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Abstract

This essay contends that mutual wealth in rural America, particularly related to the use of land and other natural resources, has undergone three major paradigm shifts in the last 500 years, and may be at the threshold of a fourth. First, from the early 1500s to about 1800, European diseases and conquest destroyed the elaborate management systems for agriculture, forests, game, and other natural resources developed by North American Indians. Second, from the early 1500s to the early 1900s, European and white American settlers, induced by offers of land, repopulated the continent primarily with small and medium-sized farms and ranches. Third, beginning in the late 1800s, farmers revolted against low prices and high costs of production. A consequence of this revolt was the emergence of the rural cooperative movement in the United States, but a continuation of fragmented rural landownership. Fourth, largely as a result of increased productivity, the size of the farm population in the United States dropped dramatically in the 20th century. Especially in the past quarter century, there has been an emerging trend to manage land and other natural resources for the long-term. The essay concludes by noting the similarities and differences between the pre-colonial land ethic and the emerging one; and by identifying several public and private trends that are contributing to the current paradigm shift.

Introduction

This essay presents four paradigms and the shifts between these paradigms that have defined mutual and private wealth in rural America from pre-colonial times to the present. It also draws lessons from these paradigm shifts to be applied to mutual wealth building in rural communities in the future. The essay is part of the "Wealth Building in America" project of the Center of Social Development, Washington University in St. Louis.

In the essay, wealth refers both to natural resources (land, water, plants, animals, minerals, climate, etc.) and to value-added assets developed by people (cultivated land, domesticated plants and animals, clothing, buildings, tools, knowledge, skills, etc.). Mutual wealth refers to natural and human-made resources that are controlled, owned or used by a broad society or community. Private wealth refers to assets that are controlled or owned by an individual, family or other group with restricted membership who are the primary beneficiaries of these resources. Note that in this definition mutual and private wealth are treated as points on a continuum rather than as an "either-or" distinction. Land or another resource can be privately owned and simultaneously be used to provide broad, mutual benefits. On the other hand, publicly owned resources can be exploited for the primary benefit of private special interest groups.

A **paradigm** is a model or pattern of behavior. In this essay, **America** usually refers to the 48 contiguous states in the continental United States – or the geographical area that became those states.

The paradigms presented and analyzed in the essay are:

- 1. **Pre-colonial, sustainable land management:** Socially coordinated natural resource management intended to meet short-term, mutual economic needs and to provide for long-term, mutual wealth accumulation.
- 2. Fragmented, private land ownership in a laissez-faire market economy -- 15001910: Private, small-scale natural resource management intended to meet short-term,
 private economic needs and to provide for long-term, private wealth accumulation.
- 3. Fragmented, private land ownership in a regulated market economy -- 1910-2000:

 Fragmented natural resource management combined with coordinated political and economic activities intended to meet short-term, private economic needs; and to provide for long-term, private and mutual wealth accumulation.
- 4. Reemergence of sustainable land management -- early 21st century: Socially coordinated natural resource management intended to meet short-term, private and mutual economic needs; and to provide for long-term, private and mutual wealth accumulation.

It is important to note that this essay is not intended to be a comprehensive history of rural America. Instead, it describes and analyzes the broad patterns that have characterized the use and misuse of rural wealth in America over the past 500 years and draws lessons that can be applied to rural wealth management in the future. A list of the major references used in preparing the essay is presented at the end of the document.

Paradigm 1. Pre-colonial, sustainable land management

Socially coordinated natural resource management intended to meet short-term, mutual economic needs and to provide for long-term, mutual wealth accumulation.

During the past three decades, there has been a radical change in the way scholars perceive pre-colonial life in America. Old school archeologists, anthropologists and historians would have us believe that there were a relatively small number of indigenous people, that they led simple lives as small scale farmers and nomadic hunters and gatherers, and that they had a minor impact on their physical environment.

