



world population - challenge or crisis?

By Pete Moore

The population of human beings is increasing. In 2000 there were 6 billion, by 2006 this had risen to 6.5 billion and, unless death-rates rise catastrophically, the United Nations predicts that by 2050 this figure will have risen to 9 billion. Is this an outworking of God's command to go into all parts of the world and multiply, or is it a reflection of a 'fallen' world in which humanity keeps living beyond God-given guidelines and boundaries?

Each year the human population increases by 79 million people - around 58 million people die, but 137 million babies are born. If we plan to house, feed and provide infrastructure for these people, we currently need to build the equivalent of a new city the size of Birmingham or San Francisco every 5 days, or more than a new UK every year.

Quite how long this growth will continue is difficult to predict. Currently the average woman has 2.6 children. If this continued unchanged there would be just over 11.5 billion people by 2050. The United Nations, however, think rates will fall and have calculated three possible options; high, medium and low variant models, that chart the population with a birth-rate of 2.5, 2.0 and 1.5 children per woman respectively. These predict a global population in fifty years time of between 7.7 billion and 10.6 billion people.¹ (see Graph 1).

After that most experts believe it will either stabilise around 9 billion, or start to decrease.²

A major driving force behind the current rate of growth is the fact that tomorrow's parents are already born. While the birth rate per woman is declining, there is a demographic 'bulge' of women of child-bearing age. According to the UN Population Fund, in 2006 about half of the world's people are under the age of 25, which includes 1.2 billion people between the ages of 10 and 19.³

New crisis or old story?

Anxiety about population growth is not new. In the second century AD Roman lawyer and church writer Tertullian wrote 'Our numbers are burdensome to the world, which can hardly support us.'⁴ Two hundred years later Greek-born priest St Jerome wrote; 'the world is already full, and the population too large for the soil.'⁵

Some say that people have always panicked about population, but humans have a remarkable ability to solve problems. If the population grows, so too will our drive to find solutions.

The counter argument is that 21st century science and technology gives us a much greater ability than in earlier centuries to calculate the scale of the Earth's resources: and to predict not only rates of

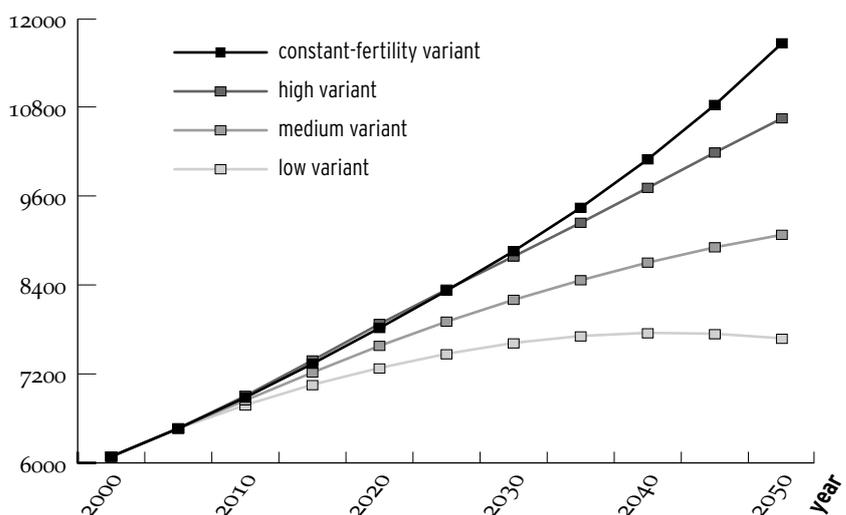
growth, but also the ultimate limits, for long-term sustainability.

Problem - what problem?

