FOOD, ENERGY AND ENVIRONMENTAL QUALITY:

The Necessity For Balance

by Richard T. McGuire

During the past several years, we have heard loud voices making more and more demands on society and on the economy on behalf of the environment.

This debate principally is between those who do, and those who do not think we can sustain growth in food and energy production and at the same time preserve the quality of our environment.

Food and energy are requirements for life, and the environment's primary function is to supply the renewable resources of food and energy which sustain life on this planet.

In the long term, when the environment loses, we all lose. Man became the enemy of all that was good.

Food production generally has an annual cycle. The fact that man has been able to increase food production to keep up with population growth is the result of our ability to maximize the production of usable plants, and minimize the growth of undesirable ones.

Fiber for clothing and animals for food have a renewable cycle of one to three years. Lumber, paper and other wood products have a renewable life cycle of 25 to 200 years. Coal, oil and minerals are continuously in the process of being produced. Because their production time is measured in millions of years, our use of them must be assessed by removal rates compared to known supply and the rate of discovery. We also must recognize that their extended use may be preempted by new technology, just as wood was replaced by coal and coal was replaced by oil, etc.

Our environment is both the supplier of the resources we must manage, and the stage on which our management performance is viewed.

Since the beginning of the Industrial Revolution, Western society has witnessed two powerful historical developments moving in tandem: one is a tremendous increase in wealth and in the quality of life in the world's industrialized nations; the other has been the conversion and in some cases the destruction of many natural resources.

During this period, up until about the middle of this century, we were pleased to be able to feed ourselves and provide shelter and transportation and better medical care and more leisure time for an ever-growing population. Very few questions were raised about the environmental costs of what we were doing. Smokestacks were regarded as a sign of progress. Today, we know that this is not always the case.

Since the fall of the Berlin Wall and the granting of greater access to the Soviet Union for Western journalists we have heard reports of terrible pollution of most of the major rivers in Russia and Eastern Europe. The Baltic Sea is damaged, and so forth.

Necessities vs. The Environment

What we have seen, both in our own earlier history and in recent events in Eastern Europe, is that when the very basic necessities of life are placed in competition with the environment, the environment will always lose. Of course, in the long term, when

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Richard T. McGuire is Commissioner of Agriculture and Markets for the State of New York. This paper is based on remarks delivered before the New York State Agricultural Society Annual Meeting, Cornell University, Ithaca, New York, January 3, 1991.

the environment loses, we all lose.

Clearly, the question of environmental quality can never be divorced from the economic needs of a nation, needs which quite often are driven by a rapidly growing population.

The United States has been spared the choices made in the Soviet Union and in many Third World countries between poverty on the one hand and environmental destruction on the other because of our natural material wealth and effective economy.

It is precisely to prevent this dilemma from occurring in the United States, however, that we must begin to think more clearly about the environmental debate going on in the United States and Western Europe.

The Environmental Debate

With the publication of *Silent Spring* in 1962, the question of environmental damage from reckless practices in industry and agriculture was quite correctly thrust on the public consciousness. In less than a decade, sweeping Federal laws were passed to protect air and water quality. In the early stages of this effort, few would deny that as a nation we needed to look at our environment and at our natural resources as limited, precious and worthy of protection.

We are cooperating unwittingly in the destruction of our basic support systems for food and energy production.

As agricultural producers, we had seen the miracles wrought by modern chemistry and biology in the period following World War II. We had seen the benefits of these advances, not only for America but for the rest of the world. We were also sensitive to the needs for conservation and for good management of resources. Like most citizens, I think farmers gave broad support to the needs for husbanding our resources.

In many instances, soil and water conservation efforts were pioneered by farmers. The techniques of contour ploughing, crop rotation and other conservation measures touted today as revolutionary were the creation of ancient and modern farmers and later of the agricultural colleges.

In those first years of the environmental movement, farmers and non-farm environmentalists were natural allies. Then, something went wrong.

Environmental Orthodoxy

Encouraged by broad public support, while gaining success in passing legislation, more radical elements of the environmental movement seemed to assume a kind of moral superiority over the people.

