Presentation to the 2010 Synod

Diocese of Canberra and Goulburn

Population, Environment and Sustainability

What we call the environmental crisis is not merely a crisis in the natural environment of human beings. It is nothing less than a crisis in human beings themselves. It is a crisis of life on this planet, a crisis so comprehensive and so irreversible that it cannot unjustly be described as apocalyptic. It is not a temporary crisis. As far as we can judge, it is the beginning of a life and earth struggle for creation on this earth[1]

Acquisitiveness is..... associated with pride, the root of all human error and failure; pride which is most clearly evident in the refusal to acknowledge my lack of control over my environment, my illusion that I can shape the world according to my will. Maximised choice is a form of maximised control. And it presupposes and encourages a basic model of the ideal human agent as an isolated subject confronting a range of options, each of which they are equally free to adopt for their own self-defined purposes. The only way to maximise choice is to make sure that it is still possible to choose and use something, and to secure the possibilities of reasonable choice for our children and grandchildren, even at the price of restricting some options. Without that restriction, nothing is solid: we should face a world in which everything flows, melts, dissolve, in a world of constantly shifting and spectral valuations[2]

Creation is a web of inter-dependent relationships bound together in the Covenant which God, the Holy Trinity has established with the whole earth and every living being.

a. *the divine Spirit is sacramentally present in Creation, which is therefore to be treated with reverence, respect, and gratitude;*
b. *human beings are both co-partners with the rest of Creation and living bridges between heaven and earth, with responsibility to make personal and corporate sacrifices for the common good of all Creation;*
c. *the redemptive purpose of God in Jesus Christ extends to the whole of Creation*[3].

Let ours be a time remembered for the awakening of a new reverence for life, the firm resolve to achieve sustainability, the quickening of the struggle for justice and peace and the joyful celebration of life.[4]

[1] Jürgen Moltmann *God in Creation* (SCM 1985 Preface xi)
[2] Archbishop Rowan Williams lecture entitled Ethics, *Economics and Global Justice* given in Cardiff 7 March 2009 in the wake of the international economic crisis
[3] Lambeth Conference 1998 (resolution 18)
[4] Earth Charter 2000

1.Introduction

Modern humanity is prone to consider itself living in the only period of history that really matters. The truth of the matter is that the rich resources upon which we our modern prosperity is built and the DNA we have all inherited have a very long past and it is an act of supreme arrogance to live with any assumption that there will be no further generations to follow us.

- Science leads us to understand that the universe is some 14 billion years old while life on earth began approximately 4 billion years ago.
- The rich resources (especially liquid fossil fuel resources) that we are exploiting in a relatively few short decades have been laid down over hundreds of millions of years and are not renewable.
- Modern humanity perhaps through a grouping as small as a tribe, moved out of Africa some 100,000 years ago and has since made home from the equator to the polar regions, including the hottest and coldest, wetest and driest places on earth.
- While human beings as hunter gathers impacted localised fauna and flora, little impact was made upon ecological systems and natural climate cycles.
- The first major change came with the invention of agriculture some 5000 years ago which enabled civilisations to emerge. Many of these civilisations had a surprisingly short history, because, in their expansion, the resources within their reach became fully exploited[5].
- Agriculture enabled the global population to increase to approximately 300 million at the time of Christ.
- The second major change happened with the industrial revolution which has progressively impacted every area of human life from health to food production, from communication to global travel and trade. This change has hugely increased both the human gross population and the speed at which the population is expanding so that today we number nearly 7 billion.
- Human beings, through sheer numbers and through expanding appetites for consumer goods now have an unprecedented impact upon ecological systems. The much respected English scientist, Lord Rees, (an astro-physicist and a member of the House of Lords by virtue of his science) in a recent visit to Australia said that he gives humanity only a 50/50 chance of surviving another 100 years.
- Scientists tell us we are now experiencing the earth's sixth period of mass extinction. What makes this one different to all the others is that its cause is the total domination of humanity.[6]
- Shortage of resources is now fuelling many regional conflicts especially in Africa. (Nigeria, Sudan, Ethiopia, Eritrea, Somalia, and most infamously Rwanda). The prospect of such conflict erupting on a global scale is a prospect too terrible to contemplate.
- As trade expands and opportunities are exploited to meet the demands of population growth, the gap between the rich and super rich, the average and the poor is increasing. The top ten percent of Australia's wealthy now own a much higher percentage of the country's wealth than they did 10 years ago. A similar picture is replicated worldwide. Disparity ultimately always leads to conflict.

