Regarding Resources

Aspects of Christian Stewardship of God's Provision

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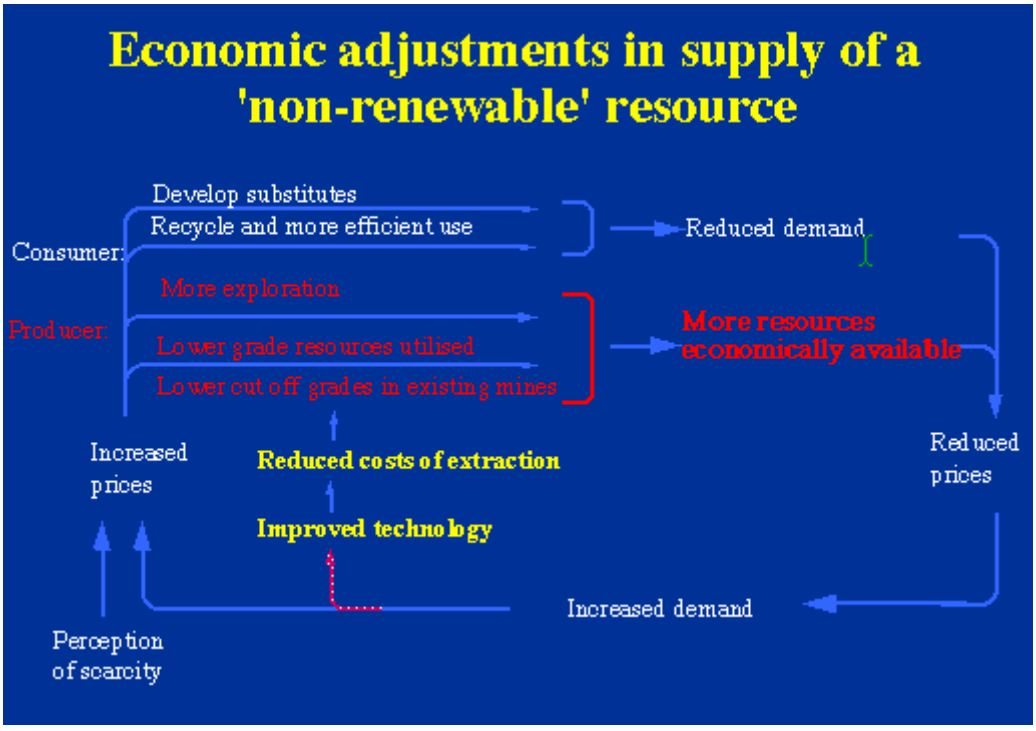
by Ian Hore-Lacy, Environmental Consultant and General Manager of the Uranium Information Centre.

It is conventional wisdom that growing human populations, increasing pollution and diminishing resources threaten the future of humanity. I believe this needs challenging on several grounds. First, what would this tell us about God if it were simply true that humanity was threatened with extinction? Secondly, while we certainly need to lift our game in environmental stewardship, and there are undoubtedly some major environmental questions about how we use resources, those resources are unbelievably abundant. Where any is limited, substitutes exist . Globally, there is not the slightest prospect of us running out of any natural resource that we need in the foreseeable future, given a modicum of care and common sense . Conventional wisdom when hyped up to assert imminent environmental catastrophe is rooted in unbelief and nourished on the same kind of hubris as that of the technological utopians. God's provision is vastly greater than generally understood or accepted. The greenies' God (when not pantheistic) is too small.

Where Are the Limits to Growth?

The notion of finite resources has captured a major place in conventional wisdom. It is not so much the concept itself which is flawed, as the assumptions which go with it. My carefully-chosen words in the above paragraph aim to challenge those assumptions, not to be dismissive of the concerns or to deny the truism of limits. The question is, where are the limits? and if we are in any danger of bumping up against some of them, how do do we deal with this constructively? The alarmist utterances of some high-profile doomsdayers have been exposed as nonsense both by time and argument, as the continuing exchanges between Paul Ehrlich and Julian Simon remind us.



Fresh, potable water is a resource which is clearly seriously limited in some parts of the world, but which treatment technology allows us to extend dramatically. (It is said that a glass of water from the tap in Rotterdam has been drunk five times previously!). Mineral resources availability depends on a complex of economic and technological factors apart from mere geology, - see diagram, and consider its application to oil and aluminium over the last 120 years. Even just looking at oil in the 1970-80s shows us all these factors at work, and incidentally yielding an abundance of gas! Looking to the future, I'm sure we will not be using oil in the same way 50 years hence, but neither will we be immobile! Overall, we have barely scratched the surface of the earth in respect to the resources it contains.

