
The Requirements of a Sustainable Planetary System

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Abstract

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. Because the global system is now environmentally and socially unsustainable, it will collapse in the coming decades. It is unsustainable because it 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.

Since societies are organized by culture, a sustainable system will require a paradigm shift to an integral (holistic) worldview capable of organizing a functional system with congruent values, social structures and economic processes. Global events are being shaped by two trends: the dominant trend towards collapse 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 presenting a clear and unifying vision of a sustainable alternative. The Earth Charter is the cornerstone of this vision.

Keywords

Sustainable, global, system, society, functional, paradigm shift, needs, health, wholeness, resilience, integral, collapse, transformation, Earth Charter

A functional definition of sustainability

In the Brundtland Report (World Commission on Environment and Development 1987, p. 1), sustainability was defined as the ability to meet the present needs of humanity without compromising the ability of future generations to meet their own needs. 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, p.10).

In this article, we explore and develop the relationship between sustainability and needs. Our basic premise is that the sustainability of every living system (plants, animals and societies) is based on its ability to meet its needs. This functional perspective provides us with a clear understanding of societal and environmental interrelationships and dynamics.

A thing is sustainable if it can persist over time. Sustainability does not mean fixed or static, since open systems are constantly changing in response to their environments. The sustainability of a living biological and social system is determined by its ability to have its essential needs met on an ongoing basis. These enable it 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.

A common mistake is to describe essential needs as only minimal physical inputs, since all living systems are members of wider communities and ecosystems. For example, 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 simultaneously individually healthy and members of healthy communities and ecosystems (i.e. healthy parts of healthy wholes), it is more accurate to say that the essential needs of all biological and social systems are for health and wholeness.

Because all systems have internal structures and external boundaries, failure occurs when the parameters of the system are exceeded. Open living systems are sustainable as long as they are sufficiently healthy to manage and adapt to change, either by adjusting in order to continue functioning within existing parameters, or by evolving in order to function within new parameters. They become unsustainable at the point when further changes will cause system failure. Ultimately sustainability is not (per se) a moral question, but a question of functionality within parameters.

The sustainability of ecosystems and social systems can be predicted using objective data alone once we discover the critical thresholds at which system failure occurs (e.g. if the populations of keystone species are stable or declining, or if supplies of critical resources are increasing or decreasing). However, this does not mean that sustainability is a separate issue from ethics. Because worldviews and values motivate and organize social structures and economic processes, all economic and environmental outcomes are culturally determined. The reason why the global system is unsustainable is because it is driven by destructive values.

Defining the problem: why the global system is unsustainable

In the coming decades a combination of failing ecosystems and resource shortages will destabilize and eventually collapse the global economy. This will happen because the continuous expansion of the global economy is impossible on a planet with finite resources.

In the *World Development Report 2003*, the World Bank estimated that, at current rates of growth, global consumption will increase by 400% between 2000 and 2050. This assumes that enormous new quantities of fresh water, wood, minerals, oil and gas, grains, fish and other essential inputs will be found to produce four times as many products. The problem is that these raw materials do not exist. Nicholas Stern, the bank's Chief Economist and Senior Vice-President, said in the same report, "The \$140 trillion world of five decades time simply cannot be sustained on current production and consumption patterns" (World Bank 2003).

In fact the global economy cannot continue to produce and consume even at current levels with current technologies: the planet does not have the resources and cannot recycle the waste. The global economy has been running an environmental deficit since 1979 – consuming not only the interest from biological capital but also the productive capital (World Wildlife Fund 2006, pp. 2-4). It is only a matter of time before environmental destruction causes the devastating collapse of major ecosystems (forests, fisheries, river systems, etc.). Crippling shortages of key raw materials, energy, fresh water, and food are already beginning to take place in every region of the planet.

Thomas Homer-Dixon in his recent work, *The Upside of Down: Catastrophe, Creativity, and the Renewal of Civilization*, identifies five major interlocked "tectonic" stresses that are building up beneath the surface; in the very near future they will likely manifest in a "perfect storm." These are both societal and environmental and include the increasing disparities between rich and poor countries and the growth of megacities, especially in the have-not regions of the planet; the increasing use of non-renewable fossil fuels to power the expansion of the industrialized world; economic stresses and growing uncertainties in international financial markets as well as the growing rift between the wealthy and the poor within countries; the collapse of terrestrial and marine ecosystems and loss of biodiversity; and the uncertainties posed by global climate change (Homer-Dixon, T. 2006).