In place of a practical, cost-effective approach which attempted to balance human needs with environmental preservation, some groups began to demand an ideal world where the goal was to return the environment to a pristine, pre-civilization purity. In short, a new "Environmental Orthodoxy" emerged which was possessed of a kind of religious fervor and which, at its base, devalued mankind in favor of nature. Man became the enemy of all that was good.

Given this conviction and high moral purpose, no method of controlling man's activities and aspirations was off limits. Legislation, propaganda, intimidation and threats of world-wide disaster all became legitimate tools in this effort to change the nature of mankind or to suppress it.

David Graber, a National Park Service Biologist, writing in *The Los Angeles Times* expresses this position.

"Human happiness, and certainly human fecundity," he writes, "are not as important as a wild and healthy planet. I know social scientists who remind me that people are part of nature, but it isn't true. Somewhere along the line—at about a billion years ago, maybe half that—we quit the contract and became a cancer. We have become a plague upon ourselves and upon the Earth. It is cosmically unlikely that the developed world will choose to end its orgy of fossil-energy consumption, and the Third World its suicidal consumption of landscape. Until such time as Homo sapiens should decide to rejoin nature, some of us can only hope for the right virus to come along."

Others went to a different extreme and demanded that economic activity pose no risk of any kind to any individual.

Francis S. Blake, General Counsel to the EPA from 1986 to 1988, wrote recently that, "Congress is considering air toxics legislation that would prevent any industrial source from emitting a pollutant that would pose a *hypothetical risk* to a *hypothetical individual* of greater than one in a million increased chance of cancer."

Similarly, we have seen the tolerance standards for residue levels in food move from parts per thousand just a few years ago, to parts per million and now to parts per billion, as testing methods become more sophisticated.

While tolerance levels are a necessary part of food safety, the cost of moving standards from parts per million to parts per billion is huge, and the need to do this in many cases is only theoretical. Money spent on *theoretical* risks is money that will not be spent on real risks and *real* needs like drug abuse, hospital care and education.

Demand for No Risk

What we are seeing, I think, as the New Orthodoxy emerges, is a demand for a society in which there is no risk to anyone and in which all human activity is secondary to what a few individuals regard as being good for the environment.

As with all Orthodoxy, there is no room here for dissenting voices.

If one suggests that it is possible to build safe nuclear power generating facilities and thereby reduce greenhouse gases and acid rain, the response is a barrage of hysterical charges rather than a discussion.

It is heresy to suggest that the food supply is abundant, nutritious and safe. The New Orthodoxy requires that we put an end to all use of pesticides and fertilizers even in the absence of scientific evidence that this is necessary, and even if alternate methods were environmentally destructive.

Solutions

In the April 30, 1990 issue of *The New Republic,* Gregg Easterbrook wrote an article called "Everything You Know About the Environment is Wrong." Mr. Easterbrook recounts the strange tale of Dr. John Todd, an environmental biologist who runs an organi-

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zation called Ocean Arks International.

Dr. Todd discovered that by mixing certain microbes with sewage sludge, the microbes would metabolize and destroy the toxics.

Todd did a pilot project in Providence, Rhode Island, where he was able to produce drinkable water from sewage. He calculated that only 120 acres of reaction tanks would handle all the sewage sludge Providence produces.

Can we assume that the environmental community was solidly behind his effort? No, the New Orthodoxy was unhappy. So unhappy, Todd says, that many of his old friends no longer speak to him. His offense was to discover a solution to a problem associated with modern life and, therefore, to remove an argument against growth and development.

Is this an effort to help disaster happen by offering resistance to every possible solution to our environmental problems? Nuclear energy is clean, but it is roundly discredited by the New Orthodoxy as unsafe. The consequence is that we have very little while France and Germany get almost three fourths of their electric power from nuclear plants.

Ironically, it was this fact that allowed Germany to pledge to cut CO2 emissions by 25 percent and to call on the U.S. to do likewise. Germany doesn't make much CO2. But, cutting the emissions produced in the Ohio Valley alone by 25 percent, presents a tough problem to a country which won't increase its nuclear power capacity.