[5] Jared Diamond *Collapse* Allen Lane Penguin 2005

[6] The fifth mass extinction was approximately 65 million years ago at the end of the cretaceous period wiping out the dinosaurs and was probably caused by a meteor.

This is our context.

2 Theology

Christian life and discipleship is undergirded by two primary theologies, the theology of creation and the theology of redemption. Christians generally are well formed in the theology of redemption which is imparted through biblical salvation history and culminates on the cross. Most Sunday sermons, in one form or another relate to the theology of redemption. (Some Christians judge orthodoxy on the basis of a theology of redemption alone). The theology of creation is less understood and taught and yet it is as central to biblical understanding as a theology of redemption. It is found in the iconic creation stories of the Pentateuch, throughout all the wisdom literature and is especially focussed through John's presentation of the incarnation, and the establishment of new creation in his Gospel, letters and the Book of Revelation. While the issue we are addressing is informed by both theologies it is to creation theology that we must primarily turn

- The earth is not 'terra nullius', ours to exploit as we see fit, or technology enables us, ***it is the Lord's.*** (Psalm 24.1)
- The heavens and the earth and all their host reflect the glory of God, thus to significantly change the balances and rhythms of nonhuman life is far more significant and serious than simply mechanical manipulation; it is to challenge the manner in which God and God's will is reflected in and through creation. (Psalm 19)
- The Sabbath crowns creation: through its rhythms and balances the whole creation is hallowed and blessed. (Genesis 2.1-3)
- Human beings are made in the image and likeness of God, to care for creation as God cares for all. Dominion or rule is therefore to be understood as the responsibility of nurture and care of the order God has established. As God subdues the darkness and chaos to create, so humanity is commissioned with the same responsibility to oppose forces that would disturb through exploitation or any other means the balances that produce well being and harmony.(Genesis 1 26-28)
- God's creation covenant is not simply with humans, it is with all living things, the creation covenant confirms the sanctity of all life and commitment to its diversity. Space must be left for non-human creation to be fruitful. To threaten diversity is to rebel against the creation covenant.(Genesis9 8-17)
- Human beings are made to relate and through relationship(s) we are to understand our identity. Our name (male and female) is *Adam*, for we are of the *Adamah* – the earth. We relate to God our creator, we relate to the earth out of which we are formed, we relate to one another and we relate to all living things. To act as an individual without thought to the consequences for other humans, or indeed for all of non-human life, is to deny our essential humanity.
- Set within creation are its limits which must be respected. God rests: humanity is called upon to rest and in so doing to recognise the rest that is due to the land, to its animals and indeed to all of life.(Deuteronomy 5.12ff) To live or act as if there are no limits is to live outside the order that God has established, action which grieves the heart of God and causes pain to the whole created order. To live outside those limits is recognised by the prophets as the ultimate apostasy. (Amos 8.1ff. Micah 6..6-8, Habakkuk 2.6ff)
- God's creation is friendly space in which all of life flourishes. The opposite of friendly space is space that is fully occupied by one form of species at the expense of

others. Human beings are now dangerously close to naming the whole of the planet "occupied space" thus excluding or treating as hostile that which stands in the way of 'human progress'

- Creation is the celebration of God's abundance. Ironically abundance is enjoyed, celebrated and protected through living within limits. Because of our vast numbers and our ever expanding appetites, we now commit vast ecosystems to the threat of scarcity, and bring countless millions of human lives into existence to face its threatening advance across the land.
- Wisdom is the womb from which creation is formed. "She was there at the beginning".(Proverbs 8. 22ff) In choosing the *Tree of the Knowledge of Good and Evil* rather than the *Tree of Life* humanity chooses the alluring but false freedom of independence, rather than the true freedom which arises from a relationship with God and with all that God has made. The sister virtues of Wisdom are justice, righteousness and harmony. Creation theology is inherently imbued with an ethical dimension. It is a commitment to righteousness, justice and harmony, virtues that are at an even greater risk in an over populated world.
- In the Temple Jesus read the Jubilee passage for himself (Isaiah 61.1ff), the kingdom that comes in him is a new creation with a strong ethical component; one that is both a future hope and the inspiration for transformational living and commitment in the present.

