

Is Sustainable Capitalism Possibleⁱ

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With the fall of the former Soviet Union, capitalism became the dominant global economic system. Even those nations that have retained socialistic or communistic political systems, with few exceptions, have moved toward capitalistic market economies. The popularity of capitalism is supported by a record of more than two centuries of unparalleled economic productivity in industrial economies around the world. Socialist and communist nations also have relied on industrial strategies of development, thus the success of capitalism was not due solely to industrialization. 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 21st 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 sustainable over time, ecologically, socially, or even economically. The negative environmental impacts of industrialization came to widespread public attention in the 1960s, resulting in a worldwide movement to protect the environment. 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, more commonly referred to as the Bruntland report, later defined sustainable development in social and ethical, and 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 as well.

In spite of the progress achieved through more than three decades of environmental regulation, threats to ecological sustainability continue. Soil erosion, water and air pollution, acid rain, atomic radiation, loss of biological diversity, ozone depletion, 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. Social isolation, distrust, injustice, inequity, depression, litigation, confrontation, terrorism, and war, while certainly not limited to capitalistic countries, are nonetheless logical social consequences of industrial capitalism.⁴

In spite of growing evidence of ecological destruction and societal decay linked to economic exploitation, the so-called developed nations of the world remain relentless in

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their pursuit of ever-greater economic prosperity. In spite of growing evidence of ecological destruction and persistent poverty linked to over-population, the so-called developing nations continue their unbridled growth in population. 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 no serious debate exists regarding whether 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 public policies or other means of 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

Capitalism's lack of sustainability is a direct consequence of the most fundamental laws of physics, the laws of thermodynamics. Sustainability ultimately depends upon the use of 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. All useful human activities – working, thinking – require human energy. And all human energy is extracted from the energy that makes up the things people eat, wear, or use. Physical scientists lump all such useful activities together and call them “work.” Thus, all work requires energy. And most important, each time energy is used to perform work, some of the *usefulness* of the energy is lost.

In performing work, energy is always changed from more-concentrated to less-concentrated forms. In fact, this natural tendency gives energy its ability to perform work. All material things, such as food, gasoline, plastic, and steel, are just highly concentrated forms of energy. Matter can be converted into useful energy, as in eating food or burning gasoline, and energy can be changed in form to create usefulness, as in using heat to make electricity and electricity to produce light. However, even though energy invariably changes from more to less concentrated forms as it performs work, no energy is lost. The total energy contained in matter and energy always remains unchanged, regardless of its form, concentration, or level of organization. This is the first law of thermodynamics, the law of energy conservation, as in Einstein's famous $E=MC^2$.

At first, it might seem that energy could simply be recycled and reused forever. If so, sustainability would be inevitable. However, once energy is used to perform work, before it can be used again, it must be reconcentrated, reorganized, and restored. Questions of sustainability arise from the fact that energy is required to reconcentrate, reorganize, and restore energy. The energy used to reconcentrate, reorganize, and restore energy, is simply no longer available to do anything else. It has lost its usefulness; meaning it has lost its ability to perform work.

This is the law of entropy, the second law of thermodynamics; the tendency of all closed systems to tend toward 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. The barren surfaces of the Moon or Mars are scenes of systems close to entropy.

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 technologies were available to restore the usefulness of “wasted” energy. Pollution is not simply wasted energy but has *negative* usefulness, in that pollution diminishes the usefulness of other energy sources or requires energy for mitigation purposes. Even if waste and pollution could be completely avoided, however, the tendency toward entropy would continue. Life on earth quite simply would not be sustainable without the daily inflow of new solar energy. Sustainability ultimately depends upon the use of solar energy to offset the effects of entropy.

Capitalism is a very efficient system of energy extraction, but it includes no consideration of the ultimate necessity of using solar energy, the only truly renewable source of energy, to offset the usefulness of energy lost to entropy. Capitalism's priority on short run, individual self-interests accounts for its economic advantage, but this priority also accelerates the natural tendency of all closed systems toward dissipation and depletion of energy – toward entropy. Individuals have no incentive under capitalism to invest in resource renewal for the benefit of future generations. 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 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 applies not only to physical energy but also to social energy. All human energy derived from physical energy – labor, management, innovation, creativity – 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 personal relationships within families, friendships, communities, and societies.

Capitalism inevitably dissipates, disperses, and disorganizes social energy because it weakens personal relationships. Social capital is the value embodied in the willingness and ability of people to form and maintain positive personal relationships. However, 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 social capital is dissipated. Capitalism devalues personal relationships and disconnects people and thus dissipates, disperses, and disorganizes social energy.

Capitalistic economies gain their efficient advantage by *using* people to do work, while doing nothing to restore the social capital needed to sustain positive personal relationships within society. There is no economic incentive for capitalists to invest in families, communities, or society for the benefit of future generations. And, it's typically more profitable to find new people to exploit than to invest in education and training programs to restore the economic productivity of people. Capitalists contribute to social causes only when such contributions are expected to lessen social or political constraints to 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 programs. That is why capitalism is so efficient, but also why it inevitably tends toward *social entropy* – why it is not sustainable.

