

A New Ethic for Humankind



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"It is wise to look ahead, but it is difficult to look further ahead than you can see."

Winston Churchill

Introduction

The purpose of this book is to show that in view of the increasing population, energy and resource consumption and pollution, the creation of a sustainable world will need massive change in human attitudes and actions, in fact a “new ethic” for humankind.

The 21st century emerged with a gradually increasing public awareness that the world was entering a troubling age and we had better pay attention if we wanted to be assured of a sustainable future. It was pointed out as early as 1972 by Dennis and Donella Meadows that there are “Limits to Growth”¹⁾ and if we were to continue at the then current rate of consumption of the Earth’s resources we would not have a sustainable world in the longer range future.

Aurelio Peccei, founder of the Club of Rome which commissioned the Meadows’ book, called for a “New Ethic for Mankind” and that is what this present document presents as a new and significant reality.

The Golden Age of Greece, from around 500 to 300 BC, was built on the energy of slaves. We are, I am convinced, in another Golden Age blessed with energy from an abundant supply of oil and natural resources. But this will of course not be so in the longer range future. Warning signs are abundantly apparent. We will need to plan now for a true transition to a new age and a new ethic.

Ethics is defined in Webster’s dictionary in two ways:

- a discipline dealing with what is good and bad and with moral duty and obligation.
- the principles of conduct governing an individual or a group.

It is the principles of conduct that have to be changed to create the New Ethic.

The transition from a growth society as we now enjoy, to one with a stable world population and economic sustainability could require the greatest evolutionary change in the history of mankind. The changing conduct of the world's population must indeed change. This is no exaggeration as will be pointed out in the text that follows. This book therefore will show why this is so and why we must begin now to find ways to ease this transition for the good of the future of the human species on this finite planet.

Canada's great educator, philosopher and communications theorist, Marshall McLuhan often said that if a system is too successful it will flip on itself. As our societies get more complex they are very likely to do just that.

Another way to express this phenomenon is to look at the Chaos Theory²⁾. By this process, a system (society, population growth, etc) will be proceeding along a smooth path then some perturbation is introduced and it goes into wild disarray, or chaos.

The Queuing Theory can also be described as useful to understand how systems can collapse. Take for example a large metropolitan city that depends on constant delivery of supplies beyond its borders to feed itself. Think of a shortage of fuel available to the transport trucks and what could happen to the supplying of a city's needs.

According to the Queuing Theory a small restriction in supply of a system that is fully loaded, does not just slow the process by a small percentage, but brings it to a complete stop. For example, a busy highway is loaded to capacity but traffic is flowing rapidly. Then some car or

truck driver slows down to look at an accident at the side of the road. No obstruction is in the way of the flow, but it has been slowed by a very small percentage and the whole system comes to a dead stop. Similarly, the housewife stocks up on sugar when it is announced that sugar will be rationed. Result: no more sugar on the shelves and the supply system shuts down. When such a phenomenon occurs to supplying a large city, it may well shut down.

A power blackout is an example of such an overloaded system and consequent shutdown. All this gives a glimpse of what could happen as resources worldwide get in short supply. The urgency then is apparent and must be dealt with well before it causes the dire result.

Another phenomenon of the future is the “lifeboat principle” or Triage. In this case a lifeboat is loaded with people and others in the sea are clamouring to climb in. If compassion rules and the residents of the lifeboat try to let them in, then most likely all will be lost. So, the fortunate few must be preserved and the others let go. Cruel it seems, but otherwise all will be lost. All this is part of the content of a “New Ethic” and must be learned in the long term interest of a sustainable planet and indeed the human species.

In 1995 Charlotte Waterlow produced the book “The Hinge of History.”³⁾ It told about the mega-change that occurred in Western history due to a shift from dependence on God, to explain the things we don’t understand, to the new discoveries of science. It was the Renaissance or rebirth, or Enlightenment for Western society.

It would appear now that the year 2007 represents a similar shift in Western thinking that is an equally major change; a second hinge of history. This is also called

globalization, which has arrived due to speed of communications, information and transportation. This shift is accompanied by climate change, population growth, increasing resource consumption and a beginning to see the “limits to growth”.

PART ONE describes the "world problematique" as Aurelio Peccei would say, with all the concerns about the future. It will be clear that the world will need a new ethic for humankind to manage the world to come.

PART TWO presents not simply solutions, but certain ways that others have lived, other types of social organizations that may inspire better ways to cope with the stresses that will lie ahead.

The first Chapter in PART ONE will present the “Cassandras”⁴⁾ of the past that have warned us of the directions in which the world is going. This will show the urgency of re-structuring the course ahead.

REFERENCES

- 1) Meadows, Dennis and Donella, "Limits to Growth" Potomac Associates, Washington, D.C., 1972
- 2) Gleick, James, "Chaos - Making a New Science", Penguin Group, New York, N.Y., 1987 (see formula on Page 70)
- 3) Waterlow, Charlotte, "The Hinge of History" The One World Trust, Great Britain, 1995
- 4) see Chapter 1 for Cassandras description

PART ONE

Chapter 1

The Cassandras

This chapter will tell of a number of people who have been concerned about the way the world was and is unfolding in its track to the future. They are what I call the “Cassandras” foretelling the future.

