# Chapter 5.
# YOUTH & the ENVIRONMENT

## INTRODUCTION

*This chapter begins with a brief* overview of the condition of the world's environment and variations in environmental quality around the globe. It then addresses the adequacy of existing policy responses, which provides a context for exploring the roles youth can play in environmental affairs. It examines how these roles might be strengthened through such means as environmental education, whose importance and shortcomings are analyzed. The chapter then turns to the role the media plays in contributing to—and sometimes impeding—social learning in environmental affairs.

## OVERVIEW

Youth have both special concerns and special responsibilities in relation to the environment. A number of environmental risks and hazards disproportionately affect young people, who have to live for an extended period with the deteriorating environment bequeathed to them by earlier generations. Young people will be compelled to engage in new forms of action and activism that will generate effective responses to ecological challenges.

Before investigating the role youth can play in addressing environmental issues, it is important to provide some background and establish a clear context by identifying the current state of the environment. The nature, extent and severity of environmental problems vary tremendously from one part of the world to another. It is perhaps most logical to begin with an overview of the state of the global environment, providing a snapshot of its present condition, as well as a more detailed and revealing assessment of past trends and likely future developments. This level of analysis is justified because certain issues—most notably global warming and ozone layer depletion—are intrinsically global problems and therefore of concern to everyone in the world.

Global indicators are additionally important because national and regional indicators can sometimes be misleading. For example, a country may show a downward trend in industrial pollutant levels, but this may be because the more polluting sectors of its manufacturing industry have moved to countries with more relaxed pollution standards. A region such as Western Europe may do an excellent job of conserving its remaining forests but depend heavily on unsustainable logging in old-growth forests elsewhere in the world.[1] Clearly, global indicators are not all that matter, but they do provide a point of reference and help control for these types of effects.

Global indicators fall into two categories, namely, measures of human well-being and assessments of the condition of the world's ecosystems on which all life depends. These two kinds of indicators give very different impressions about the nature—or even the existence—of a global ecological crisis.

Measures of human well-being indicate that global trends over recent decades have almost all been positive. Life expectancy has risen, infant mortality has fallen, and the proportion of the world's population with access to clean drinking water has increased. The real price of most natural resources including oil, coal, gas and metals (but not timber) is declining with time. Economists maintain that price is a measure of scarcity, the indication being here that most resources are becoming less scarce with time. Such statements about trends in well-being are controversial. Bjørn Lomborg's

book *The Skeptical Environmentalist*[2] offers the best publicized recent positive interpretation of these trends (similar views from past decades can be found elsewhere).[3] The most unremittingly negative interpretations can be found in the annual *State of the World* reports published by the Worldwatch Institute. Both sides are guilty of selective and sometimes misleading presentation of data in support of their positions. Lomborg exposes such selectivity on the part of Worldwatch, but is less forthcoming in exposing his own errors on this score. For example, Lomborg cites FAO data indicating that, contrary to popular perceptions and the claims of doomsayers, total global forest cover rose by 0.85 per cent from 1950 to 1994.[4] However, an increase in temperate forest cover does not compensate for the decline in tropical forests; Lomborg himself admits the latter are shrinking at a rate of 0.46 per cent annually.

Overall, those on the positive side are probably right about trends in global indicators of human well-being over recent decades, but this does nothing to defuse any meaningful rendition of ecological crisis. Part of the reason for improvements in the past few decades is the strenuous effort of environmentalists and others in pushing for pollution control, nature conservation and the like. Another reason to resist complacency is that past trends in well-being cannot necessarily be projected into the future. Positive projections make sense only if one has unlimited faith in human ingenuity to provide solutions to any problems that arise from this point forward. As Thomas Homer-Dixon points out, the supply of ingenuity and the social capacity to mobilize it may be reduced by environmental degradation in poor societies, especially if scarcity induces conflict rather than cooperation between people.[5]

Unlimited faith in the supply of ingenuity is consistent with a Promethean world view on environmental issues, which underpins the optimistic prognoses of Julian Simon and Bjørn Lomborg.[6] The more pessimistic outlook of doomsayers such as the Worldwatch Institute is backed by a Malthusian world view that acknowledges only ecological limits on human population and economic growth. Prometheans are often economists (Lomborg is exceptional in that he is a political scientist) with great faith in the capacity of the market to provide solutions to problems of resource scarcity. Malthusians are more likely to have a background in the biological sciences. Their basic proposition is that continued exponential growth in the economy and/or population[7]—and the consequent stress on natural systems—cannot go on forever in a finite system such as the global ecosystem. The Malthusian *Limits to Growth* global modellers of the 1970s[8] made the mistake of attaching a fairly short time scale to their predictions of doom as limits were approached. The complexity and uncertainty associated with global environmental affairs make it impossible to determine exactly where the relevant ecological limits lie. The Malthusians say they must surely lie somewhere: in the capacity of the Earth's ecosystems to assimilate ever-growing quantities of wastes, in the ability of cropland to feed ever-growing numbers of people, or in the general capacity of the global ecosystem to accommodate stress.

The clarity of the dispute is obscured by the fact that Malthusians often choose to fight on the chosen ground of the Prometheans, arguing that indicators of human well-being have already worsened at the aggregate level, not that they will in the future. The defining moment occurred with a famous bet made between leading Malthusian Paul Ehrlich and prominent Promethean Julian Simon in 1980. Simon wagered that the

real price of any natural resource Ehrlich selected would be lower at any point in the future than in 1980. Ehrlich responded by choosing 1990 as the target year, and copper, chrome, nickel, tin and tungsten as the resources. In 1990, the price of each of these resources was between 8 and 78 per cent lower than in 1980, and Ehrlich paid Simon $1,000. The history of false alarms generated by the Malthusians—going back to the *Limits to Growth* forecasts of the early 1970s and predictions of severe global cooling made at the same time—does them little credit.

