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Transforming Ourselves, Renewing the Earth

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Wild foresting practices exemplify the ability of both communities and forest ecosystems to remain sustainable over long periods of time. Living biological and social systems are sustainable as long as they are able to manage and adapt to change. Sustainability is a function of a system's ability to meet its needs and maintain health, wholeness and resilience. The global economic system is based on destructive views and values that promote competition, exploitation, inequality, fear, violence and waste. For a global system to be sustainable, it must be based on constructive values that enable environmental, social and individual needs to be fully met.

Global events are being shaped by two trends: the dominant trend towards collapse (due to biophysical limits on growth) and the emerging trend towards societal transformation. While the key elements of a sustainable system have begun to emerge, they are still very fragmented. We need to support their development through local initiatives such as those that are embraced in wild foresting. In turn, the Earth Charter is a cornerstone in this vision. The Earth Charter was mandated by the UN as a set of fundamental guiding principles for the 21st century based on the values of social justice and environmental sustainability and protection.

Our current civilization may very well destroy itself

The world as we know it is coming to an end. Industrial civilization will soon collapse because of a fatal flaw: it is designed to grow constantly within a finite planet. On every continent water tables are dropping, forests are disappearing, major fisheries are degrading, topsoil is eroding, oil and mineral discoveries are becoming rarer and more expensive to mine and the air is being polluted. Humanity is currently using 25% more renewable resources each year than the biosphere is producing (World Wildlife Fund 2006). This is deficit spending, which means that we are now consuming the biophysical foundations of our civilization.

The pace of environmental destruction is likely to accelerate: between the year 2006 and 2050 the world population is projected to

increase from 6 billion to 8.9 billion (United Nations 2006), while world consumption is projected to almost quadruple (Poncet 2006). If present trends continue, global warming alone may cause the extinction of 25% of all existing animal and plant species within 50 years (Tidwell 2006).

Environmental and demographic trends alone indicate that the frequency, severity and scale of crises will escalate over the next two decades. These regional crises will progressively interact with each other to create global crises. A failing world economy will affect increasing numbers of people, who will begin to question the values and institutions of the current world order. At this point humanity will reach a bifurcation point: our unsustainable global civilization will either transform itself into a sustainable planetary system, or it will enter a prolonged period of escalating

Globalization marks the end of unexplored terrestrial frontiers.
An economic system based on limitless growth is no longer viable.

Globalization: the end of unexplored terrestrial frontiers

Shrinking global natural capital (principal)

Shrinking annual global natural income (interest)

Global economy has expanded past sustainable limits

Resource footprint of global population 25% larger than annual natural income
unsustainable

2006 C.E.
World population 6.5 billion
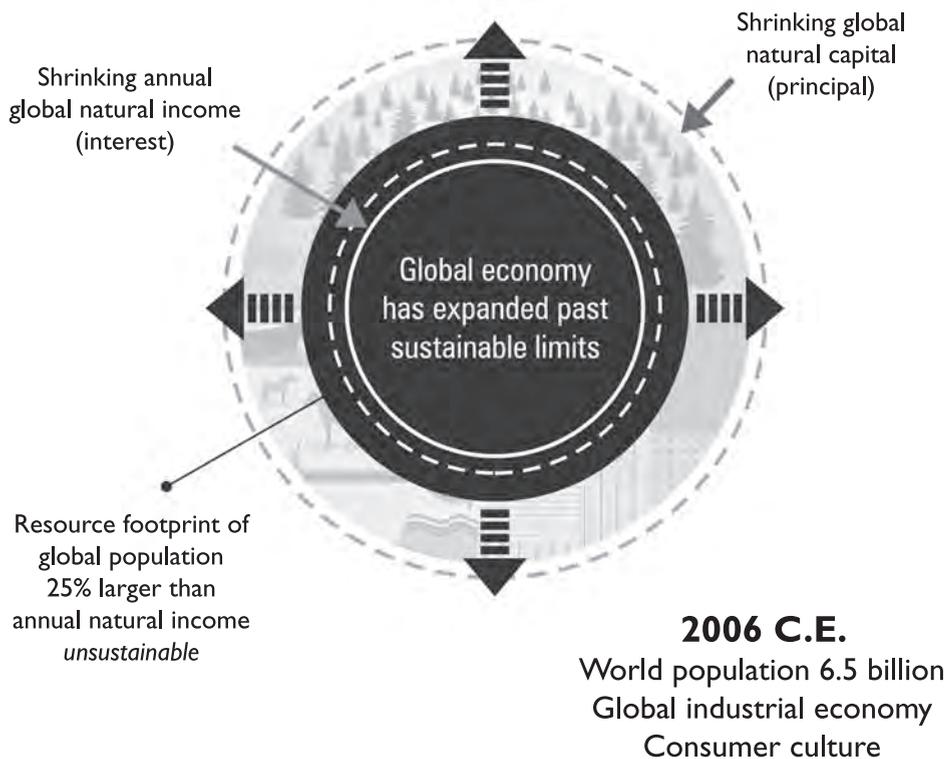Global industrial economy
Consumer culture

