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publications worldwide for an international
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in Cambridge University is carved the text from [Psalm 111:2](#): 'Great are the works of the Lord, pondered over by all who delight in them'.¹⁵ My God grant all of us this wisdom.

Dr. Bruce Nicholls is the Editor of *The Evangelical Review of Theology*. p. 223

III

The Praxis of Sustainable Development

'Faith without works is dead' ([James 6:26](#)). It has been the burden of Christians in every generation to determine what their faith means for public life. The problems of 'practical theology', when applied to Christian environmental stewardship, lead to an environmental ethic.

What does Christian ethics have to say about how we must treat such resources as water and land? In this section, Neil W. Summerton develops a number of principles by which Christians and non-Christians might share in fostering 'sustainable' development. Fred Van Dyke analyzes the sorry state of land preservation by the United States Forest Service and recommends major alternatives in policy and in providing Christian education for land stewards. Taken together, these essays point the way for a Christian environmental ethic. p. 225

Principles for Environmental Policy

Neil W. Summerton¹

In the secular, pluralist Euro-Atlantic world it is comparatively rare for governments overtly to claim the sanction of a particular morality for their policies and actions, much less for their international agreements. Environmental policy stands out as an exception, however. Over the last twenty years, environmental action has come to be based on a bundle of normative principles summarized collectively as 'sustainable development'. For example, the United Kingdom government's new departure in environmental policy of July 1990 made its foundation and starting point 'the ethical imperative of stewardship which must underlie all environmental policies. Mankind has always been capable of great

¹⁵ Cited in Berry, 13f.

¹ While the writer is at present Head of the Water Directorate in the Department, the views expressed in this article are his own and are not to be taken as expressing the views of the UK Government or of the Department on the matters discussed. However, he is grateful to colleagues for comments on an early draft of the essay.

good and great evil. That is certainly true of our role as custodians of our planet... We have a moral duty to look after our planet and to hand it on in good order to future generations. That is what experts mean when they talk of “sustainable development”: not sacrificing tomorrow’s prospects for a largely illusory gain today’.² Non-governmental bodies go further: *A Strategy for Sustainable Living* published by the World Conservation Union, the United Nations Environment Programme, and the World Wide Fund for Nature sees a fundamental need for ‘a new ethic, the ethic of sustainable living’, the principles of which need to be translated into practice and to which ‘a widespread and deeply-held commitment’ needs to be secured.³

Evangelical Christians will recognize the latter as being the language of religious commitment, even of a call to mass evangelism. Thus, this essay will catalogue and analyze this bundle of principles and scrutinize them in ethical terms against the background of Christian revelation. p. 226

SUSTAINABLE DEVELOPMENT

Although the canon of ‘sustainable development’ has been coming into existence gradually over recent years, it is only comparatively recently that the term has come into common usage. Ideas of sustainable utilization of natural resources began to be discussed in the literature in the 1970s, in part in an effort to shift away from an unpalatable proposition of earlier environmental thinking that advocated severely limited economic growth or even no growth at all.⁴ The term ‘sustainable development’ was used and its principles elaborated in the *World Conservation Strategy* of 1980.⁵ British policy was claimed to be consistent with the concept in the government’s response of 1986.⁶ Such has been its persuasiveness that the concept was endorsed by the G7’s Toronto Summit in June 1988.⁷ It provides the title for the European Community’s Fifth Environmental Action Programme.⁸ And the term has been incorporated as a foundation principle in the new (Maastricht) Treaty on European Union which calls for promotion of ‘a harmonious and balanced development of economic activities, sustainable and non-inflationary growth respecting the environment’.⁹ At the recent Rio conference (and a host of preparatory meetings), a world council has elaborated the scriptures and a commentary at great length.

² *This Common Inheritance: Britain’s Environmental Strategy*, Cm 1200, London: HMSO, September 1990, p. 8.

³ *Caring for the Earth: A Strategy for Sustainable Living*, Summary, Gland, Switzerland, 21 October 1991, p. 3.

⁴ cf. Donella H. Meadow et al., *The Limits to Growth*, New York: Universe Books, 1972.