Many scholars today are painting a very different picture. They contend that there were about 10 million inhabitants in America, what is now the 48 contiguous states, in 1500, not the 1 million or so estimated previously. They make the case that agriculture was sophisticated and widespread, especially east of the Mississippi River. Furthermore, they maintain that Indians had been extensively managing the land for hundreds if not thousands of years using fire as a primary means to clear agricultural land, manage game, reduce the insect population, facilitate travel, and provide protection against enemies (See for example, Cook, 1998; Cronon, 2003; Mann, 2002; Thornton 1987).

What brought about this dramatic change in perspective? The "new generation" scholars cite a combination of factors ranging from a reanalysis of historical records kept by early explorers to archeological data indicating large population centers and advanced agricultural systems to epidemiological and demographic analyses indicating a catastrophic, continent-wide decline in the Indian population beginning in the early 1500s.

In the eastern woodlands area, which extends from the Atlantic Ocean to the Mississippi River, early explorers report that there were many large villages whose inhabitants were accomplished farmers. Corn, beans, squash, potatoes, and cotton were some of the staple crops. (An estimated 60% of the value of today's agricultural products in the United States is derived from plants grown by pre-colonial Indians.) At least in some tribal groups, agriculture was a

communal rather than a family-based enterprise. Fixed agricultural settlements were also common in the southwest (e.g., the Anasazi in southwestern Colorado) and along river valleys west of the Mississippi. In the Great Plains area, the Rocky Mountain area, and the northern part of the continent, tribes were generally semi-nomadic, migrating from one location to another depending on the season of the year; for example, moving from an agricultural area, to a fishing site to hunting grounds. In the northwest with its abundance of fish, shellfish, game, edible plants, forests, and its mild climate, people lived in permanent wooden structures during the winter and temporary structures near food sources the rest of the year.

The concept of natural resource ownership as we know it today was non-existent before the arrival of Europeans. Families, villages, and tribes had "use rights" to land and other natural resources rather than the right to buy and sell them or pass them from one generation to the next. That is not to say that there was an idyllic relationship between Indians and the land and among different Indian groups. Conflicts occurred as a result of population pressures and competition over prized resources such as good agricultural land, fishing and hunting areas, and mineral resources.

Even ownership of human-made assets was generally based on use value rather than our contemporary concept of ownership. People did not accumulate wealth and pass it on to their children. Because of their semi-nomadic lifestyle, many Indian people limited what they owned to what they could carry on their backs or what their dogs could pull behind them on travois. (Remember, Europeans didn't introduce horses to the Americas until the 1500s.) The "potlatch" tradition among northwest Indians provides a good example of a non-European approach to wealth. In this tradition, village leaders who had accumulated assets would periodically

distribute them as gifts during festive gatherings. Prestige was associated more with how much a leader gave away than how much he had accumulated.

The arrival of Europeans in America rapidly and radically disrupted the lives of indigenous people across the continent. This was the case despite the fact that direct European contact with Indians was very limited for several hundred years.

The Spanish conquistadors explored, but did not settle in, the southern United States in the first half of the 16th century. St. Augustine, FL became the first European settlement in North America in 1565. Jamestown, VA was founded in 1607; Quebec City in 1608; Santa Fe, NM in 1610; New Amsterdam (rechristened New York by the British) in 1624; and the Massachusetts Bay Colony in 1630. The Spanish did not establish the San Diego mission until 1769.

Thus, almost 150 years after the "discovery" of North America, only a few colonies dotted the eastern shores, southeastern Canada, and the Mexican border. The sparse European presence west of the Appalachians was to continue until the early 1800s and beyond the Mississippi River until the second half of the 19th century. In the mid-1840s only a few hundred people lived in San Francisco. It was not until the Gold Rush of 1848 that rapid western expansion began.

