

## Zrównoważony kapitalizm: kwestia etyki i moralności Sustainable Capitalism: A Matter of Ethics and Morality

John Ikerd

*University of Missouri, USA, Professor Emeritus of Agricultural Economics;  
5121 S. Brock Rodgers Rd, Columbia, Missouri, USA; e-mail: JEIkerd@centurytel.net*

*From a member of the editorial board*

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### Streszczenie

Wraz z upadkiem komunizmu, kapitalizm stał się dominującym systemem globalnym. Jednakże szeroko znane problemy ekologiczne i społeczne wywołują podstawowe pytania o zrównoważoność współczesnego kapitalizmu. W rzeczywistości podstawowe prawa nauki wskazują, że nieokiełznany kapitalizm nie jest prozrównoważeniowy. Wszystkie wartości ekonomiczne kapitalizmu są w istocie swej indywidualistyczne, co w konsekwencji prowadzi do tego, że brak jest ekonomicznej inicjatywy czynienia czegokolwiek dla dobra czyjegokolwiek, a tym bardziej zapewnienia zrównoważoności dla przyszłych generacji. Próby zapewnienia zrównoważoności poprzez przypisywanie wartości ekonomicznych wartościom ekologicznym i społecznym prowadzą do zaniżania ich wartości. Ekonomia zrównoważoności wymaga zasadniczo innego modelu ekonomicznego opartego na paradygmacie systemów żyjących. Systemy żyjące są zdolne do produkcji i regeneracji i tym samym są zrównoważone, ponieważ polegają na energii słonecznej. Zrównoważone rolnictwo może być dobrym przykładem zrównoważonego rozwoju ekonomicznego. Natomiast ekonomia kapitalistyczna może funkcjonować zrównoważenie jedynie w kontekście uwarunkowań sprawiedliwości społecznej i etyki. Kapitalizm pozbawiony etycznych i moralnych hamulców, nieuchronnie prowadzi do degradacji i wyczerpywania naturalnych i społecznych zasobów. Większość narodów utworzyło instytucjonalne struktury potrzebne do hamowania niezrównoważonych ekonomii wydobywcia i eksploatacji. Wszystkie jednak pozbawione są moralnego i społecznego odniesienia do etyki, dobra i zła w naszych relacjach międzyludzkich i z Ziemią.

**Słowa kluczowe:** zrównoważoność, kapitalizm, ekonomia, entropia, żywy system, zrównoważone rolnictwo, społeczna moralność, etyki ekologiczne

### Abstract

With the fall of communism, capitalism became the dominant global economic system. However, widespread environmental and social problems are raising fundamental questions regarding the sustainability of today's capitalist economies. In fact, the most basic laws of science indicate that unrestrained capitalism is not sustainable. All economic value is inherently individualistic in nature, thus there is no economic incentive to do anything for the sole benefit of anyone else and certainly not to ensure the sustainability of future generations. Attempts to ensure sustainability by assigning economic values to ecological and social costs and benefits inevitably result in undervaluation and misallocation of social and ecological resources. Economic sustainability requires a fundamentally different economic model based on a paradigm of living systems. Living systems are capable of productivity as well as regeneration, and thus sustainability, because they rely on solar energy. Sustainable agriculture provides a useful metaphor for sustainable economic development. However, a capitalist economy can function sustainably only within the context of an ethical and just society. Lacking ethical and moral restraints, capitalists inevitably degrade and deplete the natural and societal resources from which all economic value is derived. Most nations already have in place the institutional structures needed to restrain unsustainable economic extraction and exploitation. All that is lacking is a moral and social commitment to an ethic of stewardship, a commitment to rightness and goodness in our relationships with each other and with the earth.

**Key words:** sustainability, capitalism, economics, entropy, living systems, sustainable agriculture, social morality, environmental ethics

## Introduction

With the fall of communism in the former Soviet Union, capitalism became the dominant global economic system. With few exceptions, even those nations that have retained socialist or communist political systems have moved toward capitalist market economies. The popularity of capitalism is supported by a record of more than two centuries of unparalleled economic productivity in capitalist economies around the world. Much of the productivity can be attributed to industrialization. However, capitalism was uniquely complementary to the industrial strategies of specialization, standardization, and consolidation of control because of its emphasis on narrow individual self-interests. The combination of capitalism and industrialism has resulted in the most productive economies ever witnessed in human history, at least in terms of material wealth.

