

# POPULATION GROWTH, GLOBAL WARMING AND SUSTAINABILITY OF THE ENVIRONMENT

PROF JOHN GUILLEBAUD



**UNREMITTING POPULATION GROWTH IS SIMPLY NOT POSSIBLE ON A FINITE PLANET. AT JESUS' BIRTH, WORLD POPULATION WAS AROUND 200—250 MILLION.** Last

year it passed 6500 million and is on track for at least nine billion by 2050. The annual increment of over 75 million humans per year (all births minus all deaths on the entire planet) equates to a city for one million persons having to be built, somewhere, every five days. This is chiefly happening in the developing world, but poverty cannot be alleviated anywhere without using energy. Since energy mainly comes by burning oil, gas, coal or wood, a moment's thought will reveal that each of these new cities or slums not only eats up increasingly scarce land (often destroying habitats for other species than ours), but also means a million new makers of greenhouse gases, every five days. Nowhere near as much per person as we in the affluent world of course, but when (as in India and China) there are very large numbers seeking to get out of poverty – and why shouldn't they? – the global impact is large and becoming very scary. In summary, climate change is very much linked to the number of climate changers!

## BIODIVERSITY<sup>1</sup>

Today, of all the vertebrate biomass (the total weight of the bodies of all vertebrates), 97 per cent is human bodies plus the biomass of our cows, sheep, pigs, goats. This leaves just 3 per cent for all the elephants and other land mammals, for the whales, the fish and all birds. As soon as 2025 our species will eliminate an estimated a fifth of all the world's other life forms – a mass extinction of the creator's handiwork. Most of this destruction is not wanton, just thoughtless. It occurs by habitat destruction (wetlands, woodlands, coral reefs) for other species through the arrival of ever more humans.

## THE 'IPAT' EQUATION<sup>2</sup>

$I = P \times A \times T$  where  $I$  is humanity's total environmental impact (i.e. everything that is happening, from global warming to fewer UK songbirds);  $P$  is population;  $A$  is per-person 'affluence', with inevitably linked 'effluence' (pollution) and resource consumption; and  $T$  is the per-person technology factor. This is higher where the aggregate of production technologies is the more consuming and polluting, and lowered by 'greener' technologies, such as renewable energy.

Science can and must deliver reductions in the  $T$  factor, but never to nil. Environmental scientists affirm that the known renewable green energy sources (e.g. wind,

waves, tides, solar and biological) not only have their own adverse environmental impacts but are also way short on *capacity*, to deliver the profligate energy requirements of modern suburbia. Vastly increasing *energy efficiency* (e.g. by properly insulating all buildings) will help. But there are strict scientific limits.

Christians rightly campaign for the  $A$  affluence or consumption factor per person to be lowered (so-called 'contraction'), by high consumers wherever they live – mainly in the Northern industrialised countries. Yet their (our?) track record in so doing is dismal, to put it mildly. The ecological footprint, in its lifetime, of a child born in the wealthy North causes far more damage to the planet than one born in the majority South. Globally, the mirror image of affluence is poverty, which blights about three billion on less than US\$2 per day, among the 6.5 billion people on earth. Their consumption must increase ('convergence').

So, the  $T$  cannot be reduced sufficiently and the global per-person  $A$  factor is going up – *wrongly*, through the already affluent not sufficiently reducing their consumption, but also *rightly*, through poverty relief for billions of poor (as just described). So, given there are no other factors affecting human environmental *impact*, the only one left in the equation is  $P$ . If Christians are concerned about the disastrous environmental future that looms, should they not be less negative about stabilising the human population?

Yet both outside and especially within the Church, talk about population and birth planning is largely taboo, it is the 'elephant in the room that no-one talks about'. If the matter is considered at all, population growth is seen as an unmodifiable 'given'. A relentless tide of humans added to a country like Ethiopia (25 million in the 20 years since LiveAid, when there were only 44 million) is demographically monitored, and increasingly unsuccessful efforts are then made to provide for everyone. Is not this 'predict and provide' approach rather like someone falling from an aeroplane and calling for an altimeter, rather than a parachute! Voluntary birth planning is that parachute.