If we try to build a burn plant to get rid of garbage, protesters appear and intimidate politicians. The press chimes in and soon any hope of an objective discussion is lost. Those protesters who are not concerned simply about real estate values, fear that clean burning will undercut efforts to recycle and reuse everything. Why can't we have a balance of all these efforts?

So much of the action of the New Orthodoxy is designed to (and it may in time) actually create the shortages of food and energy which the New Orthodoxy predicts.

Problems caused by growth should not be corrected by stopping growth but by a willingness to try new methods.

Relevance To Farming

I support environmental preservation and clean air and water, but I am concerned that we are failing, as a society, to carefully examine the agenda which drives the New Orthodoxy, and in our failure to see clearly where this thinking may lead, we are cooperating unwittingly in the destruction of our basic support systems for food and energy production. By extension, we are also placing the environment in greater jeopardy. Shortages will not improve our desire or our ability to protect the environment.

In any Third World country where the principal occupation of the population is searching for food and gathering fuel, people are never free of the most pressing needs of life. Environmental destruction is ubiquitous.

Less than one hundred years ago, 80 percent of the population of the United States was engaged in agriculture. Literally millions of intelligent, active people worked just to feed us. Today, less than 2 percent of the population of the U.S. feeds America and a good part of the world. All other Americans are free to engage in other important activities.

If we accept the view of the New Orthodoxy on farming, we will have to return to a labor intensive, low yield agriculture. If we do this, who will staff the libraries, the factories, the research centers, the day care facilities? What will become of the freedoms and job opportunities so recently won by women and minorities. These freedoms are dependent on certain economic conditions. Yet, during the past year or so we have experienced an absolute barrage of messages, warnings, demands, regulations and legislation relative to American agricultural practices.

Many of the same people who decry the loss of farmlands to development are actively pressing for the loss of farmlands to "improve the environment," either by returning farms to wetlands or by setting them aside as open spaces on which agriculture is either restricted or not allowed.

During debate on the 1990 Farm Bill, broad scale efforts were mounted to severely restrict and even eliminate the use of pesticides in agriculture.

More radical elements of the New Orthodoxy charge that raising animals for food is immoral and threatens our existence because it will destroy the environment.

Cows eat corn and growing corn is bad for the soil, they say. Cows produce methane gas which contributes to global warming. Cows produce waste which will pollute our streams and lakes and groundwater. If we don't give up beef, poultry, eggs, milk, leather, wool, fur and all the other by-products of animal agriculture we will die either of starvation or clogged arteries or burn to death on a super heated globe. We are allowed by the New Orthodoxy to be morally correct only if we eat soybeans, brown rice and seaweed. Welcome to a brave new world where certain people want to legislate not only what we use in farming, but want to legislate what we wear and eat!

Population growth is at the heart of so many of our environmental problems and populations are *exploding* in the Third World while populations are *stable or declining* in the industrialized countries. Ironically, broader industrialization may be the answer to environmental destruction, but who would dare suggest it.

It is apparent that modern farming techniques will save forests, just as improved social conditions slow population growth. A single American farmer using modern farming techniques can feed nearly 200 people. A Third World farmer can feed only his extended family, often after cutting and burning valuable trees to raise a few bushels of corn.

In its simplest terms, the message of the New Orthodoxy is that we must stop burning anything: It is no longer acceptable for mankind to convert matter into energy.

Without adequate energy supplies we could not put tractors in the field, dry the grain, transport foods over long distances, refrigerate food to prevent spoilage. Without the use of food additives we would be limited to those foods which can be sold fresh, generally only those foods which can be produced very close to their final market. In New York State in January, city folks would live on milk, cheese and sausage—or soybeans, brown rice and seaweed.

Deal Carefully

I am not in any way suggesting that we should forget about the environment. What I am saying is that unless we are careful in the ways in which we proceed to deal with our environmental problems, we may find that we can't deal with them at all.

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Necessity for Balance: McGuire

If we adopt policies to address environmental problems which are based on too little information or on unexamined assumptions, or which are driven by moral and intellectual fads, and if those solutions damage our ability to produce food and fuel, we may destroy the very economic base on which we depend for the resources to meet environmental needs.

Many people would argue that we are a long way from doing any real damage to our industrial base. But, there is a concept which we must include in our thinking, that is the "Tip Point."