⁵ International Union for Conservation of Nature and Natural Resources, *World Conservation Strategy: Living Resource Conservation for Sustainable Development*. Gland, Switzerland: IUCN, UNEP and WWF, 1980.

⁶ *Conservation and Development: The British Approach* (The United Kingdom Government’s response to the World Conservation Strategy), Department of the Environment, May 1986.

⁷ So it was asserted in the UK Prime Minister’s foreword to *Our Common Future: A perspective by the United Kingdom on the Report of the World Commission on Environment and Development*, London: Department of the Environment, July 1988, p. 1.

⁸ *Towards Sustainability: A European Community Programme of Policy and Action in relation to the Environment and Sustainable Development*, approved by the Environment Council, March 1992.

⁹ Article 2.

As has been pointed out frequently, sustainable development is slippery to define, and even more difficult to render operational in the real world. Even within the Brundtland Report, which gave decisive international political impetus to the concept, there is at best a developing definition. At its first appearance, sustainable development is defined as ensuring that humanity ‘meets the needs of the present p. 227 without compromising the ability of future generations to meet their own needs’.¹⁰ Later however the concept of aspirations is introduced so that ‘Sustainable development seeks to meet the needs and aspirations of the present without compromising the ability to meet those of the future’.¹¹ It ‘requires meeting the basic needs of all [particularly of the poor—for food, clothing, shelter, and jobs] and extending to all the opportunity to satisfy their aspirations for a better life’.¹² Later still, ‘In essence, sustainable development is a process of change in which in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations’.¹³ ‘In its broadest sense, the strategy for sustainable development aims to promote harmony among human beings and between humanity and nature’.¹⁴

Here there is an evident—though perhaps excusable—looseness of exposition, and a tendency to subsume under the banner of sustainability a comprehensive list of worthy and sometimes conflicting goals for human society. For example, given that humans are at least in part material beings who inevitably consume physical resources, there is an inherent difficulty in meeting the *aspirations* of both the present and future. There is some considerable evidence that in a fallen society the human propensity to material consumption is virtually limitless. So the goal of meeting the aspirations of present and future generations seems doomed to difficulty if there are not to be unacceptable implications for the environment for one generation or the other, and possibly for both.

Our Common Future struggles to reconcile an inherent tension between the economic growth understandably desired by almost all peoples in the world, and the imperative of environmental conservation. Mostly, however, when the tension becomes intolerable, it leans towards development. It recognizes that ‘Economic growth and development obviously involve changes in the physical ecosystem. Every ecosystem everywhere cannot be preserved intact’.¹⁵ It assumes that non-renewable resources will continue to be depleted, but in a p. 228 manner that ‘should foreclose as few future options as possible’.¹⁶ While conservation of plant and animal species is a requirement of sustainable development, development will tend to simplify ecosystems and reduce biodiversity. In essence, the Brundtland Commission emerged as maximizers of economic growth within the constraint of *essential* conservation of the environment: ‘The Commission’s overall

¹⁰ World Commission on Environment and Development, *Our Common Future* (Oxford: Oxford University Press, 1987), p. 8.

¹¹ *Ibid.*, 40.

¹² *Ibid.*, 44.

¹³ *Ibid.*, 46.

¹⁴ *Ibid.*, 65.

¹⁵ *Ibid.*, 45.

¹⁶ *Ibid.*, 46.

assessment is that the international economy must speed up world growth while respecting the environmental constraints'.¹⁷

There was perhaps much political realism in striking the balance in this way. For while environmental concerns are an increasingly significant factor in the more prosperous parts of the world, it can in fact be argued that economic growth continues to be the dominant political concern of the vast majority of people in both the developed and developing worlds.

In keeping with the emphasis on economic growth, it has been economists rather than philosophers and scientists who have sought to give greater precision to the definition of sustainable development. They have done so largely within the categories of liberal, utilitarian, welfare economics. A considerable amount of ink has already been split on alternative definitions within this mode of discourse, and on the technical problems of making practical use of those definitions for the purposes of policy-making.¹⁸ That effort has been aimed largely at finding an expression of the concept, and means of applying it that are valid and usable for the purpose of economic calculation. Those definitions center on the notion of passing on from generation to generation a stock of assets—natural and artifactual (or natural only)—which are at least as valuable as the stock inherited. This is, however, no more than a way of giving calculable expression to the principle that utility (well-being, welfare, or happiness), should not decline but if possible increase from one generation to another.

