# Enhancing Quality of Life in the New Economy[1]

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Addressing a title like "Enhancing Quality of Life in the New Economy," requires that we do some background thinking about the terms we are using. What is the "New Economy," anyway? And how should we define "Quality of Life?" On both counts, I'm sure there are about as many different ideas as there are people, so it seems best to explore what we mean before we begin to make any attempts to outline strategies for the future.

Since this is a conference that focuses largely on natural resources and their conservation in a setting that is dominated by agriculture, we'll try to bring these ideas into that focus. But we need to recognize that neither agriculture nor natural resource management operates in a vacuum. Instead, we operate as one small part of the greater whole, and it is that whole that will establish the context for how the future may unfold.

Let's start with the idea of a "new economy." Maybe it would be even better to back up and look at what we mean by the word "economy." Is the economy some fixed way of doing things that dictates how you and I operate our lives or businesses? Is it a system that has been created intentionally, and imposed on us? I don't think so.

Instead, I believe the idea of an economy is a fluid, ever-changing concept that reflects our observations about how things are happening among people. In other words, it is what all of us are doing that creates the economic system within which we work. It reminds me of the old Pogo saying: "we have met the enemy, and he is us."

But the way in which people have been doing things has been changing dramatically in the past few years. So, of course, the economy has been changing rapidly as well. That brings us to the idea of a "new economy," and suggests that today's economy is new compared to a year ago. We know that to be true. Anyone who thinks differently ought to look at their retirement fund's changes since September 11. So we can look at where the economy seems to be today, compared to where it was only a few years ago, and get many ideas about the speed and direction of the major changes under way. Among those recent trends that seem important in shaping the economy are:

- Continued growth in world populations. Today's 6 billion humans could grow to 10 billion by 2050, according to current projections. This is so much higher than any previous human population on this planet that we can only guess at the implications. And many of those implications have to do with the pressure on natural resources, as well as impacts on agriculture.
- An explosive growth in the development, sharing, and use of information as a resource. Closed societies find it harder and harder to control the information reaching their people. And often, when people see how badly their systems are functioning compared to other places in the world, the result is political upheaval and dramatic change. A recent example

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was the fall of the Iron Curtain, where the penetration of radio, television, videotapes, faxes, and emails brought an end to repressive, ineffective, centrally-controlled governments. Resource managers can obtain and use information from a variety of sources that seem to be growing exponentially.

- More porous boundaries between nations. As information flows more freely, so do goods and people. Trade and travel between regions and nations expands. The globalization of the economy is a natural outcome of this increased flow. Whether that outcome is good or bad depends on which aspects you choose to discuss, and there are many aspects.
- Nationalism fades. As national borders become less of a barrier, national identity becomes less distinct, and people begin to think and act more like their counterparts elsewhere. This week, people all over Europe are using a common currency, which will bring them closer together in many ways. If you go to Europe today, you can drive virtually anywhere without seeing a border guard or being asked for your passport. That has happened in 20 years or less.

In the midst of these changes, there are factors and trends that seem out of place. For example, one would think that an accelerated flow of information, goods, money, and people across the world would result in a gradual leveling of people's wealth, but instead the opposite has occurred. The gap between rich and poor has widened; in many parts of the world today, there is no "middle class," only very rich and very poor. How can this continue? And will it? That is one of the questions that seems most critical as we think about a "new economy."

Just as important as the growing wealth gap may be the education gap. While we argue about school vouchers and standardized testing as ways of addressing the education gap in the U.S., there are many parts of the world where public education is non existent. We are only recently realizing the extent of the problems created when a society has little or no public education, but relies on religious institutions based on medieval concepts that do not educate women at all, while teaching boys and men that it is their holy duty to wage war against people who do not share their religious beliefs. What we currently call a war on terror will have to face legions of new enemy warriors until this educational gap can be overcome.

The ability of governments to create (and possibly employ) weapons of mass destruction that emerged in the 20th Century is a legacy that will be difficult to manage in the face of weakened nation-states, increased flows of information, goods and people around the world, and the explosive anger in the people and cultures who fear modernization. When only a few governments held these weapons, it was possible to work through negotiations at the political level to prevent rash military action. When those same weapons get scattered widely among disaffected people, and lost in the avalanche of goods moving around the world, political action is no longer effective, and the threats become virtually impossible to control.

The current inability to find the source of the anthrax that has killed several people, sickened more, frightened thousands, and shut down major public facilities in Washington for over two months is a preliminary indication of just how difficult this situation may become. Even if that person or group is tracked down, finding them will have been the work of hundreds of law enforcement people at untold cost and effort, in addition to the enormous costs that have been already incurred as a result of the damage caused. And finding that source may or may not do much to defuse dozens of other potential threats. So far, about all it has done is spawn dozens of

hoaxes, which impose their own costs on the system.

Let's switch now, to talk about a more positive subject – the quality of life. Its pretty hard to talk about enhancing it until we define what we are thinking about. If you are a wealthy American living in the midst of all your creature comforts, your idea of enhancing your quality of life may include things like an environment free of pollution or toxic chemicals, abundant recreational opportunities, and beautiful scenic vistas within reach when you desire. If you are an Afgani or an African, or a rural Mexican, enhanced quality of life may mean a job that provides enough income for food for your family, or a safe home, or drinking water that doesn't carry germs that kill your kids.