Diagram not to scale

crises marked by the collapse of vital ecosystems, conflicts over disappearing resources, population decline, political fragmentation, economic and social regression. One way or the other the world as we know it will soon end.

## Social systems are dependent on biophysical systems

The long-term viability of human societies is utterly dependent on the long-term viability of the biophysical systems that support them. Consequently, the long-term sustainability of human systems requires the maintenance and restoration of ecosystem integrity, resilience and biodiversity. Industrial economies are based on a mechanistic worldview: reality is made up of discrete objects rather than inter-related systems. As a result they convert *natural capital* into manufactured and financial capital without taking into account environmental costs.

Driving our unsustainable global economy is an unsustainable culture. The consumer culture creates false needs for power, status

Will economists realize that fresh air and water have value?

Orthodox economics dismisses social and environmental costs as *externalities*. This means that values such as health and well-being are not included in economic modeling, planning or accounting.

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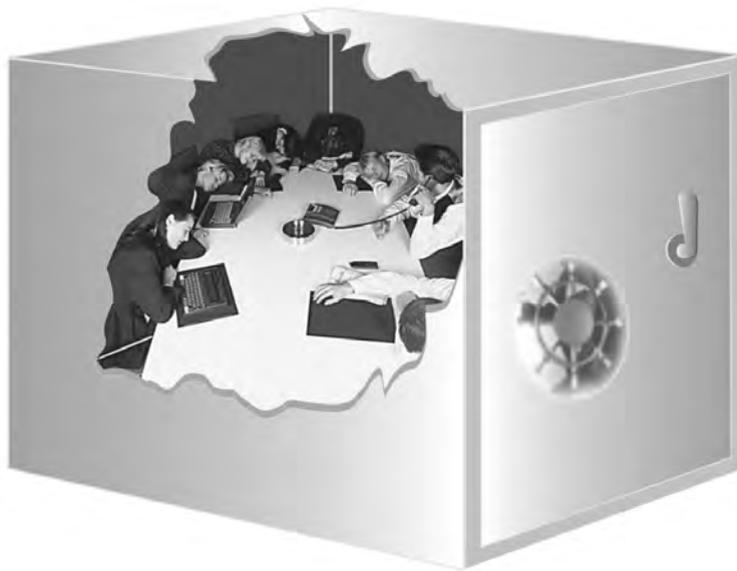
Will Economists Realize that Fresh Air and Water have Value?
*Money is not the real bottom line.*

and wealth instead of satisfying real needs for meaning, community and survival. Consumer society creates the illusion of scarcity in the rich world, where people try to satisfy their emotional and spiritual needs through consuming things, and real scarcity in the poor world, where the resources do not exist to meet basic human needs for food, shelter, health and education.

Because real human needs cannot be satisfied by a consumer culture, people will never feel that they have enough, and there will never be an end to the destruction of the environment. However, our most basic need is to survive, and without a livable environment we will not survive. A culture based on greed is not just morally wrong, it is unsustainable.

Technological solutions can't fix social problems

Every developing country in the world is counting on technological breakthroughs and
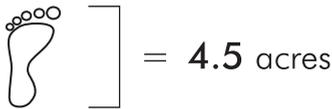
= **4.5** acres   Each person's fair **earthshare** in 2003.

Average footprints increase each year

= **23.5** acres   The average footprint* of **US citizens** in 2003.

Human economies will only survive over the long term if they are able to function within the carrying capacity of planet Earth.

The resources of 4 more planets would be needed for everyone in the world to live like Americans. The globalization of the American consumer society is not possible.