As we enter the 21<sup>st</sup> century, however, capitalism's negative ecological and social impacts are raising serious questions of sustainability. In spite of impressive records of productivity, people around the world are beginning to question whether capitalistic economies are ecologically, socially, or even economically sustainable. The negative impacts of industrialization on the natural environment came to widespread public attention in the 1960s, resulting in the worldwide environmental movement. In 1972, a Club of Rome report, *Limits to Growth*, focused attention on the broader issues of long run ecological sustainability [1]. A 1987 report of the United Nations Commission on Environment and Development, commonly referred to as the Brundtland report, later defined sustainable development in social and ethical as well as ecological terms. Sustainable development means "[m]eeting the needs of the present generation without compromising the ability of future generations to meet their needs [2]."

However, threats to ecological sustainability continue, in spite of more than three decades of environmental research, education, and government regulation. Soil erosion, water and air pollution, acid rain, atomic radiation, loss of biological diversity, ozone depletion, depletion of fossil energy, and global warming are among those continuing threats, and the list of ecological abuses continues to grow [3]. Threats to social sustainability are no less critical, although far less appreciated. Growing social isolation, distrust, injustice, inequity, depression, litigation, confrontation, terrorism and war, while certainly not limited to capitalistic countries nonetheless are logical social consequences of industrial capitalism [4].

In spite of growing evidence that economic exploitation is causing ecological destruction and societal decay, the so-called developed nations of

the world remain relentless in their pursuit of ever-greater economic prosperity. The so-called developing nations continue their unbridled growth in population in spite of growing evidence that overpopulation is causing ecological destruction and persistent poverty. National leaders, scientists, and activists cite different sets of statistics and debate the tradeoffs between short run economic benefits and long run ecological and social costs but nearly all agree that such questions are relevant or important to the future of global society. Scientists and scholars also disagree about whether capitalism can be made sustainable through government policies or other means of public or societal intervention. However, lacking effective moral and social restraints, the form of capitalism that dominates the global economy today quite simply is not sustainable [5].

## The Physical Limits of Economic Sustainability:

Capitalism's lack of sustainability is a direct consequence of the most fundamental laws of physics, the laws of thermodynamics. Sustainability ultimately depends upon energy because anything that is useful in sustaining life on earth ultimately relies on energy. All material things that are of any use to humans – food, clothes, houses, automobiles, – require energy to make and energy to use. In fact, all materials are simply concentrated forms of energy, as in Einstein's famous  $E=MC^2$ . All useful human activities – working, thinking – require human energy. All human energy is extracted from the energy embodied in the things people eat, wear, or use. Physical scientists lump all such useful activities together and call them "work." Thus, all work requires energy.

According to the first law of thermodynamics, energy can be used and reused but can never be created or destroyed, even though it changes in form each time it is used. However, according to the second law of thermodynamics, the law of entropy, each time energy is used and reused, some of its *usefulness* is lost. Whenever energy is used, it is always transformed from more concentrated, organized forms to less concentrated, dispersed forms, as when we burn fuel in an automobile or fuel our bodies with food. In fact, the usefulness of energy arises from its natural tendency to disperse whenever it is not constrained from doing so. Even though no energy is lost through use – the first law of thermodynamics – it must be collected, reorganized, reconcentrated, and re-stored before it can be reused. All of this requires energy – energy which is no longer available to do anything else. This is the essence of the law of entropy – the second law of thermodynamics – and entropy is inevitable.

All closed systems tend toward entropy, which may be defined as the "ultimate degradation of matter

and energy; a state of inert uniformity of component elements; an absence of structure, pattern, organization, or differentiation [6].” For example, as a burning log releases heat and radiant energy, its stored energy is depleted and the log turns to ashes; its structure, pattern, and organization are lost as it tends toward entropy. A barren desert or the surfaces of the Moon or Mars are scenes of systems as close to entropy as most people have seen. These are systems lacking in energy and lacking in life.

Since the loss of useful energy to entropy is inevitable, it might seem that sustainability is impossible. Wastes are energy by-products of work that could be reused if appropriate technologies were available to reclaim the usefulness of *wasted* energy. Pollution is not only wasted energy but is *negative* energy, in that pollution requires energy to mitigate its negative impacts of the environment. However, even if waste and pollution could be avoided completely, the tendency toward entropy would continue. Life on earth quite simply would not be sustainable if the earth were a closed system, if it did not receive a daily inflow of new energy from the sun. Sustainability ultimately depends upon the use of solar energy to offset the inevitable effects of entropy.

Capitalism’s lack of sustainability of arises because there is no economic incentive to use solar energy, the only truly renewable source of energy, to offset the usefulness of energy lost to entropy. It is a very efficient system of energy extraction and use, but it provides no incentive for energy renewal or regeneration. Capitalism’s priority on short run, individual self-interests accounts for its economic advantage, but this priority also accelerates the dissipation and depletion of energy. All economic value accrues to the individual; an economy is nothing more than a collection of individuals. Thus, economic value must be expected to accrue during the lifetime of the individual decision maker. There is no economic incentive to do anything for the sole benefit of other individuals and certainly not to invest in resource renewal and regeneration for the benefit of future generations.