Those problems of poverty used to sound far away, and of little concern to Americans. But we've just been discussing the changes that will mark the future, and as those come about, the problems of starving people anywhere will increasingly impact people everywhere. Because when people learn about better opportunities elsewhere, and have the ability to move, they move. And where do they go? They move toward opportunity and wealth. Always have. That won't change, except to accelerate.

According to the Organization for Economic Cooperation and Development, the workforce in Brussels, home of the European Union, is almost 27 percent foreign-born. In London, the estimate is 23 percent, and in the United States, about 11 percent of today's workforce was borne outside of the country. There is no reason to think those numbers will go down, and a lot of evidence to suggest they will continue to rise.

What all this suggests is that the quality of life in the new economy will be defined by a people from very different backgrounds than you or I have experienced. It will also, it would appear, be perceived in the context of more and faster flows of information, goods, money and people around the world, with less and less attention to national borders and policies. That suggests that our definition of quality of life will increasingly become a global understanding, that makes it increasingly difficult for rich people to live in a well-protected environment while poor people live in an environment that has been damaged beyond repair.

The bottom line seems to be that, for the average American, the future may require us to re-think the idea of quality of life. For the past 30 years, we've moved aggressively to set parts of our environment aside, to protect it from human activity, or preserve it in some semblance of an untouched state. While those are widely heralded achievements, and probably continue to enjoy widespread support today, they are not achieved without giving up some opportunities to provide food and fiber for people's needs. One fact is that we import huge amounts of energy, minerals, timber products, and other essential needs. Our balance of payments is hugely negative, and has been for decades. The question becomes, can we continue to meet the needs of our people without using more of our own of those resources?

Maybe more importantly, should we? Is it moral to lock up our forests, mineral resources, and oil fields, then continue to consume huge quantities of materials and send the problems of producing them to some other part of the world? If we think globally, as the new economy is increasingly pushing us to do, is it right to protect our environment only to ruin the environment of countries that have little or no protections for the environment, or for human health and safety?

If that is not a moral or appropriate approach, as I would argue, we are then faced with finding methods of meeting people's needs in an environmentally responsible way. How will we

do that?

One approach, it seems to me, is already emerging as new technologies and methods help us learn more about producing crops and extracting the resources people need while maintaining or even improving the quality and resiliency of the land and water resources that are the foundation of that production.

Can we produce more, provide for more people, and still maintain a sustainable natural resource base? The scientific evidence today suggests that not only is that possible, but that it is already happening. Not everywhere, but in many places. And the transition is nowhere near complete. A great deal more change is essential. Those changes will, in many cases, be easily recognizable by those who have spent their life around agriculture, or been involved in the evolution of the soil and water conservation program. In some ways, they will be a continuation of the ideas that have grown up over recent decades. In other ways, they may require new thinking, new methods, new machinery.

But none of that should come as much of a surprise. Look at what you work with today compared to what your parents worked with in 1970. No comparison, is there? Your children and grandchildren will work with ideas, capabilities, methods and machines that are as different from yours as yours are from those of your parents. Let's look at what some of those might be.

The energy and materials from fossil and petroleum fuels drives most of our technology today. That technology emerged in only 100 years. We entered the last Century using horses and oxen as the power source for most of agriculture and forestry, and today are almost 100% driven by petroleum. Not only the machines, but much of today's fertilizer and pesticide are derived from petroleum. And petroleum is a nonrenewable resource. While the end of the supply does not seem imminent, it is inevitable. Each barrel of oil comes from a deeper well, or a more remote site, and it gets more expensive. Most forecasts suggest that the prices will begin to climb sometime in the next couple of decades, in response to that depletion schedule.

Clearly, that will spell changes in agriculture and resource use. Some of those changes may provide opportunity for land management. As petroleum supplies begin to dwindle, the gap can be filled with biomass. We know how to grow fuel crops as part of our land management and agricultural systems. The problem is that petroleum is still cheaper as a fuel source, so biomass fuels find it hard to compete. But that will change, in two ways. First, it is already changing as research and development creates improved ways to convert crops, crop wastes, and wood into liquid fuels. Those biofuels are close to economically competitive now, and research continues to improve the processes. Secondly, petroleum prices will increase as we pass through the half-way point of the available supply. The combination of more efficient production and rising prices will make biomass an increasingly attractive energy source and, as that occurs, the opportunity for growing energy as an economic farm and forest crop will improve.

In addition to using biomass for liquid fuels, it can also be used to generate electricity. Most of today's new generating capacity comes from natural gas, which is currently in abundant supply. Most of the new generating capacity in 50 years is likely to come from other sources, many of them renewable. That will include solar energy and biomass, in all likelihood, and maybe additional sources like hydrogen if those technical breakthroughs occur. But there is no need for a technical breakthrough to generate electricity from biomass. The technology is available, and is increasingly in use today.

