PART I
THE STATE OF THE WORLD

IN THE PAST CENTURY, we humans have taken pride in our "mastery" of nature. We have viewed ourselves as conquerors of the skies and the oceans. We have devised ways of using the natural resources of the earth for great profit. In recent years, however, we have begun to realize that we are not the masters of the natural world, but a part of it. We have also begun to understand that if we do not treat the natural world with greater respect, our very existence as a species may be threatened.

The readings in Part I discuss aspects of the current state of the world that are causes for concern. In "The Illusion of Progress," Lester R. Brown addresses the careless consumption of natural resources and the economic decline in the Third World. "Land Hunger in Asia," by Paul Harrison, presents case studies illustrating the oppressive social conditions in Bangladesh. Helen Caldicott, an antinuclear weapons and antiwar activist, advises us in "Eradicate Nuclear Weapons from the Face of the Earth" to spend our money on more important things than producing weapons. Finally, in "Picturing a Sustainable Society," Lester R. Brown, Christopher Flavin, and Sandra Postel suggest how we could develop a "sustainable world" by shifting our focus from short-term profits to the long-term good of humanity.

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The Illusion of Progress

LESTER R. BROWN

Lester R. Brown is a senior researcher at the Worldwatch Institute, which every year since 1984 has produced a volume about the *State of the World*. Each year, this book updates information on poverty, overpopulation, air and water quality, agricultural land, and other world conditions. A respected sourcebook, it is consulted by the United Nations and other organizations concerned about protecting our world environment. The following reading is an excerpt from the first chapter of *State of the World, 1990*.

Getting Ready to Read

THINKING ABOUT THE TITLE

What is the meaning of the word *illusion*? What does the word *progress* mean? How might the idea of progress be an illusion?

KEY VOCABULARY/CONCEPTS

Discuss with your classmates what you know about some of the following words and concepts.

progress	ozone layer	grasslands
global economic production	greenhouse effect	acid rain
population growth	global warming	forests
modern technology	foreign debt	deforestation
accounting	infant death rates	air pollution
natural resources	croplands	

PREREADING QUESTIONS

Before reading the selection, ask yourself and/or discuss with your classmates the following questions.

1. What effects does our modern way of living have on the environment (air, water, atmosphere, and so on)?
2. Should we change what we are doing in order to protect the environment? Why or why not?

For about four-fifths of human beings born since World War II, life has seemed to be a time of continuous economic progress. The global economic production is about five times larger than it was in 1950. The increase in economic growth every ten years has been similar to the increase from the beginning of civilization until 1950. 1

World food production has also increased a great deal. This was a result of increased demand caused by population growth and rising wealth, and was made possible by modern technology. The world's grain harvest is 2.6 times larger than it was in 1950. No other generation of human beings has seen such large gains in production. 2

Such gains would seem to be a cause for celebration, but instead there is a sense of illusion, a feeling that not so much progress has been made. One reason for this is that our system of national accounting used to measure progress considers the loss in value of factories and equipment, but does not consider the using up of natural resources. Since mid-century, the world has lost nearly one-fifth of the topsoil from its croplands, a fifth of its tropical rain forests, and tens of thousands of its plant and animal species. 3

During this same period, atmospheric carbon dioxide (CO_2) levels have increased by 13 percent, causing hotter summers. The protective ozone layer in the stratosphere has decreased by 2 percent worldwide and far more over Antarctica. Dead lakes and dying forests have resulted from industrialization. Historians in the twenty-first century may admire our economic performance—but regret the environmental consequences. 4

Throughout our lifetimes, economic trends have shaped environmental trends, often affecting the earth's natural resources and systems in ways not clear at the time. Now, as we enter the nineties, the reverse is also beginning to happen: environmental trends are beginning to shape economic trends. 5

Environmental damage to the planet is beginning to affect harvests of food. The effects of losing 24 billion tons of topsoil each year are being felt in some of the world's major food-producing regions. Recent studies indi- 6

cate that air pollution is damaging crops in both auto-centered economies of the West and coal-burning economies of the East. Meteorologists cannot yet be certain, but the hotter summers and decreased rainfall of the eighties may be early indications of the greenhouse effect.