* The per capita ecological footprint is a tool for measuring the average annual resource consumption and waste output of individuals.

Estimates based on 2003 data. From: WWF *Living Planet Report 2006.*

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increased production to provide them with the standards of living of industrialized countries. It can't be done. Despite this fact, in almost every country advertising is urging people to live like Americans. The people of the world are being sold an impossible dream.

Although modern industrial development has improved the living standards of much of the world's population, all further plans for meeting the needs of humanity through increasing the consumption of natural resources are unrealistic, given that the carrying capacity of the biosphere is already in decline. In the coming decades the global economy will have not more but fewer resources at its disposal. It will not be enough to reduce the rate of destructive growth if we wish to avoid the total collapse of human civilization: the process of destruction has to be reversed and the environment restored.

Moreover, in order to meet the minimal needs of a growing global population, resources will have to be redistributed. At present global inequality is steadily increasing (Milanovic 2005). Ecosystems will only be preserved when humans enjoy peace and basic prosperity, since desperately poor people are often compelled to scavenge their environments and fight over scarce resources in their efforts to survive.

Many people hoped that the introduction of information technologies would reduce the need for natural resources and human labor. Instead profits have been increased through increasing the intensity of production. Smokestack industries have not disappeared; they have simply been transferred from high-wage to low-wage countries. New technologies may delay the collapse of industrial civilization, but they will not prevent it. While technological advances will reduce waste and improve efficiencies, they will not change the values and social structures that promote unsustainable exploitation, inequality, greed and war.

Our unsustainable global civilization cannot be made sustainable

It will be argued that the collapse of contemporary civilization will not happen because governments and businesses will eventually act to avert the developing crises. The reality is that the politicians and business leaders that govern our world will not and cannot reallocate the resources of their countries and corporations in order to develop a peaceful, equitable and sustainable global system. All the material resources and scientific knowledge needed to resolve the major problems on the planet have been available for decades, but the will to change the political and economic priorities of society has not.

We can be certain that politicians and business leaders will increasingly respond to the collapse of vital ecosystems and the rising cost of scarce resources through implementing policies for *sustainable development*. However, to date most of these policies have been designed to sustain growth (quantitative expansion) rather than to develop sustainability (qualitative transformation). Attempts to adjust the existing system without making fundamental changes will not work because all growth-based development is ultimately unsustainable (Daly 2005).

A civilization will only be sustainable if it can satisfy humanity's real needs

The sustainability of a living biological and social system is determined by its ability to have its essential needs met on an ongoing basis.

Meeting these needs enables the system to maintain itself over a relative time period with sufficient resilience to withstand normal environmental perturbations and stresses and to reorganize in healthy ways in response to changing conditions. Open living systems are sustainable as long as they can adjust in order to continue functioning within existing parameters, or evolve in order to function within new parameters.

In the 1987 *Brundtland Report*, sustainability was defined as "meeting the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development 1987). Sustainable development has also been defined as "improving the quality of human life while living within the carrying capacity of supporting ecosystems" (World Conservation Union et al. 1991). Human needs are more than simply material needs for food, shelter and safety: they are also emotional, intellectual and spiritual needs — for meaning and belonging, for relationship to both community and nature. Since living systems can only survive if they are individually healthy and members of healthy communities and ecosystems, it is more accurate to say that the essential needs of all biological and social systems are for health and wholeness.

The self-destructive behaviors of industrial civilization prevent it from meeting real needs. Complex human societies will only survive if the current unhealthy and unsustainable global economy is replaced with a sustainable economy based on the maintenance of social, physical and biophysical health and wholeness. Human society will only be able to end scarcity, and international competition over limited resources, when it is able to satisfy the minimal physical, emotional, mental and spiritual needs of all the humans on the planet. This means that we need to replace an unsustainable system that is designed to increase the quantity of things, with a sustainable system that is designed to improve the quality of people's lives. And, in turn, because basic human rights and a quality of life cannot be achieved in a degraded and toxic environment, these goals will only be met by also meeting the needs of the planet's biophysical systems.

Human needs include needs for community, meaning, identity and justice

As industrial civilization expands, it consumes and degrades not only natural resources but also other civilizations and cultures. When it comes in contact with traditional agrarian or tribal societies, the force and attraction of its superior power and wealth begin to break down the economies, values and social institutions of the older societies.