The Malthusians are on much more solid ground, however, in their focus on the well-being of natural systems as opposed to that of human systems. Malthusians can point to indicators such as declining biodiversity, declining yields from ocean fisheries, topsoil erosion in relation to the regenerative capacity of land, increasing levels of carbon dioxide in the atmosphere, and falling quantities of proven energy reserves in relation to levels of resource use.

It has been argued that a focus on the global environment is important because it helps to control for displacement across place. However, global aggregates obscure important local variations, which are substantial. Both environmental well-being and environmental stress are distributed unequally across the globe, meaning that issues of distributive justice intersect with environmental concerns. "Environmental justice" is the focus of an emerging global debate.[9] The inequalities are reinforcing in that those with the greatest environmental well-being often impose the greatest stress (in terms of resource use and pollution) on the global ecosystem. It is high-consumption societies that place significant pressure on the environment through, for example, per capita fossil fuel consumption many times that of poorer societies. The picture is a bit different with regard to stress imposed on the local ecosystems, because poorer societies often lack management capacity or the financial resources to invest in abatement technology. Still, when it comes to transitions to sustainability, it is high-consumption societies that ought to lead the way, since they impose a higher degree of stress and have a greater capacity to relieve that stress.

## THE ROLE OF YOUTH IN CREATING ENVIRONMENTAL AWARENESS

Young people constitute a large part of the world's population. Many, especially young children, are particularly vulnerable to environmental risks associated with, for example, access to clean and safe drinking water. In addition, young people will have to live longer with the consequences of current environmental decisions than will their elders. Future generations will also be affected by these decisions and the extent to which they have addressed concerns such as the depletion of resources, the loss of biodiversity, and long-lived radioactive wastes. Representing the concerns of future generations is difficult in the context of policy-making in the present. However, the objective is not to expand time horizons many years into the future; moving beyond the current very-short-term focus of much decision-making would be sufficient. In markets, the focus is often on short-term profits; discount rates in capital markets mean that the longer into the future an effect occurs, the more it will be downweighted. Politicians in liberal democratic political systems rarely look much further than the next election. Authoritarian leaders (even if they do have concerns beyond their own

enrichment and aggrandizement) often have even shorter time horizons, because they must worry continuously about being overthrown. In politics, youth can help by making their influence felt as a constituency for the long term, calling political leaders to account for the long-range environmental consequences of their decisions.

It is much harder to exercise influence in markets on behalf of the long term, given the inbuilt logic of interest rates and discount rates that drive investment decisions. Nonetheless, there are actions that can be taken. Young people are often the target of commercials, not just because of any disposable income they may possess, but because corporations promoting goods and services have a vested interest in establishing high-consumption patterns that will last a lifetime. The most nefarious example is tobacco advertising directed at young people to encourage early use and lifelong addiction, but the logic applies to consumer goods more generally. This kind of targeted advertising can be resisted, especially if its consequence is to draw youth into a lifestyle characterized by excessive consumption. Environmental education is one way of equipping young people with the necessary cognitive skills to recognize and withstand the pressures of advertising. However, the kind of education required involves not only providing information about how the world's ecosystems are under stress, but also guidance on how to draw links between an advertiser's product and its ecological consequences. The cognitive demands are very high. Advertisers are extremely skilled—not least at disseminating messages suggesting that their products and activities are environmentally sound or beneficial. This process is known as "greenwashing". It occurs when an automobile company markets "green" sports utility vehicles, and when a lumber firm, logging in old-growth forests, styles itself "the tree-growing corporation".

As well as turning one's back on advertising, there are ways of calling corporations to account.[10] Consumer boycotts can be effective, and protests eventually cause polluting companies to rethink their entire corporate strategy.

Aside from having a greater stake in the more distant future, young people are especially well-placed to promote environmental awareness simply because they often have better access to information about the environment than do their elders. In part this is a matter of having being exposed to more environmental education in schools, at least in the developed world and perhaps more sporadically elsewhere (environmental education is explored in more detail below). Aside from exposure in formal education, youth have lived all their lives in an era in which environmental issues have loomed large. Established anti-ecological ways of thinking and behaving are not ingrained in young people, and they can introduce fresh ideas and outlooks to issues.

Because youth have a stronger awareness of the issues and a greater stake in long-term sustainability, the environment is one area in which they ought to take the lead. In many countries, a generation that came of age politically in the 1970s organized and established environmental movements and green parties. To combat "the greying of the greens", a new generation needs to come to the fore. They will face challenges as pressures are brought to bear in the opposite direction. The commercialization of every area of life affects young people too. In addition, technologies that increasingly distance people from the environmental effects of their consumption decisions are growing with globalization, acting as an impediment to environmental awareness.

# STRENGTHENING PARTICIPATION OF
# YOUTH IN ENVIRONMENTAL PROTECTION

The participation of youth in environmental protection can be sought at levels and locations ranging from grass-roots activism and participation in conservation projects to policy-making bodies and NGOs.