From an ethical or theological point of view, utilitarian definitions are—consistent with the principles of utilitarianism—inherently human-centered. They depend upon the value that human beings place upon material things and services, even though a by-product of p. 229 this valuing may be that natural resources, other species, and so on, may receive greater protection than they have enjoyed in the past. When we say that natural resources, creatures, and systems should be preserved, we mean that we consider that they ought to be because human beings want it that way or ought to want it that way. Humankind may now see the world as less its oyster than it did at some periods in recent history.¹⁹ And some within the environmental movement are eager to see the whole biosphere rather than humanity as the center of the drama of existence, and to stress the importance of preserving nature for its own sake rather than humanity's. But the fact remains that of all creatures, human beings remain unique in possessing the ability to manipulate the character of their environment and to impact upon it rationally. And it is their perceptions of the value of the different components of the environment that determine the shape of *their* utility function: this is what gives practical expression to the concept of sustainable development. Nature is to be preserved for its own sake because humans believe it should be so. With all due respect to Lynn White, Jr.,²⁰ humanity's

¹⁷ *Ibid.*, 89.

¹⁸ See, e.g., David Pearce, Anil Markandya, and Edward B Barbier, *Blueprint for a Green Economy*, London: Earthscan Publications, 1989; John Pezzey, *Economic Analysis of Sustainable Growth and Sustainable Development*, The World Bank Environment Department Working Paper No. 15, March 1989; and Department of the Environment, *Policy appraisal and the Environment: A guide for government departments*, London: HMSO, 1991.

¹⁹ See Keith Thomas, *Man and the Natural World: Changing Attitudes in England 1500–1800*, London: Allen Lane, 1983, for a highly illuminating account of changing perceptions of man's relationship to nature.

²⁰ White was among the first in the 1960s to argue that the environmental crisis was fueled at least in part by the Protestant interpretation of the book of Genesis's explanation of the human relation to creation. (Lynn White, 'The Historic Roots of Our Ecologic Crisis', *Science* 155 (1967)).

dominion of creation²¹ is, it seems, to be unimpaired, though perhaps exercised more responsibly.

This human-centeredness is certainly underwritten in the Stockholm Declaration of 1972, the World Charter for Nature of 1982, and the Rio Declaration of 1992. 'Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations'.²² The World Charter declares man to be a part of nature. Nevertheless it tends to draw throughout a distinction between humanity and nature, and to assume that nature ought to be respected because that will maximize utility for human beings. Moreover, it is implied that it is in humanity's long-term interest to preserve and p. 230 conserve nature.²³ Rio reaffirmed the Stockholm Declaration, and began unequivocally: 'Human beings are at the center of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature'.²⁴

Secondly, the values inherent in a utilitarian version of sustainable development are relative in two ways. First, few consider that every non-human item in the universe has absolute worth; some are regarded as more valuable than others. For example, higher mammals like whales have greater value than the individual plankton on which they feed. Secondly, values may change through time. In saying that there is greater environmental concern today than there used to be, we are saying human beings are now placing greater relative value on the preservation of species and ecosystems than they used to do, even to the point of foregoing or reducing some other sort of consumption. If perceptions of relative value change in future generations, our successors may find that our choices, even if made in the name of sustainable development, may have closed off options to them. Inter-generational utility through eons seems to assume a constant basis of values for assessing utility. If it does not, sustainable development cannot mean more than that we pass on a stock of assets and service possibilities worth no less than the value we have chosen to place upon what we inherited—which the following generation may regard as being less, or more, valuable than we thought. (In the first case, we shall have consumed more at the expense of future generations than we should have done, and in the second case we may have shortchanged ourselves in the belief that we had got the balance right.)

This illustrates the extent to which the concept of sustainable development is in fact drawing on absolute principles lying outside the framework of utilitarian economics. It assumes that any particular p. 231 generation of humanity ought to reduce consumption of material items and services to avoid the depletion of other components of the natural

²¹ [Genesis 1:27–30](#).

²² *Declaration of the United Nations Conference on the Human Environment*, 16 June 1972, article 1.

