



State of Global Emergency *Draft Declaration*

October 24, 2008

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Preamble

WHEREAS the global economic crisis; worldwide climate change; on-going wars, terrorism and nuclear brinkmanship; peaking or exhaustion of non-renewable natural resources; approaching water crisis; annual net increase in world population by approximately 80 million; increase in world poverty, homelessness and famine in absolute numbers; growing gap between wealthy and poor both within and between nations; and other interrelated macro-trends, provides growing and indisputable evidence that the world today is fundamentally unsustainable and that humanity is rapidly moving to the breakdown of currently operative societal and ecological systems;*

AND WHEREAS notwithstanding the global-scale crises facing the human community, the thinking and actions of the majority of political and business leaders remain fixed - on the short-term rather than the long-term; on national rather than global priorities; on self-interest rather than community interest; on confrontation and militarization rather than cooperation and dialogue; on the values and consciousness of the 19th century rather than the 21st century; on maintaining the status quo of 'business as usual' rather than shifting to urgently needed new economic, energy and societal systems - locally, nationally and internationally;

THEREFORE in awareness of the growing global crises and the on-going lack of needed national and world leadership in the mainstream of politics and business, we hereby issue this urgent call for action, as a "State of Global Emergency Declaration", on behalf of and for the benefit of all the People of the World.

The Global Situation

The numerous global crises before humanity today affect every person and society. If we continue on our present unsustainable path, by mid-century the Earth may become largely uninhabitable for human and most other forms of life. Such a total systems collapse could occur much sooner, however, due to runaway global warming or other ecocatastrophes, and/or by nuclear wars triggered by religious, ethnic or geopolitical conflicts or access to diminishing natural resources.

The macro-trends driving these global threats and challenges have been apparent for decades and are now building toward a threshold of irreversibility. The scientific modeling of complex systems shows that when systems reach a state of critical instability, they either break down to their components or break through to a higher order of integral functioning. At these "points of no return" maintaining the status quo, or returning to a previous mode of organization and functioning, are not a feasible option.

Time-estimates of when the "point of no return" will be reached for the global system of humanity have shrunk from the end of the century to mid-century, then to the next twenty

* Principal global macro-trends are summarized in Annex 2 below.



years, and recently to the next five to twenty years. For example, it was predicted that the Earth's average temperature will increase by about 3° Celsius by the year 2100, then it was said that this level of increase will come about by the middle of the century, and lately that it could possibly occur within a decade. The figure for overall warming has been increased from 3° C to 6° C or higher. Global warming of 3° C would cause serious disruptions to human activity, while a 6° C rise would be a 'global breakdown' making most of the planet unsuitable for human life.

Such predictions, however, take only one trend into consideration: global warming; water availability; food production; poverty; population pressure; air pollution, etc. This approach fails to consider the impacts of the interconnection of the macro-trends as well as the feedback loops within them. When one trend reaches a critical point its impact on other trends can be very significant. For example, if global warming creates prolonged drought in some areas and coastal flooding in others, starving and homeless masses will flood less hard-hit regions and create social and economic upheavals there as well.

The acceleration of critical trends and cross-impacts among them indicates that the 'window of opportunity' for pulling out of the present global crisis and breaking through to a more peaceful and sustainable world is likely to be no more than four to five years from the end of 2008. This is close in time to the Mayan 2012 prophecy for the end of the current world.

The period around the end of 2012 is likely to be a turbulent one for this and other reasons. Predictions coming from the physical sciences foresee disturbances in the geomagnetic, electromagnetic and related fields that embed the planet causing significant damage to telecommunications and impacting many aspects of human activity and health. For the esoteric traditions the end of 2012 will be the end of the known world, although the more optimistic interpretations speak of a new world taking the place of the old.

While the majority of the world's people have yet to recognize the possibility of a total global-scale breakdown, millions of forward-thinking groups and individuals have been actively addressing these collective threats and challenges for many years. This "waking up" is a positive sign of the vitality of the human spirit and its ability to respond to the dangers that face humanity with flexibility and creativity. This response must be furthered and facilitated in all appropriate ways as the scale and urgency of the required transformation is far greater than the scope of current efforts. It will be a case of 'too little, too late' unless the human community as a whole moves quickly to address the threatening macro-trends before they become irreversible.

This is now the top planetary priority. Failure to implement a worldwide shift in the window of time available to us will almost certainly lead to the breakdown of our civilization and possibly to the demise of our species. We acknowledge the real possibility that a child born today could witness the final chapter of modern man's 200,000 year existence on this planet.

The Way Forward

If humanity is not to perish, as other species have that failed to respond to changing conditions, we must face and cope with the unintended consequences of the narrow short-term thinking that has led to today's unsustainable global situation. No 'quick fix' or 'miracle technology' will save us from the consequences of the erroneous values and



actions of the past. Only by engaging the human spirit in all its creativity and potential wisdom can we give birth to the necessary new thinking and actions.

The currently dominant mode of thinking cannot be maintained any longer. We must overcome the societal inertia generated by the powerful self-destructive remnants of bygone eras in order to prepare in each community, region and nation for systemic disruptions and possible collapses. We must radically reconsider our view of the world and re-structure its principal operative systems: energy, economics, governance, transportation, food, resource use and distribution, among others. We must act to extend the time available to us before it becomes too late to avoid breakdown on a global scale.

Every crisis harbors within it the opportunity for change and transformation. The ideas and designs for the needed new systems, structures and technologies already exist. Today we are rediscovering essential elements of the wisdom inherent in the world's great cultural traditions and making important scientific discoveries regarding the nature of reality, our connections to each other and to nature. At the same time we are developing alternative energy sources, sustainable technologies, global communications and information flows, biotechnology, nanotechnology, artificial intelligence, and other technologies capable of paving the way toward global sustainability for human communities and the environment.