The role of youth can be institutionalized in policy-making through advisory bodies such as youth councils. Many national Governments have ministries or departments with "youth affairs" as part of their portfolio, though such offices tend to view youth as a population to be addressed by public policy (often "youth affairs" is part of the education ministry), rather than a resource to be tapped for participation in policy-making in a variety of areas, including the environment.

Currently, the participation of youth appears to be formalized more extensively in international governmental organizations than at the national level. For example, UNEP has a Youth Advisory Council that plays a supportive role. UNDP sponsors training for young environmental leaders in the former communist countries of Central and Eastern Europe.[11] Chapter 25 of Agenda 21, adopted at the 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, reads as follows:

> "It is imperative that youth from all parts of the world participate actively in all relevant levels of decision-making processes because it affects their lives today and has implications for their futures. In addition to their intellectual contribution and their ability to mobilize support, they bring unique perspectives that need to be taken into account."[12]

In a similar spirit, paragraph 153 of the Plan of Implementation adopted at the World Summit on Sustainable Development, held in Johannesburg in 2002, indicates the need to "promote and support youth participation in programmes and activities relating to sustainable development through, for example, supporting local youth councils or their equivalent, and by encouraging their establishment where they do not exist."

An International Youth Summit was held in Mogwase, South Africa, prior to the World Summit. Youth Summit delegates established the Youth Caucus, which was active in the PrepComm meetings leading up to the World Summit. The presence of the Caucus members induced some countries to include youth representatives in their delegations. Relatively few national delegations showed such initiative, however, and among those that did, many were unable to progress beyond token representation. Only 6 of the 100 national delegations at the second session of the Preparatory Committee for the World Summit in February 2002 had a youth representative. Four of those representatives drafted a letter urging each delegation to include a youth representative at subsequent meetings; at the fourth session later in the year, however, only eight delegations had done so. In Johannesburg, around 40 youth representatives had government passes allowing them entry to the "official" proceedings of the Summit.

Global gatherings such as the Summit are also attended by NGOs, and youth can play a role in these organizations as well. The Youth Caucus in Johannesburg included NGO activists as well as members of government delegations. At UNCED in 1992, thousands of NGO representatives participated in the Global Forum, a sideline event in which debate was more lively and creative than in the official Conference proceedings. The role of NGOs has become increasingly institutionalized, so the Johannesburg Summit had a Civil Society Secretariat independent from the United Nations Secretariat, and around 45,000 people participated in the Civil Society Global Forum. Any institutionalization may compromise and blunt the radicalism of NGOs that have a "social movement" component (a concept explored further below). Protests constitute a standard feature of international conferences, however, and youth tend to be highly represented in them. For example, at a preparatory meeting for the World Summit in Johannesburg, youth delegates organized a backward march through a conference session to dramatize the fact that no progress was being made on key sustainable development issues, and that matters indeed seemed to be moving backward. At the Summit itself, around 100 youth representatives staged a "round in circles" march up and down the escalators in the conference centre (though demonstrations inside the centre were banned, the protesters were not removed).

NGOs operate at all levels, from local to global. In Australia, the Youth Environment Society declares that its aim is "to inform, inspire and empower Australian youth to make positive change regarding environmental issues".[13] Youth and Environment Europe acts as coordinating organization for 40 national and regional environmental and youth organizations.[14] Aside from facilitating the exchange of information and experiences, this organization brings together young people from different countries to work on conservation projects at camps and promotes environmental awareness, notably through publications such as its *Youth and Environment* magazine.

Outside youth-specific NGOs, young people can play various roles in environmental groups more generally. Some groups are better than others at encouraging youth participation. For example, the San Francisco-based Earth Island Institute annually presents Brower Youth Awards to exemplary young environmental activists, who do not have to be Institute members. Recipients in 2001 included a 16-year-old from New York who organized a project to turn a desolate urban space into a garden, and an 18-year-old from North Carolina, who succeeded in persuading an office products retailer to stock recycled paper.[15]

Youth participation through governmental and non-governmental organizations is important, but there is a place for other kinds of youth action and activism as well. Environmentalism has many roots—in scientific concern for the well-being of resources and ecosystems, in philosophical reflections about nature, in concerns about public health, and in clubs involved initially in providing outdoor recreation opportunities. One particularly important root is the social movement. Along with feminism, environmentalism is the best example of the "new social movements" that gathered momentum in the 1970s and 1980s. New social movements are distinguished from their predecessors by the fact that they do not focus on issues of material distribution across social classes. Nor do they organize (at least initially) with the

intention of gaining a share of government power, but instead feature a self-limiting radicalism. They care a great deal about identity (what it means to be an environmentalist) as well as strategy (how environmental goals are to be achieved). Their organizational form is often fluid, non-hierarchical and participatory.[16] The political venue they emphasize is the public sphere rather than the State, and they are engaged in political association, action and discussion about public affairs that is not formally part of government. Within the public sphere, social movements rely on the media (whose potential role is addressed below) as well as informal networks of activists, information sharing, protests, demonstrations, boycotts, and events geared to attract media publicity (examples include activists digging up a square in London to plant flowers or jumping over a fence to instal solar panels on the roof of the Australian prime minister's residence).