Despite the limited direct contact between Europeans and Indians in the first 300 years of colonization, the consequences of European presence on the continent were enormous and, for the indigenous population, deadly. As is well documented, the biggest impact was from wave after wave of diseases imported from Europe and Africa. Some historians estimate that the indigenous population in North America declined from about 10 million in 1500 to one million or less by 1800, a population decline of 90%. (According to the U.S. Census, the American

Indian population continued to decline to about 240,000 in 1900 before it began to rise again, reaching about 4 million, including combinations with other races, in 2000.) Most of this horrifically high mortality rate can be attributed to smallpox, measles, and other diseases against which Indians had no immunity. The plagues that decimated native communities often preceded the arrival of Europeans by decades or even centuries, carried from village to village by afflicted Indians. There are numerous accounts from early explorers along the East Coast, the Mississippi River basin, and the Northwest coast describing well-populated, healthy communities with thriving economies. These are followed by later reports of abandoned villages and sparse populations in the same areas 50, 100, or 200 years later.

Disease was not the only cause of the near-eradication of American Indians. Warfare, massacres, and starvation resulting from forced removals took their toll as well. Many deaths occurred in conflicts among Indians as tribes allied themselves with the British, French, or, later, with the Americans. Also, eastern tribes were pushed west by settlers and, in turn, fought with other tribes they encountered. This push to the west created a domino effect that caused or exacerbated conflicts among Indian groups across the continent. However, despite all of the deaths resulting from physical confrontation, disease was by far the primary killer.

Thus, the "wilderness" encountered by white settlers bore no resemblance to the managed environment maintained for centuries by pre-colonial Indians. Agricultural lands and hunting grounds had been transformed to almost impenetrable forests in some areas; thriving villages were gone; only small remnants of Indian communities remained. Settlers thought that they had discovered a mostly "virgin" land when, in fact, their own imported diseases had cleared the land of its inhabitants ahead of their arrival.

When the population of American Indians plummeted, they were no longer able to maintain the managed ecosystems they had created. Ecologists use the term "keystone species" as one that "affects the survival and abundance of many species." Indians played that role in North America. When Indian cultures were virtually wiped out, the ecosystems they managed changed radically as well; not just agricultural and forest land, but other plant, animal, and bird populations as well. Some researchers present evidence that the number of bison sextupled as a result of the Indian population decline. Others contend that the gigantic flocks of carrier pigeons in the 1800s and their susceptibility to extinction were a consequence of the loss of Indians as the "keystone species" in the previous century.

In summary, there were a large number of pre-colonial inhabitants of the United States.

They were skilled farmers, hunters, fishers, and managers of their physical environment. Many

Indian cultures viewed natural and human-made wealth as mutual resources, shared by members of the community.

The arrival of Europeans was catastrophic for the indigenous people throughout the Americas. Even before direct contact with Europeans, millions of Indians lost their lives from European and African diseases. Pre-colonial cultures and economies were destroyed. Millions of acres of managed farmland, forestland, and grassland were transformed to a wild state. The mutual wealth that these managed resources represented was lost.

Many Europeans viewed the destruction of the native populations as "a gift from Providence" and the vast areas in which Indian people had been virtually eradicated by disease as a "virgin" wilderness well suited to agricultural settlement. The perception of these settlers and even of most scholars until very recently was that America had always been a wilderness and

that Indians had only a marginal impact on their surroundings. The role of Indians as sophisticated, sustainable managers of their environment is only now coming to light.

Paradigm 2. Fragmented, private land ownership in a laissez faire market economy, 1500-1910

Fragmented natural resource management intended to meet short-term, private economic needs and provide for long-term, private wealth accumulation.

One can view crown land during the colonial period and state and federal land after

Independence as forms of mutual wealth. There are similar patterns in the way these lands -- and
the plant, animal, and mineral resources that went with them -- were divided up as more and
more Europeans immigrated to America. This section of the essay recounts some of the key
issues and events in the disposition of this mutually owned land.

Companies operating under royal charters carried out virtually all of the early European exploration, trading, and settlement in North America. The London Company established Jamestown and other settlements in Virginia in the early 1600s. In 1627, the King of France granted a monopoly to the Company of 100 Associates over the fur trade in all of New France (Acadia, Quebec, Newfoundland, and the Louisiana Territory). The Massachusetts Bay Company founded Boston and nearby communities beginning in 1629.