According to Homer’s *Illiad*, Cassandra was a beautiful young woman, blessed with the gift of prophecy by the god Apollo, who was infatuated with her. Unfortunately, because she shunned Apollo, at the last minute he added a twist to her gift, dooming her to tell the truth, but never to be believed. As Laura Fitton says in her internet article: “... we call a “Cassandra” someone whose true words are ignored, since Cassandra’s doom was to predict what others refused to believe.”

Some of these Cassandras that I have found of interest are described below.

Rachel Carson

One of the early Cassandras, Rachel Carson, born in Pennsylvania in 1907, was a writer, scientist and ecologist who worked for the U.S. Fish and Wildlife Service and other government agencies. She retired from the government in 1952 to devote full time to writing. Two of her outstanding books were “*The Sea Around Us*”¹⁾ in 1952, a lyrical account of the beauties of the sea, and “*Silent Spring*”²⁾ in 1962, in which she exposed the hazards of the pesticide DDT, and eloquently questioned humanity’s faith in technological progress, helping to set the stage for the environmental movement. Her efforts succeeded in making significant changes and reductions in the widespread use of this pesticide. However, since that time, the DDT ban has been questioned because of the benefits it

provides in the control of malaria.

Jonas and Jonathan Salk

An early report to the United Nations by Jonas Salk and his son Jonathan ³⁾ took a look at population growth over the long term future and identified the period before the start of the decline in growth as Epoch A and that after as Epoch B. The shift from Epoch A to Epoch B would require a tremendous shift in world attitudes; in fact it would require an evolutionary change from one of competition to one of cooperation. How then, would society and particularly the economic world deal with that? It would indeed require a New Ethic for Humankind.

Alvin Toffler

“Future Shock” by Alvin Toffler, published in 1970⁴⁾ introduced a lot of people to the futures movement.

Essentially a journalist, writing for many well-known periodicals, Toffler has been an editor of Fortune, has taught “sociology of the future” at the New School for Social Research, and is the author of several books on sociopolitical topics.

“Future Shock” was a runaway best seller and a good read even for today. He defines “future shock” as “the distress, both physical and psychological, that arises from an overload of the human organism’s physical adaptive systems and its decision-making processes.” Another way of saying this is that future shock is the reaction to the rapidity of change, in both experiences and information.

What Toffler missed about the future is as notable as what he included. Much of what he foresaw has indeed come to pass but what of those topics he had not seen in the 1970s For one thing he made only a passing reference

to terrorism, so much on the minds of politicians and the general public today. Along with this is his lack of reference to the rise and power of Muslim states and the passions of tribalism. Nor did he include the impact of the Internet and all of its ramifications.

Toffler wrote quite a bit about the future of controlling the weather and even in the global sense. He described how some researchers have shown the likelihood of being able to plan the weather for different global regions and the possible cooperation of the various nations involved. However, now we have the grim reality of humans not able to control the weather but contributing to the uncontrollable global warming that endangers all life on the planet. Quite a change! Now that's genuine future shock!

In some sense tragic, the final statements of Toffler's book are just as relevant today as they were then, so little real progress has been made in the last 25 years. Here is a quote from the last few pages:

“Our first and most pressing need therefore is, before we can begin to gently guide our evolutionary destiny, before we can build a humane future, is to halt the runaway acceleration that is subjecting multitudes to threat of future shock.”

Aurelio Peccei and The Club of Rome

There is no doubt that one of the early and most influential persons to alert the world to the environmental dangers ahead was Aurelio Peccei founder of the Club of Rome.

Aurelio Peccei was an Italian industrialist, former vice-president of Fiat Motors. He left the company in the 1960s to devote full time to what he called "the world

problematique". In the process he founded the Club of Rome, an international group of distinguished businessmen, statesmen and scientists. One of their early projects was to commission Professor Dr. Jay Forrester of the Massachusetts Institute of Technology to use their systems dynamic model to "study the long term causes and consequences of growth in population, industrial capital, food production, resource consumption and pollution." ⁵⁾ This resulted in the publication of "Limits to Growth"⁶⁾ in 1972 by principal authors Dennis and Donella Meadows. They concluded that:

"if present growth trends in population, industrialization, pollution, food production and resource depletion continue unchanged, the limits to growth on this planet will be reached some time within the next 100 years."

This, they hastened to add, is not a forecast, but what would happen if the present trends continued. In spite of the caveat, the report caused widespread and intense criticism. This was Cassandra in spades!

Twenty years later the same principal authors published "Beyond the Limits"⁷⁾ to review progress and note any significant changes in trends. Here is what they wrote.

"In 1971 we concluded that the physical limits to human use of materials and energy were somewhere decades ahead. In 1991 when we looked again at the data, the computer model and our own experience of the world, we realized that in spite of the world's improved technology, the greater awareness, the environment policies, many resource and pollution flows had grown beyond their sustainable limits"

And they continued:

"The future, to be viable at all, must be one of drawing back, easing down, healing."