²³ E.g., 'Civilization is rooted in nature, which has shaped human culture and influenced all artistic and scientific achievement, and living in harmony with nature gives man the best opportunities for the development of his creativity, and for rest and recreation. ... man must acquire the knowledge to maintain and enhance his ability to use natural resources in a manner which ensure the preservation of the species and ecosystems for the benefit of present and future generations ... 'Ecosystems and organisms, as well as the land, marine and atmospheric resources that are utilized by man, shall be managed to achieve and maintain optimum sustainable productivity, but not in such a way as to endanger the integrity of those other ecosystems or species with which they coexist ... 'In the planning and implementation of social and economic development activities, due account shall be taken of the fact that the conservation of nature is an integral part of those activities'. (*World Charter for Nature*, UN General Assembly Resolution 37/7, 9 November 1982.)

²⁴ *Rio Declaration on Environment and Development*, 13 June 1992, Principle 1.

world or reduction of their diversity, and to enable a potentially infinite number of future generations to enjoy at least as much utility as ourselves. It assumes that future generations will have more or less the same assessment of utility and its components as ourselves, notwithstanding changes in the circumstances in which they may find themselves. At a more mundane level it assumes that individuals and countries should not consume at the expense of worsening environmental conditions for other individuals or countries. In a word, all these assumptions are grounded on notions of equity or fairness.

This raises the question, why should these forms of equity be observed? The humanist may assert notions of the unity and solidarity of human beings both now and through time, and union with the rest of nature. The Christian will be inclined to answer that equity must be recognized because human beings, being made in the image of God, have responsibilities to the Creator for the preservation and improvement of the whole of creation. This includes the preservation of creation's diversity (as evidenced in the story of the Flood—[Genesis 6–8](#)). The future of creation is a matter for the Creator, while the human task is that of conservation and creative improvement ([Genesis 2:23](#)). Finally, love of the Creator (and Redeemer of Creation—see [Romans 8:22–25](#)) must entail respect and regard for God's handiwork. Equity remains a demand because love of neighbor as formulated by our Lord ([Luke 10:25–37](#)) must clearly entail as many future generations as there may be.

The utilitarian definition of sustainable development also admits of more than one structure of the global utility function and more than one level of utility per capita. It has been noted that people might give different weights to environmental goods as against the more familiar consumption goods, any of which set of weights might be consistent with constant overall utility. But this implies that some absolute notion of the worth of environmental goods is needed if the environment is to be protected. Also, the so-called carrying capacity of the Earth (by reference to a constant or increasing value of environmental capital) will depend variably on either or both of the desired level of consumption per capita of traditional material goods and the level of population. At the limit, this presents humanity with a choice: either population must be restricted to permit higher per capita consumption of material goods, or per capita consumption of those goods must be limited—that is, people must have a lower standard of living by the traditional measures. [p. 232](#)

This raises the vexing questions of population planning and population control that are touched on euphemistically and circumspectly in both the Stockholm and Rio Declarations.²⁵ That is understandable since it raises not only important issues of religious controversy but also of state interference in intimate areas of human life and of human rights, as the Stockholm Declaration acknowledges. It is noteworthy, however, that across the developed world there has been a widespread voluntary reduction in childbirth, motivated perhaps by a desire to increase per capita consumption—possibly to levels that are beyond current carrying capacity. In many other societies, the tendency is to maintain rates of childbirth (voluntarily or otherwise), with consequent lower consumption per capita—although often at or beyond the limit of carrying capacity.

Leaving aside ethical questions posed by particular means of population limitation, there is no straightforward theological position on this question. Within the utilitarian

²⁵ Stockholm declares that 'Demographic policies which are without prejudice to basic human rights and which are deemed appropriate by Governments concerned should be applied in those regions where the rate of population growth or excessive population concentrations are likely to have adverse effects on the environment of the human environment [sic] and impede development'. (Principle 16.) Rio confines itself to a requirement on states 'to promote appropriate demographic policies'. (Principle 8.)

economic framework, it touches on a fundamental issue about the nature of utility itself. In essence, the argument of sustainable development is that a change in the structural definition of utility is needed: greater weight must be given to less tangible types of consumption as against material consumption—to aesthetic, intellectual, and even spiritual goods—and to the utility of future generations as against that experienced by the present generation.

