, which now attracts violent idealists from many countries.

Key Words: Development, inequality, nutrition, climate, India, demography, neoliberalism

Introduction

This paper argues that, despite considerable rhetoric to the contrary, privileged populations have for several decades undermined 'development', in several ways and scales. There are countering trends, such as remittances (though often people are exploited), and the spread and declining cost of communication technologies including mobile phones, the internet and more recently social media. However, there are also tightening 'limits to growth' that will become increasingly evident and important if 'business as usual' persists. By this, I mean the pursuit of economic growth as conventionally defined, including the extensive use of fossil fuels such as coal and oil. More encouragingly, both in response to the growing awareness of the dangers of climate change, and also as technology drives costs lower, some government and capital is moving towards investment in renewable energy.

This paper tackles a wide terrain, but cannot go into great detail, due to lack of time and space. Even so, it is proposed, the broad principles of this paper are valid, though for several reasons the arguments expressed here are not heard very often.

The transfer of funds and expertise from high to low income countries, in genuine attempts to reduce international inequality persists, but appears to have become less common, at least in relation both to total population and general global advances in living standards and technology. Some attempts to increase fairness are actually denigrated, with language such as the 'politics of envy' or 'poverty porn'. Arguments that it is in the rational self-interest of societies and indeed the whole world to become more equal have also had little effect, despite phenomena such as the September 11, 2001 attacks and the rise of the Islamic State, which now attract violent idealists from many countries. Instead, high income populations favour attempts to suppress dissidents and practice increasingly intensive and pervasive

surveillance, as the dominant response to terrorism. Few people and even fewer governments think about reducing the 'root causes' of terrorism, including inequality.

Finally, this paper argues that anthropogenic climate change is a manifestation of global inequality, which, until properly addressed, is likely to not only make other forms of inequality worse, but even to threaten the fabric of global civilisation (Butler, 2000, 2014a), in combination with other stresses that reflect aspects of 'planetary overload' (McMichael, 1993).

From the 1940s to the ascent of neoliberalism: a time of improving world development

The crises of two world wars, the intervening depression and the failure of the League of Nations to keep the peace led to the birth of the United Nations (UN) and a resurgence of hope around the world (Glendon, 2001). The first few decades after World War II were accompanied by enormous scientific advances, from the development of antibiotics to the widespread use of the insecticide DDT. Primitive televisions were soon followed by satellites and almost instant pictorial and auditory global communication.

In this period there were two main competing economic strategies; capitalism and communism. Advocates of each strategy promised to improve living standards, including for the poor. But the capitalism that was then dominant was more restrained than that which today dominates, especially in English-speaking nations (Gray, 1999; Sachs, 2012, Krugman, 2014). There was also more high-level discussion of how to achieve a fairer world, and considerable action towards this goal, some in the form of direct aid, some through the activity of the World Health Organization and other UN bodies, and much as a by-product of new technologies spread by market forces (e.g. cheap but effective antibiotics). The roots of the Consortium of International Agricultural Research Centers (CGIAR) also date to the 1940s, and higher crop productivity, partly as a result of CGIAR-led research, has also contributed greatly to poverty alleviation, development, and the promotion of peace and stability. Of course, it is unlikely all of this aid was well-spent, but to assert that all such aid was useless or even harmful as claimed by Moyo (2009) is surely excessively cynical.

Aid targets

In 1958 the World Council of Churches suggested that more affluent donor countries should attempt to transfer 1 % of their national income (both from private and public sources) to 'developing' countries to promote development (Booth, 2014). This proposal was soon (1960) endorsed by the UN General Assembly, and for the next decade was widely regarded as legitimate. It was endorsed in 1968 by the second UN Conference on Trade and Development (UNCTAD), including at the Development Assistance Committee (DAC) High Level Meeting held that year (Booth, 2014).

However, Booth (2014) explains how governmental inability to predict or control private flows led to a revision of this figure and its composition, with another UN committee proposing a target for official flows of 0.75 % of Gross National Income, to be achieved by 1972. Also influential in this period was the

Pearson Commission¹, which proposed a new target for overseas development assistance (ODA) of 0.7 % of donor GNI by 1980 (Booth, 2014). According to the Organisation for Economic Co-operation and Development (OECD), this target has been 'repeatedly re-endorsed at international conferences on aid and development down to the present day' (OECD, 2010).