Again, Cassandra had declared and was not believed!

Ten years after that, again the same authors published an update "Limits to Growth - the 30 Year Update"⁸⁾ In spite of all the warnings in "Beyond the Limits" the authors could not show any improvement in the world's ecological footprint. As they say:

"The past decade has produced much data that supports our suggestion in BTL that the world is in overshoot mode. It now appears that the global per capita grain production peaked in the mid-1980's."

There is a similar story for fish in the sea and greenhouse gas emissions. They saw a lack of public and political will to effect the necessary changes. In response to the question they posed "What will happen?" they responded:

"The global challenge can be simply stated. To reach sustainability, humanity must increase the consumption levels of the world's poor while at the same time reducing humanity's total ecological footprint."

No small task. Both population and economic growth will have to be dealt with to achieve any degree of sustainability.

Lester Brown.

In 1974 Lester Brown founded the Worldwatch Institute in Washington, D.C. It was devoted to research on the future of the world in areas as population, environment, energy, food supply. He wrote the first “State of the World”⁹⁾ publication in 1984, made possible by the financial support of the Rockefeller Brothers Fund. It is interesting to see what topics the first report covered looking back 22 years from the date of this writing. Here are some chapter titles:

Stabilizing Population
Reducing Dependence on Oil
Protecting Forests
Developing Renewable Energy
Reconsidering the Automobile’s Future
Securing Food Supplies

These topics are not only still relevant but have taken on a greater sense of urgency. Although a lot has been done over the years in these and related issues, the level of public awareness is not yet sufficient to move governments into adequate action. Lester Brown was indeed a leader in this effort and in that sense a true Cassandra.

Ten years later the topics that the Institute researched and published, both as separate documents and in the annual “State of the World” had broadened and included these, among others:

Carrying Capacity: Earth’s Bottom Line
Safeguarding Oceans
Reshaping the Power Industry
Reinventing Transport

Facing Food Insecurity

The Worldwatch Institute also began the annual publication of *Vital Signs* in 1972 described as “Trends that are Shaping our Future”¹⁰⁾. Trends covered include. agricultural, energy, environmental, economic, transportation, and others, and the publications are in several languages, distributed around the world. Their output has made, and is still making a valuable contribution toward Earth’s stable society - if indeed people are listening..

In 2001 Lester Brown left the Worldwatch Institute and founded the Earth Policy Institute with similar objectives. The role of the Institute is described in their website: www.earth-policy.org as “dedicated to building a sustainable future as well as providing a plan of how to get from here to there”. Lester Brown is the President of the organization.

Ronald Wright and Jared Diamond

Two major books have appeared in the last few years that describe the rise and fall of separate civilizations throughout history: “A Short History of Progress” by Ronald Wright¹¹⁾ and “Collapse” by Jared Diamond¹²⁾. Each tells of the prospering of early societies and their eventual decline and collapse due to the consumption of life sustaining resources.

The Sumerians in the period between 3,000 and 2,000 B.C. invented the city, the corporation, irrigation, writing, accounting. They lived off the lush area of the delta of the Tigris and Euphrates rivers in what is now Iraq and is now a desert. At its peak there were a dozen city states, the largest was Ur of 50,000 citizens. They lived as all civilizations do, off the agricultural resources. Over

time they fully exploited the life-giving agricultural resources of the area until it no longer yielded the necessary foodstuffs required to sustain their growing population. It took a thousand years to rise and eventually fall.

In a somewhat similar manner the civilizations of ancient Rome and the Incas of South America rose and eventually declined and virtually disappeared.

Most modern of these civilizations and a small microcosm of the others were the inhabitants of Easter Island off the South American coast in the Pacific. Discovered by a Dutch fleet in 1722, only a few of the original population remained. They grew and consumed the fruit of their land, cut down all the trees until all but a few residents disappeared. Easter Island, is known for the enormous stone statues the inhabitants crafted and left, many of which are still intact.

The not so subtle message of Wright's and Diamond's books, with their stories of ancient Sumer and Easter Island, is a warning to present day populations that such a fate may be ours if we do not deal effectively with over-population and resource consumption.

Jonathan Weiner

In his book "The Next One Hundred Years"¹³⁾ Weiner writes eloquently of the rising occurrence of CO₂ in the Earth's atmosphere going back as far as various ice ages. An American researcher C. D. Keeling began in 1958 to take air samples of the CO₂ from around the world with a passion that has never let up.

He showed a content of 315 parts per million of CO₂ when he began his work with ups and downs ever since, but overall annual average increase of 1.5ppm. Weiner's book describing all this in 1990 represents a powerful message for the future. Further discussion of Weiner's impressive intense research is included in a later chapter on Global Warming.

George Monbiot

Another Cassandra of note is the science journalist George Monbiot who wrote "Heat, How to Stop the Planet from Burning" published in 2006¹⁴⁾. Canadian geneticist, academic and environmentalist David Suzuki has written that Monbiot's book "is a brilliant and terrifying critique of the crisis of human-induced climate change, and the prospects of stabilizing temperatures before catastrophic runaway warming ensues."