New social movements are no longer new. Many of their activists have taken the "long march through the institutions"—in some cases, as with the German Green Party, eventually becoming government ministers.[17] According to Claus Offe, this is the natural life cycle of any social movement, which typically begins in disorganized protest and activism, eventually coalesces into formal organizations, becomes more moderate with time, and then joins the formal political system.[18] Offe's analysis does not capture everything that has happened in the environmental movement, and many activists have resisted the moderation of the movement and its closer relationship with the Government. Nonetheless, the fact remains that as movements and their activists age there is always need for renewal from the grass roots, or even for the creation of alternative movement forms and foci. As an example, in the early 1990s the established environmental groups in the United Kingdom developed a closer relationship with the Government but had no impact at all in weakening the Government's commitment to massive new road networks. The result was the emergence of new kinds of young activist groups. In the cities, a group called Reclaim the Streets sponsored events (often organized at the last minute to foil the police) to bring car traffic to a standstill and effectively shut down the streets. In the countryside, individuals associated with groups such as Earth First! and the Dongas Tribe blockaded road construction sites, often taking up residence in tunnels to stop the bulldozers. These groups lacked formal organization, in part so their assets could not be seized by the Government through court action. These examples illustrate how a new generation of young people identified the need for a response and invented new forms of activism. A narrow evaluation of that activism would indicate that no road projects were prevented by the protests. However, the movement was successful in both raising public awareness and adding substantially to the costs of building roads (because of the need for enhanced security, police presence and construction delays). A change in government transportation policy that de-emphasized road building followed. The battles may have been lost, but the war was won.

More recently, protests such as those that erupted in Seattle at the 1999 WTO meetings and elsewhere have featured new kinds of youth activism. Unlike many previous movements, the WTO protestors had no semblance of a common programme. Some of their concerns related to the environmental effects of uncontrolled marketization, some to unfair labour practices (involving sweatshops and child

workers), and some to the rejection of capitalist principles. The movement is sometimes called "anti-globalization", but that is just journalistic shorthand. The global establishment and its media mouthpieces ridiculed the protestors for their alleged lack of ideological sophistication. However, this establishment also sat up and took notice, and at least began to talk about moderating global market liberalism. The diversity of the "movement" in terms of the issues, goals and backgrounds of the participants may itself herald a new kind of political form: the transnational network that does not seek unity, but instead operates on the principle of respect for diversity. The general point here is that each generation has the capacity to invent new political forms, and it is always youth who take the lead because they are not subject to the established routines and stereotypes of their elders.

One aspect of innovation is the extent to which contemporary social movements are now transnational in character; they organize networks that span the globe. For example, the network against biopiracy brings activists in the developed world together with communities in developing countries exploited by transnational corporations, and universities taking advantage of indigenous knowledge about local plants and animals then turning this knowledge into products they seek to patent without adequate compensation to the communities.

Aside from political action, there are possibilities for youth participation in practical environmental projects. Examples of restoration projects include Landcare groups working to reverse land degradation in overgrazed watersheds in Australia and community-organized tree planting in rural India. Helping restore one's own local environment is instructive, but participating in projects in other countries is especially educational in that these experiences impart a sense of the variety of problems in the world's social and ecological systems. Camps such as those organized under the auspices of Youth and Environment Europe can play an important role in this respect. Even one's everyday life—and particularly the consumption decisions made in it—can become an "environmental project". In the early 1990s, sustainable consumption became a key part of the Norwegian Government's sustainable development agenda. To support this initiative, the Environmental Home Guard was established in consultation with established environmental organizations. The Home Guard is not a conventional environmentalist group; it has no members, but rather "supporters" who promise to behave in environmentally responsible ways. It also provides information and education, and offers one model for involving youth (and others) in environmental protection.

Strengthening the participation of youth in environmental protection is partly a matter of increasing opportunities in governmental organizations, established NGOs and restoration projects; partly a matter of youth themselves devising new forms of action, as the preceding examples of innovative activism make clear; and partly a question of more effective environmental education and media presentation of environmental issues.

# ENVIRONMENTAL EDUCATION

Environmental education has an important role to play in the promotion of environmental awareness (chapter 25 of Agenda 21 addresses the issue in some detail). The knowledge base of a society is one important aspect of its capacity to address and cope with environmental issues. Martin Jänicke and Helmut Weidner write in this context of "the conditions under which environmental knowledge is produced, distributed, interpreted, and applied".[19] Environmental education is the first step in enhancing this knowledge base.

A look at the existing state of environmental awareness and education indicates that the picture is at first glance quite positive, at least in most countries of the developed world. In developing countries, the picture is more mixed, though environmental education has made some inroads; one example is the efforts of the Environmental Education Association of Southern Africa. Surveys in the developed world reveal that most people consider themselves environmentalists; the figure is especially high among youth. In the United States, for example, 85 per cent of people under 30 identify themselves as environmentalists.[20] Departments, institutes, programmes and courses devoted to environmental studies in science, social science, humanities, law and engineering have multiplied and flourished in colleges and universities in many countries. Environmental education can increasingly be found in schools, and by 1999 was a formal graduation requirement in public secondary schools in 30 of the 50 states of the United States.[21] There are also professional associations of environmental educators.

Environmentalist groups put a lot of their resources into education projects, providing course materials for teachers and producing publications targeted at children and youth. Getting information to the public about environmental issues and threats consumes a lot of activist energy. Often environmentalists show great faith in the long-term effects of education being the key to positive social change. It is certainly true that the more educated a person is, the more likely he or she is to show environmental concern and commitment. Presumably, exposure to environmental education in particular reinforces this tendency.

Environmental education has grown steadily in recent years. However, questions remain concerning its impact. During the past three decades there has been massive growth in environmental awareness in many countries, in formal environmental education, and in the educational activities of environmentalists—but has humanity come any closer to achieving a sustainable society? Over this period the consumer culture has become ever stronger, spread by economic globalization to all parts of the world. Individuals in developed countries who profess a commitment to environmental values often lead high-consumption and energy-inefficient lifestyles, drive large cars if they can, travel long distances by airplane, live in ever more spacious houses, and do not recycle household wastes. Mass environmental commitments may be widespread, but they generally prove very shallow.