Rapid urbanization has been accompanied by soaring rates of poverty, crime and addiction. People compete and fight over material goods when they fear material scarcity, and people compete and fight over religious, ethnic and national issues when they fear the loss of cultural identities.

Industrial civilization perpetuates conflict by perpetuating fear and alienation: it pits the individual good against the common good and material needs against emotional needs. In order to eliminate war and preserve the environment, a sustainable global system will have to meet our needs for meaning, identity and justice. While current social structures facilitate competition, inequality, injustice and conflict, sustainable structures will need to facilitate cooperation, equality, justice and peaceful conflict resolution.

A sustainable global civilization must value interdependence and diversity

Two mass extinctions are taking place on our planet. Our current civilization is not only destroying species, it is also destroying cultures. There were 6000 languages spoken on Earth in the year 2000. If trend continues, half of these will have disappeared by 2050 (Davis 2001). With the extinction of each ancient culture, humanity will lose a unique perspective along with knowledge accumulated over thousands of years. Since human knowledge and behaviors are primarily transmitted through culture, the loss of cultural diversity threatens the survival of complex societies.

Systemic resilience is lost with the destruction of both human cultural diversity as well as ecosystem biodiversity, increasing the likelihood of widespread social and biophysical collapse (Berkes et al. 2003). As the many varieties of human civilizations and societies become undifferentiated parts of an expanding societal monoculture, the system loses checks and balances. The result is an increasingly closely connected but unstable world system: new crises can rapidly spread throughout the system's political and economic structures.

Viable societies will require more efficient and less bureaucratic social structures

In the past many successful societies have expanded to the point where their resources could no longer maintain their increasingly complex social structures. When easily accessed resources were exhausted, they were forced to seek out ever more distant and expensive resources. Eventually the political, economic and military cost of acquiring new resources reached an unsustainable point and the societies collapsed. Our industrial civilization, with its bureaucratic structures and expansionist economy, is following the same unsustainable trajectory of other great civilizations (Tainter 1988).

The majority of industrial countries are democratic and capitalist to varying degrees. The competing nations, institutions and corporations in industrial societies have social structures that distribute power and wealth unevenly within and between countries. Elites in every country and institution collect information, make decisions and then enforce compliance through regulations and sanctions. Because this societal system is based on inequality, it can only be maintained through complex financial and regulatory bureaucracies and repressive military, police and judicial systems.

In order to meet the real needs of humanity in a sustainable fashion, human societies must eliminate unnecessary waste, including the enormous cost of regulation and repression. Currently much of the world's economy is engaged in unproductive activities connected with the control of power and wealth. If complex societies are to survive, humanity must develop new economic structures that utilize energy and resources more efficiently and new political structures that more efficiently process information and allocate tasks and resources.

Sustainable societies must be decentralized and self-regulating

The concentration of information and decision making at a few powerful centers creates bottlenecks in which critical parts of the social network are overloaded while most of the system is underutilized.

The practical alternative to centralized decision making is decentralized decision making. In order to function more efficiently, political and economic structures will have to be transformed from being primarily centralized to being primarily decentralized, and from being primarily focused on the production of quantities of goods for trade to being primarily focused on improving the local quality of life. A decentralized network can improve efficiency by giving all its parts the ability to respond flexibly and autonomously to local conditions. The need for energy and resources can be reduced by having most social and environmental needs met at the local level with local resources (Madron & Jopling 2003).

Although most needs can be met at a local level, not all functions can or should be devolved. Indeed, national and international environmental and human rights standards are necessary as buffers to guard against any infringement of these rights at the local or regional levels. A decentralized network will require a holarchical structure (in a holarchy each successive holon, or system, transcends but includes its predecessors) that supports the appropriate distribution of power and resources and the appropriate self-regulation of each node and level. Although most industrial countries are democracies, most people have little say in the day-to-day decisions made in their workplaces or communities. To the extent that people can participate in the political process, many do not because they are poorly informed and motivated. A major cause of public apathy is that knowledge in industrial civilization is fragmented, specialized and controlled.

In reality we have not yet made the transition from an industrial economy to an information economy. Information technologies will not become an integral part of a new societal system until sustainable holarchical social structures begin to form in the midst of the collapse of industrial civilization.