As with other Cassandras, George Monbiot skillfully describes the causes and trends that will lead the world into environmental disaster but says that with a reduction in greenhouse gases of 90 percent by 2030 there is a chance of sustainability. However, he questions the reality of such an achievement. In the concluding paragraph he shows why this may be difficult to achieve:

"For the campaign against climate change is an odd one. Unlike almost all the public protests which have preceded it, it is a campaign not for abundance but for austerity. It is a campaign not for more freedom but for less."

The book is unique in that it has a "Foreword to the Canadian Edition" published in 2007. In this he is particularly harsh on Prime Minister Stephen Harper for his relative inaction on the environment and the lack of support for the Kyoto Protocol. He also shows how Canada is among the world's worst creators of greenhouse gases. However, a recent speech (September 2007) by Harper shows a change of heart and a full realization of the need to be more proactive on the environment. Still, as Monbiot says above, how do you deal with preaching and advocating austerity? Not easy.

Thomas Homer-Dixon ¹⁵⁾

To better understand our own times and future, Homer Dixon, a Professor of Political Science at the University of Toronto, went to Rome to try to understand why that powerful nation declined and collapsed. He and his researchers analysed the total energy required to feed and maintain a nation and economy. He concluded that as a society grows it becomes more and more complex to the point of eventual breakdown; a unique approach. He then shows how our present society is getting to that point of overly complex systems and how it leads to collapse. Homer-Dixon's is a well thought out thesis that is quite convincing and requires our full attention.

Al Gore

A former Vice-President and unsuccessful candidate for the U.S. Presidency, Gore's publication and presentations of "An Inconvenient Truth" have had a powerful influence on public opinion worldwide. Al Gore is the classical modern Cassandra. More on this is described in Chapter 3.

All these Cassandras have spoken. The “tipping point” may already be taking place and we are now experiencing the second Hinge of History. ¹⁶⁾

We now move into the Chapter on Population Control and how it is one of the most powerful forces that must be managed for our future on this planet.

REFERENCES

- 1) Carson, Rachel “The Sea Around Us” Oxford University Press, 1951
- 2) Carson, Rachel “Silent Spring” Houghton Mifflin, Boston, 1962
- 3) Salk, Jonas and Jonathan "World Population and Human Values" Harper & Row, New York, N.Y. 1982
- 4) Toffler, Alan “Future Shock” Bantam Books, New York, N.Y. 1971
- 5) from the Preface to "Beyond the Limits" see below.
- 6) Meadows, Dennis & Donella "Limits to Growth" Universe Books, New York, 1972
- 7) Meadows, Dennis & Donella "Beyond the Limits" Chelsea Green Publishing, Vermont, 1992
- 8) Meadows, Dennis & Donella; Randers, Jorgen "Limits to Growth - a 30 Year Update" Chelsea Green Publishing, Vermont, 2004

- 9) "State of the World", Worldwatch Institute, Washington, D.C.
- 10) "Trends that are Shaping our Future", Vital Signs, Worldwatch Institute, Washington, D.C. 1972
- 11) Wright, Ronald "A Short History of Progress", House of Anansi Press, Inc., Toronto, 2004
- 12) Diamond, Jared, "Collapse - How Societies Choose to Fail or Succeed", Penguin Group, New York, 2005
- 13) Weiner, Jonathan "The Next One Hundred Years", Random Century Publishing Group Ltd., London, UK, 1990
- 14) Monbiot, George "Heat - How to Stop the Planet from Burning" Random House of Canada Ltd., 2006
- 15) Homer-Dixon, Thomas "The Upside of Down - Catastrophe, Creativity, and the Renewal of Civilization" Alfred A. Knopf Canada, Toronto, 2006
- 16) Waterlow, Charlotte "Hinge of History" The One World Trust, Great Britain, 1995

Chapter Two

Population Control

It is hard to specify which is the most urgent problem of the global long range future, the one that if dealt with successfully will most improve the global future of humankind. Is it population control, energy supply, economic growth, global warming, or what? The simple answer is that no one of these is THE most important. Let us deal with population issue first.

It is simple logic that there is ultimately a limit to how many people can live sustainably on this finite planet.

In 1793, British demographer and political economist Thomas Malthus published his pioneering study on the issues involved with ever increasing population growth in his paper “First Essay on Population”. It has been the classic document on the subject as it pointed out the dangers of an over-populated world. In it he states the fundamental principle of his revelations “the population of mankind will eventually outstrip man’s ability to supply himself with the necessities of life.” The reason for this is, he stated; “population increases in a geometric ratio, while the means of subsistence increases in arithmetic ratio”.

The critics were numerous and although Malthus saw himself as a realist, the critics, he said, were idealists. Malthus was born into a family with eight children! So he ought to know about overpopulation!

The maximum that the planet can sustain will be arrived at either by **design** or by **default**. Population by design takes public awareness and strong political leadership to successfully limit population growth, whereas population limitation by default is letting Nature exercise the control as she does in the animal kingdom. Too many

rabbits, and the foxes take over and bring the level down to that which can be sustained on the land that supports them. If we let Nature decide what form of population control will be exercised, will it be disease, plague, or human violence? If we don't manage population growth, then the worst of these could indeed take place.