## POVERTY AND SUSTAINABLE DEVELOPMENT<sup>3</sup>

Birth rates are declining everywhere, fortunately – small thanks to the various vocal but sadly misguided opponents of voluntary birth planning. Yet despite birth rates coming down, there are still those one million extra humans arriving every five days! Why? Because of 'demographic momentum', through there being so many young people already out there, fertile or

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*'Unremitting population growth is simply not possible on a finite planet'*

NOTES

- 1 [www.panda.org/news\\_facts/publications/key\\_publications/living\\_planet\\_report](http://www.panda.org/news_facts/publications/key_publications/living_planet_report).
- 2 P Ehrlich and A Ehrlich, *In: The Population Explosion* (London: Arrow Books, 1991), pp. 58-9; see [www.optimumpopulation.org/opt\\_more.famplan.html](http://www.optimumpopulation.org/opt_more.famplan.html).
- 3 See [www.optimumpopulation.org/opt\\_more.famplan.html](http://www.optimumpopulation.org/opt_more.famplan.html);
- 4 J Guillebaud, 'After Cairo', *Br J Obstet Gynaecol* 102 (1995), pp. 436-8; J Guillebaud, 'After Cairo (Corresp)', *Br J Obstet Gynaecol* 103 (1996), pp. 92-3; J Guillebaud, 'The environment time capsule project', *British Medical Journal* 308 (21 May 1994), pp. 1377-8; and [www.ecotimecapsule.com](http://www.ecotimecapsule.com).
- 5 See [www.panda.org/news\\_facts/publications/key\\_publications/living\\_planet\\_report](http://www.panda.org/news_facts/publications/key_publications/living_planet_report).
- 6 J Guillebaud, 'After Cairo'; 'After Cairo (Corresp)'; 'The environment time capsule project'; and [www.ecotimecapsule.com](http://www.ecotimecapsule.com).
- 7 *British Medical Journal*, 'Over-population'.
- 8 Alan Guttmacher Institute, *Hopes and Realities: Closing the Gap Between Women's Aspirations and Their Reproductive Experiences* (New York: Alan Guttmacher Institute, 1995), pp. 1-49.
- 9 See [www.ecotimecapsule.com](http://www.ecotimecapsule.com).
- 10 J Guillebaud, 'Population Control: Good Stewardship?', *Triple Helix* (Christian Medical Fellowship; Winter 1999-2000), pp. 4-5.

▶ about to be so – around 2.5 billion are teenagers or pre-teens. All of tomorrow's parents are already born, so many in number that if their average family sizes were improbably to average two, population growth (despite the ravages of AIDS) would not cease until around 9–10 billion.

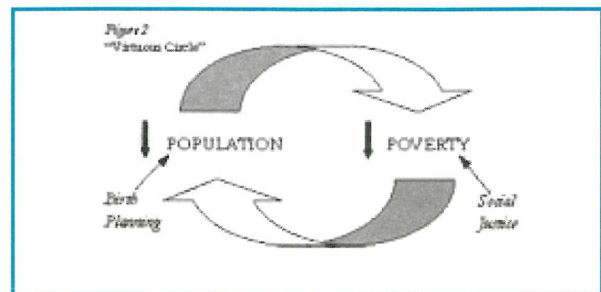
By 2050, on current per-person consumption trends – according to the latest Living Planet Report<sup>4</sup> – these nine billion people will require over 200 per cent of the biological capacity of the planet (meaning its forests, fisheries, croplands etc). This equates to humankind needing another planet! Or will half the population have to die? Because on a finite planet, of which three-quarters is ocean and over half of the rest is ice, mountain or desert, the choice about achieving stability is not whether, but when and how? Is it to be through the relatively benign route of contraception or the only other option, a gigantic cull of half of humanity by the 'Natural' causes: violence, viruses or sheer lack of victuals?