Despite these pledges of support, ODA as a proportion of GNI across DAC countries has never risen above 0.4 % (Booth, 2014). The question must be asked: does peer pressure encourage high income countries to make promises that they have no genuine intention of keeping? After all, few people, probably including foreign ministers, like to appear ungenerous or mean when asked to make a donation, and when their peers appear so generous. At the same time, little censure or embarrassment seems to arise if the promises that representatives of powerful nations have made are then quietly shelved, especially if the most powerful countries, including the United States, consistently demonstrate the same gap between rhetoric and delivery.

The global struggle between capitalism and communism for the hearts and minds of the third world

During the Cold War, high-income capitalist economies had an important self-interested motivation to try to reduce poverty in 'third world' nations, in addition to altruism. There was at that time great fear in the United States (US) and Europe of the Soviet Union, with its fearsome hydrogen bombs. No doubt this fear was reciprocated in Russia. There was anxiety in the West that communist ideology would be so alluring to poor countries (including India) that it would capture additional client nations, especially if the capitalist nations did not also commit to, and to an extent actually demonstrate support for development. In 1966, for example senior US state officials recommended emergency shipments of American grain to alleviate a famine in southern Bihar (today's Jharkand) (Califano, 1981).

Despite the collapse of the Soviet Union, the retreat of Communism in Eastern Europe and China, and the obvious failure of famine-ridden North Korea as a model, a trace of this rivalry persists in the extraordinarily high level of ODA provided by comparatively impoverished Cuba, provided, for example to the newly independent nation of Timor Lesté (Hodal, 2012).

Does the rate of population growth matter to development?

In response to the Bihar famine, US President Lyndon Johnson stipulated that to receive the food his government was to donate, the Indian government must first agree to strengthen its birth control programme. Following agreement, the wheat was indeed slowly released over an extended period (Califano, 1981). President Johnson was far from the only senior political figure to accept a causal link between high birth rates and persistent poverty. From the 1950s until the 1980s there was wide acceptance, involving many senior development economists and reflected in various forms by a series of US Presidents (from Kennedy to George Bush senior), that slowing population growth in developing countries would accelerate their development. This was thought to occur by changing the dependency ratio, that is, by lowering the proportion of dependents (mostly children, as there were few retired people) in the economy, giving rise to what is sometimes called a 'demographic dividend' (Sinding, 1996;

¹ Lester Pearson, awarded the Nobel Peace Prize in 1957, served as Canadian Prime Minister before chairing this commission.

Kelley, 2001; Campbell *et al*, 2007; Butler 2007a). In theory, smaller families enable more investment in their education, a lower quantity of children can be offset by their higher 'quality' (i.e. greater human capital – children and young adults with higher literacy and other improved determinants of development including better foetal and infant nutrition leading to better brain development, cognitive function and life-long health.) In practice, of course, funds that in theory can be allocated for education, and improved nutrition of the poor instead are too often directed towards other aims including defence and spending on those who are already better off.

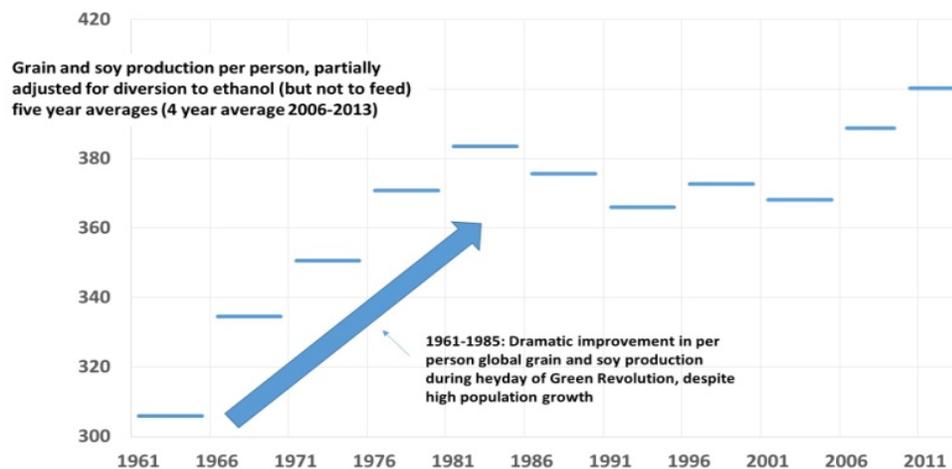
It is however important to not be too starry eyed about the genuine commitment of high-income countries to promote development in previous decades, in what was then coming to be called 'the South' (now 'global South') (Butler, 2007b). A clear example of this was the tension between the West and developing countries, of which India was prominent, at the 1974 UN conference on population, held in Bucharest. Dr Karim Singh, representing Indian Prime Minister Indira Gandhi, famously declared that 'development is the best contraception', reflecting concern the West was trying too hard to 'put the cart before the horse', that is, to stress slowing population growth as the primary means to development, rather than giving aid and in other ways promoting fairer trade and other policies that would foster development, and in turn, slow population growth (Sinding, 2000; Butler, 2007a).