Why has environmental education so far failed to deliver the anticipated benefits? Part of the reason may lie in the kind of education delivered. Chet Bowers argues that environmental education in its present form is often provided in a way that does

not challenge the dominant ways of thinking that evolved in the modern pre-environmental era of uncontrolled industrialism and has continued in the depersonalized individualism of the information age.[22] In this context, for example, environmental economics retains and so reinforces the anthropocentric (firmly human-centred) value system and model of isolated, disembodied individuals that characterize standard economics. Environmental engineers see nature as something to be controlled rather than conciliated. Postmodern cultural studies treat the environment as a cultural construct that exists mainly in the mind, with no objective external existence.

Bowers is a bit hard on the disciplines, some of which are trying to move beyond the entrenched ways of thinking deriving from industrialism. For example, environmental philosophy challenges the anthropocentric value systems that infuse industrial society. Ecological economics is attuned to ecological limits to human activity in a way that conventional environmental economics is not. Regardless of the extent to which these adjustments in thinking have been incorporated into environmental education, the obvious solution is a different kind of environmental education. Bowers proposes education aimed at restoring the "ecologically centred cultural practices" that have been overruled by industrial societies.[23] The kind of knowledge to be imparted would be indigenous, focusing on local ecosystems and the way they once sustained, and could again sustain, human communities. Similarly, Mitchell Thomashow advocates a "biospheric curriculum" that would begin (but not end) with instruction in the conservation biology and natural history of local ecosystems.[24] The idea behind this approach is to enhance the psychology of perception, to enable individuals to see that their local ecosystem is indeed there, even though it is obscured by the noise of the human world.

For both Bowers and Thomashow, the key to effective environmental education is the recovery of lost knowledge. Though both write mainly for the developed world, practical application might actually be more straightforward in some developing country contexts because the relevant local knowledge has not been lost for as long. Wherever it is implemented, this kind of environmental education is very different from existing models. Any generally applicable curriculum would involve mainly the critique of consumerism and individualism from what Bowers calls a "cultural bioconservatism" perspective that stresses interdependence among peoples and their embeddedness in their environments.

This emphasis on traditional local knowledge implies a particular role for youth in relation to other generations—an intergenerational kind of education. Bowers recommends that students be encouraged "to do a cultural inventory of the forms of elder wisdom in their own community.... This should be followed by a discussion of the role of youth in the process of carrying forward and renewing the ecological and cultural wisdom of previous generations."[25] Thomashow believes that "young people desperately need to step out of their youth culture to speak with folks who have been around for a while".[26] He writes about a 1999 intergenerational forum he helped organize in which older people were paired with secondary school students. The young participants enjoyed talking about the ethical aspects of issues, but it became clear that their potential for environmental activism required a supportive context to be brought out.

There is a tension between this intergenerational transmission of traditional ecological knowledge and the critical, generative activism of the youth social movement described earlier in the chapter. The conflict might be eased by connecting young people's political activism to the critique of the modern consumerist political economy—but detaching it from the more conservative kind of knowledge transmission Bowers advocates. The latter could be applied to questions of how to live in an ecologically sound fashion in a particular place, rather than questions of how to organize political action.

The real problem may lie not in the kinds of environmental education being promoted, but rather in the difficulty involved in translating environmental value commitments into action of any kind, be it in terms of lifestyle adjustments or political activism.[27] If so, the right kind of environmental education may not be enough to make much difference. Leslie Thiele speculates that an individual search for more and better knowledge may actually get in the way of, and even substitute for, action.[28]

The underlying issue here may be one of "free riding". When it comes to the provision of a public good such as environmental quality from which a whole society benefits, there is every incentive for even well-meaning individuals to rely on the contributions of others, as each individual's contribution will make little difference to the overall quantity of the good provided while involving substantial costs to the individual in question. For example, everyone in a large city may complain about the smog, but hardly anyone gives up driving or even buys a smaller vehicle in order to help improve air quality. In large-scale societies, this problem must be solved by government action (including measures to reduce distances travelled by car and regulations to control pollution) rather than individual consumer action.

An important but generally overlooked aspect of environmental education is environmental political education, which stresses how changes can be achieved via political activism directed at Governments, international organizations, and even corporations. In other words, environmental education should be aimed at producing ecological citizens, not just green consumers.[29] Environmental political education should also address the obstacles to effective political action and how they might be overcome. There have been many cases of citizen-activists being asked to serve on government advisory committees that in the end waste time and divert activist

energies while making no difference to policy. In addition, political education needs to identify and illuminate the anti-environmental political forces that operate, sometimes very subtly.

It should be emphasized that environmental education, in its broadest and perhaps most important sense, is not formal schooling. Rather, it is a process of social learning in which young people and others are engaged in generating and transmitting knowledge as well as receiving it. Social learning involves a multitude of activities. NGOs can integrate education with their activism. Networks of activists can work together to explore and develop ideas—for instance, communicating how the whole idea of environmental justice arose, from the bottom up, and providing a variety of local experiences showing the unfair distribution of environmental hazards. Learning by doing is also important, whether through participation in environmental restoration projects or involvement in political campaigns. In these sorts of processes, a young person can play a role as an active participant in education rather than a passive recipient.