The economic premium that capitalism places on current consumption and the discount it places on investments in the future are clear in market interest rates and corporate rates of return on investment. Costs and benefits expected to occur a decade in the future have a net present value of only about 50 percent of their ultimate value. Economic values deferred by a lifespan of 70 years are less than one percent of their ultimate value today. Many corporations have effective planning horizons of five-to-seven years. Capitalists reduce waste and pollution or reuse and recycle resources only when it is profitable to do so, meaning only when it is in their individual self-interest to do so. When capitalists use energy from renewable sources, they sell the products for current consumption, rather

than re-store energy to offset the energy lost to entropy. This is why capitalism is so efficient but also why it inevitably tends toward *physical entropy* – why it is not sustainable.

The law of entropy places limits not only on the usefulness of physical energy but also the usefulness of human energy. All human energy – labor, management, innovation, creativity – is derived from physical energy and the usefulness of human energy is a product of social relationships. Humans cannot be born, reach maturity, and become *useful* without the help of other people who care about them *personally*. People must be educated, trained, civilized, and socialized before they can become productive members of complex societies. All organizations – including business organizations, governments, and economies – depend on the ability of people to work together for a common purpose, which in turn depend upon the sociability and civility of human societies. Human resources are the products of healthy interpersonal relationships within families, friendships, communities, and societies. Sociologists refer to the ability to maintain positive interpersonal relationships, and thus sustain the productivity of human resources, as “social capital.” It takes human energy to maintain social capital, energy that is not available to do anything else of use to humans.

Capitalism inevitably dissipates the productivity of human resources because it weakens interpersonal relationships. Maximum economic efficiency requires that people relate to each other *impartially*, which means *impersonally*. People must compete rather than cooperate, if market economies are to work efficiently. When people spend more time and energy working – being productive – they have less time and energy to spend on personal relationships within families and communities, and social capital is depleted. When people buy things based solely on price rather than buy from people they know and trust, personal relationships within communities suffer from neglect, and their social capital is depleted.

There is no economic incentive for capitalists to invest in families, communities, or society for the benefit of future generations. It is typically more profitable to find new people to exploit than to invest in education and training programs to restore and sustain the productivity of economically exploited people. Capitalists contribute to social causes only when such contributions are expected to lessen social or political constraints on profits and growth. Capitalists do not waste energy by investing in long run societal well-being and they resist all political attempts to tax their enterprises to provide funds for society-building government programs. That is why capitalism is so efficient, but also why it is not sustainable.

Economies are simply the means by which people facilitate their relationships with other people and

with their natural environment. There are obviously too many people in most societies today to produce their own food, clothing, shelter, or to barter with each other to meet the necessities of life, so impersonal, monetary economies are necessary. Economies actually *produce* nothing; they simply transform physical energy and human energy into forms that can be traded or exchanged in *impersonal* marketplaces. All economic capital, meaning anything capable of producing something of economic value, is extracted from stocks of physical or human energy – meaning from natural or social capital. As indicated previously, capitalists have no economic incentives to restore or renew either natural or social capital. Once all natural and social capital has been extracted and exploited, there will be no remaining sources of economic capital. Without economic capital, the economy will lose its ability to produce anything of economic value. That's why capitalism is not sustainable.

#### **Inadequacies of Economic Sustainability:**

Obviously, many economists do not agree with this conclusion. In spite of the irrefutable law of entropy, economists seem to believe that humans will always be able to find an alternative for any energy resource they might deplete. Many economists believe that free markets somehow will allocate scarce resources to meet the needs of those of future generations, in spite of the fact that potentially cataclysmic events such as fossil energy depletion and global climate change are of little *economic* importance; their ultimate impacts are still beyond the five-to-seven year planning horizons of most corporations. From everything scientists know about the basic nature of natural ecosystems and human societies, today's economic planning horizons are simply too "shortsighted" to ensure the long run sustainability of humanity. Still, many economists proclaim that free markets somehow will allocate scarce resources to meet the needs of future generations. While such beliefs provide a convenient defense of an individualistic, narcissistic society, they are beliefs without basis in science or in fact.

Other economists recognize the risks to sustainability inherent in relying on markets. Various political strategies and public policies have been proposed for creating markets that fully reflect ecological and social costs and benefits, both within and across generations. Markets would be allowed to allocate natural and social resources among alternative uses over time, once economic values were assigned to ecological and social *externalities*. However, attempts to internalize non-economic externalities inevitably lead to misallocation of ecological and social resources. Society and nature both provide *direct* intrinsic values, in addition to their *derived* economic values. People benefit *directly* from their personal relationships with other

people and from relating to their natural environment. Social and ecological relationships that result in economic values are indirect or *instrumental* in nature; they are a means of achieving something else [7]. The contributions of nature and society to *sustainability* are direct ecological and social benefits, not derived economic benefits. If these direct non-economic benefits are ignored or denied, the value of sustaining the long-run health and productivity of society and nature may be grossly underestimated.

