One important sign that the mainline Protestant churches are beginning to confront the problem of rapid population growth is the appearance of Six Billion and More: Human Population Regulation and Christian Ethics *by Susan Power Bratton, professor of religion and ethics at North Texas State University. In it Dr. Bratton wrestles with some of the ethical issues in population control posed by Garrett Hardin and Paul Ehrlich. Chapter 6 of that book is here reprinted by permission of Westminster/John Knox Press.*

Six Billion and More

By Susan Power Bratton

Environmental advocates and biologists have hardly been the first and only proponents of zero human population growth, but they have been among the most prolific writers on the topic and have proposed several ethical models of human population regulation (sometimes while denying their own ability to make social ethical statements). These models, particularly "lifeboat ethics" and "triage," are more than the opinions of single authors — they reflect a particular Western mindset. In completing a historic overview of population ethics, we will find that the best-known models of the post-World War II era represent a continuation of the Malthusian approach and have had widespread influence in the industrial nations. Even though these models may not be based on Christian values and may ultimately be unacceptable from a Christian standpoint, we need to carefully examine their suppositions in the light of a worldwide population explosion.

We must recognize first that contemporary environmental thought has been influenced not only by Malthusian but also by Darwinian concepts. Basic ecology texts often suggest that the potential for human population growth is exponential and that the human ability to exceed environmental carrying capacity is an imminent threat. Further, evolutionary theory holds that natural selection determines the characteristics of all species, including human beings. From a scientific perspective, real achievement in physical existence is only accomplished by passing one's genetic materials along to the next generation. In its most developed contemporary form — sociobiology — evolutionary philosophy proposes that altruism in humans and animals is selected if it increases the chances that offspring, siblings, and other near relatives will survive. Altruism directed toward distant relatives is only beneficial if, on the average, it provides some gain for the individual extending the help (in which case it is no longer altruism). The evolutionary models of life on earth are essentially reproductive account books, where the individual or genetically related group leaving the most offspring wins.[1]

The evolutionary model of "being" diverges from the Christian model of "being" primarily in its concept of the individual. In Christ's teachings on the kingdom, the individual has an eternal essence (the soul) and a relationship to God that transcend physical reality. The individual's earthly state is important, yet the individual's relationship to the divine supersedes it. New Testament Christianity, in fact, put much less emphasis on individual reproductive fitness than ancient Judaism did. One's willingness to adapt Christian values in population ethics will depend at least partially on whether one believes there is a resurrection and whether one believes our final state depends on our relationship to God rather than on the number of our progeny. New Testament teaching repeatedly proposes a divestment of personal resources in favor of propagating the kingdom. The New Testament is un-Darwinian when it holds that the disciple should "hate his own father and mother and wife and children and brothers and sisters, yea, even his own life" (Luke 14:26) (meaning family concerns should be secondary to spiritual concerns) or when the disciple is commanded, "Sell all that you have and distribute to the poor, and you will have treasure in heaven" (Luke 18:22) (implying that giving to others increases otherworldly prosperity). Christianity's universality is, in fact, un-Darwinian in giving Christians obligations to those to whom they are not immediately related (the non-Christian on the remote shore) and to the reproductively unfit (such as the dying or the retarded). Western culture, in holding both Christian principles and modern science (with its this-world-only foundation) in high esteem, is automatically inviting conflict over personal and social reproductive values.

Progeny Versus Prosperity

Environmental advocates have identified the "frontier ethic" (also known as the "cowboy ethic") of environmental exploitation and unregulated human population growth as unacceptable in the industrialized twentieth century. The frontier ethic holds that resources are superabundant or available for the taking and that human beings should harvest what they need when they need it. Further, there is lots of room for humans to expand their populations into "undeveloped" or uncivilized lands (even if indigenous peoples are already residing on the territory), or to harvest the deep oceans. In a version of

the frontier model based on human potential for problem solving rather than on the availability of unoccupied space, humans have "scientific supremacy" and thus can solve any problems caused by resource limitation.