These royal charters gave the companies contractual rights to land and other resources in certain geographical areas for specified periods of time. Under these contracts, the companies allocated land to settlers, often on a rent-free basis, as an incentive to encourage immigration. However, during the period of these charters, the land continued to belong to the crown. After the charters ended, the various territories controlled by companies became colonies directly

administered by governors appointed by the King (See, for example Craven, 1957; Hutchinson, 1936).

Although there were some large land grants to specific individuals, the English colonies and New France generally allocated parcels of land to settlers on a fairly equal basis for the purpose of farming.

The question of how crown land became private property is a complex one. What we take for granted today as private property rights evolved over several hundred years as Europe, and (by extension, the North American colonies) shifted its economic and political base from feudalism to capitalism. This transition took place at the same time that the colonies were developing.

The short answer to the question is that small farmsteads started out with use rights rather than ownership rights during the charter company period, and then gradually shifted toward what we would consider private property rights during colonial rule and after Independence. In part, this process was a contentious one in which settlers demanded and fought for their property rights. In part, the transition was a pragmatic one, because the companies and the colonial powers wanted to encourage immigration. In fact, the flow of immigrants to the "new world" was directly affected by the promise of farmland.

Thomas Jefferson, who was a staunch advocate of an agrarian republic of independent farmers, was elected President of the United States in 1800. The Louisiana Purchase was made during his presidency. With this purchase from France, the United States doubled its size by acquiring all of the land from the Mississippi River to the Rocky Mountains. This acquisition created a vast opportunity for land settlement based on the model of independent farmers espoused by Jefferson (See for example, Banning, 1978; Cunningham, 1978).

In 1790, the first U.S. Census reported a population of a little less than 4 million people in 12 states (Georgia was not included). Over 3.5 million people or about 90% of the total population were categorized as farmers. Even though there were some large plantations in the South based on slave labor, the large majority of these farmers were small-scale landowners.

Using the promise of farmland to entice European immigrants to the United States and residents in the eastern states to move west continued and accelerated after Independence. By 1850, the population of the country had mushroomed to over 23 million and the number of farmers to almost 12 million.

It is important to note that these population and farming statistics were collected before the passage of the Homestead Act of 1862. This piece of legislation opened up the West for white settlers. The primary incentive offered by the Homestead Act was to provide 160 acres of free land to each farm family. By 1900, the population of the United States had soared to almost 80 million and the farm population to over 29 million. There were almost 6 million farms in 1900 with an average size of almost 150 acres. (Most of this demographic information is on the U.S. Census website: http://www.census.gov/)

In reviewing land policy during the charter company period, the period of direct colonial rule by England, the early years after Independence, and the post-civil war period, one key point

stands out. In order to encourage land settlement during all of these periods, land was provided to small-scale farmers on a relatively egalitarian basis. This allocation of crown, state, and federal land over a period of 400 years was one of the most dramatic redistributions of land in human history. The farm population of European origin in America increased from zero to about 30 million during this time (See, for example, Agriculture in the Classroom, 2005).

This phenomenon needs to be understood in the context of the depopulation of the indigenous inhabitants of the Americas that preceded and accompanied the arrival and westward expansion of white settlers. Without the killing off and displacement of about 10 million Indians, the United States could not have been parceled up into almost 6 million farms and ranches by 1900.

This transfer of land to small and medium-sized farmers brought about a new paradigm of rural wealth and land management in America. For the most part, land and natural resource management became privatized. Millions of landowners owned and managed their land and resources independently of one another. This represented a relatively egalitarian distribution of rural wealth. However, this laissez-faire approach to land and resource management also created economic and environmental chaos, which is discussed in the next section of the essay.

Paradigm 3. Fragmented, private land ownership in a regulated market economy, 1910-2000

Fragmented natural resource management combined with coordinated political and economic activities intended to meet short-term, private economic needs; and to provide for long-term private and mutual wealth accumulation.