Economies are simply the means by which people facilitate their relationships with other people and with their natural environment in complex societies. There are obviously too many people in most societies today to barter with each other and to produce their own food, clothing, shelter, and other necessities of life. Economies actually *produce* nothing; they simply transform physical energy and social 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. 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 source of economic capital. Without capital, the economy will lose its ability to produce anything of economic value; it will have reached a state of *economic entropy* – it will no longer be sustainable.

In summary, capitalism gains its advantage over other economic systems by focusing on short-run, individual self-interests, and thus, not sacrificing current productivity for the benefit of future generations. Capitalism's productivity advantage is linked directly to its lack of sustainability. Therefore, it quite simply is not sustainable. This is not a personal opinion, but instead a logical consequence of the most fundamental laws of science. Sustainability ultimately will require a societal commitment to rely on renewable solar energy, not just to meet the needs of the current generation, but also to ensure adequate energy resources for future generations – to offset entropy. Thus, sustainability will require a new and different economic paradigm.

Obviously, many economists do not agree with this conclusion. In spite of the law of entropy, they seem to believe that humans will always be able to find an alternative for any energy resource they might deplete. In spite of the failure of economics to value benefits or costs accruing solely to future generations, many economists believe that free markets somehow will allocate scarce resources to meet the needs of those of

future generations. While such beliefs provide convenient justifications for the continued pursuit of short run, individual self-interests, they are beliefs without basis in fact.

Other economists recognize the risks to sustainability inherent in relying on markets. These *ecological* economists have proposed various political strategies and public policies for creating markets that fully reflect ecological and social costs and benefits, both within and across generations. They suggest assigning economic values to ecological and social *externalities*, thus allowing markets to allocate natural and social resources among alternative uses over time. However, attempts to internalize ecological and social externalities inevitably lead to misallocation of ecological and social resources.

Ecological and social resources 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 – a means of achieving something else.⁷ Direct ecological and social values are distinguished by their non-economic nature. The ecological and social benefits of sustainability are direct benefit, not derived economic benefits. If such direct benefits are ignored or denied, the value of sustaining the long run well-being of society and the integrity of the natural environment may be grossly underestimated.

Economic, social, and ethical values arise from 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 Thus, 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 provide each individual with a full opportunity to be an economically productive member of society. The primary means of fulfilling this obligation is by ensuring private property rights.

Social values arise from a different belief system. While beliefs within different cultures may be equally legitimate, the *democratic belief system* provides a convenient illustration of basic differences between economic and social values. 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 Under the democratic belief system, each person must be given an equal voice in assessing social costs or benefits because each person is of equal social dignity and worth.

Obviously, people have unequal economic influence because they are inherently unequal in ability, energy, 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, economic and social values must be measured differently and expressed separately, 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 – to ensure that all persons have equal access to 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 measure. All governments derive their authority from a consensus, or least an acquiescence, of the members of the society governed. Under most forms of government, the social and ethical values of a society are encoded in its constitution or charter, which defines 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 consensus within the culture is to be governed. A consensus does not necessarily require unanimous agreement, but those who disagree must be convinced of the wisdom of 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. Ethical values simply cannot be measured through either economic or political processes.

In summary, socially and ethically acceptable behaviors have some fractional economic values, which can be assessed through means currently used by ecological economists. However, the total value of an equitable and ethical society far exceeds these fractional contributions to the economy, and thus, the 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.

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, with very little economic incentive to do so. Obviously, an individual life is not sustainable because every living thing eventually dies. But, 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 the essence, i.e., the life, 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. The whole of a living system is something *more* than its parts, rather than something less, whenever the relationships among its parts, across space and over time, are interdependent or mutually beneficial.

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 likewise are defined by boundaries – skin, bark, scales, etc. – that selectively allow different elements – air, water, food, waste, etc. – 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 life, 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 by nature mutually beneficial. However, healthy relationships among humans and between humans and nature are matters of choice, not predetermined, and thus must be consciously and purposefully selective. 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, allowing individuals to contribute to the greater whole of their economy and culture. 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, including once-living, systems toward entropy is reflected in their tendency toward the dissolution or destruction of boundaries. Entropy is characterized by the absence of boundaries, “a state of inert uniformity of component elements; absence of form, pattern, hierarchy, or differentiation.” Boundaries invariably are destroyed as energy is released from matter or otherwise changes in form. When a log is burned to release its energy, the boundaries that once defined the structure of the log are destroyed – turned to ashes. When the human body converts food to energy, the boundaries that give the food form and structure are destroyed through digestion.