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Environmentalists, who are not necessarily pessimists by nature, do not believe science can overcome environmental problems as quickly as they are developing unless human societies assist in combatting environmental degradation by making the necessary social and economic adjustments. Biologist Garrett Hardin, in one of the best-known and most controversial of the environmental models for human population regulation, attacked not only human ignorance of resource limitations but also what Hardin saw as dangerous assistance to those who were careless enough to abuse their natural resources. Using metaphor, Hardin described world circumstances as a series of lifeboats, where

> *each rich nation amounts to a lifeboat full of comparatively rich people. The poor of the world are in the other, much more crowded lifeboats. Continuously, so to speak, the poor fall out of their lifeboats and swim for a while in the water outside, hoping to be admitted to a rich lifeboat, or in some other way to benefit from the "goodies" on board. What should the passengers on a rich lifeboat do? This is the central problem of the "ethics of a lifeboat."*[2]

Each poor lifeboat is assumed to be full or overloaded and sinking. The rich lifeboats are not full but have perhaps fifty passengers and a safe capacity of sixty. What happens if there are one hundred people swimming around a lifeboat carrying fifty?

Hardin rejected "the Christian ideal of being our brother's keeper"[3] out of hand on the grounds that complete justice will produce complete catastrophe. If the rich take all the swimmers into their boat, the boat will swamp and everyone will drown. Hardin also rejected just selecting ten of the needy swimmers, since it would be difficult to decide whom to pull into the boat, and the rich boat would lose its safety factor. Further, Hardin assumed that the rich cannot let the poor nations "into the rich boat" because the poor nations are so greatly outreproducing the rich that even if they don't sink the boat when first admitted, they will eventually. Hardin attempted to prove the danger with a simple example where rich and poor in a boat start with equal numbers, but with the higher reproductive rate of the poor, eighty-seven years later they outnumber the rich eight to one. He also argued against a world food bank to assist with emergencies such as famines and crop failures on the grounds that such aid prevents the troubled population from dropping back to "normal levels." (Hardin did not attempt to calculate how much additional buoyancy might be provided in the rich lifeboats if armaments and automobiles were dropped overboard, nor did he attempt to calculate reproductive rates in the poor lifeboats if the conditions of the poor improved.)

Before taking a critical look at Hardin's "lifeboat ethics," we have to investigate another of Hardin's models - "the tragedy of the commons" — whose suppositions are integral to lifeboat ethics. Hardin suggests that our physical environment, including shared land, air, and water resources, is like an old European or New England community pasture used for grazing sheep and cattle. If a herder is managing land properly, the herder will not put more livestock on the land than the land will bear. Too many sheep, for example, will consume all the grass, and the pasture will lose its productivity as erosion sets in. On common land, there is the temptation for each individual using the land to add one more head of stock than his or her share, thus maximizing production for themselves. If only one herder does this, it will probably make little difference, but if all participate in trying to get the most out of the land for themselves, it will soon be badly overgrazed if not permanently damaged. Hardin comments on Christian and Marxist responses to this dilemma:

> *If a pasture is run as a commons open to all, the right of each to use it is not matched by an operational responsibility to take care of it. It is no use asking independent herdsmen in a commons to act responsibly, for they dare not. The considerate herdsman who refrains from overloading the commons suffers more than a selfish one who says his needs are greater. (As Leo Durocher says, "Nice guys finish last.") Christian [or] Marxist idealism is counterproductive. That it sounds nice is no excuse. With distribution systems, as with individual morality, good intentions are no substitute for good performance.*
>
> *A social system is stable only if it is insensitive to errors. To the Christian [or] Marxist idealist a selfish person is a sort of "error." Prosperity in the systems of the commons cannot survive errors. If <u>everyone</u> would only restrain himself then all would be well: but it takes <u>only one less than everyone</u> to ruin a system of voluntary restraint. In a crowded world of less than perfect human beings — and we will never know any other — mutual ruin is inevitable in the commons.*[4]

From Hardin's perspective, human reproduction can easily overload the commons. Reproductive resources are rarely regulated; thus if one person wishes to have one more child than the next person (and take one more share of the food, water, educational resources, etc.), that is a step toward destroying the environmental resources on which human survival is dependent. Note that Hardin expects Christians to be idealistic in terms of sharing physical and economic necessities. He does not accuse Christians, as he justifiably might, of ignoring the need to share reproductive resources (or of being just as greedy as their neighbors).