In the near future national and global shortages will force up the price of food, energy and raw materials (National Post 2004). The combination of rising prices, contracting economies and increasing unemployment will impact the world's poor the hardest, and the result will be massive social unrest. In turn, cascading environmental, economic and social crises will prove unmanageable, resulting in catastrophic failures.

The global issues we are confronted with are not merely managerial and technological problems. More than anything else they point to a profound cultural crisis – a crisis in our current values and ways of thinking – values and ways of thinking that have become global in their scope. This crisis has been precipitated not by the failure of the expansionist industrial system,

but by its overwhelming success. For instance, in the 20th century the global economy expanded 20 times, the consumption of fossil fuels grew by a factor of 30, and industrial production increased by a factor of 50 – with most of the growth taking place after 1950 (MacNeill J 1990, p. 1).

The expansionist economic model of the Industrial Age was viable as long as there were new sources of raw materials waiting to be discovered. With globalization the world has run out of unexplored frontiers. In the last couple of decades the expansionist economic model has become unsustainable.

Governments and businesses are not unaware of the dangers posed by mounting environmental problems and resource shortages. Awareness of environmental problems is growing, and issues such as climate change, increasing energy prices, and water shortages are rising to the top of political and business agendas. Some of the fastest growing sectors of the global economy are renewable energies, water and waste recycling, biotechnologies and nanotechnologies (Richtel 2007).

These new technologies will significantly reduce the amount of raw materials required to produce finished products. However, increasing economic efficiency does not, by itself, reduce total consumption. As long as more people are consuming more resources per capita, the global consumption of raw materials will increase.

Around the world policies are also being introduced to support “sustainable development”. However, it is now 20 years since the publication of the Brundtland Report's *Our Common Future*. Since that time the idea of sustainable development has tended to be co-opted by advocates of the Expansionist World-view, with the result that to date most of these policies have been designed to sustain growth (quantitative expansion) rather than to develop sustainability (qualitative transformation) (Taylor D 1992, pp.26-33). These efforts are attempts to adjust the existing system without having to make fundamental changes, but they will not work because all growth-based development is ultimately unsustainable (Daly H, Cobb Jr. 1989, pp. 190-206).

Although new technologies will delay the collapse of industrial civilization, they will not be able to prevent it. While technological advances will reduce waste and improve efficiencies, they will not change the values and social structures that promote unsustainable economic expansion, environmental destruction, inequality, greed and war. Technological solutions cannot fix social problems.

Meeting essential human needs

The Brundtland Report popularized the concept that sustainable development means meeting the needs of present and current generations. However, it only defined needs in terms of basic subsistence – e.g., employment, food, energy, housing, water supply, and health care (World Commission on Environment and Development, pp. 54-55). But human needs transcend subsistence ones and include affection, love, and belonging; individual and collective identity and self-esteem; the need for knowledge and understanding; the need for personal fulfillment and creativity; the need for personal, collective, and cultural security, the need to be able to participate in groups and political institutions; the need for a certain level of leisure and personal freedom; and the need for transcendence and feeling of connection to the larger Cosmos.

The early works of Abraham Maslow (1968), and more recently the writings of the Chilean economist Manfred Max-Neef (1992), and John Burton (1990) have argued that these needs are universal to all humans although they are satisfied differently according to cultural variations and historical periods. And whether these needs are expressed hierarchically, as set forth by Maslow, or whether they are sought more simultaneously, it is generally agreed that unmet human needs are a leading factor in individual, group, and societal conflict. Moreover, false needs are often attempts to substitute for the real need that is lacking, as for example when status symbols take the place of affection or belonging. We often witness the situation in today's world whereby authoritarian governments, under the pretext of meeting human security needs, in fact destroy and limit the other needs for individual freedom, creativity and political participation.

The peace and conflict theorist John Galtung defines structural violence as situations where social structures prevent individuals from achieving their full human potentials (Galtung 1969). Structural violence occurs whenever institutions prevent real needs from being met – for example through denying access to food or medicine, through physical violence, through emotional neglect or trauma, or through social exclusion from education or participation. It is accurate to say that the world system is based on violence because its structures are designed to maximize the exploitation of both humans and the natural world.

Driving our unsustainable global economy is the unsustainable culture of the consumer society. It creates false greeds for power, status and wealth instead of meeting real needs for meaning, community and survival. Advertising creates the illusion of scarcity in the rich world, where people try to satisfy their emotional and spiritual needs through consuming things they don't need. Many of these goods are produced in the economically poorer regions of the world where real scarcity exists and people do not have access to the resources they need to meet basic subsistence human needs for food, shelter, health and education.

Because the consumer culture produces both insatiable wants (greed) and poverty, people will never feel that they have enough and there will never be an end to increasing consumption and constant environmental degradation. A culture based on insatiable levels of consumption is ultimately unsustainable.