3. The scientific basis for the challenges we face*

**The Academy of Science has been commissioned by the Australian Government to produce 'a document responding to the questions the Australian public is asking about climate change, using language that can be understood by a non-specialist'. This document may be used for Synod (instead of at least some of the text below).*

Key facts:

- In the atmosphere, trace amounts of carbon dioxide and other solar radiation-absorbing gases are producing a natural greenhouse effect that is keeping the earth's surface considerable warmer than it would otherwise be.
- Rising levels of greenhouse gases are caused by burning of fossil fuels - oil, gas and coal which release mainly carbon dioxide - and other gas production such as methane from agriculture.
- Increasing greenhouse gas concentrations superimpose a gradual warming trend on top of the natural variability of climate ('the enhanced greenhouse effect').

The Intergovernmental Panel On Climate Change has been the biggest scientific collaboration in human history: thousands of scientists agree that the planet is in a dangerous state. The latest (Fourth) IPCC consensus report described the impact of global warming in different regions, and actual measurements of real events accorded with predictions from previous reports. This gave great confidence that the computer predictions for the future were also realistic. The Report includes the following points:

- Global warming of more than 2 degrees above pre-industrial levels significantly increases the chance of 'dangerous' climate change.

- To keep global temperature increase below 2 - 2.4 degrees we **need to stabilize at between 350-400 parts per million carbon dioxide** (445-490 ppm carbon dioxide equivalent concentration for total greenhouse gases); yet even at these concentrations there is still 25-80% chance that warming will exceed 2 degrees.
- We are **already at 385 parts per million carbon dioxide** and rising at 2ppm per year.
- **To reduce the risk of more than 2 degree warming, global emissions would need to peak before 2015, with 50% - 85% reductions on 2000 levels by 2050.**
- IPCC recommends that industrialised countries reduce their emissions by 25-40% by 2020 (from a 1990 baseline).

The Garnaut Climate Change Review is a substantial source of information, analysis, and conclusions for Australian decision makers, commissioned by the Australian Government and all State Governments.

'The Review takes as its starting point, on the balance of probabilities and not as a matter of belief, the majority opinion of the Australian and international scientific communities that human activities resulted in substantial global warming from the mid 20th century, and that continued growth in greenhouse gas concentrations caused by human-induced emissions would generate high risks of dangerous climate change.[7]'

The majority Australian and international scientific opinion is being opposed by some who emphasise uncertainties in the science of climate change (see more in the section on political aspects). Key points from a careful analysis of such uncertainty are:[8]

- The earth's climate is naturally variable across a wide range of timescales and amplitudes.
- **The rate of warming due to the 'enhanced greenhouse effect' is able to be determined, within reasonably narrow confidence limits, for any given rate of increase of greenhouse gases.**
- Both greenhouse gas concentrations and global mean temperature have increased over the past century and at least some of the observed warming is due to the enhanced greenhouse effect.[9]

- **Unless offset by natural cooling larger than any that has been observed over the past few centuries, continuing increases in greenhouse gas concentrations will lead to further global warming and other significant changes of climate over the next century.**

When releasing the Climate Change Review Report for Australian Governments Professor Garnaut said that inaction could prove dire and that, if we fail, 'the failure of our generation

[7] The Garnaut Climate Change Review 2008 (p xxxv) (www.garnautreview.org.au),

[8] '*Climate Change: The Challenge for Policy'*, an Australian Academy of Social Sciences publication, 2005

[9] . *The Garnaut Report reports an analysis by time series specialists of global temperature data in the past century, which states that upward movement in the past 130-160 years is persistent, becomes steeper after the mid 1970s, and that there is no significant evidence for a break in the trend in the late 1990s).*

will haunt humanity till the end of time' (p.xlv). He put a target of 550ppm carbon dioxide equivalents (with Australia aiming for 10% reduction on 2000 levels by 2020 and 80% by 2050) as one with a reasonable chance of agreement - **but it has <u>not</u> been agreed to date**.