When Hardin's articles on lifeboat ethics were first published, they drew strong criticism that they were anti-people and that aid should not be summarily denied to those who needed it. Many environmentalists, in fact, disagreed with him. Population ecologist Paul Ehrlich proposed a more moderate strategy of "triage," based on a military field medical approach to the injured and dying. During the brutal fighting in the trenches during World War I, doctors were in short supply. The question became which of the injured would be treated first in situations where there were limited numbers of medical personnel or where it was difficult to evacuate the casualties. Reasoning that some of the injured would survive in any case and some would die regardless of what was done for them, the first treated were those who both could be saved and for whom medical treatment might make the difference between life and death. Those with more minor injuries could wait until the more seriously injured had been treated, and those with mortal wounds could forego treatment entirely. Ehrlich suggested that modern developing nations are similar to the injured in battle. Some could be helped by foreign aid or food aid, and some were going to continue on to population disaster regardless. Some, however, will survive without assistance and can probably solve their own environmental and population problems if left alone. Under triage, aid would not be provided to countries that were not taking appropriate steps to help themselves. At the time the concept of triage was first applied to food aid in the mid-1960s, India and China were thought to be beyond help.[5] Today, much of Africa might be considered to be on a fatal and irreversible course to population catastrophe and agricultural disaster.

In 1967 Ehrlich joined other antinatalists in suggesting that further public efforts encouraging birth control and limitation of family size were socially necessary. His book *The Population Bomb* accepted strategies that might be considered coercive, including the milder negative incentives such as taxing extra children or cribs or diapers, and the stronger limitations on individual choices, such as government regulations limiting procreation. (Ehrlich's more recent work expresses concern over the coercive aspects of the Chinese population management program.)[6] Ehrlich also favored abortion when he argued that exposure to culture was the most "humanizing element of the environment"; thus a child was not fully human until after birth. The loss of the fetus was, therefore, merely the loss of a potential human, not an actual human. Ehrlich thought "biologists must take the side of the hungry *living* billions today and tomorrow, not the side of *potential* human beings."[7] The unborn child should not be allowed to compete for resources with one that was already present.

Christian Idealism?

In reviewing these models from a Christian perspective, rejecting frontier ethics should present few difficulties. Historically, frontier ethics has created numerous environmental and social problems and has generated case after case of wasteful natural resource use. Viewing the earth as a bountiful practice ground for human folly is hardly what the Psalmist meant when singing, "The earth is the Lord's and the fullness thereof." Frontier ethics is also tied to an optimistic form of humanism that assumes people can overcome any problem. This deviates from biblical concepts of human sin and dependence on the divine. Today, frontier ethics is generating more economic problems than it is temporarily relieving.

Lifeboat ethics and triage present more of a theological challenge. As environmental ethicist K. S. Schrader-Frechette points out, Hardin's and Ehrlich's versions of lifeboat ethics raise two key questions: Should the interests of the rich passengers be placed ahead of the interests of the poor passengers, and does "ultimate ecosystemic well-being" have "a higher value than equitable distribution of resources in the present."[8] Lifeboat ethics places the interests of the rich in opposition to those of the environment. Both lifeboat ethics and triage sincerely believe in evil outcomes if individual people are left to their own devices without the intervention of more knowledgeable biologists and government officials.