In the short term, we generally exercise compassion and make every effort to save lives. Huge amounts of money go to aid the poor and suffering in various countries. Organizations plead for contributions to save the children in developing countries where they are in desperate need. But what happens when these children grow up and have more children and the population keeps on growing? Compassion is a natural human emotion, but if not managed it can encourage a burgeoning population with unplanned consequences.

When population reaches the sustainable maximum that the planet can support, what then? Here is where triage might have to take place.. This is what I have described in the Introduction as the lifeboat effect. If the lifeboat is already full to capacity and others are scrambling to climb aboard, compassion says let them in. But then all could drown. So you have to be brutal to save the select few. The same thing occurs in the army hospital when in the direst emergency only so many can be saved. The doctors have to select those that have the best chance to survive and let the others go so that at least some, or most, can live.

Such an approach suggests a better solution to the population problem and its management. It is not wise to leave it to Nature and just let it happen.

Again, one could say that AIDS is Nature's way to control population in the poorer countries where population growth is already greater than in the more prosperous

countries. We can't say that trying to cure AIDS is wrong, but we can put proportionately more effort towards dealing with the sources of the disease. Some efforts are currently being made on educating the men and women in these areas and encourage the use of contraceptives. This is treating the problem at the source and must be encouraged. Compassion cannot be denied, but prevention at the source should take priority wherever possible.

There are other problems with curbing population growth. The most dramatic of these being the impact of increasing population on the economy of a country. Many of the more developed countries have low or zero population growth and as a consequence are facing a demographic trend towards an increasingly aging population. This means there will be fewer younger people to supply the labour force and provide the economic base to support the social security programs.

The political incentive then is to increase population, by immigration or by fertility, to stimulate the economy, which begs the question: how do you deal with maintaining a stable population and still have a healthy economy? Catch 22! Consider changing the basic assumption that an aging population will inhibit economic growth.

To resolve this demographic imbalance, a new paradigm is required, and new thinking must be adopted. The aging population need not require the same social support as in the current Western assumptions. The senior generation must become more self-sufficient. This will take some thinking and further development, but it may have to occur to maintain a form of economic growth compatible with this shift in demographic balance.

Slowing down population growth by regulation has been tried in some countries as we see in the following

section.

Population limitation by planning (design) is an alternate approach. In reality population may be limited by both default and planning - some of each. But let us deal here with the planning aspects. Some countries have tried to control population growth by regulation and others by education.

When the Ancient Greeks saw the problems of increasing population in their areas of habitation, they set up colonies in the Mediterranean and Black Sea to absorb this growth. This worked for a time then the colonies reached their capacity, so the Greeks then tried other methods of limiting population, such as delaying the age of marriage. These are the first known records of population control as reported in the Internet Wikipedia.

Family Planning

Family Planning by voluntary methods, to control or manage population growth has been practised for millennia. A search for “family planning” on Google comes up with 140 million references! It is surprising to see so many references to methods of limiting population growth in various countries around the world. Quoting a few instances will give a general idea of what is going on in population control by design or purposeful action.

On the Internet, under "Why Environmentalists Care About Family Planning Around the World," America's oldest, largest, and most effective environmental organization, The Sierra club, reports that “our environmental successes may be short-lived if they do not include efforts to address global population growth.” They continue with “One of the most effective ways to slow global population growth is to invest in family planning programs.” The Sierra Club reports that the United

Nations Population Fund (UNFPA) is active in 140 countries to promote family planning programs. Encouraging news indeed. However they note that the United States under the Bush Administration has taken steps to block support for the UNFPA programs because of possible relationships of the programs to abortion and coercion, particularly in China.

American birth control activist, advocate of negative eugenics, and founder of the American Birth Control League (which eventually became Planned Parenthood), Margaret Sanger has been a moving force in North America in the early years of the 20th century towards encouraging public awareness and acceptance of family planning and all its implications. Religious and social constraints prevented a general acceptance of the subject in those years. Her work has made a strong contribution to today's open public discussions and acceptance of the issues.

Economic growth has an impact on reducing family size as people move from the farm to the urban environment as is now occurring in many countries around the world.

Family planning in **Iran**.

Wikipedia on the Internet reports that between 1980 and 1988, a large population in Iran was viewed as a comparative advantage. Accordingly, the administration pushed procreation to bolster the ranks of "soldiers for Islam," aiming for an army of 20 million. This led to an annual population growth rate of over 3%. According to UN data, Iran's population doubled in just 20 years, from 27 million in 1968 to 55 million in 1988.

But since 2000 there have been significant changes made; Iran's population growth rate dropped from an all-time high of 3.2 % in 1986 to just 1.2 % in 2001, one of the

fastest drops ever recorded. In reducing its population growth to this level, a rate that is only slightly higher than that of the United States, Iran has emerged as a model for other countries that want to lessen the risk of overpopulation.