- As examples of consequences, 550ppm would not save the basic three-dimensional coral structure of the Great Barrier Reef, whereas 450ppm might do so; and for the Murray-Darling Basin, which is already severely stressed, models indicate that by 2100, with no mitigation, irrigated agriculture would decline by more than 90%, compared with 20% at 550 ppm and 6% at 450 ppm (p.127).

Underpinning the above analysis, there is broad understanding that:

- human consumption is the main cause of recent increases in greenhouse gases
- human consumption increases with population numbers, and consumption per person is increasing in newly industrialising countries
- population continues to increase globally (United Nations median projection is an increase from 6.8 billion now to 9.2 billion by 2050) and in Australia (Department of the Treasury projection is from 22 million now to 35 million by 2050)
- up to 50% of the Earth's photosynthetic potential is already being directly appropriated for human use; land that is now being cleared is either increasingly inhospitable or home to precious and unique stocks of biodiversity (Sachs, p.68)
- natural sinks for the absorption of greenhouse gases, such as forests, continue to be cleared for agriculture or development
- removal of habitat and the threat of climate change combine to make major extinctions of other life forms very likely by the end of this century (Wilson).

4. Common Wealth and Private Barns

Why humans find it so hard to change

Unsurpassed wealth is held in common. Sun and wind and all forms of energy; rain and rivers, the earth and bountiful sources of food; the sea and its sources of life; complex eco systems, beauty in all its forms; building materials and mineral resources; the smile of a child, the wisdom of the elderly, human DNA: all of these treasures are common, because they come from a God who pours abundance equally upon us all.

A relatively small proportion of wealth, often in the least important categories, is accumulated by individuals during their lifetime, but even that is relinquished in death. In the light of this truth it is extraordinary that human beings, to a greater or lesser degree, place greater value upon that which has been individually accumulated rather than upon that which is common. This is part of the human dilemma (*the human condition*); for, paradoxically, our very existence depends not upon our personal wealth but upon the health and abundance of that which we hold in common. To lose 'common wealth' is to lose everything, to lose that which has been individually accumulated is traumatic, but it is to begin again from that which we hold in common.

'Self interest' is being absorbed, often to the point of paranoia, with my private barn. This self interest is wilfully fed by politicians who respond to its demands, and by 'shock jocks' such as Alan Jones who espouse its virtue. This self interest has emerged victorious since Copenhagen.

Such is the power of self interest that growing scientific consensus which addresses the human threat to ecological balance is undermined, belittled, ignored or seriously misrepresented.

Addressing the ecological crisis, and climate change at its centre, does not come without cost. However, the relatively small personal investment required, for investment is the more appropriate noun, is an investment in the 'common wealth', or common capital, from which we, future generations, and all of life will continue to draw. We will not find ultimate security in personal assets but in 'common wealth'.

That the astrophysicist, Lord Martin Rees, President of the Royal Society, on a recent visit to Australia should say he gives humanity only a fifty-fifty chance of surviving another one hundred years is not a comment about ecology, but about the human condition. Human ingenuity, invention, 'progress', will not save us if our primary focus remains on privatised wealth. Indeed further technological advantages that serve self interest may well fast track the difficulty.

Human beings must rediscover the biblical truth that our primary identity is our relationship with God, with others, with the earth and the whole created order; and we are individuals only within the embrace of those relationships and the accountability they demand.

5. Industrial and Technological Revolutions, Human Values and Capacity for Change

The industrial and technological revolutions of human society have radically altered the life-giving relationship between human and non-human creation.

Technologies are applied sciences. The technologies and the sciences from which they are derived come from human values and the convictions of human societies.

The values and convictions of human societies, which regulate public life, come from basic human convictions about the meaning and purpose of life.

The natural environment cannot be understood apart from the social environment. Therefore the ecological crisis is at the same time a human social and spiritual crisis.

If the destruction of nature is to be halted the economic and social conditions of human living must change. Societies which persist in aspiring to ever increasing growth and productivity will contribute to the progressive destruction of the environment.

The norms which regulate a society derive from its cultural traditions and these cultural mores become deeply embedded in the human psyche or subconscious. Change at this level is painful and takes a long time.

