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# Introduction

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While the primary focus of this journal is upon the connection between human numbers and environmental sustainability, it is impossible to explore this relationship without considering a number of other interdependent factors. The environmental movement has always encompassed a wide range of concerns. Arguably, the publication of Rachel Carson's *Silent Spring* in 1962 initiated popular environmental concern around the issue of pollution as the side-effect of "progress". However, and perhaps more importantly, Carson made accessible the idea that the human beings are part of and dependant upon the ecosystem. Her critique of modern science found fertile ground in the counterculture of the 1960s which would foster the genesis of the environmental movement as we know it with a broad spectrum of concerns ranging from littering through to a fundamental questioning of the benefits of "technological society". Somewhat ironically the greatest scientific and technical achievement of the age, the Apollo space missions, furnished the environmental movement with one of its most powerful symbols. Photographs of the Earth alone in space conveyed not only its beauty but also a sense of finitude and vulnerability, adding allegorical weight to the ideas of writers like Barbara Ward, Kenneth Boulding and E.F. Schumacher. Indeed, both Ward (1966) and Boulding (1966) would employ the concept of "Spaceship Earth" to convey the finite nature of the planet.

Ward, Boulding and Schumacher shared the view that human beings were outstripping the planet's ability to sustain humankind. Continuous economic growth based upon the consumption of the Earth's natural capital was creating environmental degradation and human misery. Moreover, while the impact of human beings on the environment was once localised, it had become global. A pioneer of sustainable development, Barbara Ward emphasised that the distribution of wealth, global justice and poverty reduction were central to any

discussion about how to deal with the issue of the survival of humankind on an ecologically finite planet.

The future prospects for humanity on a finite planet were examined in probably the best-selling environmental book of all time[1], The Club of Rome's *Limits to Growth* (1972). Authors, Donella Meadows, Dennis Meadows, Jorgen Randers, and William Behrens developed a ground-breaking computer-model of the future growth of human activities including: industrialisation; resource depletion; pollution; food production; and population. Extrapolating from trends between 1900 and 1970, under various permutations the model showed that continuing material and population growth would probably lead to overshoot and collapse sometime before the year 2100. The model stressed the dynamic interdependence of the constituents of the system: addressing one area led to a shift in another. Most importantly, the report argued that there are natural limits to the planet's ability to support human population, provide resources and absorb pollution. Meadows et al concluded that exponential material and population growth is not sustainable and unless a managed transition to equilibrium is implemented at a global level ecological collapse will, at some point, be unavoidable.

*Limits to Growth* initially received a positive response from the political establishment. However, a backlash soon developed, driven by short-termist thinking on the part of the business establishment with profitability in mind, and voters fearing the effect on jobs and affluence. Accepting that evidence and data regarding longer-term issues are insufficiently motivating, in their new book, *Reinventing Prosperity* (2016), Club of Rome General Secretary Graeme Maxton and one of the original authors of *Limits to Growth*, Jorgen Randers, propose 13 policy solutions to the principle environmental problem: climate change. They argue that these policies are politically feasible in western democracies since they confer immediate benefits to the majority of voters and simultaneously address persistent unemployment and widening inequality.

In this issue's first article, *Solving the Human Sustainability Problem in Short-Termist Societies*, Maxton and Randers examine three of their proposals: green stimulus packages to encourage renewable electricity generation, electrification

1. Over 30 million copies sold in 30 languages (Norgard and Ragnarsdottir 2010).

of transport and energy efficiency measures; heavy taxation of fossil fuel production at source with revenues given directly to citizens; and increasing the number of paid holidays to offset productivity increases with leisure time whilst simultaneously decreasing unemployment. However the "elephant in the room" as they put it, is human population. While acknowledging that population growth in less developed countries (LDCs) must be tackled, Maxton and Randers address the problem of population levels in the rich world where per capita impact is many times greater than in poor countries by proposing direct payments to women on their 50th birthdays who have had one child or none.

In *Population, Climate Change, and Global Justice: A Moral Framework for Debate*, Elizabeth Cripps explores the interdependence of multiple ethical factors in the debate about sustainability. She argues that questions of population and sustainability pivot around issues of global, gender and intergenerational justice. Critical to understanding these relationships is the observation that increasing any one factor in the right side of the IPAT[2] identity leads, other things being equal, to an increase in environmental impact. The people of less developed countries should be able to improve their standard of living, inevitably resulting in some increase in consumption which cannot be sustainable in combination with a rapidly growing population. This needs to be tackled, preferably through the use of choice-providing policies including family planning, health care and education. Moreover, Cripps argues, because current global consumption levels are already unsustainable, considerations of global justice also support the case both for transfer of resources and technology to the LDCs *and* for lowering consumption in the developed world. Significantly, Cripps points out that the complexities and interdependencies of the issues are such that already the collective action required for a sustainable outcome will not be possible without facing up to some morally hard choices including whether to introduce incentive changing procreative policies.