Environmental damage undoubtedly was a cause of slower growth in world grain production during the eighties. The doubling of grain output mentioned above occurred between 1950 and 1984; since then, there has been no significant increase. The 1989 estimated harvest (1.67 billion tons) was up only 1 percent from that of 1984, which means that grain output per person is down nearly 7 percent. 7

Large amounts of previously stored food have been used up. In some areas, people have consumed less food. Although five years is not long enough to indicate a long-term trend, this does show that the world's farmers are finding it more difficult to keep up with growth in population. 8

Nowhere is this more clear than in Africa, where the combination of high population growth and damage to croplands is decreasing grain production per person. A drop of 20 percent in production from 1967 has changed the continent into a grain importer, caused an increase in the region's foreign debt, and left millions of Africans hungry and physically weakened. In a 1989 report, World Bank economists described the continuation of recent trends as a "nightmare scenario." 9

In both Africa and Latin America, food consumption per person is lower today than it was when the decade began. Infant death rates—a good indicator of malnutrition—appear to have increased in many countries in Africa and Latin America, reversing the previous trend of decrease. Nations in which there are data to indicate this rise in infant death rate include Brazil, the Dominican Republic, El Salvador, Ghana, Madagascar, Mexico, Peru, Uruguay, and Zambia. 10

The Earth's Declining Productivity

Three biological systems—croplands, forests, and grasslands—support the world economy. Except for fossil fuels and minerals, they supply all the raw materials for industry; except for seafood, they provide all our food. Forests are the source of fuel, lumber, paper, and many other products. Grasslands provide meat, milk, leather, and wool. Croplands supply food, feed for animals, and countless raw materials for industry, such as fiber and vegetable oils. 11

Common to all these biological systems is the process of photosynthesis, 12
the ability of plants to use solar energy to combine water and carbon dioxide to produce carbohydrates. Although an estimated 41 percent of photosynthetic activity takes place in the oceans, it is the 59 percent occurring on land that supports the world economy. And it is the loss of photosynthesis as a result of environmental damage that is hurting many national economies.

The biological activity that supplies most of our food and raw materials 13
takes place on the nearly one-third of the earth's surface that is land, some 13 billion hectares. According to a U.N. Food and Agriculture Organization study for 1986, 11 percent of this—nearly 1.5 billion hectares—is used to produce crops. About 25 percent is pasture, providing grass for domesticated animals and wild grass-eating animals. A somewhat larger area (31 percent) is in forests, including open forest or savannahs only partly covered with trees. The remaining 33 percent of the world's land supports little biological activity. It is either wasteland, essentially desert, or has been paved over or built on.

The share of land planted to crops increased from the time agriculture 14
began until 1981, but since then the area of new land has been less than the area that has become useless or has been changed to nonfarm uses. The grasslands area has decreased since the mid-seventies, as over-use has changed some of it to desert. The forest areas have been decreasing for centuries, but the rate of loss increased at mid-century and even more from 1980 onward. The combined area of these three biologically productive categories is decreasing while the remaining categories—wasteland and that covered by human settlements—are increasing.

Not only is the biologically productive land area decreasing, but on part 15
of it, productivity is falling. In forests, for example, output is being lowered by air pollution and acid rain. Evidence of this damage in industrial countries is clear. In the United States, it can be found throughout much of the country, and in Europe it is found from the Atlantic coast in the West to Siberia in the East.

Recalculating Economic Progress

Looking at the basic biological systems just discussed, the world is not 16
doing very well. Yet economic indicators show the world is prospering. Despite a slow start at the beginning of the eighties, global economic output

increased by more than a fifth during the decade. The economy grew, trade increased, and millions of new jobs were created. How can biological indicators show the opposite of economic indicators?

17 The answer is that the economic indicators have a basic fault: they show no difference between resource uses that sustain progress and those uses that will hurt it. The main measure of economic progress is the gross national product. In simple terms, this totals the value of all goods and services produced and subtracts loss in value of factories and equipment. Developed a half-century ago, GNP helped establish a common way among countries of measuring change in economic output. For some time, this seemed to work reasonably well, but serious weaknesses are now appearing. As indicated earlier, GNP includes loss in value of factories and equipment, but it does not consider the loss of natural resources, including nonrenewable resources such as oil or renewable resources such as forests.

18 This basic fault can produce a misleading sense of national economic health. According to GNP, for example, countries that overcut forests actually do better than those that sustain their forests: the trees cut down are counted as income but no subtraction is made for using up the forests, a natural resource. The advantage is short-lived, however, as overcutting eventually destroys the resource entirely, leading to the end of the forest products industry.