Our new thinking and new tools can accelerate the emergence of a sustainable world in sufficient time to avoid the 'worst case' scenarios - if we act now. Time is short and the task unprecedented. Effective and feasible solutions to the present global emergency must be brought to the attention of as many people as possible, as quickly as possible, to motivate urgent and effective action by all aware and responsible global citizens. Widespread communication and collaboration amongst people, nations, cultures, religions, societal sectors, professions, associations, networks, organizations, and other groups, is essential to ensure humanity's survival on this planet.

The new Club of Budapest report *WORLDSHIFT 2012: The Handbook of Timely Change* advances a feasible whole-systems concept for the urgently needed epochal shift. The concept is '*Worldshift* - a worldwide shift from a path of unsustainability, conflict and confrontation to a path toward global sustainability, wellbeing and peace.' The Report's proposals for achieving this Worldshift, together with the proposals of the Declaration's signatories, form an integral part of this document.*

ACCORDINGLY, WE HEREBY ISSUE THIS URGENT CALL to all the People and Peoples of the World to declare their awareness of the state of global emergency and their firm commitment to join together to carry out real and meaningful change in all sectors of society (education, governance, economy, media, culture, technology) and at all levels (local, national, and global) for the common good of all people, all societies, and all life on Earth.

(The list of Initial Signatories of the Declaration will be published immediately after its formal adoption following the Global Emergency Consultation.)

* Key recommendations of the *Worldshift 2012* report are listed in Annex 1 below.



**I/We hereby Endorse
The State of Global Emergency
Draft Declaration
of October 24, 2008**

Name

Email Address

Organization
(on behalf of - if applicable)

<http://www.clubofbudapest.org>



ANNEX 1

Summary Review of the Principal Recommendations contained in WORLDSHIFT NOW! – The Club of Budapest Handbook for *Real Change*

Leadership Objectives (1) The Main Business Objective

The business of business is not charity: it's the business of society. Charity exercised by benevolent Foundations is a welcome addition, but not enough if the companies that made the money spent by the Foundations remain committed to their short-term interests. Market leaders in the major sectors of industry need to create a global-reach consortium to implement responsible business practices and sustainability-fostering strategies. The consortium could operate on the basis of a clear and uncompromising mission-statement and a compelling code of ethics and conduct. Its members would limit competition only to ensure that businesses shift toward strategies that contribute to physical, ecological, and social sustainability in their environment. Together they would have the power to overcome challenges by opportunistic and unethical competitors.

A firm commitment of the market leaders to the social-benefit objective would transform the way business is transacted throughout the world. Companies would replace narrowly conceived profit and growth as their *raison d'être* with commitment to the good of the human community. The bottom line would no longer be "strive for the maximum profit for the company in the shortest time and at the least risk," but "produce the greatest good for the greatest number while maintaining corporate viability." This change would bring the private sector into the fold of societal actors committed to the cause of social and ecological sustainability and human wellbeing.

Leadership Objectives (2) The Political Objectives

An enlightened and public-spirited political leadership embraces and adopts *sinter alia* the following objectives:

- ✓ Ensures that all sectors of the community have a voice in making the decisions that affect life and wellbeing in the community;
- ✓ Implements projects and programs designed to alleviate poverty and foster social inclusion and gender equality;
- ✓ Supports initiatives that aim for sustainability and fairness at all socioeconomic levels of in the community;
- ✓ Provides economic incentives for the use of alternative energy and resource-saving or recycling technologies, and technologies of low or zero toxin and waste emission, and work with the business community to promote practices that incorporate criteria of sustainability in all operations;
- ✓ Pays attention to equity in people's access to natural common goods at acceptable cost, including energy, water, and land;
- ✓ Makes use of safe and efficient energy and resource technologies in public services, including electric power generation, transport, and communication;
- ✓ Integrates up-to-date complementary healing methods and technologies in public health care;
- ✓ Applies strict criteria for urban design and construction, requiring renewable energy technologies and efficient insulation to be part of public housing and a



precondition of licensing the construction of private dwellings, commercial buildings, and industrial plants.

- ✓ Channels funds to reconstruct and revitalize derelict or disadvantaged areas without unnecessarily contributing to urban sprawl;
- ✓ Shifts a significant portion of the over \$1.2 trillion dollars currently spent on arms, wars and military budgets, and of the enormous wealth accumulated by super-rich individuals and wealthy banks and corporations to fund local, national, and cooperative international projects aimed at social sustainability and human wellbeing.

Grass-Roots Objectives: (1) New-Thinking Objectives

The thinking that still dominates mainstream society is outdated and obsolete, made up of assumptions and beliefs that no longer mesh with reality. The following are among the societal beliefs it is high time to replace:

- The Earth is inexhaustible.
- Nature is a giant mechanism.
- Life is a struggle where only the fittest survive.
- The market corrects economic gaps and injustices.
- The more we consume the better we are.
- Economic ends justify military means.
- Order calls for hierarchy.
- Efficiency is the key.
- There is a direct link between having money and being happy.
- My country, right or wrong.
- The future is none of my business.