Sustainable societies require integral worldviews

Life in the consumer society is morally and intellectually contradictory, and this confusion is corrosive and disempowering. Because the consumer worldview represents the commodification of both humans and the natural world, it promotes the illusion of a separate self that exists independently of both the larger human and biophysical communities (Sivaraksa 2002). On the other hand, more local and decentralized communities help to foster a greater sense of caring both for other humans and for the local environment (Norberg-Hodge 2002).

People and communities will need greater access to the theoretical and practical tools required for self-direction, self-regulation, self-organization and constructive action. For this to occur the dominant industrial model must give way to an integral model that recognizes the inextricable interconnectedness of both human and biophysical systems and the environmental limitations placed on human activities. A fragmenting worldview must be replaced with an integrating worldview, since people can only control their lives when their understanding of reality permits them to act effectively in the real world.

A sustainable society will need values and social structures that support the relatively egalitarian distribution of power, information and resources to every part of the system. The shift from a primarily centralized societal system to a primarily decentralized societal system

is the shift from partial democracy to participatory democracy.

Entering the bifurcation: civilization will either collapse or transform

There are only three possibilities for the future of civilization:

(a) Cascading environmental crises will rapidly escalate, producing uncontrollable economic and political crises. At some point these crises will cause the catastrophic collapse of the societal system. This process may produce irreversible damage to social and biophysical systems.

(b) Political and business leaders will proactively respond to the growing crises through supporting environmentally friendly technologies, introducing policies for sustainable development and preventing political unrest. These efforts will slow the rate of environmental destruction and help to extend the life of industrial civilization. However, attempts to improve the system without redesigning its unsustainable structure will ultimately fail. Over time efforts to manage crises will consume more and more scarce resources, and industrial civilization will collapse.

(c) As regional and global crises increase and the world economy begins to fail, the ability of existing political and economic structures to influence and control people will weaken. Growing numbers of people will question the values of contemporary civilization and start to organize alternative structures. Maintaining and restoring large areas of the earth's biosphere will become an international priority. At this point a successful transformation to a sustainable societal system is possible if new values and technologies that reflect developed appropriate worldviews — ones capable of organizing functional new social structures. Should this happen, the collapse of contemporary civilization will become a springboard for the evolution of a sustainable planetary one.

We believe that we are currently beginning a period of major societal and biophysical transformation. Since World War II there has been a dramatic accumulation and concentration of wealth as well as the rapid conversion of natural capital to manufactured and financial capital. With this has also come the emergence of greater vulnerability, due to the increasing number of interconnections that link that wealth and those that control and maintain it. This growing connectedness leads to increasing rigidity and brittleness as the system becomes ever more tightly bound together. This has reduced resilience and the capacity of the system to absorb change, thus increasing the threat of abrupt change.

We are entering what panarchy theorists refer to as the *backloop* of reorganization, we shall witness a collapse of existing structures and accumulated connections, and the release of bound-up knowledge and capital (Gunderson & Holling 2002). On the one hand, this collapse will inevitably initiate a reversion to *lower* levels of response in the form of *blood-and-belonging* and *us/them* fear-based security reactions. On the other hand, the creative

aspect of this backloop releases knowledge and the appearance of new or latent elements which can then be reassociated in novel and unexpected ways to trigger regrowth and reorganization into fundamentally new forms of learning and innovative social patterns.

The emergence of an integral worldview is critical for the creation of a sustainable societal system

Evolution is an unpredictable process that involves the emergence of previously unknown properties that take hold and spread because they are more relevant and functional than previously existing attributes (Laszlo 1987). While we know that industrial civilization is no longer viable, we do not know all the new properties that will evolve during the transformation of the current global system to a sustainable alternative system. We can be sure that the process of transformation cannot be dictated by any center: evolution is an organic process, and a sustainable, decentralized and empowered societal system can only develop in a process of self-creation and self-organization.

New paradigms began to develop over a hundred years ago with the discovery of force fields and relativity theory. Important emerging elements of the new integral society are now everywhere. Some examples are quantum mechanics, computer networks, feminism, ecology, conflict resolution, the peace movement, non-governmental organizations and the International Criminal Court.

However, the emerging property that will be critical for the creation of a sustainable global societal system is an integral worldview, as it will provide the organizing pattern around which sustainable social institutions can be formed. The articulation of this integral worldview will assist with the development and integration of emerging theories, values and organizations. Many people have contributed to the science behind an integral worldview; we are writing this article in order to help it emerge as a coherent perspective. (We see this integral approach as including great diversity of local and personal worldviews that can meet in various larger regional forums up to the global level.)