In 1993, Iran dropped certain maternity benefits for couples with more than three children. According to the BBC, Iran is believed to be the only country in the world where men and women are required to attend classes on contraception before they can obtain a marriage license.

In addition, Iran has made both condom and contraceptive pills widely available. Contraceptive pills are available at pharmacies across Iran, and the government gives away condoms at health clinics around the country.

Pakistan

Pakistan, again as reported in Wikipedia, has had similar experience in working with family planning. The administration was concerned that the country was growing so fast they would run out of land to feed themselves. Religious and social customs made the introduction of family planning practices difficult or in many locales prohibitive. However, the formation of a Family Planning Association (FPA) was set up in 1953 and work begun. To show how difficult it was to start, here is a quote from the Family Planning Association on the Internet

"The curtain of invisibility was thick and many women could not work, go to school, or leave their homes without being accompanied by a male relative even if they needed to see a doctor. But it was not about shedding the veil, it was about revitalizing education, providing livelihood skills, and improving health care"

However the FPA continued their work and eventually got recognized by receiving financial and program support from both the U.N. and the U.S.A. and as shown on the FPA report:

"Today the Family Planning Association of Pakistan is the largest non-government organization in the social sector and alongside the government is the key provider of family planning services in Pakistan. It has 85 community work units, with over 540 services outlets in all provinces of the country"

Africa

.Family Planning in Africa is getting a lot of attention because of the AIDS pandemic. However, the many different African countries, the density of rural population, religions and superstition make any well organized progress difficult. The US has been active in providing support, both financial and otherwise, in the interests of minimizing the effect of AIDS on the continent. Richard Cincotta, PhD, senior research associate at Population Action International, and Sarah Haddock, research assistant at Population Action International, wrote, as reported on the Internet:

"Rather than preparing to meet this challenge, U.S. assistance in family planning has actually declined. Since 1995, U.S. international funding for family planning services, contraceptives and related programs, which serve both women and men in more than 50 countries, has fallen by more than \$100 million; a 35 percent reduction when adjusted for inflation"

India

Family Planning in India has been practiced since the 1950's to curb population growth. But oddly enough, since that time the population in India has doubled, from 430,000 in 1960 to 1.014 billion in 2000. At one time during that period the government implemented sterilization plans and rewarded those that participated. Neglecting the encouragement and support of family planning in favour of sterilization is considered to be the cause of this increase. Individuals did not adopt the sterilization program.

So in 1994 the government began the New Population Plan (NPP), so the country is working towards managing population growth but so far is not succeeding. However, the province of Kerala, in southwestern India, has a different story, as described in Al Gore's 1992 book "Earth in the Balance"¹⁾

Population in Kerala has been stabilized at zero following a plan adopted by the provincial leaders. As reported in Gore's book,

“First, they have achieved an extremely high rate of literacy, especially among women. Second, through good health care and adequate nutrition, they have lowered their infant mortality rate dramatically. And third, they have made birth control readily and freely available.”

As Kerala has demonstrated, population can be stabilized if there is adequate planning and the political will to implement.

China

China was concerned with her rapidly growing population and the need to be able to feed her people where 80% were rural based. She implemented a population control program in 1979. The goal was to be one child per couple particularly in urban areas with programs including both positive and negative incentives to encourage participation. A heavy education program was implemented to discourage more than one child per couple.

Rural committees were created to encourage one-child per couple and discourage couples having more than one child. In the Chinese culture, male children were preferred so that it was suspected that abortions and infanticide were practiced and births of female children not reported. Some pregnant women were reported to have gone to relatives or childless couples to give birth. Education programs about birth control methods were implemented and later marriages encouraged.

It is reported that China intends to continue with the one-child policy to 2010 and that the one-child policy works at least in urban areas. Some report that 250 million to 300 million births have been prevented by the one-child policy.

Critics have pointed out the human rights abuses that the control program encourages, and the impact on the demographic balance. As the program proceeds the population will become more male based and the preponderance of older males will lack sufficient younger citizens to provide for the social support of their elders.

Conclusions

So what does all this mean in terms of the long term growth of the planet?

First of all, we must accept the fact that there is

indeed a limit to the carrying capacity of this finite planet and that population control must be exercised in the interests of all humanity.

The question then arises, how best do we deal with it to limit this continuing growth?

A stumbling block in the way of population control by design is the policy of the Catholic Church against birth control by any but natural means; a puzzle, but bound to resolve itself over time when the reality of the problem becomes more apparent.

Can we say that there are some hopeful positive signs of managing the future? Yes, and no.

Family Planning programs have shown some hopeful signs, particularly as we have noted in Kerala in India. Other countries have had mixed results with Family Planning but still there is some possibility of progress there.

UN data shows world population in 2007 to be 6.7 billion ²⁾ In 2050 this is forecasted to be 9.2 billion, considering medium fertility and mortality values.

All of this increase will be from the less developed nations, as the developed nations will have maintained present levels. However the RATE of increase in world population will be on the decline as shown in the following table:

World rate of annual increase during period:	
2005-2010	78,361,000
2020-202	61,440,000
2045-2050	33,061,000

Although the UN data does not project these values to the point of zero increase, it would appear to be somewhere in the range of another 20 years. This would bring the level of population up considerably from the 9.2 in 2050. So it looks as if there is a lot of work to be done in this area.