Human systems that are unable to undergo fundamental change at the level of values and meaning cannot adapt to new situations and change as a whole. "Only life systems that are capable of suffering are capable of surviving, because they are the only ones that are prepared to learn and are open to change and renewal."[10]

The predominating value shaping modern civilization is the value of growth as compared to equilibrium. Growth through increased productivity which harnesses scientific and technological power to achieve its aim becomes the basis of political and economic activity.

The human will to power, to dominate, underlies the desire for growth. This will to power is exerted over and against the non-human creation. The human being in our society has become identified as the consumer. Human beings are now in a relentless quest to commodify creation for our own consumption.

Without a fundamental re-orientation of our self understanding as consumers to our true identity as creatures given life within the context of the whole community of creation we will be unable to undergo the necessary change or transformation required to slow the destruction of nature.

The present societal denial or apathy in face of climate change and other human impacts on the earth community seems to reflect a fundamental incapacity to truly apprehend our

[10] Jurgen Moltmann, God in Creation, Fortress Press, 1993. P25

biological and spiritual connection with the creation or total ecosystem of the earth. Our sinfulness is that, as a whole, we have come to regard life as a right and humanity as the ultimate act of creation as compared to life as gift endowed with human responsibility to care for creation. A change of human consciousness is required for us to face the ecological crisis before us.

6. Political aspects of the challenges we face

A year ago, in the lead up to the Copenhagen Conference on Climate Change, there appeared to be a broad public consensus that the threat of dangerous climate change was real, and that action must be taken to prevent it. Since then many feel that confusion has grown to the extent that there is a need to take a step back, to set out the basis for the concern once more (as briefly outlined in section 4 of this report), and to name the issues and interests involved, as we do below, so that people can choose wisely whom to believe - for this is a profound moral choice.

6.1. Climate sceptics

Climate sceptics cast doubt on the scientific evidence for global warming and its potential dangers.[11] Many are paid by fossil-fuel interests. They create confusion as to whether climate change is real or, if it is happening, question whether humanity has any responsibility. Sunspots, a change in the Earth's axis, general unexplained natural variability, and references to warm periods in the past are all used to discredit the mainstream science, even though these factors have already been taken into account by mainstream climate scientists. The second part of their message is that the cost of action on climate change will badly damage the world economy and huge numbers of jobs will be lost. Sceptics are vastly outnumbered by scientists with impeccable credentials who have increasingly serious concerns about the fate of the planet and humanity, and who make their case from properly reviewed scientific data.

6.2. Can human creativity/technology solve the problems ?

Some people accept the reality of climate change but still express confidence that, through human creativity/technology, ways will somehow be found to avoid the worst effects of growth in population and consumption, and adapt to climate change without requiring major changes of us. A devastating analysis of the prospects for some of these ideas is given by Clive Hamilton in *Requiem for a Species*. The scale of the behavioural and technological changes needed, the short time available to achieve them, and the failure of international efforts so far to commit to such changes, are of very great concern. But if we change enough - and soon enough - we can still expect to lead comfortable and fulfilling lives. Some helpful publications are listed in the bibliography at the end of this report.

6.3. Costs can be measured, many benefits cannot

[11] : Paul Brown, *Global Warming – the Last Chance for Change*, (Reader's Digest publication, 2007).

The central policy issue is simply stated in the Garnaut Climate Change Review Report: ***'What extent of global mitigation, with Australia playing its proportionate part, provides the greatest excess of gains from reduced risks of climate change over costs of mitigation?***

- ***The mitigation costs are experienced through conventional market processes and can be measured through formal economic modeling.***
- ***But only some of the benefits of mitigation are experienced through conventional market processes, and others take the form of insurance against severe and potentially catastrophic outcomes and still others the avoidance of environmental and social costs which are not amenable to conventional measurement.***

The challenge is to make sure that important immeasurable effects are brought to account. The long time frames involved create a special challenge, requiring us to measure how we value the welfare of future generations relative to our own.' *(underlines added)*

There are major political challenges involved in addressing such hard problems. The Garnaut Report has been criticized by observing that it was commissioned by Labor Governments, and implying (unfairly) that it was therefore politically and ideologically slanted.

6.4. Political identification with positions on climate change

Economic growth is the paradigm, a prime goal of nations underpinned by unsustainable use of the earth's resources. Modern industrialized economies now need to change. Some people accept this, in order to care for the future world in which all life will need to exist, but others resist, giving priority to preserving current ways (and profits, for some). A new economic paradigm is urgently needed.