Grass-Roots Objectives: (2) The New Ethics Objective

Most people follow the ethics of classical liberalism, *live and let live*. You can do as you please, as long as you don't break any laws. This is no longer sufficient. Sometimes legally but never legitimately, the rich and the powerful consume a disproportionate share of the resources that need to be shared by everyone, and voluntarily or inadvertently block access to essential resources for the poor and the powerless. Changes are also called for on the part of the poor: they, in turn, must cease to emulate - or try to emulate - the lifestyles of the rich. We live in a globally interacting and interdependent community, and our ethics must be a planetary ethics. This doesn't mean a unilaterally flat, homogeneous ethics, but one that brings together the shared humanistic elements of the great cultural traditions. It states the uneliminable minimum of behavioral standards to achieve a sustainable world where all can live and thrive. It's basic principle is *live in a way that all others can also live*. This principles need to be applied as a self-imposed moral imperative to everything we do and aspire to do.

Grass-Roots Objectives: (3) Action in the Personal Sphere

Some aspects of our private life have become public business. Living responsibly today means:

- ✓ Living in a way that satisfies our needs without detracting from the opportunity of other people to satisfy theirs;



- ✓ Living in a way that respects the right to life and development of all people, wherever they live, and whatever their ethnic origin, sex, citizenship, and belief system;
- ✓ Living in a way that safeguards the right to life and a healthy environment of all things that live and grow on Earth;
- ✓ Pursuing happiness, freedom, and personal fulfillment in consideration of the similar pursuits of our fellows in our community, country and culture, and in the global community of all peoples, countries, and cultures;
- ✓ Choosing a work or profession and committing our time and talents to an activity that is useful and beneficial to our community and doesn't harm other people, other communities, and nature;
- ✓ Doing our best to help children and young people to discover responsible ways of thinking and acting of their own;
- ✓ Join forces with like-minded people and groups to preserve or restore the integrity of the environment so it can generate and regenerate the resources essential for our life and wellbeing.

Grass-Roots Objectives: (4) Action in the Civic Sphere

In a functioning democracy people can nominate and elect political leaders that genuinely represent their interests, and the interests of all people in their country and throughout the human family. They can interact with their government to inform, and if necessary shift, its objectives and policies. They can ask among other things that it:

- ✓ Pay attention to equity in decision-making;
- ✓ Support responsible community projects;
- ✓ Use criteria of sustainability in the allocation of natural and financial resources;
- ✓ Cooperate closely with business in order to promote and facilitate the use of alternative energy and related resource-saving and recycling technologies;
- ✓ Ensure access to energy, water, and land to all people at acceptable cost;
- ✓ Increase the quality and capacity of public transportation systems;
- ✓ Open the public health-care system to alternative healing methods and practices;
- ✓ Make nature accessible to all people while safeguarding ecological balances and wilderness areas;
- ✓ Channel funds and provide incentives for the revitalization of derelict areas;
- ✓ Employ strict criteria of sustainability, energy efficiency and resource efficiency in licensing new construction;
- ✓ Take into account the changing lifestyles, patterns of consumption, and values and expectations of all the cultures and subcultures in the country;
- ✓ Relate to other nations and governments in a spirit of fairness, fostering cooperation for lasting mutual benefit.

Grass-Roots Objectives: (5) Action in the Business Sphere

Individuals can prompt responsible behavior by business companies through selective shopping and consumption - patronizing firms that embrace a commitment to the public good and ignore or actively boycott those that remain committed only to their own profit and growth. Those who have the means to buy shares in a company can also practice "social investing." Even minor shareholders can influence the practices of the company's management if they join a shareholder association and raise issues of social and ecological responsibility in shareholder assemblies.



As a shareholder, or a client or customer, or simply as a concerned member of a host community, all people can ask that business companies:

- ✓ Accurately and honestly represent to the public the long-term benefits and costs of their products and services, reporting on their safety, durability, social consequences, environmental toxicity, reusability and recyclability;
- ✓ Actively seek to reduce pollution and environmental damage and minimize waste in the company's production processes and throughout its chain of supply and distribution;
- ✓ Consult the company's employees when formulating the goals and objectives of the enterprise;
- ✓ Give preference to ethical companies as partners and associates, and refuse to do business with companies that behave unfairly toward their employees, customers and host communities, or degrade the environment;
- ✓ Take an active interest in the lives of employees, discovering their concerns, understanding their needs, and contributing to their personal development;
- ✓ Take a similarly active interest in the host communities, allowing and even encouraging their employees to devote part of their time to social work, and the improvement of the local environment.



ANNEX 2

Summary Review of Major Global Trends and Challenges

Main Threats to Human Survival in the 21st Century

Global Warming

Two hundred years of burning fossil fuels and cutting down large tracts of forest have increased the atmosphere's carbon dioxide content from about 280 parts per million to over 380 parts per million, and its CO₂ content is increasing more and more rapidly. The influx of gases due to industrial sources is paralleled by the growing influx of gases from nature, indirectly and unwittingly triggered by human activity. If the warming continues at current rates, the Arctic Ocean could be completely free of summer sea ice by 2013 to 2040 according to a recent WWF Living Planet report.

In Siberia, an area of permafrost spanning a million square kilometers, the size of France and Germany combined, has started to melt for the first time since it formed at the end of the last ice age 11,000 years ago. The west Siberian peat bog may hold as much as 70 billion tons of methane, a quarter of all of the methane stored in the ground around the world. Calculations show that it could release around 700 million tons of CO₂ into the atmosphere each year, about the same amount released from all of the world's wetlands and agricultural activity. This would double atmospheric levels of the greenhouse gas leading to a 10% to 25% increase in overall global warming.

Global surface temperatures have increased an average of 0.7° Celsius since the late 19th century. Rapid melting is now occurring in both the Arctic and Antarctic regions. Climate scientists expect that average global temperature could rise up to 3° C by 2050 with the potential of over a 5° C increase by 2100 which would have the effect of making much of the Earth uninhabitable for human and many other forms of life. An increase of 1.44° to 3.06° C appears inevitable due to existing CO₂ levels in the atmosphere.