Economic, social, and ethical values arise from very different value systems. Economic values arise from a belief in the inherent worth of the individual. Under the *enterprise belief system*, a person's worth is fully reflected in his or her ability to contribute economic value to society, and a person's highest social responsibility is to maximize his or her productivity and personal wealth [8]. Under this belief, economic value can be accurately assessed in terms of monetary values, regardless of whether the costs and benefits are internal or external to markets. Existence of *external* costs and benefits simply reflects the failure of markets to reflect the full *economic* value of natural and social resources. In such cases, internalizing external economic values allows for a full and complete accounting of all relevant costs and benefits. Under the enterprise belief system, the major obligation of government is to ensure the rights of individuals to acquire and accumulate private property as a means of affording all individuals with an equal opportunity to be economically productive members of society.

Social values arise from a different belief system. Under the *democratic belief system*, all people are held to be of equal dignity and worth, regardless of their ability to contribute economically to society, and a person's highest social responsibility is to help ensure equity and justice for all [9]. In democratic systems, each person must be given an equal voice in assessing social costs or benefits because each person is of equal inherent worth. Obviously, people have unequal economic influence because they are inherently unequal in mental capacity, energy levels, creativity, and wealth, and thus, have unequal abilities to contribute to the economy. Markets will not reward *different* people *equally*, no matter how efficient the economy. Thus, in true democracies, social values must be measured differently and expressed separately from economic values, resulting in distinct and separate economic and political decision-making processes. The primary role of governments under the democratic belief system is to ensure equity and justice, meaning to ensure that all persons receive equally those things to which they have equal rights. Rights to private property and economic opportunity are included, but are certainly not inclusive of all democratic rights.

In non-democratic societies, the power to influence public decisions may not be distributed equally to

all, but nonetheless, political power generally is distributed differently from economic power. The people within each culture ultimately decide how they choose to relate to each other socially, or at least accept social relationships they deem necessary for the preservation of their desired way of life. In all cultures, other than purely individualistic, materialistic cultures, social values must be measured differently and expressed separately from economic values.

Ethical values require yet another method of measurement. All governments derive their authority from the consent, or at least the acquiescence, of the members of the society governed. Under most forms of government, the social and ethical values of a society are encoded in constitutions or charters, which define the basic structure of government and the principles by which the government is to function. The processes by which constitutions and charters are constructed and amended reflect the process of reaching a consensus among the governed. A consensus does not necessarily require unanimous agreement, but those who disagree must be convinced of the wisdom of voluntarily agreeing to abide by the consensus.

Consequently, ethical or moral values cannot be measured by either money or votes. Obviously, something that is ethically wrong cannot be made ethically right, no matter how much one might be willing to pay to make it so. Perhaps less obvious, but equally true, something that is morally and ethically wrong cannot be made ethically right, no matter how many individuals may vote for it to be so. A violation of a society's basic ethical and moral values represents a direct attack on the society, which cannot be compensated or excused, and thus, cannot be tolerated. Thus, laws that violate constitutions must be declared invalid, regardless of the economic sacrifice or the size of political majority that supported them. Actions that violate constitutional principles cannot be excused legislatively or compensated economically; they must be prohibited.

Socially and ethically acceptable behaviors have some fractional economic values, which can be assessed and internalized through public policy. However, the total value of an equitable and ethical society far exceeds these fractional contributions to the economy, and thus social and ethical values cannot be fully captured in monetary values. Consequently, internalizing external costs and benefits may mislead societies into marginalizing or ignoring the far larger direct social and ecological values. Even if ethical and social values could somehow be brought into the free enterprise economy, they would then be allocated by markets according to willingness and ability to pay, rather than according to the social and ethical values of society. Thus, the social and ecological capital of the society would be misallocated and ultimately

depleted through market allocation.

### **The Sustainable Economy as a Living System:**

A sustainable economy must be based on a fundamentally different paradigm, specifically, on the paradigm of living systems. Living things by nature are self-making, self-renewing, reproductive, and regenerative [10]. Living plants have the natural capacity to capture, organize, and store solar energy, both to support other living organisms and to offset the energy that is inevitably lost to entropy. Living things also have a natural propensity to reproduce their species. Humans, for example, devote large amounts of time and energy to raising families, even when they have very little economic incentive to do so. Obviously, an individual life is not sustainable because every living thing eventually dies. Nonetheless, communities and societies of living individuals clearly have the capacity and natural propensity to be productive while devoting a significant part of their life's energy to conceiving and nurturing the next generation.