While, as Maxton and Randers observe, the environmental impact of each new individual born into the developed world is up to 30 times greater than those in developing countries, absolute population increases in the LDCs is an issue for both environmental sustainability and, importantly, the quality of life experienced in those countries. The greatest increase in population is anticipated in Sub-Saharan Africa – a 120% rise between 2015 and 2050. This compares with

2. I=PAT: Impact = Population x Affluence x Technology.

a 20% increase in Asia – the same as the expected rise in North America. "The future size of world population", John Cleland observes, "depends critically on what happens in sub-Saharan Africa": his paper focuses on the prospects for fertility change in the region.

Like many commentators on population growth in the LDCs, Cleland notes that socio-economic development, education and the availability of contraception have a positive effect. However, rates of fertility for African countries with the same level of development as those on other continents are about one birth higher. One critical factor which distinguishes sub-Saharan Africa from the rest of the developing world is the stated desire, by men and women alike, to have large families. Identifying the unique historical, cultural, political and economic factors which may explain attitudes to childbearing, Cleland is nonetheless cautiously optimistic about the possibility of attenuating the rate of population growth – especially in east Africa. A reinvigoration of international interest in family planning programmes and a shift in the attitudes of African political leaders are possible sources of hope. The examples of Rwanda and Ethiopia which have both had rapid declines in their birth rate due to determined government initiatives show that a deviation from the UN projections is possible.

Many have argued that the impact and domination of our planet by Homo sapiens should be described as the Anthropocene or "the age of humans". However, the distinguished biologist E.O. Wilson (2013) has put it more strongly describing the current level of species extinction as potentially leading to what he terms the Eremocene: "the era of loneliness". While, in the interests of clarity, Liz Cripps' paper restricts itself to the impact of population growth on human interests, our final two papers explore issues relating to species extinction caused by pressure of human numbers.

Niki Rust and Laura Kehoe's paper is a call for action on the part of conservation researchers to study the empirical effects of population dynamics on species diversity. While the rapid pace of species extinction is widely acknowledged by conservation scientists, the causes cited are usually proximate rather than the ultimate drivers of global change: human numbers and resource consumption. Rust and Kehoe postulate that conservationists' lack of direct engagement with the population issue is possibly due to the subject being seen as controversial.

They argue that a multidisciplinary approach is required where conservation researchers work with NGOs to study the effect on biodiversity of programmes addressing female education and improved access to contraception.

Fred Naggs sees no possibility of averting the human-caused 6th mass extinction. While in the longer run a reduction in the human population will undoubtedly occur, by that time the devastation of biodiversity will already be so great that the era of loneliness will be upon us. Naggs tempers this by outlining methods that allow the creation of a 21st Century Noah's Ark to preserve viable cells of species in order to repopulate the natural world at a point when human numbers have been reduced. He calls for the establishment of a coordinated international project to collect and store living diversity as a means of escaping the species solitude that awaits us.

## References

Boulding, K.E., 1965. *The meaning of the twentieth century: the great transition*. London: George Allen & Unwin.

Boulding, K.E., 1966. "The economics of the coming spaceship Earth: environmentals quality in a growing economy." In: Jarrett, H., ed. *Essays from the sixth RFF forum*, Baltimore: Johns Hopkins Press. pp.3–14.

Carson, R., 1962. *Silent spring.* New York: Houghton Mifflin Company

Maxton G. and Randers J., 2016. *Reinventing prosperity – managing economic growth to reduce unemployment, inequality and climate change*. Vancouver: Greystone Books.

Meadows, D.H., Meadows, D.L., Randers, J. and Behrens, W.W., 1972. *The limits to growth.* Washington DC: Universe Books.

Norgard, J.S., Peet, J., Ragnarsdottir, K.V., 2010. The history of the limits to growth, *The solutions journal*, [online] Available at: <https://www.thesolutionsjournal.com/article/the-history-of-the-limits-to-growth> [Accessed 15 March 2017].

Schumacher, E.F., 1973. *Small is beautiful*. London: Blond and Briggs.

Ward, B., 1966. *Spaceship Earth*. New York: Columbia University Press.

Ward, B., and Dubos, R., 1972. *Only one earth: the care and maintenance of a small planet*. London: Andre Deutsch.

Wilson E.O., 2013. Beware the Age of Loneliness. *The Economist*, [online] Available at: <http://www.economist.com/news/21589083-man-must-do-more-preserve-rest-life-earth-warns-edward-o-wilson-professor-emeritus> [Accessed 1 March 2017].