The Tip Point is that moment when we have so sufficiently restricted our ability to produce that we set in motion a series of events which have a momentum leading to economic deterioration.

The more we weaken our economy, the closer we approach the Tip Point.

Before we get too far down the line in our zeal to save the Earth through restrictive legislation, reduced industry and self imposed shortages, I believe that it is in our best interest to ask ourselves if the solutions being posed by the New Orthodoxy are really the way to save the environment.

Should we give up the advances of science and technology and return to a kind of eighteenth century economy? I think not. And, my reasons are what I stated at the beginning of these remarks: *when the basic necessities of life are placed in direct competition with environmental quality, the environment will always lose.*

The environment does not have to lose. We can have adequate food *and* energy *and* guarantee environmental quality, but we can't do it by rejecting three hundred years of progress. We must look forward for our solutions, not backward. We must have more scientific research, not less. We must apply our research. We must strengthen the world economy, not weaken it. To save the environment, we must place reasonable human needs and aspirations ahead of romantic theories. Problems caused by growth should not be corrected by stopping growth but by a willingness to try new methods in scientific research. Growth is a desirable condition. It leads to new advancements and discoveries and opportunities.

The universe, with all its discovered and yet to be discovered resources, is here to sustain human life, not the other way around. If we keep things in balance, it will continue to do so forever.

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Contest Announcement

CHOICES FOR THE

A COMPETITION sponsored by the American

The American Agricultural Economics Association announces a manuscript competition focused on prospective food, farm, and resource issues.

Winning submissions will be announced at the 1992 Annual Meeting of the Association and be featured in the Third Quarter 1992 issue of *CHOICES*.

Also at that time Five Special Awards will be announced:

- The Best One to Two Page (magazine) Article
- The Best One Page Commentary/Opinion
- The Best Three to Four Page Article
- The Best Humor Piece (including cartoons and illustrations)
- The Best Student Entry (Fulltime student in 1991-92 school year.)

Eligibility: Everyone is eligible to participate in the competition, whether or not they are members of the American Agricultural Economics Association.

Wanted are writers with diverse occupations and backgrounds including those involved in government; industry; rural services, such as communications, health care, education and crop consulting; academia; farming; nonfarm employment in rural areas; and volunteer and other organizations such as farm and environmental groups.

Selection Criteria: Wanted are papers on diverse subjects and of varied length that will appeal to *CHOICES'* readers, the people who make a difference with food, farm and resource issues and related policies. Possible topics include, but are not limited to, food labeling, farm labor, free trade arrangements, agribusiness management strategies, and commodity policy.

Using the criteria listed below, the judging committee will select a mix of papers that, in their judgement, will result in the most outstanding issue of *CHOICES* possible from the contest submissions. The winning papers will make up *CHOICES'* Third Quarter 1992 issue.

Specific characteristics that the judges will consider are:

- *Relevance* of the topic to prospective local, regional, state, national or international food, farm, or resource issues and related policies. The word resources is interpreted broadly to include human, community, cultural, financial, and institutional resources, as well as natural (including environmental) resources.
- *Readability.*
- *Focus on 21st Century.*
- *Attention to controversy.*
- *Novel and unconventional* approaches.
- *Appeal to wide audience* including non-farm, non-campus, and non-government.

Judging Committee: Selection of winners will be made by a special committee appointed by the President of the American Agricultural Economics Association. Members will be drawn from industry, organizations, government, and academia.

Format: Submissions may be of any length up to 3200 words. Longer papers will not be considered. Short papers—800 words—are encouraged.

Commissioner McGuire's Response to Professor Bromley

A careful reading of Professor Bromley's paper leads me to conclude that there are two primary ideas for which he wishes to argue in the context of "Technology, Technical Change, and Public Policy."

"There is," he writes, "a clear *collective interest* (emphasis added) in which new inventions are allowed to become part of normal economic life, regardless of the severe problems in knowing precisely how to operationalize this idea." I understand this sentence to mean that the public should be a party to deciding which new pieces of technology will be allowed into the economy, if they are allowed in at all. Professor Bromley holds this as a value even though he has apparently not solved the knotty problem of just how to do it, or how to "operationalize the idea," as he puts it.