Comparing population growth with economic growth, or standards of living, it seems that in the less developed nations population growth is high and standards of living low. And in the developed nations the reverse is true: population growth is stable and standards of living are high.

What is needed is stability in both population and economic growth. But how is this possible?

One way is to increase the standard of living in the less developed countries. If at the same time the developed countries could reduce economic growth and resource consumption, it would balance the equation.

The question that follows then, is reminiscent of a scene played by the comedian Bill Cosby who was impersonating Noah. Noah was just notified by God that he was going to create the great flood. Noah then asked the classic question "How you gonna do it?" Then God answered, "I'm gonna make it rain for 40 days and 40 nights and block up the sewers."

So, I am asking in regard to stabilizing population and the economy "How are we going do it?."

The developed countries will have problems with the demographic imbalance. Because of improved health there will be an increasing number of older people and therefore less younger people in the labour force to provide economic support. Current news items show an interest and tendency for more older people to continue working beyond the normal retirement age. This is a helpful sign.

I am a good example of that trend having technically retired at 65 but continued working in my own consulting business and other professional interests. As I have often said, “projects energize me!” And from what I see recently in the media, the disease is spreading! This too is part of the New Ethic.

There is yet another large issue with the population increase. It is the distribution of this population, particularly when they tend to congregate in large urban centres. These large centres become very vulnerable as resources become in short supply, as water levels rise at the ocean shores, and as crowding increases. Could we possibly encourage policies of **de-urbanisation**? This is a very important issue and must be taken seriously as time moves on. We should possibly press for a movement of migration to smaller centres where there is an agricultural base and an assured energy supply. But who would promote the emptying of the cities? Not easy.

The next Chapter deals with the problems of economic growth and what others are saying about its problems and its future.

REFERENCE

- 1) Gore, Al, "Earth in the Balance" Houghton Mifflin Company, New York, 1992
- 2) UN Data: <http://esa.un.org/unpp/p2k0data.asp>

Chapter Three

Economic Growth

The Romans in the first century A.D. did not know what we now call “economics.” They measured their wealth by military exploits and the capture of slaves as a key source of energy. If they did have “economic growth” it must have been severely restricted since they did all their record keeping and accounting for the huge Roman Empire using Roman numerals! It was the Arabs that introduced the zero.

But since the industrial revolution, the Western countries discovered the means of increasing the nation’s wealth by manufacturing and trading in both goods and services. Capitalism was born and the standard of living of the citizen has continually increased. The question then arises, can economic growth go on forever? Is "sustainable growth" an oxymoron?

A search of the Internet shows a large number of references to economic growth and its possible consequences. When I sat down to rewrite an early draft of this Chapter, I had a new and disturbing insight. Granted that economic growth, as we have known it, cannot go on forever, then how would it ever be possible to slow it down? By legislation? I guess not. By popular agreement of the citizens? Equally unlikely. Therefore it must be thrust upon us, perish the thought! Or, change the nature of economic growth to one of less consumption of resources and sources of pollution. The information society is an example of such a concept. However, for the moment let us put aside these prospects and see what certain authors, starting from the early years, have said about economic growth.

We begin with Adam Smith and his book “Wealth

of Nations” published in England in 1776.¹⁾

Adam Smith

Smith is said to be the first political economist who wrote of economics. It was part of his work as a Scottish professor of philosophy. One of his basic principles was that the marketplace is driven by self-interest and that this should not be constrained by the setting of rules or political legislation. There is, as he says in his book, an “invisible hand” at work in the supply and demand and the setting of prices of goods and services. To quote "The Wealth of Nations" ¹⁾ on this:

“Every individual necessarily labours to render the annual revenue of the society as great as he can. He generally indeed neither intends to promote the public interest, nor knows how much he is promoting it. He intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention. By pursuing his own interest he frequently promotes that of the society more effectually than when he really intends to promote it.”

As for trying to control the marketplace, he does not favour it.

“It is the highest impertinence and presumption, therefore, in kings and ministers to pretend to watch over the economy of private people, and to restrain their expense.”

Smith was greatly influenced by the situation he observed in France where citizens at the time were under

a very heavy tax burden and miserably poor. This situation eventually brought on the French Revolution and the rise of Napoleon.

Smith did not see the long range view of economic growth consuming nature's basic resources. Whereas Malthus did see a limit to population, Smith did not see an eventual limit to economic growth. He pointed out the incentive that was the driving force of such growth - self-interest of individuals and corporations - and he encouraged that! And little has changed to this day.

Jonas and Jonathan Salk

As pointed out in the previous Chapter, the Salks had a unique approach to the future; they said that to reduce population from what they call Epoch A to Epoch B would require a major shift in the behaviour of people from competition to cooperation. This would be a change of evolutionary magnitude. Maybe not possible if we consider that the hunter instinct has been incorporated in the male member of the species since time began. Denying this instinct in the economic realm is hard to imagine. It would certainly constitute a new ethic on the part of business leaders for such a change to take place. But it may indeed have to take place in some form or another. It may be the price of survival.