The Green Revolution, primary health care, growing food security but slower nutritional security

The 1960s and 1970s was also the heyday of the Green Revolution. World production of grain per person grew rapidly, from about 290 kilograms per person in 1961 to over 380 kgs in the 1980s (see figure 1). The intensifying famines foreseen by pessimists as likely to occur by 2000 did not occur, in general. The Green Revolution has its critics, including because it increased dependence on fertilisers, irrigation and pesticides. Some authors also define the Green Revolution as including the social milieu which accompanies the introduction of the new seeds and other technical innovations. In many parts of India, this milieu has often proved resistant to reform, such as of usury. Persisting problems including suicide, despair and exploitation plague some agricultural communities, including in India, despite the theoretical access of communities to Green Revolution technologies (Sarkar and van Loon, 2015).

However, without the increased food production the Green Revolution facilitated such famines indeed seem plausible, given the high population growth in this period, especially in the global South. It is stressed that such population growth reflects success, not failure. Populations have grown not only from more food but also from improved health care and technologies, such as the successful campaign to eradicate smallpox, the massive attempt to eradicate malaria in the 1950s, the spread of affordable antibiotics for respiratory infections in children, and the development of low cost oral rehydration solution (sugar and salt) to treat diarrhoeal diseases, mostly in childhood (King 1966; Werner and Sanders, 1997). But are such high rates of population growth desirable? Can and should they be maintained indefinitely?

Figure 1. World production of grain and soy per person 1961-2013, partly adjusted for diversion of corn to ethanol in the US.



Data source: FAO (author's work, not previously published).

But the Green Revolution has done far less to solve micronutrient deficiency. While the number of people on the planet who receive insufficient calories has recently been revised down to well under a billion (Butler, 2015), the number of people deficient in the vital elements of iron and zinc is at least double and perhaps even thrice that number (Prasad, 2012; Muthayya *et al*, 2013). Furthermore, high levels (c550 parts per million) of the most important greenhouse gas, carbon dioxide (CO₂) have been shown to reduce the zinc and iron content of plant foods.² This is an emerging problem (Myers *et al*, 2014). There are also persisting and significant deficiencies of Vitamin A, iodine and other micronutrients, but it is zinc and iron deficiency that by far affects the most people, perhaps 2 billion (FAO, 2013). A non-trivial reason for iron deficiency, at least, is parasitic infections, especially hookworm (Dillingham and Guerrant, 2004). The Green Revolution provides a foundation for food security. While that goal has not been met, the wider goal of nutritional security is even less realised. More food intake is only a partial solution. Also important are sanitation, hand washing, soap, cleaner water and cultural changes.

Neoliberalism and the shift away from global development

In summary, the early decades following World War II were ones of hope and activity towards an attempted creation of a fairer world. Even if the promises of 0.7 % of the GNI of high-income countries were not realised, there was a global culture that encouraged and promoted development. Enormous progress, albeit uneven, was made, especially in societies that stressed education and family planning.

Until recently, only five high income countries have given more than 0.7 % of their GNI to promote development in low income nations. These four small northern European economies, together with the

²Today, CO₂ levels are about 400 parts per million (ppm), rising by 2-3 ppm per annum

United Arab Emirates, have very recently (2013) been joined by the United Kingdom (UK) (Booth, 2014). Belatedly, Britain seems to be accepting the wisdom of development economists and idealists of earlier decades.

Before this apparent recovery of generosity, at least in the UK, the relatively restrained strain of capitalism that was then dominant until the late 1970s (such as favoured by the economists JM Keynes and JK Galbraith) came under intense attack, leading, in the late 1970s, to a resurgence of market deregulation, and a return to an earlier strain of capitalism that had generated much inequality before World War I (Gray, 1999; Jones, 2012; Sachs, 2012; Krugman, 2014). This resurgence, though strongest in English speaking economies, had a wider impact via the World Bank and the International Monetary Fund. Supporters of this doctrine, most commonly known as 'neoliberalism', undermined the dominant thinking in the first decades after World War II that development required aid, in order to supply its determinants including nutrition, education and concepts (Freire, 2006).