Not everyone is worried. Some welcome expanding human numbers, arguing that, throughout history, the challenge of population growth has stimulated development. Christians who take this view point to passages in Genesis, where God tells the first human beings to be fruitful and multiply, reiterated when Noah and his family left the Ark.⁶ When speaking to Abraham, God indicates that large families are a sign of his blessing, saying 'I will confirm my covenant between me and you and will greatly increase your numbers.'⁷ And later God tells Abraham, 'I will surely bless you and make your descendants as numerous as the stars in the sky and as the sand on the seashore.'⁸

Other Christians say you cannot infer hard science about population growth from texts that use such artistic language - there are, after all, about one billion grains per cubic metre of sand. They also remind us of God's requirement for humanity to tend and care for the earth,⁹ which is very different from being so fruitful and multiplying so much that we over-exploit the planet. Jesus neither

population in millions



Graph 1 - figures from <http://esa.un.org/unpp/>

married nor had children, and Paul felt a single life was the best way to serve God.¹⁰ Hence having few or no children is not necessarily wrong in God's eyes.

Those arguing in favour of increasing populations say that each generation inherits knowledge and understanding from its elders and then adds to it. By this argument, humanity moves forward most strongly when the maximum number of people are educated so as to contribute to human achievement.

The need greed balance

Opinion diverges on the question of whether there could ever be too many humans. A majority opinion says the world has a finite supply of resources, and the question is how many people would be optimum, before assets are spread too thinly for sustainability or comfortable survival. Another viewpoint challenges the concept that resources are 'finite' and maintains we can cope with many more humans if we use our ingenuity and share.

Yet very little of the world is truly available. Around 75% of the world's surface is oceans and half of the remainder is deserts, mountain ranges or beyond the polar circles. Thus only 13% is habitable. While human ingenuity may permit settlement in large numbers in currently unoccupied regions, this cannot but disturb the habitats currently occupied by other species, above all in the fast-disappearing forests.

Another approach is to estimate humanity's ecological 'footprint'. In the World Wildlife Fund's Living Planet Report,¹¹ researchers estimated the area of the world that people require, for essential activities such as agriculture, mining and forestry. They claim it currently varies from 0.53 hectares per person for someone in Bangladesh, to 9.70 hectares per person for the average resident in the USA. The figure for people in the UK is 5.35 hectares per person. When you add all the land-use of the projected 2050 population, the calculation suggests that with the current spectrum of use we will need the biological capacity of more than two earth-sized planets (ie 2.3 times more land than there is).

Regional variation

Many developed countries are following a different pattern, with concerns of a 'birth dearth'. This is driven by the desire to start families later in life, to have two earning partners in a relationship, and the high frequency of marriage-breakdown. For example, through contraception and abortion women in the UK now have an average of less than 1.8 children (= 18 children in every 10 families), a figure that is below the 2.1 total fertility rate needed for a stable population.

Even so, the population in the UK is still rising. This is driven partly by a disproportionate number of women of childbearing age, but also by a sizeable immigration that brings in at least 350,000 people a year. These newcomers are predominantly of childbearing age, often coming from cultures accustomed to large families. A similar situation exists in the USA and in Western Europe.

Of course these are only estimates, and changes in lifestyle plus innovation to make better use of resources may reduce the size of the per-person footprint.

Water is a critical and finite resource. Iran, for example, has more land available for agriculture than it currently uses. But it does not have enough water to irrigate that land. There is also the issue of energy. Humanity continues to burn through the planet's oil stocks at a phenomenal pace, and now has to draw this liquid gold from ever more expensive sources. One day the oil will have gone. Nuclear power provides little hope as a back-up resource. At current rates of Uranium we will use all known stocks by 2050.¹²

Yet the sun supplies an effectively endless source of energy which grows our crops as well as creates wind and waves. Tides that result from the gravitational influence of the moon provide another on-going source of power. Dwindling finite resources will encourage technologies that harness these more capably, but again these need to operate without damaging the planet's ecology. A critical issue, though, is that none of these are capable of supplying energy in the energy-dense way achieved by oil, gas and coal. These fossil fuels hold thousands of years' worth of solar energy

in a form that we can burn in decades. Even if we covered the world's croplands in biofuel crops such as oil seed and fast growing forests, we couldn't capture enough energy year-on-year to fuel our current machines, leave alone those for billions more humans.

How big is big enough?

The issue of human consumption is exacerbated by people in affluent countries profligately consuming and/or wasting food, energy and manufactured goods. The Indian leader Mahatma Gandhi (1869 - 1948) famously said 'the world has enough for everyone's need, but not for everyone's greed.' But while the second part remains true - and rich Christians should set a better example - the first is questionable: at what point are there 'too many everyones'? What size would each person's slice of the cake be if it was truly shared equally - and is that slice big enough to support a healthy fulfilled life?