Environmental limits require a properly informed and deliberate response in the context of the stewardship I refer to. Today the most obvious concern is the potential for global warming due to the inexorable increase in greenhouse gas concentrations, especially carbon dioxide. While this remains a notorious example of the abuse of science to create fear and advance political agendas, the state of knowledge now seems to mean that we prudent action should be considered. Limiting carbon dioxide emissions is the most obvious course of action, through improved energy efficiencies and progressively replacing large point sources such as coal-fired electricity generation with alternatives. Nuclear energy already saves the emission of nearly two billion tonnes of carbon dioxide annually relative to coal, there is the potential to triple this over 30-50 years. Wind and solar technologies will make a smaller, but important contribution. An ethical issue is raised by the popular push to use natural gas for base-load electricity generation. This is such a valuable reticulable energy and also hydrocarbon resource that it is doubtful whether our grandchildren will thank us for squandering it.

Abundance

No human activity or legitimate aspiration has ever been limited by any shortcoming in God's provision for us. The limits, most evident in poverty, are due to human failures in proper human stewardship of the planet and its resources. It is our sin which causes war, exploitation and waste. It is our sin which saps the willingness to work and to create, to share and to give. It is our sin which makes greed respectable and which creates sterile selfishness by transforming proper personal responsibility into personal preoccupation and indulgence. It is sin which institutionalises privilege. The effects of the fall are ubiquitous.

Accessing and applying God's provision of natural resources depends to a large extent on a proper understanding of God's creation. Paul (Rom 1) reminded us that God's revelation of this was primarily through the natural world, accessed via what we now call science. Today we can see that this science has historically grown out of a Christian understanding of the relationship between God and his creation. The many scientists active both in research and its application who profess faith in Christ underline that relationship between special and general revelation and remind us of the need to apply our God-given gifts in developing science and technology in the service of humankind.

In the same way God has provided all that is needed for us to enjoy the abundance of his creation. This was explicit in the prospect of the Promised Land with its agricultural and mineral resources (Ex 3:8, Dt 8:7-10). Just as the Israelites had to grapple with the practical questions then in order to benefit from those resources, so do we. Their technology was rudimentary but real and it arose from what we would now call science. Copper and iron in particular are not much use without the technology to smelt them, and today our lives are even more technology-dependent. It enables us to apply those resources as faithful stewards to supply people's needs, discerning as best we can what he intends with them.

Science and technology

Science is a fundamental human endeavour which is implicit in our relationship, set up by God, with his created order. It is vital for Christians to have a right understanding of science, to settle for less is dishonouring God. That is why the whole creation 'science' controversy is important. Ultimately shonky science is nearly as much of a problem as shonky theology. Flying in the face of overwhelming scientific evidence is as silly as a Christian denying the divinity of Christ, and it implicitly asserts that God is deceitful.

Applying the resources of the planet to human need for an ever increasing population is a clear human priority. The technology for this comes from the science which gives us an insight into the working of God's creation. Both the science and the technology are derivative from his creation. This creation results in both the world with its natural resources and humankind with its/our inbuilt intellectual resources.

God's revelation in scripture and in Christ touch upon both to a very limited extent, mainly insofar as they are relevant to our relationship with him. Science, technology and economics (which has elements of both science and technology) are natural and appropriate human activities for those made in God's image and put in charge of all that he has provided.

We are never more fully human, in God's image, than when we are exploring his creation to understand it better and then applying the fruits of that scientific understanding through technology to address human needs, (unless perhaps in exploring all of his revelation in order to worship him?).

Australia's resources

Australia has a major role in the world as a resource provider and processor. As stewards in both economic and theological senses we are well equipped for this in all sorts of ways. We have tremendous mineral potential, and in fact we are the only developed country which is highly dependent on the resource sector to sustain the economy. (Hence I believe that we need to preserve a healthy scepticism when the USA or EC takes some "environmentally responsible" stance affecting the resources sector, such as the implementation of carbon taxes.)

Secondly we have well-developed science-based skills in our community which comprise the other main component of our national wealth. They mean that we can exploit those kinds of geological and land-based resources more efficiently than many other nations and put them into circulation via world trade. It should also mean that we do so more sensibly in relation to questions of environmental quality and sustainablilty. In some of these respects we lead the world, but not, it seems, in all. Science-based skills are also those we need to harness more effectively the God-given energy resources of sunlight, wind and waves.

Nuclear energy

Returning to carbon taxes and greenhouse, the fact that France, Germany, Japan and USA depend substantially on nuclear energy to make any headway with their greenhouse gas reduction targets gets scant mention in this country. Ignorant antipathy to nuclear energy seems to be the offical position in Australia.