Mahatma Gandhi made two linked statements: 'The world has enough for everyone's need. But not enough for everyone's greed.' Gandhi's second statement remains totally valid! Another version of it is: 'let us learn to live simply, so that others may simply live'; and Christians are prominent in that campaign. But if Gandhi were alive today and spoke with environmental scientists, I guarantee he would agree that the first is fast becoming untrue. Why? Because there will soon be altogether too many everyone's, for all to live a halfway decent life: especially now, as we face the greatest environmental crisis yet (global warming).

Population increase maintains poverty (arrow [a] in Figure 1) because the finite 'cake' of any resource-poor country has to be divided among ever more individuals. Without stabilising the number of persons to share it, an increase in a country's GDP can mean a fall in per-person GDP or per-person share of the land, where this is the chief resource: as in my home country of

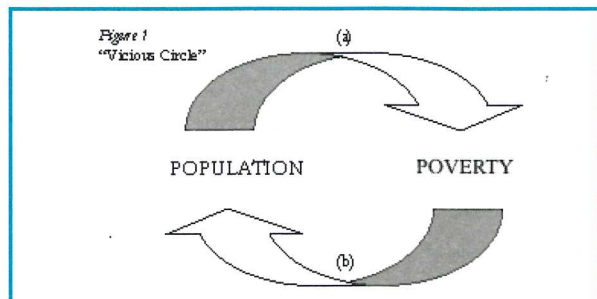
Rwanda in the years leading up to the genocide in 1994. The increase in population keeps wiping out any successes in poverty alleviation, whether in agriculture, housing, education and literacy, or healthcare.

Poverty maintained increases population, arrow (b), because in rural poverty reduction of family size appears disadvantageous: 'every mouth has two hands'. The labour of each new child in the family is welcomed, for 'social security' in sickness and old age. High child mortality also tends, unsurprisingly, to reduce interest in birth planning until a relatively high average family size is achieved.



Yet as in Figure 2, if we fight for social justice (everything required to relieve present poverty including also women's education and empowerment<sup>5</sup>) and birth planning (delivered wisely and compassionately) with equal vigour the vicious circle of Figure 1 can become the 'virtuous', upward spiral of Figure 2. Reducing unplanned pregnancies, an incremental reduction in average family sizes, fewer to share the 'cake' of the family's resources, hence less poverty, more children surviving so more acceptance of smaller family size through family planning, and ultimately less population growth. Therefore, 'take care of the people and the population will take care of itself' can be valid: if this 'care' is combined with the choice of affordable and available family planning services and supplies – the latter not instead of the former, but as well.

As Tear Fund said in 1994, 'stop counting people and ensure that people count!' But women are people. We should remove the many barriers (often introduced by men!) to those women who wish to space or stop their childbearing. The removal of such barriers is the only consistent factor in common between the 'success stories' where average family sizes came down rapidly (just as quickly as they did in China, by the way) towards the replacement level of around two: countries which are as different as Korea, Thailand, Sri Lanka, Cuba and Iran.



## *'climate change is very much linked to the number of climate changers'*

### COERCION? NO. EXCLUSIVE? NO

Many, Christians and others, continue to portray 'any quantitative concern for population as necessarily and intrinsically coercive' of poor people.<sup>6</sup> It is not so. Compulsion in reproductive health, whether overt or covert, is unethical and usually counter-productive anyway. We know from large scale social surveys of 240,000 women in 38 countries<sup>7</sup> that it is now a myth that most women in the South would not accept birth planning – as I can confirm from talking to women on the ground in Rwanda. Let us provide the option of modern contraception, for every woman on the planet who at time present wants to sleep with her husband/partner, yet does not want a baby just now. Doing so could greatly reduce both maternal mortality and the abomination of 50 million induced abortions. And continuing to not do so makes it probable that many more future governments will legislate for coercive birth control, the Chinese way we all rightly reject.