Underlying the competitive materialism of the consumer culture is the secular, dualistic and mechanistic worldview of the Industrial Age. In the world today the dominant view is that reality is a hierarchy of separate objects, rather than a holarchy of interrelated systems. In this alienated reality, competition for power and resources is the natural state of existence, as is the exploitation of the weak by the strong. The popular media accept that it is normal for billionaires to thrive next to starving children, and for weapons of mass destruction to be developed in tandem with the mass extinction of species.

The industrial system perpetuates conflict by perpetuating fear and alienation; it pits the individual good against the common good and material needs against emotional needs. Identity and resource conflicts only occur when people believe that their needs are not being met or are being threatened. 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.

In order to eliminate war and preserve the environment, a sustainable global system will have to meet the full range of human spiritual, social, material, and biophysical needs, including 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.

Meeting essential biophysical needs

Because basic human needs cannot be met in a degraded and toxic environment, meeting human needs involves meeting the needs and diversity of the planet's biophysical systems. This will only be possible when the global system has been redesigned to focus on improving the quality of lives rather than on increasing the quantity of things. Indeed, not only does the current expansionist world view inhibit the meeting of essential human needs, but it actually fosters the destruction of the biophysical world upon which the long-term viability of human systems ultimately depends.

Like all open systems that exist far from thermodynamic equilibrium, both marine and terrestrial ecosystems, when perturbed beyond certain threshold levels, will often respond not in gradual and incremental ways, but rather in terms of sudden discontinuities and collapses. In particular this occurs when there has been an ongoing loss of ecosystem diversity and the

resilience that results from both high levels of biodiversity and the redundancy of overlapping functions among various species. Indeed, ecosystem resilience is related to the magnitude of shock that a given ecosystem can experience and yet maintain itself within a given set of parameters, as well as its ability to reorganize and adapt to such shocks (Berkes, F et al. 2003, p. 13).

The Millennium Ecosystem Assessment has concluded that 16 out of 25 services that ecosystems provide to humanity are critically degraded (Bass S 2007, p. 2). As the overexploitation of both local and global ecosystems is fast leading to the increased vulnerability of biophysical systems and their inability to withstand perturbations and shocks without irreversible collapse, it is incumbent to plan for both the maintenance and restoration ecological integrity and resilience (Westra, L et. al. 2000, pp. 19-41).

To reach this goal there must be a concerted attempt at both the local and international levels to both protect and restore all varieties of ecosystems across their natural range, while maintaining viable populations of all native species in their natural patterns of abundance and distribution. As well, areas of marine and terrestrial ecosystems must be protected and restored to allow for their ongoing maintenance and evolution. This is especially critical in this period of global climate change with its attendant uncertainties in terms of precipitation and temperature variations and spread of invasive species.

Three-quarters of the planet's flora and fauna are found in some of its poorest latitudes, between 20 degrees North and 20 degrees South. Consequently, in order to meet essential social and biophysical needs and secure the long-term sustainability of both the South and the North, there will have to be a substantial redistribution of wealth, financial and technological resources from the "have" regions to the "have-not" regions of the globe (Taylor D, 1994, p. 16).

How societal systems function

Because every living system depends on its environment for matter and energy, its sustainability is a function not only of its internal health, but also of its environmental relevance (fitness), and the health of its environment. The survival of a society will be jeopardized if the society is unable to adapt to changing environmental conditions, and/or if its environment becomes less productive, for example due to destructive economic practices.

This means that societies must constantly maintain both system functionality and environmental relevance, even during times of major internal and external changes. We can understand these dynamics through examining the internal structure and function of societal systems.

Human bodies are living biological systems that are organized through genetic patterns coded in genes. Societies are living social systems that are organized through symbolic patterns coded in culture. Culture provides the meanings and symbolic tools needed to direct, organize, and integrate social systems into functional structures capable of maintaining and reproducing themselves through processing information, energy and resources from their environments. Institutions create the structural framework for organizing and regulating group and individual behaviours. Social behaviours in turn condition individual psychological structures.

Institutions are sub-systems responsible for necessary societal functions. Every societal system, from simple bands of hunter-gathers to complex industrial civilizations, requires the same basic institutional configuration in order to survive over time. This configuration (termed the Universal Culture Pattern), provides societies with the essential functions of direction, communication, regulation, economic production, social organization and reproduction.

Living systems are constantly re-equilibrating in response to internal and external developments. They use negative feedback to reduce perturbations (fluctuations) and maintain their systems within functional parameters. Societies are stabilized through system components such as cultural values and social regulation (e.g. the use of social and economic rewards and punishments to reinforce social norms and minimize deviations).