The proponents of sustainable development are not, however, for the most part advocating a Manichean rejection of material consumption. Their concerns are with international and intergenerational distributional shifts. They are also concerned that material consumption ought not to be to the serious detriment of the sustainable existence of the rest of nature.

From a specifically Christian viewpoint, it may be noted that Christian revelation regards the material creation as ‘very good’ ([Genesis 1](#) *passim*). It says that man and woman were placed in the Garden—among other things—to enjoy it ([Genesis 2:15](#) & [16](#)). Within the original covenant, an important component of shalom was material blessing (see, e.g., [Leviticus 26](#) and [Deuteronomy 7](#) & [8](#), & [27–30](#)). That material blessing is seen as contingent on a non-material moral [p.233](#) and spiritual commitment, as a consequence of covenant holiness rather than an objective. And it would be nonsense to propose that the blessing of shalom is to be seen wholly or even mainly in material terms. The same kind of balance is struck in the New Covenant. Our Lord reminds us that ‘Man does not live by bread alone’—which is not to say, not ‘at all’ ([Luke 4:4](#)), and exhorts us not to lay up treasure on Earth ([Matthew 6:19–24](#)). There is an underlying ground swell against avaricious accumulation of material wealth (see, e.g., [1 Timothy 6:6–10](#) & [17–19](#)), and a constant exhortation to share material blessing generously with others (see, e.g., *Ibid.*, [Luke 16:19–31](#) and [18:18–30](#), and [Acts 2:44–46](#) and [4:32–36](#)). But the Father is depicted as providing abundantly in a material way for the smallest element of creation, animate or inanimate (see [Matthew 6:26–30](#) and [10:29–31](#)), and our Lord is far from expressing a killjoy disapproval of enjoyment including of material consumption (e.g., [Matthew 11:19](#) and [John 2:1–10](#) and [12:1–8](#)). What is rejected is enjoyment as an autonomous end in itself, even of its non-material elements like marriage, fun and bonhomie ([Luke 17:26–30](#)). This suggests that if the object of population limitation were simply increased per capita material consumption in itself, that would be morally questionable; but if the purpose were to enhance the enjoyment of future generations, or living space for the rest of creation, that might be acceptable.

Sub-principles

These observations about assumptions do not necessarily directly aid the practical task of applying the principle of sustainable development in a coherent way. The burgeoning literature on the technical problems of environmental economics—which itself poses some interesting ethical questions—is one aspect of that task. A second is the development of a series of normative sub-principles that can be viewed as a means of achieving the goal of sustainable development. These means themselves call for ethical scrutiny.

First, there is a batch of sub-principles designed to guide environmental policy in order to achieve sustainable development: the precautionary principle, the preventionary principle, and the principle that the polluter/user pays. Further, there are ways of conducting environmental business that are seen as facilitating the achievement of sustainable development: wide democratic participation, including the involvement of women, youth, and indigenous peoples; the free availability and exchange of information and scientific knowledge about environmental conditions; the integration of the

environmental [p. 234](#) dimension into policy-making on all subjects; international cooperation; and the avoidance of war because of its great environmental impact.

The second batch of sub-principles has to do with how environmental policy is formulated and put into practice. With the exception of the question of integrating environmental considerations into policy-making on all subjects, they are not special features of environmental policy, but more general matters which each raise ethical issues of their own. Within the limits of this essay, these will not be considered.

The first batch of sub-principles is very much a set. They are brought together, for example, in the Maastricht treaty of 1991 which among other things requires that European Community policy on the environment 'shall be based on the precautionary principle and the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay'.²⁶

The Precautionary Principle The precautionary principle and the preventionary principle are closely related but distinct, though they are often confused. Much of the literature about the precautionary principle is actually about the question of whether (or to what extent), the external environment should be used for the purposes of waste disposal and treatment.²⁷

The precautionary principle rightly understood is that society should not wait until environmental damage has occurred or the risk of damage is proven and measured before taking corrective action. As the Rio Declaration formulates it, 'Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation'.²⁸ This is in fact a comparatively mild expression of the principle that allows for the use of risk assessment to estimate both probability and the scale of the likely impact of human action, for judgment informed by current scientific knowledge (theory and results [p.235](#) to date), and for the possibility that nothing can be done about the particular risk because it is not practicable at reasonable cost. Others however would formulate the principle without regard to cost, the scale of the risk, or to scientific probability: theoretical possibility should trigger action with little or no regard to the relative significance of the potential event giving rise to the concern.