The data in that Living Planet report¹¹ give some scale to the problem. If all the people alive lived at a UK-equivalent lifestyle we would require 34 billion hectares of provision, or 63 billion hectares to achieve a US lifestyle. Yet the report calculates that there are only around 11 billion hectares of sustainable space available.

Shared equally among all people, we would have around 1.7 hectares per person today, and this will drop to 1.2 hectares each by 2050. These are the sorts of levels currently experienced by people in Indonesia, Cameroon, Ghana, and below any currently experienced in Europe or the previous Soviet Block. Even with huge changes in the way we use resources, this is unlikely to support the lifestyle to which people in either developed or developing countries aspire.

Humanity - home alone?

We need also to consider the non-human aspects of creation. Although a few disagree, scientists are convinced that human activity has already driven hundreds of species to extinction and thousands are nearing the brink. Increasing human numbers will make this worse.

A few Christians maintain that we are too concerned about animals and not concerned enough for our fellow humans, and believe that humanity should always take precedence because we are the only species created in God's image.¹³ Others highlight that Jesus demonstrated that the strong should serve the weak, and our strength gives us a duty to ensure we do not destroy the created order, physical or living. Furthermore, in the creation narratives God views the universe he has made and says it is good – he cannot be too thrilled to see the damage we have now caused. The Psalms also refer to the whole of creation praising God;¹⁴ as beings charged with stewarding the world we should nurture our fellow worshippers.

Food security

In the eighteenth century the Rev Thomas Malthus wrote his Essay on Population, in which he predicted that the population would grow faster than food supply until famine acted as a brake. Since then, advances in agriculture have led to a situation where, with the exception of Sub-Saharan Africa, there is more food available per capita now than in Malthus' time.¹⁵ In 1950 the average hectare yielded 1 metric tonne of grain, whereas the yield now stands at around 3 metric tons and is still rising.

However this is achieved through technically complex and energy-hungry farming systems that deplete the environment and are increasingly vulnerable through water shortage. Add to this increasing atmospheric carbon-dioxide and climate change (caused in part by the increasing number of climate changers), and the future becomes less certain. A reassuring theory, that higher levels of CO₂ in the atmosphere through burning fossil fuels will stimulate increased plant growth,¹⁶ has been challenged by plant researchers. When you combine increased CO₂ with the other environmental changes that accompany it, it appears that the net result will be decreased production.¹⁷

There is at best uncertainty about when we can no longer fulfil demand, but most experts believe this will be well before we reach a population of 9 billion.

Bad solutions

The majority scientific opinion is therefore that the world's population is on track to rise to the point that our planet and political systems are under extreme stress. Many policy makers have therefore sought to limit this, to minimise catastrophic events induced or exacerbated by over-population.

It is easy to spot a wide range of bad solutions. One way of dealing with increasing numbers in some areas is to encourage them to move to either wealthier or less populated parts of the world. As receiving countries tend to welcome those who are young and/or educated, this migration creates a damaging 'brain drain'. Introducing new people to a community may make it less insular, which can be good, but this economic migration is highly disruptive as families and societies are torn apart. It would be better to help 'donor' countries to develop in a sustainable manner, and then encourage cultural exchange.

*'We have not inherited
the world from our
grandparents, we have
borrowed it from our
grandchildren.'*

Kashmiri proverb

A second approach has been coercive population control. The most-quoted example is China where couples who have more than one child may be fined, lose their jobs or be forcibly sterilized.¹⁸ While there has been growing international pressure, China's five year plan from 2006-2010 maintains this policy. All this is clearly in violation of the Universal Declaration of Human Rights: Article 12 asserts people's right to be free of arbitrary influence in family life, and Article 16 sets out a person's right to marry and found a family.

Information and education

Many people in developing countries are stuck in a vicious circle. Children are an

asset, helping to produce food and goods that keep the family economically sound. They provide personal security in old age. But large numbers of children may also consume more than is available, depleting resources that could otherwise be used to build community facilities such as hospitals and schools. The vicious circle is exacerbated by high infant mortality that accompanies deprivation and the perceived need for more births to compensate.