The distribution of agricultural land during the colonial period, from Independence through the Civil War, and as a result of the Homestead Act, created a formidable class of farmers across the continent. However, until the last quarter of the 19th century, farmers did not work together on a significant scale to promote their common interests (Knapp, 1969).

Two interrelated factors compelled farmers to join forces in the political and economic arenas. One of these was the growth in the farm population itself and an increasing orientation away from subsistence farming and toward commercial farming. Farmers increased their productive capacity by cultivating more acres and raising more livestock and by adapting new technologies and practices that raised their efficiency. As a result, they often generated surpluses of agricultural products in the marketplace that drove down producer prices. This increasing volume of farm production created havoc for farmers resulting in a series of agricultural crises in the 1800s. Low prices meant that many farmers lost money on their crop and livestock sales. Many could not repay farm loans or afford the cost of agricultural inputs, resulting in economic hardship and bankruptcies.

Another major factor in bringing farmers together was the distortions in the marketplace resulting from the increasing concentration of economic power in the hands of a small number of corporations. Monopoly or oligopoly control of agricultural finance, farm insurance, railroad transportation, the manufacture of agricultural equipment and supplies, and the marketing of food and other agricultural outputs contributed to the high costs and low returns for farmers.

The agrarian populist movement was grounded in resentment over the difficulties in making a living in farming and a campaign for fairer economic treatment. The farmers' revolt had a political dimension aimed at electing candidates sympathetic to farmers' issues and creating a positive legislative environment for them. It also had an economic dimension based

on creating cooperatives and other farmer-controlled businesses intended to address farmers' needs that weren't being met in the trust-dominated marketplace.

There were thousands of attempts across rural areas of America in the latter half of the 1800s to create viable enterprises that would give farmers and other rural people more control over their economic lives. Most of these efforts failed, largely because of their lack of business sophistication and because of the entrenched corporations they were up against, corporations that often had the covert and overt support of political leaders.

Gradually, however, workable cooperative models began to take hold. Some of the oldest, ongoing examples are town and county mutual insurance companies that were originally formed in the 1860s and 1870s. Some farm supply and marketing co-ops in operation today also have their origins in the late 1800s (Knapp, 1969).

However, the major breakthrough in successful rural cooperatives did not occur until the period from 1910-1930. It was during this time that the federal government began to provide legal and financial support to farmers and to rural co-ops. In particular, the Federal Reserve Act of 1913 and the Federal Farm Loan Act of 1916 opened up sources of credit to farmers and lengthened the terms of credit. The system of Federal Land Banks created by this legislation inspired the development of the Federal Intermediate Credit Banks, Production Credit Corporations, and Banks for Cooperatives, which in 1933 all merged into the Farm Credit Administration. The Rural Electrification Act of 1936 supported the creation of rural electric cooperatives and significantly increased access to electricity outside of urban areas.

In the 1920s and 30s the credit union movement also took off in both rural and urban communities the United States, facilitated by the Credit Union National Extension Bureau (a private, non-profit initiative), the Federal Farm Loan Act, and changes in state laws. The rapid

growth of credit unions during this period opened up access to savings accounts and loans to millions of workers and farmers (For detailed information on the agrarian revolt and the rise of the cooperative movement see Knapp, 1969; Knapp, 1973),

There has been a decline in the number of rural co-ops and credit unions in recent decades, but not in their volume of business. The USDA estimates the number of marketing and farm supply cooperatives in 1900 to have been about 1,200. The number of farm supply, marketing, and service co-ops peaked in 1929-30 at 12,000, with 3.1 million members and a business volume of \$2.5 billion. While the number of these co-ops has steadily decreased since then, primarily due to the reduction in the number of farmers and to mergers, the business volume of these cooperatives has expanded tremendously. In 2002 there were about 3,000 of these cooperatives with a gross business volume of over \$1 trillion (United States Department of Agriculture [USDA], 2004).