Here, there is at least a potential conflict between philosophical approaches. The underlying approach of the discipline of risk assessment is of a certain rationality characterized by an informed weighing of risk in terms of its probability and seriousness if the event were to arise, and in terms of the cost implications of corrective action. The procedure does not in itself produce decisions, but in a world of inevitably scarce resources, it implies that environmental action and expenditure ought to be ordered according to the relative significance of different risks, taking into account the feasibility of corrective action and costs.

This approach is sensible and realistic. But it is far from being value-free: the weighing of different risks will inevitably involve judgment as to the relative importance of different

²⁶ Treaty on European Union, Maastricht, 7 February 1992, Title XVI, Article 130r(2) (European Communities No. 3 (1992), Cm 1934, London: HMSO, p. 39).

²⁷ See for example the Ministerial declaration at the Bergen conference of 1990 to consider the Brundtland Report: 'In order to achieve sustainable development, policies must be based on the precautionary principle. Environmental measures must anticipate, prevent or attach the causes of environmental degradation. Where there are threats of severe or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation'.

²⁸ The Rio Declaration on Environment and Development, 13 June 1992, Principle 15.

objectives. Those who argue for a much more rigorous formulation and implementation of the precautionary principle are unwilling to leave the judgment to experts. They generally accord a more absolute protection to the environment as against other aspects of human welfare, and accord a more monotonic significance to different environmental risks, so it becomes as important to act against a low risk that is expensive to address as it is to act against a high risk that is cheap to attack.

However sensible the underlying philosophy of risk assessment may seem, the evidence of history is not on the side of the advocates of this rationality. Environmental and public health policy is inevitably conducted in the political arena and action is driven by the public perception of risk. Here, the key word is perception, mysteriously driven by mood, fashion, and the information process. In these perceptions, the assessment of risk may be far from that suggested by rigorous rationality. But in open societies, administrations understandably respond to public perceptions. The result is many resources may be devoted to dealing with comparatively insignificant environmental problems, while more serious matters are ignored, which are not for the present of public concern, or to which the public's attention may not have been drawn, are ignored.

Thus, the Christian will not look for salvation from a 'value-free' rationality. Nor will he or she have any great confidence in the ability of fallen human beings to make rational or moral choices. The issue for [p. 236](#) the Christian will be the priority to be given to the preservation of all species of creation in the light of revelation, even if sometimes these species are in competition with one another.

The Preventionary Principle The preventionary principle aims to address potential pollution at its source, and if that cannot be done, to provide treatment within the production process in order to eliminate discharge of any polluting substance to the natural environment. It implies a preference for the elimination of processes that might give rise to pollution rather than for treating noxious substances once they have been created in the process of production or consumption. Thus stated simply, it could be argued that the matter should turn on straightforward financial considerations—whether it is cheaper for proprietors and/or consumers to treat waste effectively (i.e. without unacceptable risks to the environment from the cleaning-up process and the resulting discharge) at the end of the pipe before discharge to water, air, or land, or whether production processes can be designed economically so that they do not give rise to noxious wastes. Frequently, the latter will be the case, though this is not axiomatic.

Embedded in the principle, however, is a deeper dilemma that is neatly posed by successive principles of the Stockholm Declaration, and by the effort to eliminate discharge of any polluting substance to the natural environment:

Principle 6

The discharge of toxic substances or of other substances and the release of heat, in such quantities or concentrations as to exceed the capacity of the environment to render them harmless, must be halted in order to ensure that serious or irreversible damage is not inflicted upon ecosystems ...

Principle 7

States shall take all possible steps to prevent pollution of the seas by substances that are liable to create hazards for human health, to harm living substances and marine life, to damage amenities or to interfere with other legitimate uses of the sea.