Climate models show that even relatively minor changes in the world's atmosphere can produce major effects, including widespread harvest failures, water shortages, increased spread of diseases, the rise of the sea level, and the die-out of large tracts of forest. Extreme weather events have already caused major damage. In 2003 a heatwave in Europe claimed the lives of 35 000 persons. In 2004 violent storms in the Philippines killed 669 people and another 695 were reported missing. The following year Hurricane Katrina killed more than 1,800 people in and around New Orleans and caused damages estimated at over \$81 billion. In 2007 floods in India, Bangladesh, Nepal and Bhutan were reported the worst in history, with an abnormal volume of monsoon rain killing more than 2,000 people and leaving 30 million homeless. In the same year heat waves in Europe caused over 3,400 deaths.

Leading climate scientists who have pioneered the research are now stating that global CO₂ emissions must be reduced to ZERO as soon as possible to stabilize the Earth's climate and avoid the 'worst case' climate change scenarios for humanity. These 'runaway global warming' scenarios include major sea level rise, mega-storms, widespread drought and famine, unstable weather patterns, increased forest fires, disease pandemics, large-scale species extinction, etc. At present, total global output of CO₂ is increasing by approximately 3% annually.



Nuclear War

The first years of the 21st Century have seen rising conflicts and violence between nations, religions and cultures together with increased threats of terrorism primarily in the Middle East, Asia and Africa. Major sources of global instability include; on-going wars in Afghanistan and Iraq and other countries, century-old conflicts between Israel and Palestine, India and Pakistan and many other 'hot spots', together with increasing nuclear tensions between the West and Iran and North Korea.

Increasing confrontations between Western and Islamic nations are now raising the specter of a 'clash of civilizations' and global conflict with the potential of a large-scale nuclear world war as many of the parties in the conflicts either possess or may possess nuclear weapons. This major threat now includes the potential for a pre-emptive strike by Western nations on underdeveloped nations in the Middle East, Asia or Africa based on the "Bush Doctrine" of 2002, in regard to perceived future dangers.

In addition, future conflicts between nations over diminishing natural resources such as water or oil have been predicted by numerous experts. Many nations in such future conflicts could have nuclear weapons capability.

The global climate change effects of any nuclear exchange or large-scale nuclear war includes the 'Nuclear Winter' scenario. The latest scientific predictions for this scenario include:

- A limited nuclear war (such as between India and Pakistan or in the Middle East), with each country using 50 Hiroshima-sized atom bombs as airbursts on urban areas, could produce climate change unprecedented in recorded human history. This is only 0.03% of the explosive power of the current global arsenal.
- This same scenario would produce global ozone depletion, because the heating of the stratosphere would enhance the chemical reactions that destroy ozone.
- A nuclear war between the United States and Russia today could produce Nuclear Winter, with temperatures plunging below freezing in the summer in major agricultural regions, threatening the food supply for most of the planet.
- The climatic effects of the smoke from burning cities and industrial areas would last for several years, much longer than we previously thought. New climate model simulations, that have the capability of including the entire atmosphere and oceans, show that the smoke would be lifted by solar heating to the upper stratosphere, where it would remain for many years.



Current Global Challenges (first arising in the 2nd half of the 20th Century)

World Population Growth

World population today is approximately 6.7 billion people and is increasing by approximately 90 million people per year. The United Nations Population Division forecasts a population of 7.85 billion by 2025 and 8.92 billion by 2050. 98% of the population growth will occur in the developing countries.

World population was 1.5 billion in 1900, 3 billion in 1960 and 6 billion in 2000. World population increased 400% in the 100 year period from 1900 to 2000 and 200% in just the 40 years from 1960 to 2000. This exponential growth in population since 1900 is now essentially matched by similar growth in resource consumption, especially in recent decades, and is a main driver of the further challenges set out in this section.

Peak Oil

The widespread use of fossil fuels for energy has been the most important stimuli of economic growth and human prosperity since the industrial revolution. Today the consumption of the fossil fuel of oil is approaching a greater rate than it can be produced as the limits of this non-renewable resource are in sight.

Peak Oil is the point when the maximum rate of global petroleum extraction is reached, after which the rate of production enters terminal decline. The demand side of Peak Oil is concerned with the consumption over time, and the growth of this demand. World crude oil demand grew an average of 1.76% per year from 1994 to 2006. World demand for oil is projected to increase 37% over 2006 levels by 2030 (118 million barrels per day from 86 million barrels).

Worldwide oil discoveries have been less than annual production since 1980. Oil production per capita has declined from 5.26 barrels per year in 1980 to 4.44 barrels per year in 1993 but then increased to 4.79 barrels per year in 2005. In 2006, world oil production took a downturn from 84.631 to 84.597 million barrels per day although population has continued to increase. This has caused the oil production per capita to drop again to 4.73 barrels per year. Of the world's largest 21 oil fields at least 9 are now in decline.

As supplies of easily accessible crude oil sources diminish and global demand increases, the price of a barrel of oil increases. The price of a barrel of oil reached a recent world high of over \$143 USD a barrel in June 2008. In August 2003 the price was \$25 USD a barrel. Accordingly there was almost a 600% increase in the price of oil per barrel less than five years.

The impact of Peak Oil will primarily depend on the rate of decline and the development and adoption of effective alternatives. If alternatives are not forthcoming the products produced with oil (including fertilizers, detergents, solvents, adhesives, and most plastics) would become scarce and expensive. At the very least this could lower living standards in developed and developing countries alike, and in the worst case lead to worldwide economic collapse. With increased tension between countries over dwindling oil supplies, political situations may change dramatically and inequalities between countries and regions may become exacerbated.