# THE ROLE OF THE MEDIA IN SOCIAL LEARNING ABOUT THE ENVIRONMENT

Much of the environmentally relevant information young people receive comes not from formal education but from the media. In principle, environmental education and the media could join in a larger process of social learning, though the fact that the media are generally driven by concerns that are not educative can get in the way of such a synthesis.

The media can be a powerful tool for education. Good-quality environmental journalism is sometimes found in newspapers and magazines, especially those that have an environmental correspondent. Over time, this field has become increasingly professionalized. Planeta's Latin American journalism handbook has a substantial section on environmental journalism, pointing to a sophistication in Latin American coverage of environmental issues that often surpasses that in North America.[30] The Society of Environmental Journalists, established in 1990 and based in the United States, has over 1,000 members and declares its mission to be that of "improving the quality, accuracy, and visibility of environmental reporting".[31] The Society sponsors conferences and a news service and conducts a mentoring programme for younger journalists. For the electronic media, there is the Environmental Journalism Center sponsored by the Radio-Television News Directors Association and Foundation. Such professionalism may come at a cost, as it tends to dampen the radical fire that Michael Frome believes should be the essence of green journalism.[32] Frome contends that environmental journalism is about teaching, not just reporting, and that it has to involve much more than relaying corporate or environmental group press releases, none of which can be taken at face value.

Growing professionalism notwithstanding, there are significant problems associated with the way environmental news is reported and interpreted. In general, if a journalist wants to make a splash, he or she is unlikely to report that an environmental risk is minimal or an ecological situation of no real concern. The only exception comes with the debunking of green claims; Bjørn Lomborg (whose book was referred to earlier) is one who has published anti-environmentalist articles in Danish and British

newspapers. There is a tendency, especially when a new story is breaking, to overemphasize the seriousness of risks or disasters. Environmentalists and scientists often support this overstatement, the former because of the publicity it attracts for their cause, and the latter because if a hazard is widely thought to be immediate and serious, research funds are more likely to flow.

Some environmental hazards highlighted by the media in this manner become panics or scares that do not stand up to close analysis but do provide grist for those whose agenda is to minimize the severity of the risks that confront industrial society. Aaron Wildavsky looks at scares associated with Agent Orange, Alar (on apples), PCBs, DDT, acid rain, arsenic in drinking water and asbestos in schools, and argues that a close examination of the evidence shows that the risks in question are in truth minimal.[33] Wildavsky then generalizes from the few risks he has studied to all those he has not, concluding that there is nothing left of environmentalism except an aesthetic respect for nature. The implication is that readers should simply ignore what is presented in the media about alleged environmental risks. Sensationalism in environmental reporting plays into the hands of Wildavsky and other risk apologists and diverts attention from real risks. Pollutants in the environment do kill people, nuclear wastes are highly dangerous, ozone depletion has taken place and has caused damage (as even Wildavsky admits), and droughts do occur as a result of the interaction of human and natural forces.

Sensational coverage of risks by the media highlights the more general problem the media have in probing beneath the surface of events. For immediate impact, visible events such as a bush fire, an oil tanker breaking up at sea or a chemical factory explosion work best. Even serious coverage is characterized by a focus on events rather than on the underlying processes of which the events are just a manifestation. Former UNEP Executive Director Mostafa Tolba points to an analysis of media reports of the 1984 disaster in Bhopal, India, which involved numerous deaths from the explosive release of methyl isocyanate from a pesticide plant owned by Union Carbide.[34] Virtually all reports focused on the event itself; hardly any put the event in the context of political-economic structures and processes that caused or allowed highly dangerous production processes for pesticides to exist in the first place and to be located near the residences of many poor people.

The very essence of ecology is complex connections across time and space. When events are reported in isolation, the public receives disconnected and discontinuous messages about bits of the environment—the opposite of ecological thinking. As former Greenpeace activist Chris Rose puts it, "This is equivalent to covering economics by only reporting bank robberies."[35] The media may be missing the most consequential developments of these times. Even media coverage of gatherings such as the World Summit on Sustainable Development tends to concentrate on the event itself and what happens there, with little nuanced coverage of the issues being debated.

This event focus may lead the public to dwell on and overestimate the significance of spectacular incidents—and consequently ignore long-term trends and chronic risks that pose a greater danger but rarely make the news.[36] Examples of the latter might include soil contamination from heavy metals, agricultural chemicals in drinking

water sources, or increasing salinity in irrigated soils. It has long been recognized that there are systematic differences between expert and lay perceptions and judgements about risks, and this tendency of laypeople to focus on the risks of spectacular events is one of them. However, the implication is not that the challenge to environmental journalism is to close the gap by bringing lay judgement closer to expert judgement; the most important aspect of the gap is the degree to which ordinary people tend to be highly averse to risks they do not choose themselves—one example is environmental pollution—even if, statistically, the real risk is small. Conversely, ordinary people are much more accepting of risks they take on voluntarily, such as those associated with driving a car or participating in dangerous sports. These are reasonable judgements. Nonetheless, there is a need for greater honesty in the reporting of risks; journalists covering environmental issues must show greater restraint and try to communicate the real hazards linked to high-profile events, but at the same time more assiduously report on the real dangers associated with chronic, long-term pollution issues.

Aside from risk sensationalism, the media's penchant for the visible, appealing, and tangible comes into play in reporting on the destruction of nature. News about pandas, elephants, great apes or whales dying as a result of hunting or habitat destruction is easier to propagate and digest than more complex stories of ecosystem degradation. However, photogenic species can serve as "markers" for ecosystems, as pandas do for bamboo forests, and good journalism can highlight this angle.

