

The Challenge of a Finite Planet

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William Carey's passionate interest in plants and animals has been given insufficient attention by most of his biographers. Mary Drewery describes his childhood fascination for his surroundings, and highlights his continuing work on botany in later years. According to one of Carey's students,

I heard C's lectures on botany. He would go first into the garden and pluck some leaves and flowers, and bring them to the class-room. He spoke quietly, but without hesitation, and very interestingly. His notes were on a slip of paper about three inches wide...¹

In 1823 Carey was elected a Fellow of the Linnaean Society of London, at that time one of the most outstanding botanical societies in the world. He contributed to the work of the Horticultural Society of London, and as his students moved on from Serampore elsewhere, they sent him specimens of local flora to mention in his reports. Members of the *Amaryllidaceae* family of plants—lilies—were his favourites, and one of them, called *Careyanum*, was named after him.

Today we are less inclined to talk about plants and animals, flora and fauna, and are being encouraged to think in terms of biodiversity. This term refers not just to specific plants & animals, but reminds us that they interact with one another, with us, and with our total environment or ecosystem.

Our precious biodiversity is currently under threat. Some scientists believe that 25% of the world's species could be lost over the next three decades from tropical forests alone, if the present rate of forest destruction continues. I believe that William Carey would want us to take urgent steps to remedy this profligacy, and to do so as a measure of our Christian commitment.

Biodiversity is only one of several interrelated global issues which require our urgent attention. The complete list is given in the UN Report of the World Commission on Environment

*Carey Day Lecture of 1995 given by David L. Gosling at Serampore College.

and Development, chaired by Mrs. Gro Harlem Brundtland, which paved the way for the Earth summit held in Rio de Janeiro in 1992. This report is called *Our Common Future*, & I believe that it is still the best global analysis of our environmental problems, including biodiversity.²

It's important to recognise that we are dealing not just with the problems of the environment, but of environment *and* development. We must do this, because otherwise we may find ourselves solving environmental problems in ways which make ordinary people poorer and are therefore contrary to the need for development. For example, a huge hydro-electric dam may appear a good idea environmentally because it's not polluting and doesn't use up non-renewable fuel sources such as coal, oil or natural gas. But if the dam removes the source of livelihood of people who are dependent on the river before the dam was built, then that is a bad policy. Instead it would be better to use micro-hydro in a variety of places along the river and its tributaries. So it's got to be environment *and* development.

The findings of the UN Report on environment and development may be summarised under four major headings, none of which specifically mentions biodiversity, but most of which subsume it in one way or another. However we must first define the goal of the UN Commission, which is "sustainable development", or development that "meets the needs of the present without compromising the ability of the future generation to meet their own needs"³ This is the threshold which all nations must cross in different ways if we and our successors on this planet are to have a viable long-term future.

I shall mention the four major issues which must be addressed if we are to achieve sustainable development in a convenient order which does not indicate their relative importance, and I shall make some observations from a Christian standpoint about each one.

The first is population. The reduction of rates of population increase is a highly controversial issue. But the underlying seriousness of the problem will not go away and may be illustrated by the following example:

If all existing crops were food (i.e. no coffee, cotton etc) and all food was shared equitably to provide basic needs, then our planet could support 5.6 billion people. But the world's population is now 5.4 billion, and will reach 5.6 billion in 2-3 years. Eventually it may stabilise at between 8 and 14 billion, which presupposes considerable hunger.

How can we avoid such a terrible crisis? One possibility is to utilise more land for crops. But that will mean cutting down forests, which has severe environmental consequences. Another possibility is to devise more intensive method of agriculture. But that has its limits, and the Green revolution of the sixties has proved a mixed blessing.

The Green Revolution used high-yield strains of crops to produce more food—in India yields of grain went up by almost 250%. But the high-yield crops required more fertilisers & pesticides to keep away different types of pest and fungus. Nitrates from fertilisers combine with nitrates from other sources to produces levels in drinking water which are damaging to health (the blue-baby syndrome, for example). And pesticides are even more dangerous. The rush to produce more & more to meet the demands of the Green Revolution led to a diminution in safety with the consequences we all saw with the Bhopal disaster.

Our third option is to ask: Can science help us? Yes, it probably can, but not in the same ways as previously. Instead of more and more fertilisers and pesticides, which are becoming increasingly counterproductive, we need new varieties of crops which will grow in different climates. But that will take time, and we cannot afford to wait.

The UN report has some interesting recommendations about the reduction of rates of population increase. The most striking of these is the need to promote women's rights:

Social and cultural factors dominate all others in affecting fertility. The most important of these is the roles women play in the family, the economy, and the society at large. Fertility rates fall as women's employment opportunities outside the home and farm, their access to education, and their age at marriage all rise. Hence policies meant to

lower fertility rates not only must include economic incentives and disincentives, but must aim to improve the position of women in society. Such policies must essentially promote women's rights.⁴

Little progress in this direction was made at the Earth Summit in Rio de Janeiro in 1992, and when the same issues were debated at the UN Population Conference held in Cairo in September 1993, an alliance between the Vatican and several Islamic countries attempted to delay progress. "Fundamentalists reject choice for women," announced a headline in the *New Scientist*⁵

Many Christians believe, however, that to be constituted in the image of God implies the freedom to choose, and that the securing of rights for all is a matter of fundamental justice. And, incidentally, when it comes to discussing the so-called population problem, let us remember that there are other population problems as well. Twenty per cent of the earth's population consumes eighty per cent of the earth's resources and causes eighty per cent of the pollution. Isn't that a population problem too? And just to get everything into perspective, serious though the population question is, it is a fact that if you were to take the entire population of the world and put them all into the United States of America, you would have a population density no greater than it is now in Holland.