Here is a conflict between the so-called 'critical loads' and the 'no-harm' approaches. The former argues that it is perfectly legitimate to use the biosphere's capacity for neutralizing noxious material provided the load is within the biosphere's ability to absorb it without generating significant change or damage to neighboring ecosystems. An example [p. 237](#) is

the discharge of human or animal effluent to rivers or the sea, both of which have the capacity to process it if there is sufficient dilution and enough dissolved oxygen in the effluent and receiving waters. The no-harm approach argues that the natural world should not be used for the processing of pollution. The implication is either that pollutants should not be created in the first place or that they should be made harmless within the production system.²⁹

To some extent, the conflict is a matter of degree, since the critical loads approach requires a judgment as to when the load is excessive. So the distinction is inclined to become one of strictness of interpretation, especially as industrial production increasingly makes use of biological processes for pollution control, as sewage treatment works have long done. The underlying notion behind the no-harm approach seems to be that it is in principle wrong to use the living natural environment to neutralize noxious matter. A possible riposte is that the biosphere makes wide use of that very principle (the Christian would say, by the will of the Creator). It might be replied that human beings ought not to increase pollution loads above the natural level simply for the sake of enjoying greater utility themselves. However, this argument does not seem to accept the fact that it is in the nature of the material universe—including the laws of thermodynamics—that the production on which greater material utility rests cannot be secured without creating waste. A rigorous no-harm position would have sobering implications for human lifestyles and living standards.

The Polluter Pays This aspect of means of achieving sustainable development has seen the most extensive development of thought between 1972 and 1992. Reflecting the consensus of the times, the Stockholm Declaration of 1972 lays stress on the need for 'Rational planning ... [as] an essential tool for reconciling any conflict between the needs of development and the need to protect and improve the environment'. Planning must be applied to human settlements and urbanization. 'Appropriate national institutions must be entrusted with the task of planning, managing or controlling the environmental resources of States with a view to enhancing environmental quality'.³⁰ It does not refer to the polluter pays principle, though there is a p. 238 reference to the need to develop international law on liability and compensation to deal with the effects of trans-frontier pollution.³¹ Nor does the 1982 World Charter refer to the possibility that the costs of pollution should be borne by the polluter. However, in contrast, it is de *rigueur* for today's environmental agreements to lay stress on the role to be played by economic instruments. Thus the Rio Declaration requires national authorities 'to endeavor to promote the internalization of environmental costs and the use of economic instruments, taking account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and with distorting international trade and investment'. States are also called to develop national, as well as international, law on liability and compensation for the victims of pollution and other environmental damage.³²

This shift represents partly a question of fashion, reflecting a waning confidence in governments and centralized planning, and a greater trust in individuals and markets. Partly, it is a question of efficiency and effectiveness in achieving environmental goals.

²⁹ In the UK, the Greenpeace organization has recently argued in precisely this way, even in respect of the discharge of treated sewage effluent to rivers (Greenpeace press release, 11 August 1992).

³⁰ *Declaration of the United Nations Conference on the Human Environment*, principles 14, 15 and 17.

³¹ *Principle 22*.

³² *Rio Declaration*, principles 16 and 13.

Regulation can be costly in administrative terms and in terms of imposing extra costs on producers (and therefore consumers) for comparatively small environmental gains. The hope in many countries is that people will respond more quickly and effectively to financial carrots than to regulatory sticks. The belief is that if producers are left to decide for themselves how they will respond to a common framework of financial stimuli, the costs of achieving any given amount of pollution abatement will be allocated more satisfactorily than could be achieved by a regulator.

There are some moral ambiguities here. There is obvious injustice in arrangements that enable people to externalize the costs of their pollution: they are able to obtain financial or other benefit while the resulting pollution reduces the utility of others, as may for example be evidenced in the effect on the value of their property. The polluter-pays principle aims to effect a fairer distribution of financial burdens. But there are other redistributive effects of the principle that need to be taken into account. First, it is often thought that the principle will inevitably transfer the costs of pollution to proprietors, e.g., shareholders, and that sometimes makes people feel good. Whether it does so will depend on the competitive position of the enterprise. Frequently, however, the burden will be shifted to the consumer of the products concerned. In principle, there need be nothing wrong with [p. 239](#) that since from one point of view the ultimate polluters are the consumers of the products that give rise to the pollution. But if so, the effect of the principle could be to maintain the wealth of the shareholders in polluting enterprises at the expense of a multitude of consumers, but to the benefit of those adjacent to the factory, who may be either rich or poor. A general increase in utility may be achieved at the expense of a reduction in utility for poorer people. Notwithstanding the concern for the poor that is often claimed for the concept of sustainable development, the redistributive effects of the polluter pays principle will not always be easy to unravel.