Environmentalists can cater to the media's need for spectacles and stars. The success of some groups over the decades has largely been a consequence of their skill in producing vivid images for the media—including the Rainbow Warrior sailing into a nuclear test site in the South Pacific, small boats putting themselves in front of the harpoons of whalers, and divers inserting a symbolic plug in the end of a pipeline discharging radioactive waste into the sea. "Guerilla theatre" was developed by, for example, unfolding a huge "crack" down the face of a dam to protest the ecological devastation wrought by large dams on free-flowing rivers, or putting protestors in trees about to be logged.

The media emphasis on spectacles and events cannot be abolished, nor would this be altogether desirable, as it does at least help bring environmental issues to the public's attention. However, the environment-as-entertainment focus must be counterbalanced by deeper and more serious coverage, even if this appeals to only a minority in a world of short attention spans. Journalists need to be creative and investigative, not just reactive, in relation to events. There is no reason young people cannot develop their own publications and programmes along these lines, though their reach might be very limited in comparison with that of the mass media.

There is currently a huge gap between developed and developing countries in terms of media treatment of the environment. As Graham Chapman and others point out in their comparison of India and the United Kingdom, no shared commitment to environmentalism, or even a consensus on what environmentalism means, can emerge or be promoted by media operating in such vastly different and unequal conditions.[37] The first challenge for the Indian media is to get past the idea that "environmentalism" is yet another post-colonial imposition from the developed world.

It may be concluded that the media are not living up to their potential as major contributors to social learning about the environment—environmental education in the broadest sense, which would enhance informed participation in environmental affairs by youth and others. To the extent that this is true, the media are failing youth along with everyone else. Part of the solution may involve the creation of alternative information networks that are not constrained by the need to entertain and can move beyond the event focus of the established media. The Internet has enormous potential that is just beginning to be tapped, though at the moment there is considerable inequality in terms of access to this medium, which reinforces other sorts of material inequalities. It was noted earlier that youth have a proven talent for devising new forms of political action, and that a major recent trend has been the establishment of transnational activist networks. The potential for global environmental action and coordination is tremendous; however, the inaccessibility of the Internet and other ICT resources to youth in the developing world has imposed serious limitations on their involvement in this process and has created an imbalance in terms of the kind of youth voices that get heard.

# SUMMARY AND CONCLUSIONS

Young people have important environmental concerns and responsibilities. Because of their longer life expectancy, they will have to live for quite some time with the consequences of a deteriorating environment left to them by their parents. Fortunately, youth have a special talent for invention and the development of new forms of action and activism and can generate more effective responses to environmental issues. Addressing the concerns of future generations is difficult in the context of present policy-making; ultimately, however, it is enough to expand time horizons not necessarily many years into the future, but simply beyond the generally short-term focus of current decision-making.

Environmental issues present some of the most profound and complex challenges requiring attention today and in the coming decades. One foundation-building step in enhancing local, regional, national and global capacities to respond to those challenges is increasing environmental awareness. Here the role of youth is central, for it is in the rising generations that heightened awareness can most easily be achieved. As this chapter indicates, there is much work to be done in terms of reforming and extending both formal and informal environmental education and inducing the media to play a more effective role in facilitating social learning about the environment. Political activism on environmental issues is also crucial; again, youth are well-placed to develop new forms of activism and bring new energies and perspectives to environmental affairs.

Through their participation in the World Summit on Sustainable Development, young people recently demonstrated that they could inject social values and notions of equity into debate. Young people understand perhaps better than most that humankind is not living in a zero-sum, environment-versus-economy world. One way to equip young people to deal with environmental concerns is through more effective environmental education. Much of the information young people receive about envi-

ronmental issues comes from the media. Therefore, environmental educators and the media should make greater and more concerted efforts to promote a larger process of social learning for sustainable development. ■

[1] The transfer of pollution activities and resource depletion across borders constitutes one aspect of a more general process that clouds the meaning of particular indicators and makes resolving environmental problems difficult. This process is referred to as problem displacement (see J.S. Dryzek, *Rational Ecology: Environment and Political Economy* (New York, Basil Blackwell, 1987), pp. 16-20). Displacement can occur across space (from one location to another) and/or across time (from now to the distant future). Displacement across media is also possible. For example, suspended particulates may be removed from smoke emitted by coal-burning power stations using electrostatic precipitators, but this process makes the emissions more acidic, thus increasing the severity of acid rain resulting from the sulphur dioxide in the emissions combining with water vapour in the atmosphere. There is also a problem of how to dispose of the solid waste that accumulates. As Albert Weale points out, there is a need to "control pollution in the round" (see A. Weale, *The New Politics of Pollution* (Manchester, Manchester University Press, 1992)). Sometimes this is called "integrated pollution control". The ideal is to achieve integrated pollution control at the global level. So far, however, it has only been realized, if at all, at the local level, especially in some Northern European countries. In many countries it is obstructed by single-medium laws for pollution control (such as clean air acts), which means that anti-pollution government agencies are actually organized in ways that prevent integrated pollution control.

[2] B. Lomborg, *The Skeptical Environmentalist: Measuring the Real State of the World* (Cambridge, Cambridge University Press, 2001).

[3] J. Simon, The State of Humanity (Oxford, Basil Blackwell, 1995); J. Simon and H. Kahn, eds., *The Resourceful Earth* (New York, Basil Blackwell, 1984); and G. Easterbrook, *A Moment on Earth* (Harmondsworth, Penguin, 1995).