Resource Depletion

The resources of our planet are rapidly diminishing due to human overuse. In regard to a growing number of humanly and industrially needed natural resources the rising curve of demand is exceeding the descending curve of supply. In the six decades since World War II, human beings have consumed more of the planet's resources than in all of history prior to that time. The production of oil, fish, lumber, and other major resources has already peaked; 50% of the world's forests and 40% of the coral reefs are gone, and annually about 23 million acres of forest are lost. Global consumption is significantly over-shooting planetary renewal capacities.

The Worldwide Fund for Nature stated in 2001 that humanity's Ecological Footprint was 2.5 times larger than in 1961 and exceeded the Earth's biological renewal capacity by 20%. Biodiversity (species) loss is increasing annually due to on-going habitat destruction and climate change. 25% of the world's coral reefs are now gone. Scientists predict that up to 1/3 of all species may become extinct by 2100 if average global temperature rises over 3.5° F.

Projections of global consumer resource demand in the next few decades suggest a marked escalation of impacts on ecosystems worldwide. Consumption of commodities produced by ecosystems directly; grains, meat, fish, and wood have increased substantially in the last four decades and will continue to increase as the global economy expands and population grows. Human consumption of planetary resources continues to grow exponentially, especially in the developing giants of China and India.

Food Production and Distribution

The sustainable level of agricultural production is a footprint of 4.2 acres per person, however globally the average footprint is currently 7 acres per person. The extremes range from 1.23 acres in the poorest countries such as Bangladesh to 25.5 acres in the United States.

There is an overproduction of food in the world yet at the same time growing starvation; over a thousand million are obese and thousands of millions are undernourished. 6 million children a year die of malnutrition and starvation while 155 million children are overweight.

Prices of most agricultural food commodities have risen sharply during the past two years. Several factors have contributed to this development: (1) low levels of world stocks (especially for wheat and maize) following two years of below-average harvests in Europe in 2006 and 2007; (2) crop failures in major producing countries like Australia in 2006 and 2007; (3) rapidly growing demand for grain-based biofuel production supported by subsidies; (4) gradual changes in agricultural policies of the OECD countries, where reduced levels of subsidies have led to lower surplus production.

The large subsidies granted to agriculture by OECD countries are the main reason for previous low world prices. A move away from such policies, together with resource constraints, such as water scarcity and a slower diffusion of existing and new technologies, could restrain growth of food supplies, while world demand continues to expand. Against this background, it seems to be unlikely that food commodity prices will return to the lows of the previous two decades.



In future, climate change will play increased havoc with the yield of agricultural lands. Although in cold regions with short growing seasons yields could increase, they will decrease in tropical and subtropical areas where crops are already growing near the limit of their heat tolerance. In their totality these changes threaten the food supply of the entire human population.

In addition, as supplies of oil are essential to modern agriculture techniques, a fall in global oil supplies could cause spiking food prices and unprecedented famine in the coming decades.

Air Quality

Air pollution causes deaths and respiratory disease. Air pollution is often identified with major stationary sources such as power plants and industrial factories, but the greatest source of emissions is mobile sources, mainly automobiles.

Polluted air and air of inadequate oxygen content is of little use to human beings. Yet the oxygen content of the atmosphere is diminishing and its carbon dioxide and other greenhouse gas content is increasing. Pollutants in the air are increasing dramatically in urban areas of the world. The polluted air quality in Beijing, China is a prime example.

Since the middle of the nineteenth century oxygen has decreased mainly due to the burning of coal; it now dips to nineteen percent of total volume over impacted areas and twelve to seventeen percent over major cities. At six or seven percent of total volume, life can no longer be sustained. At the same time the share of greenhouse gases is growing. Two hundred years of burning fossil fuels and cutting down large tracts of forest have increased the atmosphere's carbon dioxide content from about 280 parts per million to over 350 parts per million, and its CO₂ content is increasing more rapidly.

Freshwater Availability

The amount of available fresh water is diminishing rapidly; over half the world's population now faces water shortages. In the past, the planet's available freshwater reserves were adequate to satisfy human needs: in 1950 there was a potential reserve of nearly 17,000 m³ of freshwater for every person then living. Since then the rate of water withdrawal has been more than double the rate of population growth, and in consequence in 1999 the per capita world water reserves decreased to 7,300 m³.

Already about one-third of the world's population does not have access to sufficient supplies of safe water, and by 2025 two-thirds of the world population will live under conditions of extreme water scarcity. Europe and the United States will have half the per capita water reserves they had in 1950, while Asia and Latin America will have only a quarter. The worst hit countries will be in Africa, the Middle East, and south and central Asia where the available supplies may drop to less than 1,700 m³ per person.

Diminishing amounts of freshwater, combined with uneven access to the reserves, will in future create more severe health hazards and potential conflicts over water in many parts of the world.



Arable Land

The progressive reduction of the amount of land capable of producing food is further critical trend. The Food and Agriculture Organization (FAO) estimates that on the global level there are 8.20 billion acres of cropland available, 71% of it in the developing world. However, of this amount only 1.1 billion acres are highly productive and 4.9 billion acres are slightly productive. The quantity of highly productive cropland is decreasing due to soil erosion, destructuring, compaction, impoverishment, excessive desiccation, accumulation of toxic salts, leaching of nutritious elements, and inorganic and organic pollution owing to urban and industrial wastes. In some parts of the world this trend augurs major food shortages.