In 1971 Richard J. Neuhaus published a Christian critique of the environmentalist views of the time, which accused Hardin and Ehrlich of being "anti-people." Neuhaus complained that "the literature of the movement is marked by a moving reverence for the `seamless web of life,' accompanied by a shocking indifference to the weaker and less convenient forms of human life and by an almost cavalier readiness to disrupt the carefully woven web of civility and humane values."[9] Neuhaus asserts that lifeboat ethics places the needs of lower forms of life above those of the poor while it encourages society to care for nature rather than for people who are starving. Although Neuhaus was expressing a very common Christian sentiment, we must be careful to examine the key elements in the models before rejecting them completely. We must also determine if Neuhaus was

too quickly dismissing very serious socioeconomic and environmental problems.

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In the case of Ehrlich's triage model, Schrader-Frechette suggests, for example, that if one assumes aid cannot be made available to everyone, triage is merely a way of trying to save as many people as possible. One cannot, in a crisis, dismiss it as antilife. The real issue is whether the present state of the environment really has reached crisis proportions and whether famine due to excess population growth is unavoidable. If some countries really have passed the point of no return in terms of population overload, then triage could be humane because it directs resources toward those nations that still have an opportunity to avoid high mortality.[10] However, situations can change. For example, at the time Ehrlich proposed triage, China appeared to be on a hopeless course in terms of population growth. Whether or not we approve of how China altered her direction, there can be little doubt that she has. China's unexpected recovery should also remind us that the fate of a nation suffering famine or shortages is never so absolute as the death of an individual. People struggle through disasters, and children survive deprivation. Triage is a strategy aimed at dealing with absolute states — life or death. We cannot with any certainty declare a nation terminally ill. Even in worst-case scenarios, some individuals survive and can benefit from international assistance.

The example of Mother Theresa of Calcutta and her ministry to the dying presents an interesting lesson in our cultural perceptions of "terminal conditions." Mother Theresa initiated ministry specifically to people who were thought to be beyond medical help. Many of those whom she and her sisters have taken in from the street actually have died (in an atmosphere of peace and caring instead of despair), while many have recovered and have been released cured. Mother Theresa's ministry is effective because it is based on hope, is willing to cope with a poor prognosis, and considers the spiritual worth of the person rather than reproductive or economic productivity.

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Among the real dangers of Ehrlich's model are its crisis orientation and its declaration that some nations are in a hopeless state and cannot be constructively aided. Ehrlich uses a prophecy of impending disaster to rationalize potentially coercive methods and to declare that some "potential" humans should not be added to the "real" humans already tilling the fields and filling the cities. Schrader-Frechette notes that the crisis mentality "somehow justifies circumventing the time-consuming and sometimes-frustrating process of democracy and the inconvenient dictates of justice."[11] Neuhaus goes a step further and compares the views of environ-mentalists who believe that the realities of natural processes must dominate human choices to those of National Socialism (i.e., the Nazis). Although the comparison is extreme and appears to be unjustified, Neuhaus correctly notes that Hitler thought humans were only on the correct course when they submitted to the laws of nature, a philosophical position that then allowed the dictator to sacrifice human lives and liberties to an immutable natural order.[12] Narrow Malthusian thinking does present the danger that we will all become so convinced that natural laws hold sway that we will not attempt to wrestle with the basic spiritual issues or with the concerns of individual human beings. Or as was the case with the Irish potato famine, ceding to natural laws will become an excuse for not correcting economic or social injustice.

One of the central questions for Christians concerning the triage model is not whom we should help, but why do we not have enough "physicians." We also should ask ourselves (as we should in the case of warfare) why, considering the impacts of famine, poverty, and underdevelopment in nations with large Christian populations, so many Christians are among the casualties. We have to consider not only that our perception that there are those who are beyond hope may be incorrect, but also that our perception of our ability or inability to aid them may be false. Further, Western Christians need to evaluate their nations' economic or military activities as factors that potentially maintain poverty and its associated unrelenting population growth in developing nations. We may theoretically reject Ehrlich's thinking as crisis oriented, but at least Ehrlich is attempting to do something to avert human suffering. Can Christians criticize his model without challenging his basic assumption that there will never be enough aid and enough resources for all? Can Christians constructively help those thought to be hopeless cases?