The recent history of many countries shows that the way out is not by coercion, which is unnecessary as well as unethical, but through education and provision of resources. This can set up a virtuous circle in which people are more secure and then seek to have fewer children which then further improves their economic security. In the Western world people voluntarily chose to have smaller families after the industrial revolution.

For this to happen, however, people, especially women, need to have genuine choice, which includes education about natural methods of family planning and access to contraception. At present this is frequently lacking. One consequence is that a woman must either accept the chance of bearing up to ten children, or seek to control family size by abortion – there are an estimated 50 million abortions each year worldwide, of which half are 'backstreet' abortions.

Given that much population growth occurs in countries with an Islamic majority, understanding the Islamic view on family planning is important, but opinions are divided. Some commentators, like Dr Majid Katme of the Society for the Protection of the Unborn Child's Muslim Division, believes that Islam encourages Muslims to produce many children. He says that in Al Qur'an God has guaranteed the sustenance of every new child born.

Others disagree. For example the Prime Minister of Pakistan, also a Muslim, has urged religious scholars to educate people about the importance of small families. 'We may fail to deliver our promises of improving quality of life of the people without achieving our objective to control rapidly growing populations.'¹⁹ He is keen to see Islamic countries share

best practices in various fields including population planning.

One example for Islamic countries may be Iran.²⁰ Here the population growth rate dropped from 3.2 percent in 1986 to 1.2 percent in 2001. Importantly, the politically initiated drive to give people education and choice was supported by religious leaders who issued religious edicts (fatwas) permitting and encouraging all types of contraception, including permanent male and female sterilization. Along with the fall in birth rate, the country experienced a soaring level of education. Even so Iran's population will continue to increase in the short term, because almost 40 percent of its population is under the age of 15 and therefore yet to bear children.

Part of the extreme growth is also occurring in countries where Christians have a strong presence. Christians need to recognise their responsibilities and God-given decision-making. Although official Catholic doctrine remains against active birth control, the protestant church recognises its rightful place within a married relationship. Used here it can become a blessing, enabling a husband and wife to express their love for each other, physically, without the fear of having more children than they have resources to care for properly.

Some ways ahead

While world population may start to decline in fifty years time, this is not certain. We do not want our grandchildren to be handed a massively depleted planet. Doing nothing is not an option. It is also important not to see a 'quantitative concern for population as intrinsically coercive'.²¹

Christians unite in supporting all endeavours to provide more education and basic facilities to people living in the world's shantytowns and slums. Where this has been done, the transforming effect to their immediate lives and the way they plan for their futures is vast.

A characteristic of good education is empowering people to make choices: and part of being able to exercise choices in family building must be access to the methods of birth planning. Yet Christians should be at the forefront of stressing that though contraception can play a positive role within permanent relationships, it is

negative and destructive to individuals and society when used outside such relationships for recreational sex.

Christians affirm that human beings were created with purpose and intended to populate the Earth. So Christians should surely be more prominent in endeavours to devise technologies that make better use of and conserve resources, in building recycling and reuse into our strategies, and in accepting less personal affluence.

*'Live simply,
that others may
simply live'*

Gandhi

We need to act responsibly in the way we let the rest of creation live. Aggressive acts and systems that oppress the weak and needy have come about because human beings have become self-centred and refuse to follow God's lead. Part of this self-centred mentality can be seen when some couples pursue permanently child-free lifestyles, while others have children without responsibly ensuring that they have the means to provide for them.

Any route ahead with long-term hope, will involve redistributing the resources that are so concentrated in a few fat nations, and working to correct poverty and consequent childhood mortality. Are we really prepared to make the lifestyle changes that could let all people live well?

At the same time we need to find ways of helping the human population stay within the numerical bounds that can be provided for by the Earth, so as to allow all of creation to thrive.

While Christians look forward to a time when these issues will be resolved, Jesus told us to love God and love our neighbour. It is, surely, showing love for our Creator to love and preserve what he has made, his Creation. And how can we claim to love our neighbours if we fail to love not only our neighbours overseas, but also our future neighbours?

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