The second point in his paper, as I read it, is that certain "critics" of agricultural research have caused that research to become "extremely politicized" and the proper response to this situation is for "the agricultural research establishment to admit the *collective interest* in the nature and scope of its activities, and take steps to incorporate those interests into its research agenda." Unless this is done, Professor Bromley worries, public funding of agricultural research will dry up.

My view is that technology in itself is neither good nor bad. It is only in how and where we use technology that it becomes socially and economically useful or harmful. More commonly, it is a mixture of the two, favoring certain interests to the harm of others. An example from Professor Bromley's paper serves my point. "It is naive," he writes "to assume that all human creations are socially advantageous—nuclear bombs and opium (even rock music) come immediately to mind." Opium is the base from which we derive the commonly used, useful and effective pain killers morphine and codeine. These two drugs have relieved and continue to relieve untold human suffering.

Nuclear bombs are not nice things, but the technology which makes them possible is the same technology that has allowed enormous advances in modern medicine, including effective treatment for cancer. Rock music is a matter of taste, I suppose, although I would not vote to erase all the Beatles' tapes just because an awful lot of people would think that was in itself barbaric. In other words, opium is bad for the addict, nuclear bombs are bad for our health, and rock music is a pain when we are forced to listen.

Nuclear bombs are not nice things, but the technology which makes them possible is the same technology that has allowed enormous advances in modern medicine, including effective treatment for cancer.

But, if we put all the opium addicts and all the victims of nuclear bombs together, and stir in all the annoyance of rock music, the harm done would never justify giving up the good we have realized from the possession of this knowledge. I am prepared to assert that morphine alone, once used in operating rooms and used today on battlefields and to comfort terminal cancer patients, has contributed more to human well-being than opium ever took away. It is very hard to have it one way. The good comes with the bad, and it is up to us to manage it. That is the question Professor Bromley finds difficult. He is right. It is difficult—probably too difficult—for any formal process that we might establish.

Research objectives and priorities will always be "politicized" because knowledge is power and research changes the way we do things. Look at the controversy currently swirling around AIDS research. Debate is a good thing and a healthy thing. I disagree with Professor Bromley that debate surrounding agricultural research is dangerous to public funding. We are not debating whether agricultural research should be funded, but which research should receive our dollars.

In any case, *technology is no more than the material expression of an idea*, and we have pretty much come to agreement as a society that ideas are not easily suppressed. We have also agreed, I believe, that the social control necessary to suppress ideas does far more harm than the idea itself could ever do. Again, I suspect this is why Professor Bromley finds the problem of "who will decide and how" to be a difficult problem. The current lag in approving new drugs in an effort to ensure their safety and proper use is only marginally successful, and that process does not attempt to take into account anything except the factor of human safety. If we had been asked to decide, in advance, whether the introduction of penicillin into everyday medicine was economically beneficial to all parties, we would still be fighting over the question. Who would have the right to manufacture the drug? Who would prescribe it and when? Would the Erie Canal ever have been approved if its construction had required an Environmental Impact Statement?

Life is not now and never will be free of physical and economic risks.

The fact is that we already have in place a very good mechanism for making social and economic judgments about the introduction of new technology. No, we don't leave it up to a single board of experts (would they be professors or politicians or ordinary citizens acting like a Grand Jury). We don't take a vote on it either. We argue about it, just as we are currently arguing about BST. And however that argument is resolved, there will be winners and losers. There will also be foreign competition.

We deal with these things to some degree politically, as in "politicize," and that is not entirely bad. When one considers the enormous amount of technology that has entered our society in the past hundred years, one must conclude that we have made very few mistakes. And, even if we had decided to suppress the nuclear bomb, what makes anyone think that the rest of the world would have followed our good example. The so-called "disasters" of Three Mile Island and Love Canal were mistakes of management, public trust and ethics. If Professor Bromley is wishing for a more moral, better managed society, I join him in wishing. But, putting the goals of agricultural research up to a vote to decide ahead of time about the economic consequences just won't work. The "collective interest" will be served in the long run, but the process will never be as neat as some people would like it.