Adherents of neoliberalism claimed that less constrained market forces would provide a surer and faster route to prosperity than taxes, aid and other attempts to consciously promote public goods. Remnants of aid might be justified as levers for foreign policy influence, but it was no longer seen as morally valuable, not only by high-income governments, but by most of their populations. Of course, some people and organisations remained supporters and advocates of aid, but gradually they became less influential. Books criticising both aid and family planning emerged, justified in some cases, by corruption among aid groups (Hancock, 1989), by alleged incompetence (Easterly, 2006) and neo-colonialism (Moyo, 2009). The excesses of supporters of family planning, including Sanjay Gandhi in India, and by forced sterilisation, mainly in China, led to a backlash (Kasun, 1988). Instead of aid and a stress on family planning, supporters of neoliberalism held that populations in rich countries could continue to consume resources with a clear conscience, not worrying about either inequality or poverty, each of which would naturally be solved by the magic of the free market. In that context, high population growth was now claimed, by extremely powerful people and institutions, as irrelevant. Indeed, Julian Simon, an influential economist of the period, argued that additional people (no matter how poor and irrespective of their context) were a net benefit, as the 'ultimate resource' (Simon, 1981). Most development actors, including the World Bank, aid groups and even environmental advocates simply ignored the issue of population growth, in what came to be known as population 'revisionism' (Kelley, 2001).

The failure of the free market and the emergence of the 1 %

The triumph of neoliberalism was deepened in the late 1980s by the collapse of the Soviet Union and the rejection of Communism in Eastern Europe. Funds freed by the end of the Cold War were briefly touted as fuelling a 'Peace Dividend' that could be used, in part, for poverty alleviation and development. But this did not occur. Instead, inequality continued to rise, not only between countries, but within many countries (Stiglitz, 2012). High inequality may be ancient (Pringle, 2014), but that does not mean it is inevitable or desirable. Today, phrases such as the top 1 % reflect growing public awareness of rising inequality.

Pursuit of the Millennium Development Goals (MDGs), announced in 2000, was also eroded by the September 11 attack on the US, and the consequent diversion of resources towards the 'War on Terror'. The MDG target for poverty has been pronounced as being successfully attained, largely due to the reduction of extreme poverty in China (Chen and Ravallion, 2010), a country with a greatly reduced population growth rate. Until recently, and paradoxically, given the claimed poverty success, the target for global hunger relief was stated by the Food and Agricultural Organization (FAO) as severely failing, but a revised method introduced by the FAO in 2012 has greatly narrowed the gap (Butler, 2015).

Various forms of corruption in so called developing countries have long been notorious in both Africa (e.g. Mobuto in Zaire, various kleptocrats in Nigeria and elsewhere) (Burgis, 2015) and Asia (e.g. the Suharto family in Indonesia) (Anonymous, 2007). However, the accumulation of enormous and unseemly personal wealth has now contaminated several high-income countries, including the former political leaders of Britain (Blair), the US (the Clinton family) and Italy (Berlusconi).

The former Prime Minister of Thailand Thaksin Shinawatra was also a billionaire, but most of his wealth was obtained before he gained office. Few wealthy leaders are likely to support policies that harm their own economic class, but Thaksin appears an exception. Though certainly accused of corruption, Thaksin gained the support of the masses (Doherty, 2010), in the process offending those with more power and wealth, though his relationship with the Thai royal family is opaque (Harlin, 2014).

The key ingredients needed to promote development are not indecipherable. They include better nutrition (from conception), better treatment of infections, including parasites, better health systems, and improved sanitation and hand washing. Primary school education is also vital as are tolerable human rights, acknowledged by other, more powerful groups. Given sufficient ingredients, the poor might further escape poverty through self-organising processes such as trade unions, night schools and self-help, triggering further self-reinforcing virtuous cycles. Increasingly literate parents might not only value education, but agitate more effectively for improved education for their children and for better health care.

However, the reverse is also true. More advantaged populations can and do repeatedly combine and cooperate in ways that suppress the emergence of the poor, a phenomenon that has been called the 'Matthew effect' (Wade, 2004) and also the 'law of increasing returns'. Ehrenreich (2011) describes how poverty in the US has been criminalised. According to Robert Stiglitz (2012), a Nobel Laureate in Economics, just six heirs of the Walmart family control wealth equivalent to that of the poorest 30% of Americans. At the same time, many employees of Walmart rely on government supplied food stamps and other subsidies to survive; their salaries being too low (O'Connor, 2014).