China has a population that is five times that of the United States but has only one-tenth as much cultivated land; it is feeding twenty-four percent of the world's population on seven percent of the world's agricultural land. This small percentage is further diminishing. Due to urban sprawl and the construction of roads and factories 37 million acres of China's cultivated land have already been converted to nonagricultural use. Of the remaining 247 million acres; approximately 10% is highly polluted, 33% is suffering from water loss and soil erosion, 7% is salinized, and 4% is becoming arid and turning into a desert.

Worldwide, 12 to 17 million acres of cropland are lost per year. If this process continues some 741 million acres will be lost by mid-century leaving 6.67 billion acres to support 9 billion people. This will leave less than 0.74 acres of productive land per person, a minimal area not capable of producing anything beyond the subsistence level of food.

Historic Human Challenges (current status)

Wars, Armed Conflicts and Terrorism

World military spending now totals over \$1.2 trillion US dollars annually. High-income countries account for about 80% of world military spending but only 16 per cent of world population. The USA accounts for well over 50% of the global total and in 2008 maintained 761 active military bases in 151 foreign countries.

In 2001, world military spending was 10 times higher than the combined levels of national development assistance. Meeting the United Nations Millennium Development Goals (adopted by all UN member states in 2000 to eliminate hunger, poverty, disease, etc.) would cost about \$125 to \$150 billion US dollars annually - just 10% to 15% of the world's military spending.

Poverty, Hunger and Starvation

In the developing world over 11 million children under the age of five years old die each year of preventable diseases and malnutrition (over 100 million per decade); 1 out of 3 children under five is malnourished; 1.2 billion people do not have access to safe drinking water; 2.4 billion people lack adequate sanitation; 1 billion people live in slums and squatter communities; and 3 billion people live on less than \$2 US dollars a day (about 50% of the world's population).



In 2008, more than 73 million people in 78 countries that depend on food handouts from the United Nations World Food Program faced reduced rations. At the same time, the UN Food and Agriculture Organisation warned that rising prices have triggered a food crisis in 36 countries all of which will need extra help. The World Bank pointed out that global food prices have risen by 75% since 2000, while wheat prices had increased by 200%. The cost of other staples such as rice and soya bean has also hit record highs, while corn is at its highest price in 12 years.

The profile of the new hungry poor is now urban, as well as being rural. There is food available in the markets and stores but many urban dwellers can't afford to buy it. Food shortages will also affect western industrialised nations. Scarcity means that some foods will get very expensive, or disappear from supermarkets altogether, meaning a move to seasonal, indigenous vegetables. Of the 36 countries named last month as currently facing a food crisis, 21 are in Africa. Lesotho and Swaziland have been afflicted by droughts, Sierra Leone lacks widespread access to food markets because of low incomes and high prices, and Ghana, Kenya and Chad among others are enduring severe localised food insecurity.

In 2007, in India more than 25,000 farmers took their own lives, driven to despair by grain shortages and farming debts; Australia experienced its worst drought for over a century and saw its wheat crop shrink by 60%; and, China's grain harvest had fallen by 10% since 2000.

The World Bank predicts global demand for food will be double by 2030. This is partly because the world's population is expected to grow by nearly three billion people by 2050 but that is only one of many interlocking causes. The rise in global temperatures caused by greenhouse gas pollution is also beginning to disrupt food production in many countries. According to the UN, an area of fertile soil the size of Ukraine is lost every year because of drought, deforestation and climate instability.

Disease

The World Health Organization's 2007 World Health report states that the world is at increasing risk of disease outbreaks, epidemics, industrial accidents, natural disasters and other health emergencies which can rapidly become threats to global public health security.

Cholera, yellow fever and epidemic meningococcal diseases made a comeback in the last quarter of the 20th century and call for renewed efforts in surveillance, prevention and control. Severe Acute Respiratory Syndrome (SARS) and avian influenza in humans have triggered major international concern, raised new scientific challenges, caused major human suffering and imposed enormous economic damage. Other emerging viral diseases such as Ebola and SARS pose threats to global public health security and also require containment at their source due to their acute nature and resulting illness and mortality.

An influenza pandemic would have devastating consequences. If a fully transmissible pandemic virus emerged, the spread of the disease could not be prevented. Based on experience with past pandemics, illness affecting around 25% of the world's population - more than 1.5 billion people - could be anticipated. Even if the influenza pandemic virus caused a relatively mild disease, the economic and social disruption arising from sudden surges of illness in so many people would be enormous.



Global Systems Approaching Critical Instability

Global Economic System

The crises in the world's current financial system is now apparent to all. This instability has not been evident in the past but the current crises; stock-market crashes, bail-outs, large-scale corporate bankruptcies, stagflation, recession, exchange-range fluctuations, and the ongoing shocks that shake the system ever since the sub-prime credit crunch of 2007, are making it highly visible.

Underlying the sensational events of the financial world is a structural imbalance in the interconnected international financial system. The current patterns of trade exacerbate the instability. The U.S. has a growing trade deficit: the value of the goods it imports is far above the value of the goods it exports. The opposite is the case in China and other Asian economies: they have a growing trade surplus, as the value of their exports is consistently above the value of their imports. The Asian economies are financing U.S. overspending, but they do not do so voluntarily: central banks with large foreign exchange reserves, like China, Japan, and other Asian countries, are captives of America's fiscal policy.

This cannot continue indefinitely as with the rapid growth of public debt in the U.S. the financial imbalance is growing toward untenable dimensions. Such imbalance along with deficit spending in the trillions of dollars for wars and empire-building is clearly unsustainable. As is further government borrowing of massive sums to prop-up ailing banks and companies worldwide on an emergency basis. The structural imbalances can not be permanently redressed by such short-term measures.