In addition, there is simply no question that these crops can be grown without depleting

the soil and water resources upon which they depend. In spite of what emerges in the scare story media at times, these crops can be well adapted to effective soil and water conservation systems. In fact, their emergence may do as much or more to support a sustainable agriculture as any one single change. The main threat to sustainability today, in my view, is not the sustainability of the resource base. It is economic sustainability. Any business that's losing money is not sustainable. And a farm that must buy increasingly expensive inputs while selling a limited range of export-bound crops at the lowest price on the world market is losing money.

It may well be, in the increasingly global markets we face, that the price of those export crops will never increase rapidly enough to cover increasing costs. If that's the scenario, then the only sustainable course is to cut back on the cost of the inputs, and broaden the range of crops grown. Cost cutting has been a main driver in the growth of conservation tillage and integrated pest management. Today's farmers are keenly conscious of the need to cut costs in any way possible. Another possibility is for farms to grow energy as a new crop. There are lots of examples today involving corn for ethanol, switchgrass for fuel, and fast-growing trees grown for wood fuel. There are many more possibilities that are likely to unfold as we continue to seek ways of achieving sustainable agricultural strategies.

Let me switch to the subject of forestry for a minute. There's a popular notion that the forests of the United States are declining in area, and being ruined by today's forestry methods for the benefit of big corporations. It may be popular, but its simply not true.

According to the National Resource Inventories, we lost about 2 million acres of non-federal forest between 1992 and 1997, with about half of that going into development. On the other side of the ledger, about 2.3 million acres were converted into new forests, with over half coming from former pasture land. Between 1982 and 1997, the total non-federal forest land held almost steady, at about 399 million acres.

On the Nation's timberlands – those lands that are in forest, but not parks, wilderness areas, or other reserves – growth has exceeded harvest since 1952, according to periodic Forest Service surveys. We continue today to grow more wood than we harvest, in spite of the fact that population, consumption, housing, and paper use have all risen significantly.

How can we harvest more and still have more, on a land base that is essentially stable? The answers, as they are in agriculture, lie in the advances in information, technology, and methods that we use. Compared to only 20 years ago, nothing is the same.

On land that my company manages in eastern Maryland, the geographic information system in our computer carries a wealth of information about every piece of property, and every forest stand. We know where to send a forester to look for problems, or opportunities. We can lay out a thinning and harvest schedule for an entire year or two, and look for the most efficient ways to move people and machines.

Out in the woods, harvesters on wide tires create less soil compaction than a man's foot, and far less than if harvesting were done by horses. The operator sits in the safety of a cab, reaches out and grabs a tree, cuts it off at the ground, and gently lays it down to prevent breakage. When a pile is ready, another machine lifts and carries or skids them to the landing. The damage to the remaining trees, either from the felling or skidding, is non-existent, so we can thin these stands to retain healthy, fast-growing conditions while producing income for the owner, wood for the forest products industry, and better, healthier forest as a result. In one form or another, those methods are increasingly common in U.S. forests.

At the same time, stream bottom soils are protected for both water quality and wildlife habitat. With the GIS system and a modern soil survey, we accurately map out riparian areas and other sensitive soils so they can be managed to maintain their important environmental values. The result is a few less acres in high-intensity forest management, but very little difference in the amount of wood produced, because concentrating management investments away from sensitive or marginal production sites means lower costs and higher yields on the good production sites.

I know this sounds pollyanna-ish to many people, who insist that economic production and environmental protection cannot co-exist. Our answer to that, as people involved in the daily work of managing farm and forest lands, must be to do everything possible to get those people out to see for themselves. They are not going to read the data reports. They are going to read the scare stories in the media. So the chances of them understanding what is really happening are fairly low.

And they are not going to believe us when we tell them about the good things that are happening. They will have to see for themselves.

That is why, in the Sustainable Forestry Initiative (SFI) program, which now encompasses over 100 million acres of industrial and public forests in the U.S. and Canada, and the American Tree Farm System, which covers an additional 40 million acres of non-industry lands, the welcome mat is always out. We particularly welcome the environmental critics, because if they spot something wrong, somebody needs to know about it and fix it. Its not what we say that matters, its what we do on the land. Its not 100% perfect, but we can constantly improve, particularly if our critics keep up the pressure for improvement.

Something like the SFI program needs to emerge in American agriculture, as well. Conservation districts could take the lead in establishing a set of standards that would assure sustainable agricultural production under local conditions. Those landowners willing to sign up with conservation districts to be the community leaders in meeting those standards ought to become more widely recognized in a public that continues to grow more urban and disconnected from the land.

These are some ways, in my view, that we can manage farm and forest lands into an increasingly high-pressure, high-demand global market that is simultaneously demanding that the basic production environment be protected and sustained for future productivity. Those who hold the stewardship of these vital lands have an enormous responsibility, but also a marvelous array of tools, information, methods, and machines to do what is needed.

We must convincingly demonstrate our ability to manage farm and forest lands sustainably to the American public, and win their approval and support. Only then will the contribution of America's farmers, ranchers, and foresters to a higher quality of life in the face of the new economy continue to grow.