It is not hard to conceive how similarly entrenched mechanisms of inequality have long operated in India to maintain or enhance inequality, such as through the caste system, and allegiances between the British colonisers and Indian elites. Even though India is now democratic, there are widespread allegation of votebanks and sari banks, in which community leaders persuade large numbers of vulnerable people to vote as a block. This reflects and helps perpetuate a weak, poorly informed civil society. Some of the most flagrant abusers of power have themselves been low caste. Perhaps the most

notorious, Lalu Prasad Yadav, the former chief minister of Bihar was eventually jailed, but even while there maintained power, including through his illiterate wife (Anonymous, 2013). In Arunachal Pradesh, thousands of Chakmas, an ethnic minority descended from refugees legally given sanction in India are still routinely denied voting registration by local officials (Parameswara and Gaedtker, 2012), who ignore a Supreme Court ruling. Affirmative action, which made it harder for more privileged Indians to compete for places in universities and the civil service, and was thus aimed at redressing entrenched Indian inequality, was fiercely resisted by those with more to lose. In the early 1990s, within only 10 weeks, more than 200 cases of suicide by self-immolation occurred in protest at the Mandal Commission, mostly by students (Biggs, 2008).

Delivery of the determinants of development on a sufficient scale is thus a formidable challenge. Reduction of poverty is too often seen, whether or not correct, as a threat to the privilege of more wealthy groups. Very often, higher income populations use their existing power to maintain, or even seek to increase their advantage. Similar arguments apply globally. That is, despite rhetoric to the contrary, most rich countries do not want poor populations to catch up.

But such strategies are ultimately self-defeating. Excessive inequality is not only morally repulsive, but it ferments resentment and insurrection. Our modern world not only has nuclear weapons, but is evolving towards one with perhaps ubiquitous 3-D printers, armed micro-drones and robotic surveillance. Greater inequality will undermine security and well-being, even for populations who today consider themselves impregnable.

Climate change as a case study of global inequality

The reality of anthropogenic climate change is beyond doubt. Myriad forms of evidence support concerns that not only were hypothetical only fifty years ago, but which could then be only poorly measured and monitored. Yet, despite overwhelming scientific support, some governments and corporations remain openly skeptical of the findings of climate science. Much of this skepticism is sponsored and supported by representatives of vested interests, agents described as 'merchants of doubt' (Oreskes and Conway, 2010).

The scientific community is calling, with an intensity starting to approach collective desperation, for the majority of the Earth's stock of fossil fuels (coal, oil, gas, tarsands) to remain unburned and underground (Hansen *et al*, 2013). A global carbon budget has been identified. If we keep within this budget then the rise in global average temperature may be restricted to below 2 degrees. Enormous quantities of fossil fuel exist in the earth and under the ocean, such as coal seam gas and tar sands in Canada and Venezuela. The extraction and burning of all of this fuel would redistribute enormous quantities of carbon from the earth (where it is harmless) to the atmosphere and oceans, where it would lead to the numerous adverse effects, including more extreme weather events, inexorable sea level rise and ocean acidification.

Most, of this carbon therefore should stay where it is currently is, in the ground. If it doesn't, it is likely to generate feedbacks that trigger the inadvertent release of far more carbon, including from both the poles, from under the Arctic Ocean, in the tundra (Shakhova, 2010) and in Antarctica (Wadham *et al*,

2012). It is not hyperbole to suggest that such runaway climate change threatens the fabric of civilisation, through cascading pathways that include tertiary effects of conflict, famine, mass migration and economic collapse (Butler, 2014a,b). Even two degrees of temperature rise (compared to the 0.85 degrees so far observed) is highly dangerous.

Fortunately, at the same time as the risk of exceeding the carbon budget is being better understood by policy makers, cost-effective sources of renewable energy are emerging, especially wind and photovoltaics (The Global Commission on the Economy and Climate, 2014). Supporters of these technologies claim their large-scale introduction could limit global climate change to a relatively safe level. However, other reports have long argued that even 2°C is not safe.

Slowing climate change requires an enormous restructuring of the global economy. Not only would some corporations lose vast amounts of money and power, from being unable to sell their reserves of fossil fuel, but so would other countries, including Saudi Arabia and Russia. Until recently, the self-interest of so many powerful sectors has led to the effective suppression of action to adequately tackle climate change. But this elite consensus is now under strong attack, not only from the rising power of cleaner energy generating technologies, but also by civil society of the global middle class. A march against climate change in September 2014 in New York attracted about 100,000 people, with smaller marches in many other cities around the world (<http://peoplesclimate.org>). Saudi Arabia has recently announced that it plans to become a renewable energy powerhouse (Ball, 2015).