Societies change due to positive feedback coming from internal developments in societal and material technologies (e.g. new philosophies or economic processes) or by changes in their external environments. The external environment biases a living system to move to a configuration that optimizes its relationship with its surroundings. This process is called natural selection.

Societal systems with similar worldviews and structures emerge and endure because they have congruent, stable and environmentally relevant configurations. For example, similar conditions and stages of development created the long-lasting agrarian kingdoms of Egypt, China, and Central America.

Because living social systems are human organizations, social structures serve individual needs as well as societal needs. New material and societal technologies develop in response to human needs for increased meaning and improved living standards as well as to societal needs for increased environmental and spatial control. These developments eventually lead to the emergence of more complex societal systems (new historical “ages”). Societal evolution involves the congruent transformation of societal worldviews, social structures and economic processes (Taylor A 1999).

Change can emerge at any point inside or outside a societal system. Dysfunctional change introduces stresses and dissonance into the system that impair individual, social and environmental health. Functional change supports the coherent reorganization of the system into a configuration that is able to meet more individual, social and environmental needs.

When change forces a societal system to exceed its boundaries, it can move the system to another stable configuration within the existing evolutionary level, cause it to break down to a less complex level of organization, or cause it to break through (evolve) to a more complex level. New properties, structures and environmental relationships emerge at more complex levels.

Evolutionary change is only possible when a new paradigm (in the form of a new world-view) emerges that is capable of reorganizing the entire societal system into a more functional and environmentally relevant structure. While paradigm-changing innovations often appear first as new material technologies, societal transformation only occurs when a coherent new world-view develops that is powerful enough to organize congruent values, social structures and economic processes.

We are now in a period of evolutionary change. On one hand the industrial system is no longer environmentally sustainable, which means that it must either evolve into a sustainable system or collapse. On the other hand, a new ecological paradigm has begun to emerge with the potential to organize a sustainable planetary civilization.

The emerging elements of a sustainable civilization

Because the global economy is based on unsustainable expansion, the dominant global trend is towards environmental, economic and social collapse. However, transformative technologies, social organizations, ideas and values have begun to emerge that support sustainable economic and social processes. Since the most important issue for all species on Earth is the environmental sustainability of human economies, these two trends – the dominant trend towards collapse and the emerging trend towards transformation – will shape global events in the coming decades (Taylor, D & Taylor, G 2007).

Examples of these paradigm-changing innovations are:

scientific theories that support relativistic, integrative, systems-based, holarchical, holistic and evolutionary understandings of reality;

values that support multiple-perspectives, diversity, health, wholeness, resilience, cooperation, equality, tolerance, peace, respect for all life, ecological awareness, and sustainability;

material technologies that support renewable, networked, distributed, flexible, intelligent, self-regulating, efficient, clean and environmentally appropriate economic processes (e.g. the Internet, solar energy, nanotechnologies);

social organizations that support empowerment, community, biodiversity, sustainable solutions, internationalism, conflict resolution, human and animal rights, and participatory democracy (e.g. the environmental, feminist, social justice and peace movements).

The requirements of a sustainable civilization

In order to be sustainable, humanity's total annual consumption of resources and production of waste cannot exceed the planet's carrying capacity—its annual production of environmental goods and services. These limits define the physical parameters of a sustainable global system. To reduce our current unsustainable level of global consumption to sustainable limits will require a massive cultural, political, economic and technological shift from a consumer society to a conserver society. This will be true for both the countries of the North as well as those countries in the South that have now embraced many of the worst attributes of the expansionist world view.

Since societal systems are organized by world-views, the core requirement of a sustainable system is an ecologically relevant world-view that recognizes the interdependence of all life on earth, and the need of all life for health and wholeness. The implication of this is that the development and spread of a systems-based paradigm is a prerequisite for the constructive transformation of the global system. This world-view will only be viable if it organizes a congruent and functional societal system. This means that it must be able to support and coordinate the paradigm-changing values, social structures, economic processes, and technologies that are currently beginning to emerge.

Although it is impossible to predict the exact structure of a sustainable system, we can define its essential needs, and from these basic structural requirements. Today's fragmented nation-state system was not designed to address global problems; while it has become a global system, it operates without either systems thinking or adequate global structures. Since a sustainable system will need to promote global interdependence and integrated governance, we know that the shift to a sustainable global system will require the emergence of a more integrated planetary civilization.