Whose Children Sink or Swim?

Hardin's lifeboat ethic portrays helping the poor

lifeboats as both a potential threat to the rich and as detrimental to those who might survive in the poor lifeboats. The model is in many ways socially and economically unrealistic. First, the resources of the poor and rich lifeboats are not separate — many of them are shared. The rich lifeboats may actually be removing supplies from the poor ones. A developing country that raises coffee, tea or cocoa (or cocaine plants) is producing luxury agricultural products for the international market, not food for its own people. Crops such as coffee may produce more monetary income per acre than upland rice, but the dollars acquired in trade are not necessarily reinvested in buying grain abroad (and much of the profit of these transactions goes to international financial interests). Further, the poor lifeboats have to compete with the rich ones for products useful in agriculture, like petroleum for making fertilizer and running machinery. Greater sharing of resources between the rich and poor nations might indeed lead to less comfort in the rich lifeboats, but the analogy of the poor piling into the rich lifeboats is inappropriate (and seems to reflect a deep fear of the "haves" of losing what they have to the "have nots") — it is more a question of how many rich lifeboats will sink without coffee.

Hardin's analogy also gives the impression the lifeboats are all the same size. Actually, some boats are much larger than others relative to the number of people they carry. The contemporary world situation is really more like an armada of destroyers and supertankers running down the fleets of wooden fishing boats. Very few children from the poor vessels can actually enter the rich ones — the mere distance of the poor from the rich prevents the poor from swamping the rich craft.

"From a Christian perspective, if we reject Hardin's model as callous and economically inappropriate, we will still have to ask whether his supposition that providing aid to the poor may actually harm them might sometimes be true."

A key issue in these models is the role of *distributive justice*, or the just sharing of resources among people. Hardin clearly rejects its importance, and Ehrlich diverts from the question by proposing that there are not enough physicians — or put in other terms, Erhlich concludes the needs of everyone cannot be met. As Schrader-Frechette points out, Hardin assumes "that since perfect justice is impossible ... we have no obligations to justice at all." and that "the rich nations have the right to decide who will live and who will die."[13] The Bible, in contrast, presents justice as resting in the hands of a righteous God, and the poor as God's special concern. Christ's teachings in the New Testament never set the complete disappearance of poverty and need as an earthly goal, yet they call for Christ's followers to forget themselves and give to others as best they can. The rich lifeboats of Hardin's metaphor seem thus, from a biblical perspective, much like the full barns of the rich man who found God calling for his soul before he was expecting it and discovering too late that his great piles of grain were going to do him no eternal good.

The Roman world was as stressed as ours is in terms of food resources, perhaps even more so. Famines with fatalities were frequent, and the Levant was probably overpopulated. Yet early Christian teaching emphasizes justice in distribution of material resources. Are Christian teachings too naive and outmoded to deal with a "modern problem," or are Christian teachings a very venerable and humane way of dealing with difficulties that are centuries old? As Christians, we might experiment with reversing Hardin's and Ehrlich's models, both of which center on whom we should abandon, and ask whom we should rescue. We can, for example, see ourselves as sailors on stormy seas who have no way of knowing which boats will make it safely through and which are likely to sink. (Christians from industrial nations should see themselves as possessing powerful cutters and launches.) Suppose we try to help whomever we can, be it those boats closest to us or those that have clearly been damaged. If we don't offer assistance, some boats may sink unnecessarily. Helping another boat entails a risk. Yet without the willingness to take risks, no one in trouble will ever be aided. (This is one of the points of the parable of the Good Samaritan.) Hardin's model assumes that world problems with food resources and overpopulation cannot be solved without massive death and disaster. And perhaps Hardin is right, but if we don't try to dispense love and justice we will never know if the evil of the present situation can be overcome — and we will passively succumb to it.