China is an actor of ever increasing importance in the struggle to slow the rate of global climate change. This is not only because its leadership, many of whom have engineering backgrounds, not ideologically opposed to the science. More importantly, its rising middle class is increasingly demanding cleaner air, which is well documented to reduce life expectancy. A move away from coal to photovoltaics in China is not only slowing the growth in that nation's carbon emissions, but driving down, through economies of scale, the world price of photovoltaic cells.

At the moment, Australian corporations and politicians are at the forefront of the movement to delay the clean energy transition. They have some allies in India, although India is now showing signs of following China along the route towards cleaner energy (Puri, 2015). However, of concern, the Indian government is increasingly suppressing the work of Greenpeace India and other Indian environmental campaigners. The New Delhi High Court found in 2015 that the government decision to censor Greenpeace India campaigner Priya Pillai by removing her from a flight bound for the UK (where she was to address a parliamentary committee hearing into the activities of a British mining company in the forests of Madhya Pradesh) violated her constitutional right to freedom of speech and liberty (Hodge, 2015). That is encouraging, but it is even more disturbing that democratic India would act in such a way.

India is highly vulnerable to climate change (Singh *et al*, in press). Agricultural models consistently forecast a reduction in its food growing capacity. Unlike China, India lacks potentially arable land at higher latitudes where its farmers might migrate. China is able to lease fertile land from adjacent Siberia (land that may become more fertile) as well as from further afield (Ibbottson and Lovell-Hoare, 2015). Poorer India cannot do this as easily Neighbouring Pakistan and Bangladesh face risks from reduced flow to the Indus and Brahmaputra rivers, not only from glacier melt, but in the case of the Brahmaputra,

from Chinese dams (Denyer, 2013). Increased instability in India's neighbours, one of which is nuclear armed, is not in India's national interest.

Overall, wealthy countries have been slow to act on climate change. This is in part, because they believe (arguably incorrectly) that their own wealth insulates them from all but trivial harm. At the same time, they have been reluctant to do anything that might reduce their capacity to make money. Poor countries have been generally slow to act to tackle climate change, not only because they have limited funds, but, I would argue, because those who are relatively wealthy in poor countries not only feel similarly insulated (as populations in rich countries), but also lack sufficient concern for the people who are on the front line of climate change and who are vulnerable to it in so many ways.

Conclusion

Reducing inequality, poverty, and climate change is not only morally right, but offers hope that civilisation, as a whole, will prosper long into the future. Elites, both in low and high income countries, need to see that such actions are in their own self-interest. Those of us who are not in that elite, but who can see the value of these arguments, need to use our influence to try to change local, regional and national policies. It is an extraordinarily difficult path, but technology such as mobile phones, the internet and social media is assisting. The fact that the UK now exceeds its Pearson aid promise is encouraging. Technology and mechanisation might one day reach such a level and scale that cheap labour is not needed to produce the goods and services that the rich crave.

Literacy, including of health, might allow the self-propelled spread of minimally acceptable living standards, assisted by cheap and effective communication. Children living in huts (or under platforms) next to railway lines may vanish. Conflict over inexorably diminishing resources might decline, as birth rates fall. New technology is already slowing the speed of climate change.

This does sound utopian, but together we can strive towards these goals. However, the current stranglehold that elites have on policy needs to be strongly challenged. Development will not happen by itself, though its rapid growth could occur once sufficient seeds can be planted.

References

All Party Parliamentary Group on Population Development and Reproductive Health (2007). Return of the Population Growth Factor, Report of Hearings by the All Party Parliamentary Group on Population, Development and Reproductive Health, London, UK <http://www.appg-popdevrh.org.uk/> Accessed 3rd May, 2015.

Anonymous (2007). King of the kleptocrats. *The Economist* <http://www.economist.com/node/9465434> Accessed 7th May, 2015.

Anonymous (2013). Profile: Laloo Prasad Yadav BBC <http://www.bbc.com/news/world-asia-india-24327816> Accessed 7th May, 2015.

Ball, J. (2015) Why the Saudis are going solar. *The Atlantic*. <http://www.theatlantic.com/magazine/archive/2015/07/saudis-solar-energy/395315/> accessed June 25, 2015.