Given the sometimes surprising redistributive shifts entailed in the polluter-pays (or the consumer-pays) principle, it is not surprising that less developed countries are wary of it. To increase the burdens of producers of cash crops in poor countries in the interest of reducing environmental impact—for example, reduction in the diversity of species or in forest cover—may be to increase the competitive advantage of producers in richer countries. As the poorer nations constantly pointed out in the Rio process, it raises the question of the possible need for compensating redistributions of income and wealth between different parts of the world. In other words, the polluter pays principle raises issues of distributive justice, the ethics of which are strictly beyond the proper subject of this essay.

Conclusion

The principles underlying environmental policy may be one of those issues on which the policy prescriptions of non-Christians and Christians are similar. The Christian notions of accountability to a Creator for the use of creation, and of stewardship and trusteeship, may lead to a very similar ethic to one which is based on, say, the notion of trusteeship on behalf of nature as a whole and future generations both of human beings and other species. Indeed, it is arguable that the modern secular ethic draws heavily on a Christian heritage of thought. To some extent it is a question of language, and it is interesting that the British policy document of 1990 from a Conservative government, in choosing to use the word ‘stewardship’, places itself in that way within the Christian tradition.

Nevertheless, the modern environmental project, whatever its language, presents a specific wider challenge from the Christian viewpoint. Both *Our Common Future* and *Caring for the Earth*, for example, are committed to notions such as ‘global sustainability’, ‘the human future’, ‘sustainable human progress and human survival for [p. 240](#)

generations to come', 'harmony between human beings and between humanity and nature', 'survival', and 'security'. This language raises a profound theological issue. It is not that 'revealed religion' (to use Newman's phrase), rejects these goals for humanity and the rest of creation (see [Isaiah 65:17-25](#), [Romans 8:22-25](#) and [Revelation 21:1-4ff](#)), or that Christian and non-Christian do not struggle with the same human and other material in order to attain them. The great question is whether humanity can achieve the goals by autonomous human effort (as at Babel, [Genesis 11:1-9](#)) or in dependence upon God (as with Abraham, Moses, and others in the biblical record). To adopt those profound categories emphasized by Martin Luther, can the future be secured by building *securitas* by human effort, or can the work only be accomplished in *certitudo*? Some of the international texts of our time look suspiciously like the former.

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Ethics and Management on U.S. Public Lands: Connections, Conflicts, and Crises

Fred Van Dyke

On 24 September 1991, John Mumma, former forester of the U.S. Forest Service's Northern Region, testified before the Congressional Subcommittee on Civil Service in Washington, D.C. In the same subcommittee hearing, Lorraine Mintzmyer, former Director of the National Park Service's Rocky Mountain Region, also testified. Both stated that they were being forcibly reassigned because of political pressure coming from outside their agencies. Mumma claimed, in his case, that this pressure was exerted because he did not meet timber harvest quotas in his region. Mintzmyer stated that her reassignment was motivated as a result of her role in developing a scientifically based management document for the Greater Yellowstone Ecosystem, and then, when the document was rewritten under political pressure, for refusing to tell the public that the revision was scientifically based.¹ Mumma, who had been described by some environmental groups as a reformer, said that description was inaccurate. He told the subcommittee, 'All I tried to do was perform my job as a civil servant and to carry out the policies of the executive branch in accordance with federal law'.² But referring to laws like that of the National Environmental Policy Act (NEPA), the National Forest Management Act, and the Endangered Species Act, Mumma stated that he had failed to meet his quotas 'only because to do so would have required me to violate federal law'.³

¹ High Country News Staff, 'Two say politics rule their agencies'. *High Country News*, 7 October 1991.

² *Ibid.*

³ *Ibid.*