Peaceful transformation will only occur if new structures Include and transcend the old

In order to make a successful transformation to a viable global system people must be educated about our common need: if we wish to survive, all human societies must become sustainable. The key to successful conflict resolution is maximizing cooperation around common interests while minimizing competition over scarce resources and differing values (Cloke 2001).

Resistance to change occurs when people believe that they have more to lose than to gain. The expansion of industrial society is still being resisted by many agrarian and pre-agrarian societies because they fear the loss of meaning and community. A successful transformation to a sustainable civilization must include and transcend older societal systems, retaining the positive aspects of the older societies while meeting a wider range of needs. Although ruling elites and societal inertia will inevitably oppose change, much opposition can be avoided through promoting values of diversity and inclusiveness.

The cure for a dying planet cannot be the replacement of one monoculture by another; instead we need to create a global system that promotes and protects both cultural diversity and biodiversity. In order to support resilience,

a viable global system should include a variety of sustainable societal systems from simple (e.g. hunter-gatherer economies) to complex (e.g. information-based economies).
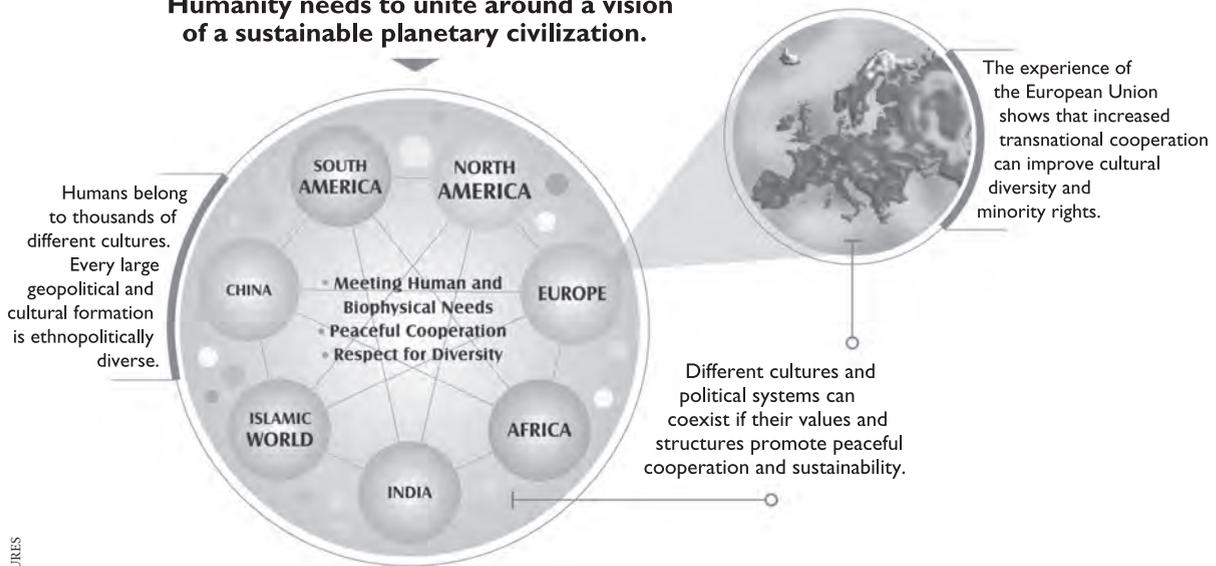
Organizing for change

People in every country need to know that while systemic change is inevitable, destructive outcomes are not. Positive change is possible if concerned people unite around a common vision of a peaceful and sustainable planet. The Earth Charter calls for international agreement to "bring forth a sustainable global society founded on respect for nature, universal human rights, economic justice and a culture of peace" (Earth Charter Initiative 2000).

The vision of a sustainable planetary civilization

A global movement needs to be mobilized to secure international agreements on the following points:

(1) Because our planet has finite resources, there are limits to growth. If the global economy continues to exceed sustainable limits it will destroy its biophysical foundations and collapse.

(2) Our collective survival depends on human economies becoming sustainable.

(3) Essential human and biophysical needs must be met in order for human economies to be sustainable.

(4) Resources must be redistributed to meet essential human and biophysical needs.