From a Christian perspective, if we reject Hardin's model as callous and economically inappropriate, we still have to ask whether his supposition that providing aid to the poor may actually harm them might sometimes be true. Hardin, however, rejects aid in general, rather than discriminating between useful and nonuseful aid. Hardin also assumes that if the rich lifeboats help the poor ones, the aid will probably be in terms of food. Actually, the aid can be in other forms such as educational assistance, industrial development, or medical technology, including the provision of contraceptives or the techniques for making them. Believing that aid is damaging might actually inhibit the developed countries from providing assistance specifically in the area of population control. (Aid in population

regulation is often linked to other programs.) Just as we should not abandon justice because our actions may be inadequate to resolve a problem completely, we should not pursue inadequate solutions if we have an opportunity to do something more appropriate.

Unfortunately, providing emergency assistance, even very appropriate assistance, always falls a step short of true distributive justice. If a nation is really going to have food security, then it must have enough economic and technological control over its own resources to ensure a continuous flow of goods and services. Donating food may provide immediate relief from famine but rarely resolves the underlying social or economic difficulties that led to food shortage. Ultimately, justice results from equitable land tenure systems and sustainable agriculture. It also arises from chances to complete school, get a dependable job, or start a business. Hardin is probably right when he suggests that aid is not the answer, but he is right for the wrong reason. Hardin believes justice is not possible and that aid worsens population and land abuse problems. From a Christian perspective, aid is not the ultimate answer because God's justice is possible and is vastly superior to charity, especially to the one on the receiving end.

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A last issue presented by Hardin and Ehrlich is: dare we use resources to relieve current problems at the risk of damaging the interests of future generations? What about "ultimate ecosystem well-being"? What if we allow the atmosphere and our agricultural lands to deteriorate? Hardin assumes we have already reached the point where many lifeboats will necessarily sink. Erhlich assumes that unborn will steal the birthright from those already walking the earth. Neuhaus, in contrast, suggests that placing the needs of "lower forms of life" above those of poor humans is anti-people.

On one hand, we can ask ourselves: is present accelerated population growth causing permanent natural resource damage? The answer is yes; even now some regions are producing less food and firewood than they were a generation ago. This damage, however, is probably not even necessary, even at present population levels, and we could, *with proper resource management and equitable distribution of critical resources*, feed and care for the population we have, at least on a worldwide basis. (Some regions, particularly those with dry climates, would require substantial ecological restoration to support their present populations; thus population reduction may now be necessary for their indigenous residents to survive in the long run.) Further, there is no technological reason that the world population could not slowly decline or that the richer nations could not reduce their resource consumption. Only human will stands in the way. Without concern for land degradation and the condition of both agricultural and wild ecosystems (including those lower forms of life), we really may unnecessarily destroy resources that not only could be left for our grandchildren but that we also might need ourselves in the next ten years.

We need to recognize, however, that sharing and distributing resources will not cause future disaster nearly as fast as not sharing them will. Further, we cannot throw the needs of people against those of creation. Perhaps we can't get very excited about protecting "lower organisms," but if the land dies, the people die with it. As discussed in Chapter 5, God expects us to care for the earth and care for our neighbors.

Individual nations may already be in serious trouble, but the world community has the resources to assist them, and they may be able to slowly improve their own situations by confronting environmental and population problems. Rather than assume that a disastrous outcome cannot be averted and that the rich cannot afford to help the poor because it will make things worse, we might ask what responsibilities both the rich and the poor have to resolve the present situation and defuse future crisis. Hardin sees overproduction as a problem of the rich. His portrayal of the source of the crisis is one-sided and also assumes no positive action on the part of the poor lifeboats. What responsibilities do Christians from different nations and different social classes have in coping with present food shortages and in "protecting" the interests of potential humans, the unborn and future generations?