Rural electric cooperatives have remained strong since their rapid initial growth in the mid-30s and 40s because they provide power to all residents in their service areas, not just farmers, and because some of those service areas have had dramatic population gains over the last 60 years. There are currently almost 1,000 rural electric co-ops serving about 35 million people (National Rural Electric Cooperative Association, 2005). There are also about 250 rural telephone cooperatives serving about 1.3 million people (National Telecommunications Cooperative Association, 2006).

Statistics on credit unions from 1939 to 2004 show a rapid increase, then a decrease in the numbers of credit unions. Throughout this 65-year period, however, there has been a marked increase in credit union membership and assets. In 1939 there were 4,700 credit unions with 1.4 million members and \$150 million in assets. The number of credit unions peaked in 1969 at

11,000 with a membership of about 10 million and assets of \$8 billion. By 2004, the number of credit unions had decreased to 4,000, but membership had increased to 40 million and assets to \$320 billion (Credit Union National Association, 2005).

The growth in the number and financial strength of these credit unions and rural cooperatives brought about an unprecedented period of mutual wealth building in rural America during the 20th century. Farmers and other rural residents took control over a substantial part of their agricultural supply and marketing, insurance, financial, energy, and communications needs. In many cases, cooperatively-owned businesses improved the pricing and quality of services provided by for-profit businesses, even when the co-ops only had a minority share of the market, because they provided competitive price and quality benchmarks.

The establishment of millions of small and medium-sized farms across the country in the 1800s was directly in line with Jefferson's vision of agrarian democracy. However, the huge increases in agricultural production from these farms ran up against two market forces in the latter half of the 19th century: Too much uncoordinated farm production and a national economy dominated by large corporations.

The rise of the cooperative movement and the accompanying political changes at the state and federal levels were successful in improving economic and social conditions on the farm and in rural communities. One thing these changes did not accomplish, however, was to create the kind of agrarian democracy envisioned by Jefferson. During the 20th century the number of farms dropped from almost 6 million to about 2 million. Thirty-eight percent of the labor force was involved in farming in 1900, less than 2% in 2000. Agricultural exports plummeted from almost 60% of all U.S. exports in 1900 to less than 10% in 2000 (Agriculture in the Classroom, 2005).

Thus, social, political, and economic life in rural America at the beginning of the 21st century is vastly different from what it was at the beginning of the 20th century. The next section of this essay describes a model for the management of rural wealth that may become the dominant paradigm in the first half of the 21st century.

Paradigm 4. Reemergence of sustainable land management -- early 21st century

Socially coordinated natural resource management intended to meet short-term, private and mutual economic needs; and to provide for long-term, private and mutual wealth accumulation.

As the previous section of this essay observed, rural life in the United States is no longer centered on agriculture. During the colonial period and throughout the entire history of the United States until very recently, our model for rural economic development and rural wealth accumulation has been built on fragmented ownership and control of natural resources, especially farm and forest land.

This model is now under siege from a variety of different directions. Domestic and international political and economic pressures, environmental threats, changing demographics, and other factors are all pushing the United States toward a different paradigm for rural wealth in general and land management in particular.

This emerging paradigm – referred to in this essay as the "sustainable land ethic" -- may or may not become the dominant paradigm shaping public policy and private practices related to land and other natural resources in the 21st century. The purpose of this section of the essay is to make the case that there is indeed evidence supporting the emergence of the sustainable land ethic, and that it has the potential to become the dominant paradigm.

Simply put, the sustainable land ethic refers to managing land and other natural resources in ways that meet the needs of the present without compromising the ability of future generations to meet their needs. (This is an adaptation of the United Nations' definition of "sustainable development." The phrase also uses the term "land ethic" originated by Aldo Leopold in **Sand Country Almanac** in 1948.)

In this paradigm, land can be privately owned, but still be considered a component of rural mutual wealth. The key issue is whether or not the management of land and other natural resources meets the definition of the sustainable land ethic presented above. Public policies affecting private land use, sustainable criteria in the marketplace, and voluntary commitments to sustainable management practices all determine the extent to which private – and public – land is increasing mutual wealth.