The productivity and regenerative capacity of all living systems or communities depends upon relationships, specifically, upon interdependent relationships among diverse elements within inseparable wholes. A living system cannot be separated into its individual components nor can its sequential processes be stopped without destroying its life and thus destroying the essence of the whole. Spatial and temporal relationships among the elements of living systems, and the diversity of those elements, make the whole of life something fundamentally different from a collection of individual parts. Whenever the relationships, across space and over time, are interdependent or mutually beneficial, the whole of a living system is something *more* than its parts, rather than something less.

Since relationships within healthy living systems must be mutually beneficial, healthy living relationships must be *selective* in nature. For example, all living organisms are made up of cells and each living cell is surrounded by a selective or semi-permeable membrane. These semi-permeable boundaries keep some things in but let other things out and keep some things out but let other things in. Living organisms also are defined by boundaries – skin, bark, and scales – that selectively allow different elements – air, water, food, and waste – to enter and to leave the body of the organism. If these boundaries were either completely permeable or impermeable, if they let everything in or out or nothing in or out, the organism would be incapable of living and thus incapable of producing or reproducing. Living organisms depend upon mutually beneficial, *selective* relationships.

The same principle holds for all living systems: ecosystems, families, communities, economies, cultures. All living systems depend upon

interdependent relationships among diverse elements within inseparable wholes. The relationships among elements of healthy natural ecosystems are predetermined and mutually beneficial by nature. However, healthy relationships among humans and between humans and nature are matters of choice, not predetermined, and thus must be consciously and purposefully selective in order to be mutually beneficial. Relationships among people within families and communities also must be different from relationships among people from different families or communities, if families and communities are to maintain their individuality and diversity and interdependence. Relationships among different economies and cultures, likewise, must be selective and mutually beneficial if the whole of human society is to remain healthy and productive. The natural tendency of all non-living systems to tend toward entropy is reflected in their tendency toward the dissolution or destruction of boundaries. Entropy is characterized by the absence of boundaries, that is, "an absence of form, pattern, hierarchy, or differentiation." Boundaries invariably are destroyed as energy is released from matter, as when a burning log turns to ashes.

These general concepts of boundaries and depletion of productivity are equally relevant to cultural, political, and economic systems. The dissolution of cultural and political boundaries removes ethical and social constraints to specialization, standardization, and consolidation of control, facilitating the economic industrialization necessary to achieve maximum productivity and economic efficiency. The dissolution of boundaries among cultures increases the efficiency of political processes, releasing the energy by removing social and ethical constraints to economic extraction of natural resources and economic exploitation of human resources. The dissolution of political boundaries, likewise, removes the laws, regulations, and other political constraints that deny investors of one nation free economic access to the natural and human resources of another. Capitalism provides powerful economic incentives to remove all cultural, political, and economic boundaries.

### **The Metaphor of Sustainable Agriculture:**

These abstract concepts are readily apparent in current ecological, social, and economic reality. Agriculture, a living system critical to the sustainability of humanity, provides a useful metaphor both of economic entropy and for sustainable economic development. Tremendous gains in productivity and economic efficiency have been achieved by removing agricultural boundaries to facilitate industrial production methods. Farmers in capitalist countries have removed fences or other field boundaries to create larger fields, in order to accommodate larger and more specialized

machinery and equipment. The diverse crop and livestock enterprises that once characterized family farms have been abandoned to achieve greater economic efficiency through large-scale specialized production. Rural landscapes have tended toward inert uniformity, without form, pattern, hierarchy, or differentiation.

Economic control has been consolidated among fewer farmers by removing the boundaries of ownership and identity that once defined different farms within different communities. As farms became larger, farmers have ignored the economic boundaries of their local communities, marketing their products and purchasing their production inputs wherever they can realize the greatest profits. Farming communities have lost their economic, social, and cultural identities. With no effective economic boundaries, communities have lost their ability to be selective in their relationships – to protect themselves from outside exploitation.

Today, national economic boundaries are being removed in an attempt to create a single global marketplace. Nations are being pressured to abandon their unique social or cultural values regarding stewardship of the land, food equity, and food security – under the pretense of *free trade* – to achieve global economic efficiency. In a single global free market, no nation would be able to protect its farmland, its farmers, or its consumers from exploitation by the multinational corporations that increasingly dominate global food production. Food would eventually be produced in those places of the world where nations were least able to protect their land and farmers from corporate exploitation and sold to those people of the world who are willing and able to pay the highest prices. With a single global food market, no nation would have true food security. The wealthier nations of the world would lose the farming sectors of their economies and the lands and farmers of the poorer nations would be exploited to provide food for the wealthy. And when the ecological and social resources of agriculture were depleted, there would be no more food for anyone.