Interest groups are often broadly aligned with political groups. This poses huge challenges for objectivity in addressing the issues: all of us need to examine our own and others' deepest motives for opinions held. Political leadership towards a more sustainable future is essential but major change cannot be achieved urgently unless partisan approaches are put aside. Sadly, an adversarial approach, with the goal of short term political advantage, has been the default position.

As Christians, we need to encourage wise, unselfish and courageous political leadership. The Archbishop of Canterbury preached, during the Copenhagen conference on climate change, on casting out fear and acting for the sake of love: *'Yet it seems that fear still rules our hearts and imaginations. We have not yet been able to embrace the cost of the decisions we know we must make. We are afraid because we don't know how we can survive without the comforts of our existing lifestyle. We are afraid that new policies will be unpopular with the national electorate. We are afraid that younger and more vigorous economies will take advantage of us – or we are afraid that older, historically dominant economies will use the excuse of ecological responsibility to deny us our right to proper and just development.'* The Archbishop ended by emphasizing that love casts out fear and with a plea not to be afraid, but to ask how we show that we love God's creation, and how we learn to trust one another in a world of limited resources through justice and caring for our neighbour.

6.5. Human population growth and the future of the Earth

Population growth and related consumption are root causes of current environmental stress and climate change, but population is a controversial topic that is difficult to address politically. Reasons why people prefer to be silent include:

- Businesses and home owners benefit from population growth, short term
- Population growth provides economic growth, a prime goal of governments
- Some think an increased birth rate is needed to compensate for an ageing population, but the costs of adjusting are not likely to be huge (Sachs p.201) and it is inconsistent and unsustainable to provide incentives for more people in a crowded world.
- Earlier immigrants to Australia, which is most of us, do not want to prevent others coming; but we could increase our very small humanitarian immigration and continue family reunion while decreasing total immigration to fit with scientific advice on the long term carrying capacity and biodiversity preservation of the Australian continent.
- Birth control education and facilities are sensitive for some church members. Balancing such matters can be hard, but the big picture is of overpopulation. Should we not support those who, through voluntary means, are trying to achieve the greatest good – for each woman, the wellbeing of all her children, her environment, her nation and the world as a whole - through education and reproductive health services.

Out of care for the whole Creation, particularly the poorest of humanity and the life forms who cannot speak for themselves, we argue that it is not responsible to remain silent.

7. Resolution

That Synod,

Receives the report from the Diocesan working group on Population Environment and Sustainability and. recognising the potential damage that continued population growth will cause to environmental and international stability

1. understands that population stabilises when poverty is reduced and educational standards increase and therefore calls upon the Australian Government to meet its obligation for the effective implementation of the Millennium Development Goals especially those that relate to the alleviation of poverty, provision of universal primary education, and care for the environment. Further urges the Australian Government to reach the international standard of 0.7% GDP donation to international aid.

2. urges Aus Aid and all NGOs, especially faith based organisations, to work tirelessly for the achievement of these goals within the agreed time frame (2015) and to advocate strongly for their implementation with Government, nationally and internationally.

3. acknowledging that the current economic paradigm of continuous growth is most easily fulfilled by ongoing population expansion, but that this is no longer responsible: urges Government to cease incentives for population expansion and develop economic models of sustainability that develop community strength, wellbeing and capacity for self-sufficiency.

4. recognises the right of all people to family planning education and the availability of culturally appropriate and accessible means of contraception. Therefore encourages AusAid and NGO donor organizations to incorporate family planning education and resources in all bilateral and multilateral aid agreements;
5. supports initiatives regarding population distribution, that may reduce the risk of environmental degradation (stem/reverse the rural/urban drift, support urban consolidation where appropriate); and
6. encourages distribution of this Report and wide discussion amongst the Ministry Units of the Diocese

Bibliography

1. The Public Affairs Commission of the Anglican General Synod has prepared two relevant discussion papers (which also give references to a number of helpful books and articles):

- *Key issues for Australia's future in the global context and actions for us to take (February 2009) (available on the General Synod Web site, or Google by the title*
- *A discussion paper on population issues (March 2010).*

To be continued