The second major area for improvement is agriculture. There is enormous scope for improving agriculture worldwide. Many of the improvements are too detailed to summarise. But there needs to be an increasing shift away from the use of chemicals to agricultural methods which are more integrated and efficient. Some of these will be ones which have been used traditionally. Biotechnology will hopefully produce new crop strains suitable for a variety of climates and developing countries will devote less effort to producing cash crops to export to industrial countries to pay off huge debts to the international banks.

This brings us to the third main area for improvement, namely the need for international economic justice. Ever since the so-called Bretton Wood's instruments—the World Bank, the IMF and the tariffs body, Gatt—were created in the mid-

1940s, international economic relationships have been skewed in favour of industrial countries. For the last fifty years, while many developing countries have sunk deeper and deeper into debt to the international banks, the industrial countries have grown rich by polluting vast areas of the world at no cost whatever. They have used cheap minerals, cheap non-renewable energy sources, cheap labour and have caused immense destruction to the forests, rivers, the seas and wild life. Nowadays, at least since the Earth Summit, we are all beginning to accept the principle that the polluter pays. But what about the last fifty years? If nations were to sit together and try to put a price tag on the environmental damage caused by industrial nations during that period, then I believe that it would be greater than all the loans of developing nations to the international banks. That is a moral argument, not for forgiving the debts as an act of generosity, but for cancelling them as a matter of justice. I have developed this idea in a small book published by the Council of Churches for Britain and Ireland as a contribution to the Earth Summit called *A New Earth*.⁶

As somebody who took part in the 1992 Earth Summit, I would like to say that I believe that it was more successful than is often recognised. The main polarisation was between the Group of Seven industrial countries and the so-called Group of Seventy-Seven, led by India, Pakistan, China and Malaysia. The industrial countries were not prepared to question their lifestyles—their consumption of energy, for example—and the developing countries would not agree to preserve their forests merely to mop up excess carbon dioxide. The industrial countries were not able to impose their collective will on the rest of the world, and that is no bad thing.

The period of fifty years between the inception of the Bretton Wood instruments and now corresponds almost exactly to that of the Jewish practice of Jubilee, when the land and the people were together released from bondage. The world desperately needs such an economic liberation at this moment, a worldwide “acceptable year of the Lord”.

The fourth major area of concern is climate change, which is made up of ozone hole depletion, global warming caused by

Greenhouse Effect and acid rain. A few days ago I heard Shri Kamal Nath, Minister for Environment, state that these issues are much less important for Indians than for other countries in Europe and North America. To be sure, villagers who cannot even get clean drinking water and the basic necessities of life are not going to be unduly worried about the ozone hole. But if global warming really does produce some of the consequences which are being predicted, then the poor villages around the Bay of Bengal are likely to face devastating storms and submersion. Flooding in Bangladesh will produce migrations and all the problems, that attend population movements. Had I not been here today testifying to William Carey's concern for the natural world, I might have entitled this lecture "High tide around the Bay of Bengal".

If we are to avoid climate change we must refrain from using chemicals which damage atmospheric ozone—which is not difficult—and we must control emissions of so-called green house gases, carbon dioxide, methane etc. This will be achieved most effectively if all nations adopt a low-energy strategy to meet their energy needs. Power production, transport, domestic fuel and all other energy sectors must be geared to non-polluting, and whose possible renewable primary energy sources such as hydro-electric, wind and solar power. The accumulation of atmospheric carbon dioxide will also be reduced if we stop cutting down forests and grow more trees, which absorb it.

But the kind of low-energy path that will significantly reduce green house gases is incompatible with the industrial growth of many nations and will involve major changes in people's lifestyles. Energy efficiency will have to be introduced at every level, and people will need to be trained from primary school onwards to practice energy stewardship—lights, fans, more public transport and bicycles, recycling and all the rest of it, save energy. Here the churches have a major responsibility to challenge people to change their lifestyles.

These four areas, population, agriculture, economics and climate change must be addressed if we are collectively to cross the threshold implied by sustainable development. As I have already explained, biodiversity can be subsumed under

at least two of these headings—thus, for example, patterns of agriculture based on cash crops for export destroy forests and the species of plants and animals contained within them.

I believe that the fundamental thrust of our Christian concern must be to join forces with those who are attempting to address such problems as I have mentioned. The Christian faith as expressed in scripture and tradition (the experience of Christians) is essentially incarnational and dynamic. And if further justification is needed for concern about future generations, it can easily be derived from the command to love God and one's neighbour—still a child or even as yet unborn.

We are co-creators with God as we struggle to achieve the redemption of creation (*KTISIS*) to which St. Paul refers in Romans 8 (verse 19-21). Jesus preached the Kingdom in a manner which challenged the exclusiveness of the Jews, welcoming as his disciples all who shared his vision—Jews, Gentiles, women and social outcasts. He rejoiced in the richness and diversity of nature—lilies were as much his delight as William Carey's: "Consider the lilies of the field ..."

Even when William Carey was too ill to sit in his garden he sent for the gardeners to discuss the plants with him, and had a painting of a shrub propped up near his couch. "After I am gone," he protested good humouredly, "Brother Marshman will turn the cows into my garden".

May we, like William Carey, revere and cherish the world around us, rejoicing in its richness and diversity, and hallowing it both for its own sake and for our successors on this planet.

References

1. Drewery, Mary, *William Carey*, Hodder and Stoughton, 1978, p. 151.
2. *Our Common Future*, Oxford University Press, 1987.
3. *Ibid.*, p. 8
4. *Ibid.*, p. 105
5. *New Scientist*, Vol. 1942, September 10, 1994, p. 4.
6. Gosling, David L., *A New Earth*, Council of Churches for Britain and Ireland/Delta Press, 1992, p. 62.
7. Drewery, Mary, *op. cit.* (1), p. 199.