Just as industrial agriculture provides a metaphor for the perils of neoclassical capitalism, sustainable agriculture provides a metaphor for the promises of sustainable capitalism. Sustainable agriculture, being a form of sustainable development, must be capable of meeting the needs of the present without compromising the future. Thus, a sustainable agriculture must be capable of maintaining its productivity and usefulness to society indefinitely. Sustainable systems of farming must be ecologically sound, socially responsible, and economically viable. A farm that degrades the productivity of the land or poisons the natural environment cannot sustain its productivity. A farm that fails to meet the needs of a society -- not only as consumers, but also as producers and citizens – will not be sustained by

that society. And, a farm that is not financially viable is not sustainable, no matter how ecologically and socially sound it may seem to be in the short run.

Sustainable agriculture embraces the historic philosophical principles of organic farming. Sir Albert Howard, a pioneer of organics, began his book, *An Agricultural Testament*, with the assertion, "The maintenance of the fertility of the soil is the first condition of any permanent system of agriculture [11]." He contrasted the permanent agriculture of the Orient with the agricultural decline that led to the fall of Rome. He concluded, "The farmers of the West are repeating the mistakes made by Imperial Rome." J. I. Rodale, another prominent proponent of organic farming, defined organics in terms of intergenerational equity; he wrote, "The *organiculturist* farmer must realize that in him is placed a sacred trust... As a patriotic duty, he assumes an obligation to preserve the fertility of the soil, a precious heritage that he must pass on, undefiled and even enriched, to subsequent generations [12]."

Rudolph Steiner, the founder of Biodynamic Farming defined an organic farm as a living system, as an organism, whose health and productivity depended on healthy relationships among its ecological, social, economic, and spiritual dimensions. He wrote, "A farm is healthy only as much as it becomes an organism in itself – an individualized, diverse ecosystem guided by the farmer, standing in living interaction with the larger ecological, social, economic, and spiritual realities of which it is part [13]." To Steiner, organic farming was about relationships, both social and spiritual relationships, among the farm, farmer, food, and eater. Relationships on true organic farms are mutually beneficial and interdependent.

Sustainable farmers rely on green plants to capture and store solar energy and to regenerate the organic matter and natural productivity of the soil. They use crop rotations, cover crops, intercropping, managed grazing, and integrated crop and livestock systems to maintain the fertility of their soils. Sustainable farmers express a sense of ethical and moral responsibility in their commitment to preserve the productivity of their land – to leave it as good as or better than they found it. Even though many *industrial organic* producers have adopted large-scale, specialized, standardized systems to increase yields and reduce costs, *sustainable organic* farmers have remained committed to diversity, interdependence, and holism in creating a permanent agriculture capable of supporting a permanent society.

Sustainable farmers realize the direct value of relationships with their land and with people. They work in harmony with nature, not just to maintain productivity, but also to respect their honored role as stewards of the land. They build personal

relationships with their customers, not just to create a market, but also because they value the friendships. Farmers and their customers find a renewed sense of community at farmers markets, community supported agricultural associations (CSAs), community gardens, and other direct marketing venues. Sustainable farmers give priority to their local community in marketing their products and purchasing products and local consumers give priority to local farmers – they value community and society. Sustainable farming is their way of life, as well as their occupation, because it gives purpose, meaning, and quality to their lives.

This new approach to farming has many names, including organic, biodynamic, holistic, bio-intensive, biological, ecological, and permaculture. Such farmers and their customers share a common commitment to creating a new food system that is capable of permanence through renewal and regeneration. Smaller independent food processors and retailers also are beginning to form alliances with local farmers and community members to compete with the large, corporate agribusinesses that increasingly dominate both national and global food markets. Over time, with supportive changes in public priorities and policies, a global network of sustainable, community-based food systems could replace the current industrial, corporately controlled food system.

As the sustainable food movement continues to grow, farmers and consumers are joining social and political movements that reflect their common concerns for food safety, nutrition, environmental quality, social justice, globalization, and other issues of sustainability. For example, people are beginning to realize that concerns about economic globalization actually are concerns about the sustainability of local economies, societies, and cultures. Most people know intuitively that removal of all economic boundaries, in the name of free trade, will leave their natural resources, including farmland, and their people, including farmers, vulnerable to exploitation by giant global corporations over which they will then have no control. Sustainable farmers are joining forces with other like-minded people who are concerned not only about local and national food security, but also about the long run sustainability of humanity.

Sustainable agriculture provides a metaphor for a sustainable economy and a sustainable human society. A sustainable economy ultimately must rely on solar energy to offset the inevitable loss of energy to entropy. All natural resources must be conserved, reused, and recycled to reduce energy loss to a minimum. Pollution must be minimized to reduce energy wasted on remediation. Energy use must be reduced dramatically. Ultimately, sustainability will require the use of solar energy – including wind, water, and photovoltaic – to offset the inevitable energy loss to entropy. Solar energy is the most

permanent of all known sources of energy.