Although wealth in general has become more concentrated in the United States over the past three decades, this is a separate issue from what is happening with rural mutual wealth as defined above. There have been several changes during this same time period involving private land management in the United States that have positively affected rural mutual wealth.

Almost half of all the land in the 48 contiguous states is privately owned cropland, pastureland, and rangeland. Another 20% is private forestland (U.S. Census Bureau, 2005). Thus, the way this land is managed is critical to the future of rural mutual wealth in the United States. The two factors that have the greatest impact on private land management -- public policy and the marketplace -- are analyzed below.

Public policy

Since colonial times there has been a critical public role in the distribution and use of private lands. Primary examples include: the granting and sale of public lands, the collection of property taxes, the establishment and enforcement of land use policies, the regulation of property sales, and the adjudication of property disputes. Thus, charter companies, colonial governments, the federal government, states, and local governments have always been involved directly and indirectly in private land management.

However, in recent years, there has been a fundamental shift in the relationship between the public sector and private landowners. This shift involves increased involvement at all levels of government in attempting to influence *management practices* of private landowners through regulations, taxes, incentives, and penalties. The primary reason for this shift is the increasing realization that practices on private lands has major, cumulative public consequences.

These consequences can be environmental, such as soil, air, and water pollution. A dramatic example is the infamous "Dead Zone" in the Gulf of Mexico created by the dumping of millions of tons of nutrients from farms and other sources originating in the Mississippi River watershed (National Centers for Coastal Ocean Science, 2003).

They can be economic, such as the over- or underproduction of agricultural commodities that result in financial hardships for producers or consumers. A recent historical example of this is the "boom and bust" in the international grain market experienced by U.S. farmers in the 1970s and early 80s. With the active encouragement of the federal government, farmers rapidly expanded their grain production to meet demand from the Soviet Union and other countries only to experience a collapse in that demand a few years later. Thousands of farms went out of

business in the early 80s as a result of high debts, reduced land values, and low grain prices (Agriculture in the Classroom, 2005).

There are social, political, and demographic consequences as well. The decline in the number of farms has had devastating consequences for many rural communities that were dependent on agriculture for jobs and taxes. North Dakota lost over 5% of its population from 1980 to 2000, primarily because of the depression in the state's farm economy (Wikipedia, 2005).

Some of the factors affecting public policy toward private lands have their origins in the changing relationship between the United States and the rest of the world. The United States is involved in a number of international trade agreements and proposed agreements, including the World Trade Organization, NAFTA, and CAFTA. In theory, these agreements are intended to facilitate international trade by breaking down trade barriers on imported and exported goods. One consequence of these agreements is that the U.S. and other countries are not supposed to subsidize the production of agricultural commodities. Countries are allowed, however, to make payments to farmers and other producers to carry out environmental stewardship practices. As these trade agreements take effect or become better enforced, this will result in a radical shift in the kinds of incentives the U.S. government pays to agricultural producers, forest owners, and others. Farm and forestry support programs will increasingly need to shift from price supports and other product subsidies to environmental stewardship or "green" payments. Almost by definition, this change will result in increased mutual rural wealth.

In 2002, the federal government passed a comprehensive Farm Bill that included a farreaching new program called the Conservation Security Program (CSP), which provides significant incentives for farmers to carry out conservation practices on their farms (USDA Natural Resource Conservation Service, 2006). A major part of the impetus for the passage of this program was the changing international trade environment cited above and the realization that agricultural commodities would need to be phased out. To date, CSP has been implemented in only a small number of watersheds, but the handwriting is on the wall: The U.S. will need to stop supporting agricultural prices or face international trade sanctions. CSP provides a "green" alternative that is allowable under international trade agreements. Over the next decade or two, access to the program may well be available to every farmer and rancher in the country.