- Biggs M (2008). Dying for a cause – alone? *Contexts* **7**, 22–27.
- Booth L (2014). The 0.7% aid target UK House of Commons Economic Policy & Statistics, UK <http://tinyurl.com/na2xgbg> Accessed 2nd May, 2015
- Burgis T (2015). *The Looting Machine*. William Collins, London UK.
- Butler CD (2000). Inequality, global change and the sustainability of civilization. *Global Change and Human Health* **1**, 156-172.
- Butler CD (2007a). Globalisation, population, ecology and conflict. *Health Promotion Journal of Australia* **18**, 87-91.
- Butler CD (2007b). The North and South. In: A. Hedblad (ed.), *International Encyclopedia of the Social Sciences*. MacMillan Reference, New York, pp. 542-544.
- Butler CD (2014a). Climate change and global health: a new conceptual framework - Mini Review. *CAB Reviews* **9**, 027.
- Butler CD (2014b). (editor) *Climate Change and Global Health*. CABI, Wallingford, UK.
- Butler CD (2015). Revised method makes the MDG hunger reduction goal within reach. *Global Food Security* **5(6)**, 19-24.
- Califano J (1981). *Governing America*. Simon and Schuster, New York, USA.
- Campbell M, Cleland J, Ezeh A and Prata N (2007). Return of the population growth factor. *Science* **315**, 1501-1502.
- Chen S and Ravallion M (2010). The developing world is poorer than we thought, but no less successful in the fight against poverty, *Quarterly Journal of Economics* **125**, 1577–1625.
- Denyer S (2013). Chinese dams in Tibet raise hackles in India. *Washington Post* http://www.washingtonpost.com/world/asia_pacific/chinese-dams-in-tibet-raise-hackles-in-india/2013/02/07/ee39fc7a-7133-11e2-ac36-3d8d9dcaa2e2_story.html Accessed 7th May, 2015.
- Dillingham R and Guerrant RL (2004). Childhood stunting: measuring and stemming the staggering costs of inadequate water and sanitation. *The Lancet* **363**, 94-95.
- Doherty B (2010). Thaksin Shinawatra: from phone billionaire to fugitive ex-prime minister. *The Guardian* <http://www.theguardian.com/world/2010/feb/26/thaksin-shinawatra-corruption-claims> Accessed 7th May, 2015.
- Easterly W (2006). *The White Man's Burden: Why the West's Efforts to Aid the Rest Have Done So Much Ill and So Little Good*. Oxford University Press, Oxford, UK.
- Ehrenreich B (2011). How America criminalised poverty. *The Guardian*. <http://www.guardian.co.uk/commentisfree/cifamerica/2011/aug/10/america-poverty-criminalised> Accessed 7th May, 2015

- FAO (2013). The State of Food and Agriculture. FAO, Rome
<http://www.fao.org/docrep/018/i3300e/i3300e00.htm> Accessed 16th May, 2015.
- Freire P (2006). *Pedagogy of the Oppressed*, 30th Anniversary edition, Continuum, New York, USA.
- Glendon MA (2001). *A World Made New: Eleanor Roosevelt and the Universal Declaration of Human Rights*. Random House, New York, USA.
- Gray J (1999). False Dawn. *The Delusions of Global Capital*. Granta, London, UK.
- Hancock G (1989). *Lords of Poverty: the Free-Wheeling Lifestyles, Power, Prestige and Corruption of the Multi-Billion Dollar Aid Business*. Macmillan London, London, UK.
- Hansen J, Kharecha P, Sato M, Masson-Delmotte V, Ackerman F, Beerling DJ, Hearty PJ, Hoegh-Guldberg O, Hsu S-L, Parmesan C, Rockstrom J, Rohling EJ, Sachs J, Smith P, Steffen K, Van Susteren L, von Schuckmann K, Zachos JC., (2013). Assessing “dangerous climate change”: required reduction of carbon emissions to protect young people, future generations and nature. *PLoS ONE* **8**, e81648.
- Harlan C (2014). Behind Thailand’s coup is a fight over the king and his successor. But it’s hush-hush. *The Washington Post* http://www.washingtonpost.com/world/behind-thailands-coup-is-a-fight-over-the-king-and-his-successor-but-its-hush-hush/2014/06/05/d0cac579-374c-4671-b418-b8dda46c76ed_story.html Accessed 7th May, 2015.
- Hodal K (2012). Cuban infusion remains the lifeblood of Timor-Leste's health service *The Guardian*, <http://www.theguardian.com/global-development/2012/jun/25/cuba-lifeblood-timor-leste-health-service> Accessed 7th May, 2015.
- Hodge A (2015). Greenpeace in Delhi chokehold. *Weekend Australian*.
<http://theaustralian.newspaperdirect.com/epaper/viewer.aspx> Accessed 7th May, 2015.
- Ibbotson, S. and M. Lovell-Hoare (2015), China's expansion by stealth Asian Affairs, 2015. **46(1)**, 68-83.
- Jones DS (2012). *Masters of the Universe: Hayek, Friedman, and the Birth of Neoliberal Politics*. Princeton University Press, Princeton, NJ, USA.
- Kelley AC (2001). The population debate in historical perspective: revisionism revised. In: Eds: N Birdsall, AC Kelley and SW Sinding, *Population Matters: Demographic Change, Economic Growth, and Poverty in the Developing World*. Oxford University Press, Oxford; New York, USA, pp. 24-54.
- King M (ed.) (1966). *Medical Care in Developing Countries. A Primer on the Medicine of Poverty and a Symposium from Makerere*. Oxford University Press, Nairobi, Kenya.
- Krugman, P (2014). Why we’re in a New Gilded Age (review of Capital in the Twenty-First Century by Thomas Piketty), *The New York Review of Books*,
<http://www.nybooks.com/articles/archives/2014/may/08/thomas-piketty-new-gilded-age/> Accessed 16th May, 2015
- McMichael AJ (1993). *Planetary Overload*, Cambridge University Press, Cambridge UK.
- Moyo D (2009). *Dead Aid*, Allen Lane/Penguin, London, UK