Christian Models?

Any analysis based on biblical teachings about the poor is likely to reject lifeboat ethics. We have to ask ourselves, however, whether Christians have anything to offer that is better. Faith and hope without a program are as likely as Hardin's dire forecasts to result in sunken vessels. Dare we reject triage until we have found a better, more humane strategy? At the moment Christians appear to be willing to provide food in cases of famine while they are unwilling to confront population issues or to consider what the future might hold for those already suffering. When famine repeatedly strikes the same area, do we follow Garrett Hardin and give up and go home? Is there a Christian alternative to shoving poor children out of lifeboats?

Paul Ehrlich and other authors like him have convinced the middle class of the developing nations

that reducing population growth is a noble pursuit. Social conviction in combination with economic pressures has, in fact, resulted in population stabilization or decline in some of the wealthier nations. Not everyone agrees that zero population growth is beneficial, however, and some Christians are voicing concerns about the demographic trends.

Questions for Reflection

1. Can you name any nations in the world today that have exceeded their environmental carrying capacity? How do you know this?
2. Are there circumstances where Christians might consider triage as the appropriate strategy in Christian ministry to the poor? What are they? What do you think Theresa of Calcutta would have to say about triage?
3. To what extent do industrial nations "take" needed resources from less developed nations? Do you think the economic relationships between the developed and less developed nations are generally helpful or harmful to the less developed nations?
4. Do you think that caring for lower forms of life is necessary or unnecessary to long-term human survival on earth? Is Neuhaus's view realistic? Can you identify a point where neglecting the natural environment in favor of protecting people becomes self-defeating? ■

NOTES

[1] For a very readable explanation of sociobiology by one of its founders see Robert Trivers, *Social Evolution* (Menlo Park, Calif.: Benjamin/Cummings Publishing Co., 1985).
[2] Garrett Hardin, "Living on a Lifeboat," originally published in *Bioscience* 24, no. 10 (1974) and also available in several anthologies, including Garrett Hardin and John Baden, eds., *Managing the Commons* (San Francisco: W. H. Freeman & Co., 1977), pp. 261-279.
[3] Hardin and Baden, *Managing the Commons*, p. 263.
[4] Ibid., p. 265.
[5] Paul Ehrlich. *The Population Bomb* (New York: Ballantine Books, 1968), pp. 158-173. Although Erhlich usually is credited for bringing the idea of triage into the population arena, it was originally transferred from the medical to the food relief context by William and Paul Paddock in their book *Famine-1975!* (Boston: Little, Brown & Co., 1967).
[6] Ehrlich, *The Population Bomb*, pp. 132-157. In a more recent volume Paul and Anne Ehrlich comment, "Despite its success, there are two sad things about the Chinese [population control] program. The first is that the nation waited so long that, when a serious attempt was made to bring down birthrates, the program had many elements of coercion that are offensive to those of us who believe reproductive behavior should basically remain in the control of the individual" (*The Population Explosion [New York: Simon & Schuster, 1990], p. 207*).
[7] Ehrlich, *The Population Bomb*, p. 148.
[8] "Frontier" or "Cowboy Ethics" and "Lifeboat Ethics," in K. S. Schrader-Frechette, ed., *Environmental Ethics* (Pacific Grove, Calif.: Boxwood Press, 1981), p. 35. The discussion of lifeboat ethics in this book owes much to Schrasder-Frechette's analysis.
[9] Richard J. Neuhaus, *In Defense of People: Ecology and the Seduction of Radicalism* (New York: Macmillan Co., 1971), p. 188.
[10] Schrader-Frechette, *Environmental Ethics*,pp. 37-38.
[11] Ibid., p. 38.
[12] Neuhaus, *In Defense of People*, pp. 151-161, and Schrader-Frechette, *Environmental Ethics*, pp. 38-39.
[13] Schrader-Frechette, *Environmental Ethics*, p. 41.