But nuclear energy is a fascinating area for Christian reflection. The power of the atom epitomises the abundance of God's provision in an area which most people agree is critical not only to quality of life in the developed world, but also to meeting the aspirations of the two thirds world. Energy really is very fundamental. We must acknowledge that nuclear energy was developed first as an instrument of war, so it is tainted by sin, and the potential for nuclear weapons proliferation

confers some ongoing moral ambiguity. But perhaps the same could have been said about fire and iron? Does misuse disqualify proper use in the purposes of God?

Then what about the hazards and problems of the proper use of nuclear energy, radiation, waste, etc - are they sufficiently serious to disqualify it? Does safe management of the nuclear fuel cycle require something more than we can realistically expect of our civil institutions? Certainly wastes and so on are no longer unsolved problems as some have been anxious to proclaim at every opportunity! Effective technology for all aspects of the nuclear fuel cycle is well established in many parts of the world, and just as in every other field, that technology will improve. In relation to objections to the use of nuclear energy, people will always differ on what weight they give to particular questions and problems, while happily ignoring others. I cannot see any natural resource and associated technology which delivers so much benefit with so little adverse environmental effect.

And if some are uncertain about the place of uranium in the scheme of things, then they are positively uneasy about plutonium! Some even see it as diabolical! While plutonium will not appear in any list of geological resources, it is clearly part of the created order and of God's provision. Plutonium already provides about one third of the energy from a typical nuclear reactor. It has the potential to play a larger role in supplying the world with energy, and Japan in particular is moving in that direction, partly on ethical grounds.

The first plutonium appears to have been formed about 2000 million years ago in West Africa (now Oklo, Gabon) in several natural nuclear reactors. The reactors operated there in a porous and hence wet uranium deposit (the U-235 level then being 3-4% in the natural uranium). The evidence of fission products and heavy elements such as plutonium is still there (and incidentally provides one of the clearest and most elegant prooofs of an "old" earth). In this context and in terms of biblical chronology the Oklo reactors and their products are clearly part of the creation process, predating humans by a couple of thousand million years. They are presumably therefore "good" along with all the other natural processes which formed our planet and which we sometimes find problematical. There is no warrant for placing plutonium (or modern nuclear 'wastes' for that matter) in a separate moral category to geological or other natural resources. All need to be managed responsibly, and plutonium is a superb energy source, not only in nuclear reactors which burn it but also in thermoionic batteries such as in heart pacemakers, satellites and navigation beacons. Voyager's pictures from the further reaches of our solar system were plutonium-powered.

To me, concerns about global warming from a build up of greenhouse gases simply underline what I have called the felicitous coincidence of virtue and necessity regarding the future of nuclear power. Why on earth should we recoil in fear rather than approach with intelligent respect what God has provided? Remember, this provision is not only in the original creation, but also through the technology based in science which he has enabled us to develop to gain access to it and apply it.

So when Greenpeace says "we have no option but to leave the vast majority of the remaining fossil fuel reserves in the ground" because of greenhouse concerns we can reject the basis of the suggestion, while responding to the challenge of using them sensibly and without creating any environmental disaster. Similarly we can perceive the doctrinaire exclusion of nuclear energy from some scenarios of the global energy mix as nonsense. In fact it is worse.

Understanding God's provision

Rejection of God's provision in this regard is surely churlish and faithless. It implies that we know better than God what is good for his creatures and that it is very careless or even negligent of him

to let us have access to the earth's resources, particularly uranium. (If it is argued that knowledge regarding unlocking the power of the atom is a modern manifestation of the presumption in seeking the fruit representing the knowledge of good and evil in Eden I would disagree on two counts: first, such a position would call into question the legitimacy of all science, and second, we are following a command rather than disobeying one.)

Nuclear energy also has considerable political implications following the end of the arms race. Chernobyl was a terrible tragedy which for the first time put nuclear energy into the same hazardous league as fossil fuel energy sources - the 31 deaths and enduring environmental and health effects still being less than the consequences of, say, coal use. However, the fact of the Chernobyl accident makes a repetition much less likely, since there has been unprecedented international collaboration over the last decade to improve the operational safety of all Soviet-designed reactors, and to close some down.

Chernobyl also played a major role in melting down the iron curtain and it has been a factor, possibly a major one, in ending the cold war and promoting a more global sense of stewardship of the earth and international cooperation in achieving this. Who would have thought, ten years ago, that the substance of Russian nuclear warheads would be delivered to the United States, - not by ICBMs but in shipping containers, for making electricity? Perhaps our children will be able to look back in another fifty years and see that the use of uranium for weapons was simply a temporary aberration in human history, as people then more fully enjoy its benefits.

God's gifts in creation far exceed anything we can get our minds around. We must not diminish them by our faithless attitudes, our churlishness or our irresponsibility.