Muthayya S, Rah JH, Sugimoto JD, Roos FF, Kraemer K and Black RE (2013). The global hidden hunger indices and maps: an advocacy tool for action. *PLoS ONE* **8(6)**: e67860.

Myers SS, Zanutti A, Kloog I, Huybers P, Leakey ADB, *et al* (2014). Increasing CO₂ threatens human nutrition. *Nature* **510**, 139-142.

O'Connor C (2014). Walmart's low-wage workers cost US taxpayers an estimated \$6.2 billion in public assistance including food stamps, Medicaid and subsidized housing, according to a report published to coincide with Tax Day, April 15. *Forbes* <http://www.forbes.com/sites/clareoconnor/2014/04/15/report-walmart-workers-cost-taxpayers-6-2-billion-in-public-assistance/> Accessed 7th May, 2015.

Oreskes N and Conway EM (2010). *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming*. Bloomsbury Press, New York, USA.

Parameswara G and Gaedtke F (2012). Little to cheer for Chakma refugees in India. *Al Jazeera* <http://www.aljazeera.com/indepth/features/2012/06/20126207955292695.html> Accessed 7th May, 2015.

Prasad AS (2012). Discovery of human zinc deficiency: 50 years later. *Journal of Trace Elements in Medicine and Biology* **26**, 66-69.

Pringle H (2014). The ancient roots of the 1%. *Science* **344**, 822-825.

Puri R (2015). "The government aims to boost solar power capacity 30 times in seven years. Is the target realistic?" <http://www.hindustanpowerprojects.com/government-aims-boost-solar-power-capacity-30-times-seven-years-target-realistic/> Accessed 17th May, 2015.

Sachs J (2012). *The Price of Civilization*. Vintage, London, UK.

Sarkar A and van Loon G (2015), Modern agriculture and food and nutrition insecurity: paradox in India Public Health doi:10.1016/j.puhe.2015,04.003.

Shakhova N, Semiletov I, Salyuk A, Yusupov V, Kosmach D and Gustafsson Ö (2010). Extensive methane venting to the atmosphere from sediments of the East Siberian Arctic Shelf. *Science* **327**, 1246-1250.

Simon JS (1981). *The Ultimate Resource*, Princeton University Press, Princeton NJ, USA

Sinding SW (1996). Curbing Population Growth: An Insider's Perspective on the Population Movement [book review]. *Population and Development Review* **22**, 159-161.

Sinding SW (2000). The great population debates: how relevant are they for the 21st century? *American Journal of Public Health* **90**, 1841-1845.

Singh M, Rao M and Butler CD (in press). Climate change, health and future well-being in South Asia. In: *Climate Change and Human Health Scenario in South and Southeast Asia*. Ed: R Akhtar, Springer.

Stiglitz JE (2012). *The Price of Inequality*. W. W. Norton & Company, New York, USA

The Global Commission on the Economy and Climate (2014). "The New Climate Economy." <http://newclimateeconomy.report/> Accessed 7th May, 2015

Wade RH (2004). On the causes of increasing world poverty and inequality, or why the Matthew effect prevails. *New Political Economy* **9**, 163-188.

Wadham JL, Arndt S, Tulaczyk S, Stibal M, Tranter M, Tranter M, Telling J, Lis GP, Lawson E, Ridgwell A, Dubnick A, Sharp MJ, Anesio AM, Butler CEH (2012). Potential methane reservoirs beneath Antarctica. *Nature* **488**, 633-637.

Werner D and Sanders D (1997). *Questioning the Solution: the Politics of Primary Health Care and Child Survival*. HealthWrights, Palo Alto, CA, USA.