19 To show the fault in GNP accounting, economist Robert Repetto and his colleagues at the World Resources Institute recalculated the GNP of Indonesia, including the using up of natural resources. Considering only loss of oil, soil, and forest, [they] showed that Indonesia's economic growth rate from 1971 to 1984, originally reported at 7 percent, was in reality only 4 percent. GNP not only overstates progress, it may indicate progress when there is actually decline. In Repetto's revised system of national economic accounting, loss of natural resources is counted just as is loss of value of factories and equipment.

20 Including changes in natural resources represents an improvement in national economic accounting. But if this system is to be a basis for making policy in a time when environmental issues are so important, it will have to go one step further and consider the environmental effects of economic activity. For example, the loss of forests that counted as a loss in Indonesia's economy also contributed to the buildup of CO_2 around the world, thus increasing global warming. How much will it cost to deal with the climate change due to deforestation in Indonesia?

Or consider the oil produced in Indonesia, which Repetto subtracted from the country's natural resources. To what extent is it contributing to the serious air pollution problem in Jakarta and to the respiratory illnesses among the people who live there? How much is the Indonesian oil burned in the Netherlands contributing to the air pollution and acid rain destroying lakes in Scandinavia and forests in [the former] West Germany? It is certainly true that data on the costs of lost forest productivity in Europe or of global warming are not very good. But is that a good reason to ignore them entirely rather than to try to make some estimates and include them in the national economic accounts? The results are so important that it would be better to include some estimate. □

Thinking about the Reading

TRUE/FALSE QUESTIONS

In the space provided, write T if the sentence is true, and F if the sentence is false, based on your reading of the preceding selection.

_____ 1. Our system of national accounting considers loss of natural resources as a negative factor.
_____ 2. In Africa and Latin America today people eat more food than they did ten years ago.
_____ 3. Croplands, forests, and grasslands supply raw materials, food, and fuel.
_____ 4. Photosynthesis is the process by which plants produce carbon dioxide.
_____ 5. According to our current way of accounting, countries that overcut forests are doing better economically than countries that keep the same number of trees.

COMPREHENSION QUESTIONS

In answering the following comprehension questions, *paraphrase* the selection—that is, restate it in your own words without copying phrases of more than three or four words from the reading. (See Appendix A for more on how to answer comprehension questions.) Here is an example:

Sample question:
How has the world made progress since World War II?

Sample answer (words and phrases from the reading are italicized):
The world has made progress because *global economic production* has increased a lot and more *food* has also been produced. *Modern technology* has allowed this to occur.

Here are the questions:

1. What are some negative effects of environmental damage?
2. How have croplands, forests, and grasslands been damaged in recent years?
3. What does GNP measure?
4. In addition to loss of natural resources, what should we consider in evaluating a country's economy?

OUTLINE

Complete the following outline of Brown's essay by listing the topics he discusses in the space provided.

Paragraph(s) 1–2: Global economic progress since World War II
3–4: _____
5–8: Negative effects of environment on economy.
9–10: _____
11–13: Importance of croplands, forests, grasslands
14–16: _____
17–18: GNP does not account for loss of natural resources
19–21: _____

SUMMARY

Use the preceding outline to write a summary of the reading. In the first sentence of your summary, mention the title, the author, and the main topic of the selection. Paraphrase the writer's points in your own words. (See Appendix B for more on how to write a summary.)

Making Connections

REACTING TO THE READING

Write about your personal reaction to Brown's essay. Possible topics include your agreement or disagreement with a specific issue; a relevant personal experience; an idea that is new to you; a related idea from another source (such as a book, a movie, or a television program); or why you like (or dislike) the selection.

FINDING RELATED SOURCES

1. Find a picture related to one of the following topics: global environmental damage, economic progress, or another topic discussed in the selection. In writing, describe the picture and relate your thoughts and feelings about it. Discuss your picture and writing with your classmates.
2. Find a passage in a book, magazine, or newspaper that is related to the selection. In writing, summarize the passage and describe how it relates to Brown's essay. Discuss the passage and your writing with your classmates.

Getting Ready to Write

PREWRITING ACTIVITIES

Using the topic *global environmental damage* or another topic from the reading, spend 10 minutes on one of the following prewriting activities: freewriting, clustering, listing, or cubing. (See Appendix C.) Then discuss your prewriting with your classmates.

DISCUSSION AND COMPOSITION QUESTIONS

Choose one or more of the following questions to discuss with your classmates in preparation for writing.

On Peacemaking Issues

1. How is the state of the world environment related to the goal of achieving world peace?
2. What other issues raised in the reading are related to the goal of achieving world peace? How are they related?