Rich-Poor Gap. While economic activity is still increasing its benefits are accruing to fewer people when measured by the percentage of the world's population. 80% of the world's domestic product belongs to 1 Billion people while the remaining 20% is shared by over 5.5 Billion. The richest 10% of the world's population accounts for 54% of global income while the poorest 40% accounts for 5%. And 20% of the world population living in the developed nations consume 86% of world resources annually.

Hundreds of millions live at a higher material standard of living but thousands of millions subsist in shantytowns and urban ghettos. Without significant change, by the middle of this century more than ninety percent of the world's people will live in the poor countries, and the poor countries will be the great majority of the world's nearly 200 formally constituted nation-states.

The unsustainability of the distribution of wealth threatens the life and survival of the poor and poorest populations. One in three urban dwellers in the world live in slums, shantytowns, and urban ghettos; more than 900 million are formally classified slum-dwellers. In the poorest countries seventy-eight percent of the urban population subsists under life-threatening circumstances.

Global Ecological System

The WWF's 2006 Living Planet Report confirms that humanity is using the planet's resources faster than they can be renewed and shows a rapid and continuing loss of biodiversity of flora and fauna. By tracking wild species, the Living Planet Index also monitors the health of ecosystems. Between 1970 and 2003, the index fell by about 30



per cent. This global trend suggests that we are degrading natural ecosystems at a rate unprecedented in human history. Biodiversity suffers when the biosphere's productivity cannot keep pace with human consumption and waste generation.

Effectively, the Earth's regenerative capacity can no longer keep up with demand. People are turning resources into waste faster than nature can turn waste back into resources. Humanity is no longer living off nature's interest, but drawing down its capital. This growing pressure on ecosystems is causing habitat destruction or degradation and permanent loss of productivity, threatening both biodiversity and human well-being. A moderate 'business-as-usual' scenario, based on United Nations projections showing slow, steady growth of economies and populations, suggests that by mid-century, humanity's demand on nature will be twice the biosphere's productive capacity. At this level of ecological deficit, exhaustion of ecological assets and large-scale ecosystem collapse become increasingly likely.

In addition, among other ecological system threats, the Earth is presently undergoing the 'Holocene Mass Extinction', an era of unprecedented numbers of species extinctions. Human influence over the Earth's ecosystems has been so extensive within the last 10,000 years, that scientists have difficulty estimating the total number of species lost in this era, that is to say the rates of deforestation, reef destruction, wetlands filling and other human acts are proceeding much faster than human assessment of the Earth's species. The matter of ongoing species loss is made more complex by the fact that most of the Earth's species have not been described or evaluated for endangerment. The International Union for Conservation of Nature has found that 23 percent of vertebrates, 53 percent of invertebrates and 70 percent of plants that have been evaluated are designated as endangered or threatened.

Global Security System

The United Nations is the main organization of the international security system created in the immediate aftermath of World War II intended to end wars and armed conflicts globally based on the rule of international law. This crucial goal has of course not been achieved in any significant way. Since 1945 there have been some 160 wars and armed conflicts worldwide. An estimated 51 million people were been killed in wars, civil wars and genocide between 1945 and 2000, the vast majority being civilian deaths. This figure does not include more recent wars since 2000 such as Afghanistan, Iraq and Lebanon with civilian deaths in the hundreds of thousands or greater.

Since 1945 the number of nations possessing nuclear weapons has reached nine, two nations are alleged to be developing them a further five nations have recieved nuclear weapons to deploy and store under NATO auspices. Efforts toward total nuclear disarmament, the only safe and reasoned course for humanity, have floundered in recent years despite the adoption of the Nuclear Non-Proliferation Treaty (NPT) in 1968 by the vast majority of UN member states. Four such states possess nuclear weapons but are not parties to the treaty: India, Israel, Pakistan and North Korea.

Humanity has so far managed to avoid a further World War in the nuclear age with the attendant major threat to human survival, primarily due to the United Nations and particularly the forum provided by UN Security Council.

In recent years the United Nations and the Security Council have been undermined by powerful representatives of unilateral ideologies, primarily from the USA. These interests



view international law and collective security as a threat to the national sovereignty of the USA which they are. The main issue, however, is whether national sovereignty of any one nation should supercede the security of all humanity. The risks of a world war in the nuclear age are much too great to enable any nation's perception of its national self-interest to trigger such a regional or global war. Collective human security based on international law is a fundamental requirement for our longer-term survival in the 21st Century.

Global Energy System

In June 2008, British Petroleum released its annual review of world energy supply and demand. The economies of the world continued to increase their consumption of primary energy from fossil fuels. Unfortunately, the fastest demand growth for a fuel was 4.5% for the dirtiest energy source - coal. Cleaner burning natural gas was consumed 3.1% more than in 2006 while the largest source of energy, oil, clocked a consumption growth rate of 1.1% as its price marched upward. Wind and solar energy grew much faster, at around 28.5% and 37%, respectively, though they are building from a very small base currently less than 1% of global energy. For all three major fossil fuels, supply did not keep up with demand growth – explaining the rising prices for all of them. With coal, the 3.3% increase in production fell short of the 4.5% gain in consumption, creating a shortfall of more than 60 million tons (which was provided by a fall in inventories). And a startling detail of the coal section is the downward revision of global coal reserves by 7.3% from 909 billion tons to 847 billion tons. With natural gas, production increased 2.4% while consumption spiked 3.1% to create a shortfall of 400 billion cubic feet. Proven reserves of natural gas fell 2.3% largely due to a downward revision of Russian reserves. Oil production fell .2% amidst higher prices while consumption rose 1.1% creating a shortfall that required utilizing stockpiles and supported higher prices.