[4] Lomborg, op. cit., p. 111.

[5] T. Homer-Dixon, *Environment, Scarcity, and Violence* (Princeton, Princeton University Press, 2000).

[6] For a sketch of this world view see J.S. Dryzek, *The Politics of the Earth: Environmental Discourses* (Oxford, Oxford University Press, 1997), pp. 45-60.

[7] Exponential growth is growth at a constant percentage rate, such that the absolute quantity added to the total increases by a greater amount every year.

[8] See especially D.H. Meadows and others, *The Limits to Growth* (New York, Universe Books, 1972).

[9] N. Low, ed., *Global Ethics and Environment* (London, Routledge, 1999).

[10] N. Klein, *No Logo: Taking Aim at the Brand Bullies* (London, Flamingo, 2000).

[11] Available at http://www.undp.bg/en/homepage_files/young_environmental_leaders. html.

[12] For a history of youth involvement in the United Nations Conference on Environment and Development, see the *Youth Sourcebook on Sustainable Development* (Winnipeg, International Institute for Sustainable Development, 1995), available online at http://iisd.ca/youth/ysbk088.htm.

[13] Available at http://www.yesworld.org.au/execsumm.html.

[14] Available at http://www.ecn.cz/yee/.

[15] Available at http://www.enn.com/news/enn-stories/2001/10/10302001/young_45320. asp.

[16] For a review of the features of new social movements, see J. Cohen, "Strategy or identity? New theoretical paradigms and contemporary social movements", *Social Research*, vol. 52 (1985), pp. 663-716; C. Offe, "New social movements: challenging the boundaries of institutional politics", *Social Research*, vol. 52 (1985), pp. 817-868; and A. Melucci, "The symbolic challenge of contemporary movements", *Social Research*, vol. 52 (1985), pp. 789-816.

[17] Die Grünen joined the governing coalition at the federal level in 1998.

[18] C. Offe, "Reflections on the institutional self-transformation of movement politics: a tentative stage model", in *Challenging the Political Order: New Social Movements in Western Democracies*, R.J. Dalton and M. Kuechler, eds. (Cambridge, Polity Press, 1990), pp. 232-250.

[19] M. Jänicke and H. Weidner, eds., National Environmental Policies: A Comparative Study of Capacity-Building (Berlin, Springer, 1997), p. 7.

[20] L.P. Thiele, *Environmentalism for a New Millennium* (Oxford, Oxford University Press, 1999), p. 211.

[21] Ibid., p. 212.

[22] C. Bowers, "The role of education and ideology in the transition from a modern to a more bioregionally-oriented culture", in Bioregionalism, M.V. McGinnis, ed. (London, Routledge, 1999), pp. 191-204.

[23] Ibid.

[24] M. Thomashow, *Bringing the Biosphere Home: Learning to Perceive Global Environmental Change* (Cambridge, MIT Press, 2002).

[25] Bowers, op. cit., p. 202.

[26] Thomashow, op. cit., p. 207.

[27] M. Finger, "From knowledge to action? Exploring the relationships between environmental experiences, learning, and behavior", *Journal of Social Issues*, vol. 50 (1994), pp. 141-160.

[28] Thiele, op. cit., p. 214.

[29] As M. Sagoff points out, it is quite reasonable for an individual to behave badly as a consumer while behaving very well as a citizen (see M. Sagoff, *The Economy of the Earth* (Cambridge, Cambridge University Press, 1988)).

[30] Available at http://www.planeta.com/ecotravel/period/period_enviro.html.

[31] Available at http://www.sej.com.

[32] M. Frome, *Green Ink: An Introduction to Environmental Journalism* (Salt Lake City, University of Utah Press, 1998).

[33] A. Wildavsky, *But Is It True? A Citizen's Guide to Environmental Health and Safety Issues* (Cambridge, Massachusetts, Harvard University Press, 1995).

[34] See M. Tolba, *Saving Our Planet: Hopes and Fears* (London, Chapman and Hall, 1992).

[35] Quoted from http://www.sustainability.com/publications/engaging/good-news-and-bad-more1.asp.

[36] See S. Allen, B. Adam and C. Carter, eds., *Environmental Risks and the Media* (London, Routledge, 2000).

[37] G. Chapman and others, *Environmentalism and the Mass Media: The North-South Divide* (London, Routledge, 1997).

# Additional References

G.C. Bryner, "The United States: 'Sorry—not our problem'", in *Implementing Sustainable Development: Strategies and Initiatives in High Consumption Societies*, W.M. Lafferty and J. Meadowcroft, eds. (Oxford, Oxford University Press, 2000), pp. 273-302.

P. Christoff, "Ecological modernization, ecological modernities", *Environmental Politics*, vol. 5 (1996), pp. 476-500.

W.M. Lafferty and J. Meadowcroft, eds., *Implementing Sustainable Development: Strategies and Initiatives in High Consumption Societies* (Oxford, Oxford University Press, 2000).

A.P.J. Mol and D.A. Sonnenfeld, eds., *Ecological Modernization Around the World: Perspectives and Critical Debates* (London and Portland, Frank Cass, 2000).

M. Paterson, "Risky business: insurance companies in global warming politics", *Global Environmental Politics*, vol. 1, No. 4 (2001), pp. 18-42.

D. Schlosberg and J.S. Dryzek, "Political strategies of American environmentalism", *Society and Natural Resources* (2002).

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