Others distrust this contraception concern as inevitably exclusive – of many other key interventions such as social justice, fairer trade, poverty relief, better education or improved child survival. It is not necessarily so. Why should not a thinking person have deep concern for these as well?

### THE STAKES ARE HIGH

Ultimately, there could be unimaginable catastrophes for our descendants. Hence my 2044 Time Capsule<sup>8</sup> project in Kew Gardens and other sites, which included an apology: 'We have not inherited the world – it has been said – from our grandparents, we have borrowed it from our grandchildren.' My prayer is that our grandchildren should have no need to accuse us of damaging their 'loan' beyond repair.

### HOW SPECIFICALLY SHOULD CHRISTIANS RESPOND?<sup>9</sup>

In the real world it is medically necessary to make the methods of contraception available to unmarried as well as married people. However, I still believe in and promote that the married two-parent family is God's intended setting for child-rearing.

Christians should be enthusiastic supporters of voluntary birth planning, worldwide. I believe it is not only alright by him, within marriage, it must be squarely within his plans for these times. Contraception, from a truly Christian perspective, should be seen not just as 'permissible' for believers but as something to praise God for: a technology that scientists ('thinking

God's thoughts after him') have devised in the nick of time, for the better welfare of each child, in African or Asian families where resources are scarce, as well as for the future sustainability of creation on this finite planet.

Rich Christians in an overcrowded world should also think twice about having large families themselves, given that this will mean their family will have a larger environmental impact. But this does not force everyone into the same family mould. A gentle decline in total population fertility can be achieved by, as in the UK at present, a total fertility rate (equates to 'average family size') of 1.7 children: meaning an average of 17 children in every 10 families. This allows some to have more than two children, if counterbalanced by others voluntarily choosing to have one or none.

Many non-Christians think that Judaeo-Christianity endorses pronatalism ad infinitum. It is suggested that Genesis 1.26,28 – with the use in most English translations prior to 1960 of 'dominion over' rather than more correctly implying 'stewardship of', for the relationship of man to other species – gives biblical justification for riding roughshod over the biosphere, as humankind largely has, particularly in the last half century.

Yet Genesis describes God commanding the plants and animals to be fruitful and multiply before giving that instruction to us humans. The creator does not intend us to multiply – as St Francis of Assisi would surely agree, if he were alive today – so much that we prejudice the fruitfulness of all his other creatures! This would be contrary to his immanent nature.

Added to God's omnipotence, omniscience, and omnipresence, I believe there is implicit in the Bible another attribute of our God, namely, omni-common-sense! If obeying the 'multiply' instruction would, when combined with vastly improved survival through modern medicine, but without adequate birth planning, lead to human numbers which exceed the carrying capacity of the land available – and so wipe out millions by starvation, disease or violence – godly common sense says this is hardly obeying his other instruction to us and the rest of creation, to 'be fruitful'!

### CONCLUSION

We must, surely, ask ourselves some new questions relating to the two great commandments of Jesus in Matthew 22.37–40.

First, *love the Lord, your God*: are we doing that if we do not cherish and care for his creation – just as we

*'The creator does not intend us to multiply ... so much that we prejudice the fruitfulness of all his other creatures'*

► would for something made by a human loved one? Our love for God should surely ensure, *inter alia*, that there are not more of one species (humans) than can possibly live full lives without prejudicing the survival of all his other creatures.

Secondly: *Love your neighbour as yourself*: should we not more sacrificially (a) love our overseas neighbour; but also, (b) love our future neighbour? Can we do that without doing our bit to ensure there are not altogether so many future neighbours that God's world becomes uninhabitable? ■

*Noah Ark?*

*Adam and Eve?*

*David and Goliath?*

*Daniel and the Lion*

*Loaves and Fishes?*

*The Star of Bethlehem?*

### **ARE THESE BIBLE STORIES STILL ALIVE?**

The Diocese of Southwell and Nottingham and the Queen's Foundation in Birmingham are sponsoring an enquiry into the use and meaning of Bible stories in contemporary family life.

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