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

These abstract concepts are readily apparent in ecological, social, and economic reality. Agriculture, a living system critical to sustainability, 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 boundaries in agriculture to facilitate industrial production methods. Farmers in capitalistic countries have removed fences, i.e. field boundaries, to create larger fields, in order to accommodate more specialized, mechanized, larger-scale systems of production. The diverse crop and livestock enterprises that once characterized family farms have been abandoned to achieve greater economic efficiency. 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 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 and social 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 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 guise 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, which increasingly dominate the global food system. 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 economics and the poorer nations would see their lands and their farmers exploited to provide food for the wealthy. And when the ecological and social resources 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 value 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), and 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, which 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. Ultimately, all types of economic development must operate like sustainable organic farms, harvesting and storing solar energy to offset entropy and maintain long run productivity.

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 social and ethical dimensions of life must be given as high a priority as the economic. Sustainable capitalism, like sustainable farming, can be achieved only through balance and harmony among the individual, social, and ethical dimensions of reality.

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. 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 social and ethical bounds of a moral and just society, if it is to function for the well-being of people.

However, neoclassical economists, who appeared around the turn of the 20th 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 truly benefits from economic development, both within and across generations.

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 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 transnational 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 the natural, biological, and social 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 economic 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, the right of people to be protected from economic exploitation, and perhaps most important, the rights of people of future generations, equal to the rights afforded those of 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 – 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 international tribunal 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 question whether capitalism, with its inherent incentives for extraction and exploitation, can ever be constrained or guided by a moral and just society. The risks are obvious. In spite of its inherent risks, however, capitalism remains worthy of continued consideration because no other economic system has been found that can rival its efficiency in allocating resources that legitimately belong in the private, individual economy. Most economic decisions do not deprive anyone of their basic social rights or avoid any social responsibility. Nor do most economic decisions violate any fundamental or ethical principle of a society. These decisions legitimately belong in the individual, private economy.

Societies that have relied on communism, socialism, or religious theocracies to allocate resources for legitimately private uses have never been able to meet the physical, material needs of their people. Such systems inherently lack economic sustainability. Capitalism, with all of its inherent risks, is still humanity's best hope for economic sustainability. The possibilities and potentials of 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 social and ecological 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. Thus, sustainable societies must manage their ecological, social, and economic capital to sustain the wealth and well-being of their people – individually, socially, and ecologically. Sustainable economies must learn to rely on the principles of living systems to capture and store solar energy, not only to maintain their productivity but also to offset the inevitable tendency of non-living systems toward entropy. To achieve sustainability, societies must integrate life economics, life culture, and life politics to create new economies based on the paradigm of life.

End Notes:

- ¹ Donella H. Meadows, Dennis L. Meadows, Jørgen Randers, and William W. Behrens III. (1972). *The Limits to Growth*, (New York: University Books, 1972)
- ² The World Commission on Environment and Development, *Our Common Future*, ed. Gro Bruntland, (Oxford, England: Oxford University Press, 1987).
- ³ Paul Hawken, Amory Lovins, and L. Hunter Lovins, *Natural Capitalism*, (New York: Little, Brown, and Company, 1999).
- ⁴ Robert D. Putnam, *Bowling Alone*, (New York: Simon and Schuster, 2000).
- ⁵ For an in depth discussion of the sustainability of capitalism, see John Ikerd, *Sustainable Capitalism: A Matter of Common Sense* (Bloomfield, CT: Kumarian Press Inc., 2005).
- ⁶ For additional discussion of entropy, see Ikerd, *Sustainable Capitalism*, 2005.
- ⁷ V. Pareto, "Sunto di alcuni capitoli di un nuovo trattato di economia political del prof, Pareto," *Giornale degli Economisti*, no.10, (1900): 223, translated in Bruni, *Happiness*.
- ⁸ John Brewster, *A Philosopher Among Economists*, eds. Patrick Madden and David E. Brewster, (Philadelphia: J. T. Murphy Co. Inc., 1970), 60-61.
- ⁹ Brewster, *Philosopher*, 60.
- ¹⁰ For a more in depth discussion of living systems, see Ikerd, *Sustainable Capitalism*, Chapter 5.
- ¹¹ Sir Albert Howard. 1940. *An Agricultural Testament*. Oxford University Press: Oxford, England. also in Small Farms Library <http://journeytoforever.org/farm_library/howardAT/ATtoc.html>
- ¹² J. I. Rodale. 1948. *The Organicurist's Creed*, Chapter 8. *The Organic Front*. Rodale Press: Emmaus, PA, USA. <<http://www.soilandhealth.org/copyform.asp?bookcode=010133>>
- ¹³ Rudolph Steiner.1924. *Spiritual Foundations for the Renewal of Agriculture*. Gardner, M. (1993) (ed). Bio Dynamic Farming and Gardening Association of USA: Junction City, OR, USA. <<http://www.biodynamics.com/index.html>>
- ¹⁴ Adam Smith, 1904, original copyright 1776, *An Inquiry into the Nature and Causes of the Wealth of Nations*, *fifth edition*, ed. Edwin Cannan ,Methuen and Co., Ltd., London, Book I, Chapter 8, paragraph 55, also available at <<http://www.econlib.org/library/Smith/smWN.html>> .
- ¹⁵ Smith, *Wealth of Nations*, I, 11, 237.