There is no similar, broad program for private forestland, but there are more limited federal and state programs designed to encourage sustainable forestry practices on private lands. For example, the USDA Forest Service and state forestry divisions are working together to promote sustainable forest management through the use of Forest Stewardship Plans (USDA Forest Service, 2005). Many states also have property tax incentive programs intended to promote sustainable forest management plans. There are lobbying efforts under way to establish a Forest Conservation Program similar to CSP in the 2007 Farm Bill.

Market incentives

The emerging international trade agreements affect both public policy and the markets for agricultural, forest and other products. If U.S. producers want access to foreign markets, they will need to comply with treaty agreements and other trade restrictions. This will require both a shift in public policy from production subsidies to environmental stewardship programs as discussed above, and major changes in land management and marketing practices.

Even before the recent pressure from trade agreements, there were already changes taking place in the marketing of agricultural and forest products that rewarded sustainable land management. Various environmental certification programs have been developed over the past 40 years that establish and enforce environmental and other standards. These include certification programs for organically grown and sustainably grown agricultural products, for sustainable forestry management, and for Fair Trade food products and craft items.

For example, Time, Inc., one of the largest consumers of paper for magazines and books in the world, set a goal in 2003 that by 2007, 80% of the paper used in the company's products would come from certified, sustainably managed forests (Forest Certification Watch, 2003).

Consumer attitudes toward environmentally responsible purchasing are changing as well. A number of surveys indicate that about half of American consumers say they would choose a comparably-priced product that was labeled as environmentally responsible over one that was not. One-quarter report that they would be willing to pay more for an environmentally responsible product (LOHAS Journal, 2005).

Thus, there are changes taking place in the ways that farmers and woodland owners manage their land and produce products; in the ways that companies purchase and market their products; and in the ways that consumers make choices when they go shopping. These changes reflecting a sustainable land ethic do not, by any means, dominate the marketplace for food and forest products, but they do represent a significant and growing trend.

When these changes in the marketplace are viewed together with domestic and international changes in public policy toward private lands, the significance of this emerging trend becomes even greater.

Admittedly, there has been a weakening of many federal laws, regulations, and incentive programs related to the environment and sustainable land use during the second Bush administration. A good case could be made, however, that federal policy from 2000 to 2008 is an aberration, and that the long-term trend begun in the 1970s is toward more rigorous federal rules and enforcement, and toward stronger incentives for creating more sustainable farms and forests and for improving water and air quality.

Conclusion

It is possible to draw a comparison between the emerging sustainable land ethic and sustainable land management by American Indians prior to the arrival of Europeans. A key difference is the "use rights" to land in the pre-colonial period vs. private ownership of most rural land today.

In many ways, the paradigms regarding rural wealth in America have come full circle during the past 500 years. Pre-colonial Indians had a socially coordinated management system for agricultural, forest, and other natural resources. The last 500 years has been characterized by fragmented land management, primarily through family farm and forest ownership. In the last 100 years or so, farmers and other rural residents have cooperated politically and economically to meet their economic needs, but the pattern of fragmented land management has continued. Recently, a sustainable land ethic has emerged that is attempting to "meet the needs of the present without compromising the ability of future generations to meet their needs."

As with pre-colonial land management, this emerging paradigm is based on a socially coordinated management system for agricultural, forest, and other natural resources. Before 1500, land management was carried out primarily at the local community level and was designed

to meet short- and long-term needs for food, clothing, shelter, and security. Today, coordinated land management is carried out primarily through public policy – from local through international levels – that regulates and provides incentives for sustainable land use practices; and a market economy that is increasingly taking into account environmental and social issues.

The pre-colonial paradigm of mutual wealth management appears to have worked well for hundreds, if not thousands, of years. The emerging sustainable paradigm is in its infancy and must overcome major political, economic, and social obstacles before it becomes the dominant paradigm. There is no guarantee that this will happen. The key to its success will be its ability to meet both short-term public and private economic needs and, in the long-term, to build environmentally sustainable, mutual wealth.

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