The construction of new nuclear plants is now being promoted by national political leaders worldwide. The main reasons for considering nuclear power in the national energy portfolios include hedging against supply security risks and high fossil energy prices in most countries, complemented by climate change mitigation in developed countries and by local and regional air pollution reduction in developing countries. Major concerns over nuclear power include operation safety, nuclear weapon proliferation, economic performance, nuclear waste disposal and public acceptance. In addition to these societal concerns, the capital costs, government safety regulations and access to materials and nuclear fuel, lead to time periods of 5 to 10 years or greater for new nuclear plants to begin operation. Some experts estimate that the construction of over 5,000 new nuclear power plants would need to be in operation by 2050 worldwide to meet but 1/3 of anticipated global energy demand.

If we are to achieve a world in 2050 that provides the energy required for developed and developing societies, along with substantial relief of human suffering and deprivation, experts project that global energy usage will be about 3 times that of today.

Global Food System

Dramatic rises in world food prices in recent years have created a global crisis and caused political and economic instability and social unrest in both poor and developed nations. Over 6 million children die of malnutrition and starvation each year under the current world food system. Rising food prices can significantly increase this already unacceptable number of lives lost.



Several factors contributed to rising food prices in 2007/08: poor harvests in various parts of the world, increasing biofuel usage, lower food reserves, the US Federal Reserve decreasing interest rates so that money is no longer a means to preserve wealth over the long term (people invest in food commodities which causes an increase in demand and therefore price), growing consumer demand in Asia, oil price rises, and changes to the world economy. Agricultural subsidies in developed nations are another factor contributing to high global food prices.

Systemic causes for the world-wide increases in food prices continue to be the subject of debate. Initial causes of the late 2006 price spikes included unseasonable droughts in grain producing nations and rising oil prices. Oil prices further heightened the costs of fertilizers, food transport, and industrial agriculture. Other causes may be the increasing use of biofuels in developed countries, and an increasing demand for a more varied diet (especially meat) across the expanding middle-class populations of Asia. These factors, coupled with falling world food stockpiles have all contributed to the dramatic world-wide rise in food prices. Long-term causes also remain a topic of debate. These may include structural changes in trade and agricultural production, agricultural price supports and subsidies in developed nations, diversions of food commodities to high input foods and fuel, commodity market speculation, and climate change.

ANNEX 3

Charts and Images

World Population Growth

World historical and predicted Populations (in millions) *

Region	1750	1800	1850	1900	1950	1999	2050	2150
World	791	978	1,262	1,650	2,521	5,978	8,909	9,746
Africa	106	107	111	133	221	767	1,766	2,308
Asia	502	635	809	947	1,402	3,634	5,268	5,561
Europe	163	203	276	408	547	729	628	517
South America & the Caribbean	16	24	38	74	167	511	809	912
North America	2	7	26	82	172	307	392	398
Oceania	2	2	2	6	13	30	46	51

* UN Report - 2004 data

World Military Spending

Rank	Military expenditures (USD)	Date of information
	World Total	1,200,000,000,000
	NATO Total	849,875,309,000
1	<u>United States</u>	583,283,000,000
2	<u>France</u>	74,690,470,000
3	<u>United Kingdom</u>	68,911,000,000
4	<u>China</u>	59,000,000,000
5	<u>Russia</u>	50,000,000,000
6	<u>Japan</u>	48,860,000,000
7	<u>Germany</u>	45,930,000,000
8	<u>Italy</u>	40,060,000,000
9	<u>Saudi Arabia</u>	31,050,000,000
10	<u>South Korea</u>	28,940,000,000
11	<u>India</u>	26,500,000,000
12	<u>Turkey</u>	25,407,304,010
13	<u>Brazil</u>	25,396,731,055
14	<u>Australia</u>	20,727,710,000
15	<u>Canada</u>	18,695,342,000

http://en.wikipedia.org/wiki/List_of_countries_by_military_expenditures



Global Warming Climate Model Predictions under the 2007 IPCC's SRES A2 emissions scenario relative to global average temperatures in 2000. The A2 scenario is characterized by a politically and socially diverse world that exhibits sustained economic growth but does not address the inequities between rich and poor nations, and takes no large-scale actions to combat global warming or environmental change issues – similar to today's world. This world in 2100 is characterized by large population (15 billion), high total energy use, and moderate levels of fossil fuel dependency (mostly coal).

The 2007 UN Intergovernmental Panel on Climate Change report predicts global temperature change of 1.4 - 5.8° C due to global warming from 1990-2100. The IPCC report also predicted that, over the next 100 years, a one-meter rise in sea levels would flood almost a third of the world's crop-growing land.

Some leading 'systems' climate scientists believe that the IPCC predictions are too conservative as they did not take into account the 'runaway global warming' scenario caused by positive feedback loops, rapid warming and the resulting worldwide droughts and sea level rises.

Temperature Increase 2000 to 2100 (°C)			
Model	Total	Land	Ocean
CCSR/NIES	4.7	7.0	3.8
CCCma	4.0	5.0	3.6
CSIRO	3.8	4.9	3.4
Hadley Centre	3.7	5.5	3.0
GFDL	3.3	4.2	3.0
MPI-M	3.0	4.6	2.4
NCAR PCM	2.3	3.1	2.0
NCAR CSM	2.2	2.7	2.0
Mean	3.4	4.6	2.9

Southeast Asia if West Antarctic Ice Sheet melted (5.2 meter / 17 foot rise)



U.S. East Coast if East Antarctic Ice Sheet melted (52 meter / 170 foot rise)





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