Some have advocated using the biological solar energy collected by agriculture as a replacement for fossil energy. However, the highest priority for agriculture must remain that of producing biological energy for human consumption; humans can't eat the sun or the wind or the electricity generated by windmills or photovoltaic cells. Furthermore, a significant portion of the energy generated by solar panels, wind, and water must be devoted to renewal and regeneration, rather than current consumption. Ultimately, all types of economic development must operate like sustainable organic farms, harvesting and storing solar energy to sustain long run productivity by allocating whatever energy is necessary to offset the energy lost to entropy.

### **Ultimately, Sustainability is a Matter of Ethics and Morality:**

However, humanity will not make the necessary commitments to maintaining either natural or social capital unless they appreciate the full intrinsic value of relationships with other people and with the earth. People must come to realize that the quality of their lives is determined by their interactions with the larger ecological, social, economic, and spiritual realities of which they are a part. To achieve sustainability, the ethical and social dimensions of life must be given priority over short-run economic self-interests. Sustainable capitalism, like sustainable farming, can be achieved only through balance and harmony among the individual, social, and ethical dimensions of reality. An economy cannot be allowed to exploit and degrade either nature or society. The sustainability of capitalism is ultimately a question of ethics and morality.

Ironically, *classical* capitalism was built upon a strong social and ethical foundation. Classical economists, including Adam Smith, David Ricardo, and Thomas Malthus, were very much concerned with social and ethical principles and values. Adam Smith wrote in his 1776 classic, *Wealth of Nations*, "improvement in the circumstances of the lower ranks" should never be regarded as "an inconvenience to the society... what improves the circumstances of the greater part can never be regarded as an inconvenience to the whole [14]." He also wrote that *land*, meaning natural resources, "constitutes by far the greatest, the most important, and the most durable part of the wealth of every extensive country [15]," suggesting that the *public* must accept responsibility for protecting their common wealth. Classical economists understood that a capitalistic economy must function within the ethical and social bounds of an ethical and just society, if it is to function for the well-being of people.

However, neoclassical economists, who appeared around the turn of the 20<sup>th</sup> century, wanted to be true

scientists. They eventually abandoned the social and ethical foundations of classical economics in their pursuit of impersonal scientific objectivity. Over time, market economies were allowed to drift away from the necessary conditions of competitive capitalism, in the pursuit of greater economies of scale from large, industrial organizations. Eventually, publicly owned corporations, not sovereign individuals, came to dominate decisions within capitalistic economies. The conditions necessary to ensure that free markets transform individual greed into societal good no longer exist.

Competitive capitalism requires a larger number of buyers and sellers, freedom of entry and exit, accurate information, and consumer sovereignty. These conditions existed in the days of Adam Smith, with large numbers of small proprietorships and face-to-face transactions, and the associated *inability* to coerce, deceive, or persuade through advertising. Today's capitalistic economies are dominated by giant multinational corporations, with entry and exit restrained by large investment requirements and patents, and with billions of dollars spent for misleading and persuasive advertising. International trade is no longer free trade among sovereign individuals, who are not free to "not trade," but instead is coerced trade between rich and poor nations, many of whom feel obligated or forced to trade.

With the growing political influence of corporations, capitalistic economies have become cancerous. Corporations are not humans. They have no social or moral conscience. Lacking any effective internal social and ethical restraints to regulate their rate of growth or mature size, capitalistic economies grow uncontrollably, threatening the life of their host. Like a cancer, they systematically seek to remove all external restraints to their exploitation and extraction. The uncontrolled growth of capitalism now threatens the sustainability of the global ecosystem and global society. A new sustainable economic system must reintegrate social and ethical values of human societies into capitalistic economies, thus restoring societal control and ensuring that society as a whole benefits from economic development, both within and across generations.

### **Creating Sustainable Capitalist Economies:**

Most nations already have cultural and political systems within which capitalistic economies could function sustainably, regardless of whether they are democratic, socialistic, communistic, or theocratic societies. They already have constitutions or charters and governments or legal structures, which can be used to constrain, guide, and give purpose and meaning to their societies. Societies, through the



processes of government, can constrain, guide, and give purpose to individual, private economies. Most nations also have sufficient sovereignty to protect their resources from exploitation by outside economic interests, including other nations and multinational corporations.