In addition, because structural change must be systemically interdependent and mutually reinforcing, it is possible to outline the essential institutional requirements and Universal Culture Pattern of this planetary civilization:

World-view — ecological / holonic

Culture	— diversity and interdependence
Government	— consensual / self-regulating/polycentric
Education	— environmental / self and community development
Family/social organization	— community / societal holarchy
Economy	— information based/decentralized/ecological economics
Science/Technology	— systemic and post-industrial / appropriate use of cultural and indigenous “traditional ecological knowledge” / recycling and renewable energy

A sustainable global system will need this structure in order to meet increasing human and ecosystem needs with fewer material inputs. These needs are enormous, since in addition to restoring the environment and satisfying the basic needs of the poorest half of the world’s population, 8.9 billion people will share the world’s resources by 2050 (United Nations 2006). These challenges will require an almost complete transformation of existing political and economic institutions. On one hand a sustainable global economy will need to greatly reduce waste, increase efficiencies, recycle products, develop renewable sources of energy, and produce smaller and smarter products. On the other hand, it will need to not only place maximum limits on the consumption of scarce resources, but also share these resources more equitably among individuals and regions.

A congruent culture will be needed to direct a sustainable economy with values that emphasize cooperation over competition, conservation over consumption, qualitative development over quantitative growth, interdependence over domination, equality over inequality, diversity instead of exclusivity, conflict resolution instead of aggression, and internationalism over ethnocentric nationalism.

A sustainable society will also need congruent social structures that support the relatively egalitarian distribution of power, information and resources to every part of the system. This will require a major shift away from centralized, bureaucratic organizations that support domination and exploitation, towards more decentralized and self-regulating communities that support environmental and social sustainability. The shift from a primarily centralized societal system to a primarily decentralized system is the shift from partial democracy to participatory democracy (Taylor, D & Taylor, G 2007).

However, a decentralized societal network will only function if every part at every level has access to the knowledge and skills needed to appropriately interact with the larger system, to self-regulate and self-organize. Ideally, an ecological and systems-based world-view can empower

people with the theoretical and practical tools required to control their own lives, communities, and natural environments.

An appropriately 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.

Although most needs can be met at a local level, not all functions can or should be devolved: for example, regional issues need to be dealt with at a regional level and global issues need to be dealt with at a global level. 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 that supports the appropriate distribution of power and resources and the appropriate self-regulation of each node and level.

While a sustainable global system will need to be primarily decentralized, it will also need to strengthen transnational governance to protect the biosphere, reduce conflicts, and ensure the equitable distribution of resources. For this reason we can describe the next stage in societal evolution as the emergence of a polycentric and planetary civilization.

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 – the dominant expansionist model and an emerging ecological model. Over the past decade proponents of international free trade have argued that commercial interests should supersede all other interests, including regional and community environmental and human rights. At the same time a global United Nations Earth Charter was 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 billions of other sentient beings with whom we share this planet, is going to have a decent quality of life and a viable future.

The Earth Charter is the logical extension of the Universal Declaration of Human Rights (UDHR), which was adopted by the United Nations General Assembly in December 1948. Following the horrors of World War Two, issues of peace and security became of paramount

importance with the birth the United Nations. Consequently, the UDHR was set forth as a document spelling out the goals that were to be expected in terms of global standards for civil and political rights as well as economic rights. It set the precedent that human rights — such as the right to life, liberty, security, freedom of thought, and equal protection under the law—were inextricably linked to social, economic, and cultural rights.

Although the document was not legally binding, in the years that followed, it became a major force for setting the standards that nations were expected to follow and be judged by. And while these goals have yet to be universally accepted, over the past fifty years considerable progress has been made in various parts of the world due to education and the development of supporting social, political, and economic institutions (Goodrich 1974, p. 165).

With the 1972 United Nations Stockholm Conference on the Human Environment, and again with the Brundtland Commission Report in 1987, it became increasingly obvious that individual and collective human rights can only flourish if the biophysical world 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, it was expected that a major outcome of the 1992 Rio de Janeiro Earth Summit would be an Earth Charter that set forth the principles and values needed for ecological security. However, 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 bifurcation point:

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. We must join together to bring forth a sustainable global society founded on respect for nature, universal human rights, economic justice, and a culture of peace. 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 2000, Preamble).

By the beginning of the 21st century it has become increasingly apparent that the current economic values and model of development is 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 that the status quo will not

suffice. Perhaps more than at any other time in history, we are faced with a series of challenges – political, technological, economic, and environmental – all of which are undermining the relevance of traditional policies and institutions. Meeting essential human and biophysical needs must be given the highest priority. This demands that we articulate a new vision and world view that can give hope and be a viable alternative to the dominant current model. The Earth Charter provides the guiding principles for this vision.

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