(5) Cultural and genetic diversity is essential for health and wholeness.

(6) In order for different cultures and societal systems to coexist, their values

Humanity needs to unite around a vision of a sustainable planetary civilization.

Humans belong to thousands of different cultures. Every large geopolitical and cultural formation is ethnopolitically diverse.

The experience of the European Union shows that increased transnational cooperation can improve cultural diversity and minority rights.

SOUTH AMERICA • NORTH AMERICA • CHINA • EUROPE • ISLAMIC WORLD • AFRICA • INDIA

• Meeting Human and Biophysical Needs
• Peaceful Cooperation
• Respect for Diversity

Different cultures and political systems can coexist if their values and structures promote peaceful cooperation and sustainability.

Values based on *The Earth Charter (2000)*

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and structures must promote peaceful cooperation and sustainability.

The earth charter – developing a transformative vision

We are at a point in human history when we are witnessing two very different world views and visions for the future of this planet — a dysfunctional expansionist model and an emerging ecological one. Over the past decade, at the same time that proponents of international free trade were arguing that commercial interests should supersede all other interests including regional and community environmental and human rights standards, a global United Nations Earth Charter was being prepared that recognized that the well-being of individual and social systems is utterly dependent upon the well-being of the ecosystems in which they are embedded or depend. Indeed, the Earth Charter challenges humanity to acknowledge both the intrinsic value and sacred nature of the world in which it lives. As such, its advocates argue that it goes a long way to help formalize many of the values that are desperately needed if humanity and the millions of other sentient beings with whom we share this planet are going to have a quality of life and viable future. Indeed, the six points listed above are integral components of the Earth Charter's vision.

With the 1972 United Nations Stockholm Conference on the Human Environment and again with the Brundtland Commission Report in 1987, it was becoming increasingly obvious that individual and collective human rights can only flourish in a biophysical world that is also flourishing. In other words, it is virtually impossible to obtain one's right to basic health and living standards when the environment in which one lives is a toxic waste heap. Consequently, an Earth Charter that set forth the principles and values needed for ecological security was expected to be a major outcome of the 1992 Rio de Janeiro Earth Summit. Agreement among various governments was not reached, and so in 1995 at the Hague a broad multi-constituency process was set up to draft a charter that would reflect cross-cultural values in terms of global interdependence and human and biophysical rights and obligations.

The Earth Charter's Preamble underscores the idea that humanity has reached a critical bifurcation:

> We stand at a critical moment in Earth's history, a time when humanity must choose its future. As the world becomes increasingly interdependent and fragile, the future at once holds great peril and great promise. To move forward we must recognize that in the midst of a magnificent diversity of cultures and life forms we are one human family and one Earth community with a common destiny ... Towards this end, it is imperative that we, the peoples of Earth, declare our responsibility to one another, to the greater community of life, and to future generations (Earth Charter Initiative 2000).

With the beginning of the 21st century it has become increasingly apparent that current economic values and models of development are completely at odds with the sustainability of biophysical systems and, ultimately, with our own and other species' long-term survival. Consequently, in preparing for a sustainable society, we must be clear about one thing: the status quo will not suffice. Moreover, any

discussions regarding social and biophysical sustainability must be predicated upon a restructured South-North dialogue as well as upon a very different set of human and environmental values and practices. Meeting essential human and biophysical needs must be given the highest priority, while at the same time articulating a new vision and world view that can give hope and be a viable alternative to the dominant current one. The Earth Charter has been drafted as a guiding set of principles to this end.

The articles in this anthology underscore the depth of commitment on the part of individuals, communities and NGOs from around the world to discover ways to practice viable forms of living while simultaneously supporting the health of the ecosystems within which they reside. In turn, these practitioners of ecoforestry, permaculture, ecoagriculture and other manifestations of *wild foresting* are already demonstrating how various principles contained in the Earth Charter are currently being put into practice. Such examples show us that this new direction is not only possible but that, by helping to maintain the long-term viability of the millions of human and non-human forms with whom we share this planet, we shall be significantly deepening the meaning and quality of our own lives.

Editor's note: Some of the material in this article is also found in the authors' articles "The Collapse and Transformation of Our World," *Journal of Future Studies,* 11(3), 2007, and in "The Requirements of a Sustainable Planetary System," *Social Alternatives,* 26(3), 2007.