In fact, every nation has not only the right but also the responsibility to protect its natural resources and its people from economic exploitation. The gains from “free trade” of classical economics applies only to informed, un-coerced trade, where neither party feels pressured or compelled to trade but freely chooses to do so. Nations must reject trade agreements that would degrade and deplete their natural, biological, and cultural resources. Sustainable development will require trade among nations to achieve a sustainable level of global economic equity. However, trade that results in resource exploitation is not mutually beneficial and thus is not sustainable. Sustainable development may not be as quick or as easy as industrial development, but a nation’s ecological and social capital must be protected if its economic development is to be sustainable. The economic boundaries of all sustainable communities, nations, and cultures must be selective or semi-permeable, as is true for all living systems.

Most nations of the world today lack only the societal consensus and commitment necessary to protect their cultural, ecological, and social integrity from economic exploitation. In fact, the public sectors in most capitalistic nations today are preoccupied with politically motivated subsidization of powerful corporate or individual economic interests, rather than ensuring the common good of society or the rights of future generations. And the capitalistic nations of the world are preoccupied with resource exploitation through economic globalization, rather than promoting mutually beneficial trade and sustainable economic development.

A nation’s commitment to sustainability must begin in the hearts and minds of its people. A people’s commitment to sustainability, once established, could be encoded into provisions of their national charter or constitution. For example, constitutional provisions might be adopted to ensure the right of all people to a clean and healthy environment and the right of people to be protected from economic exploitation, and perhaps most important, to ensure that people of future generations are afforded rights equal to the rights afforded the current generation. Such provisions would require that all lawful political and economic activities give consideration to conserving and renewing ecological and social capital for the benefit of both current and future generations, thus requiring governments and economies to function as living organizations. Even without formal constitutional provisions, a moral consensus for sustainability among the people of a

nation ultimately could reshape its political and economic systems.

For example, laws might be implemented prohibiting the use of farming methods that depleted the natural productivity of the soil, or at least ensuring that the rate of soil erosion does not exceed the rate of soil regeneration. Taxes might be imposed to raise the costs of all non-renewable energy sources to levels as high as, or higher than, the costs of renewable solar energy alternatives, thus equalizing energy costs among generations. Environmental pollution that threatens human health might be prohibited, without regard to economic cost, since it would violate a basic human right. Misleading advertising of commercial products likewise might be prohibited, protecting naïve or uninformed people from economic exploitation. Governments would need to restore true competitiveness to their economies, meaning classical economic competition, to ensure efficient market allocation of legitimate private resources.

With respect to international relations, the World Trade Organization, or some replacement organization, might be utilized to mediate trade agreements designed to protect each nation’s natural resources and people from outside exploitation, while promoting *selective* trade among nations. A true international consensus concerning the human rights of all people, including people of future generations, might become a high priority of the United Nations. An effective system of international courts and policing procedures might be established to ensure that human rights are protected internationally, protecting the people and resources of all nations for all generations. Ultimately, sustainability must become a global priority.

While sustainable capitalism may seem similar to other approaches to sustainability, several critically important differences exist. First, sustainable capitalism arises from an ethical and moral commitment of a society to accept its responsibility for preserving opportunities for future generations. It does not rely on laws and regulations to *force* societal change, but instead uses laws and regulations to *reflect* societal change. Sustainable capitalism is fundamentally different from environmentalism because it deals specifically with philosophical questions of the *rightness* of relationships among people and between people and their natural environment. But, it is also different from deep ecology in that it addresses ecological integrity through the rights of people – it is anthropocentric. Sustainable capitalism does not rely on free markets to allocate ecological and social capital, nor does it attempt to internalize *direct* social and ecological costs and benefits. Neither does it rely on governments to allocate resources that are legitimately private or individual in nature – it is not socialistic.

Many people today question whether a capitalist

economy can ever be sustainable. Admittedly, the ecological and social risks of capitalism are real. However, no other economic system has been found that can rival its efficiency and productivity in decisions and activities that are legitimately private, personal, or individual in nature. The societies that have tried communism, socialism, and religious theocracies have never been able to meet the physical and material needs of their people. They are ultimately rejected by their people because they are not economically sustainable. Most individual economic decisions do not deprive anyone of their basic social rights or violate any moral imperative. These decisions legitimately belong in the individual, private economy, where we have no logical alternative to capitalism.

Capitalism, with all of its inherent risks, is still humanity's best hope for sustainability. The possibilities and potentials of human societies and their natural ecosystems depend upon the productivity of their economies. Capitalism can still provide an efficient means of increasing the well-being of society, as long as the pursuit of wealth does not result in social exploitation or diminish the opportunities of future generations. The sustainability of any capitalistic economy depends upon the sustainability of its natural and human resources – its ecological and social capital, the sources of all economic capital. Sustainable capitalism requires continual renewal and regeneration of ecological and social capital in order to sustain economic capital. The sustainability of capitalism ultimately depends on the *rightness* of relationships, among humans and between humans, the earth, and the sun – the ultimate source of all economic capital. The sustainability of capitalism is ultimately a question of ethics and morality.

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