E. F. Schumacher, et al

Fritz Schumacher was a professional statistician and economist working in Britain. His publication in 1973 gives the message in the title: "Small is Beautiful."²⁾ Much of the book is about the consumption of nature's capital, and considering natural resources as income rather than capital and therefore producing towards its extinction.

There is a chapter on Buddhist economics. In this philosophy, man works for satisfaction, rather than putting up with dissatisfaction for the sake of the wage. Modern production requires specialization and the use of machines to replace the individual wherever possible. This is described in the rather lengthy but perceptive foreword by Theodore Roszak. He talks about Gandhi's economic program for India as featuring developing handicrafts in the villages. Labour intensive production at the village level is to be preferred to production line work in an urban environment. This is also what Schumacher would like to see but he realizes that it would result in a poverty based society. It may indeed be the future of humanity if the socio-economic collapse occurs as predicted by many.

So the message in Schumacher's book is clear: keep life simple and see the beauty of this way of life. He sees the dangers that lie ahead in the over-consumption of nature's capital just as the authors of "Limits to Growth" but in his own way.

The inspiration for the creation of Schumacher's book came from an American Robert Swann of New England, U.S.A. who had admired Schumacher's articles in Resurgence magazine. Swann travelled to England to meet Schumacher and urged him to assemble the articles into a book. Later Schumacher in turn inspired Swann to create an organization in the U.S. to promote the values of his philosophies. Thus became the E.F.Schumacher Society of Great Barrington, Massachusetts.

The Society, founded in 1980, holds annual lectures, manages the Schumacher Library of 12,000 volumes, and promotes issues as decentralized human-scale societies, regionally based economic systems, local currency experiments, and community land trusts. As their website says "The community land trust model devel-

oped by Robert Swann provides just such a vehicle for democratizing land and places stewardship in the hands of a democratically-structured regional organization.’’ Such ideas as these take a long time to be generally adopted but the Schumacher Society is taking a leadership role in this regard.

Schumacher and the Schumacher Society's work is an inspiration for such activities as Voluntary Simplicity³⁾ and new approaches to land use, money, and a good model for future generations to reduce the pressure of the growth economy and its ecological footprint.

Dennis and Donella Meadows

As authors of the "Limits to Growth" series they eloquently point out the limits to economic growth in their several books. As quoted in a previous Chapter, they say that overshoot has already occurred and we must "increase the consumption levels of the world's poor while at the same time reducing humanity's total ecological footprint". In other words, economic growth must be shifted from the wealthy nations to the poorer ones. More easily said than done.

Again we are faced with the need to reduce economic growth as we experience it in the consumer nations. As I like to say "New Results need New Rules".

Al Gore

Gore, with the introduction of ‘‘An Inconvenient Truth’’⁴⁾ in various media has helped the general public to realize the real dangers of global warming and environmental concerns in general. This is the beginning of what I have referred to before as the second Hinge of History.

With sufficient public awareness the stage is set for political recognition and permission to legislate stronger

measures to protect the Earth from climate change, resource depletion and pollution..

Al Gore is doing more for the environment now as a freelancer than he was able to do as Vice-President. He has always been concerned about the environment but as V.P. he had to compromise his deeper convictions because the public was not ready for stringent measures. The U.S. Administration did not sign on to the Kyoto protocol because the economy was more important at the time than the environment. So much for economic growth! Now, out of politics, Mr. Gore has been able to fully exploit his concerns for the environment.

Of special interest about Al Gore is the story of his early life up to the time of his selection as Vice-President to President Clinton, as told in the book by Hank Hillin ⁵⁾.

Al's father was a long time senator and politics was in the Gore family life. After getting his BA from Harvard he did not want a political career in spite of, or perhaps because of, his father's long time activity in politics. He signed up with the local newspaper in his small town in Tennessee and was a reporter for two years.

The war in Vietnam was then in full swing and the risk of being drafted was high. He did not want to avoid being in the conflict as it would not be appropriate if he later chose a political career. So, he decided to enlist and was soon assigned to military journalistic duty. He never was in favour of the Vietnam war but he did his best to do his duty for his country. The tragedy of war, the horrors he saw and experienced first hand, had a powerful impact on him.

On his return from war activity he was not the same man. He was so deeply moved that he signed up for courses at the Vanderbilt University School of Divinity and studied there for two years trying to decide what he

should do with his life. He then continued with his journalistic career, with an interval operating a housing development activity. After three years of reporting he finally was drawn into politics and decided to run for House of Representatives, as his father always wanted him to. The rest of his career is pretty well known.

I first encountered Al Gore Jr. as a key speaker at a World Future conference in Washington in the 70's talking about (what else?) the environment! And I have been interested in his career ever since.

In 1992 Gore produced the book "Earth in the Balance" ⁶⁾ to give his views on the environment. In it is Chapter 10 "Economics: Truth or Consequences" a powerful diatribe on the inadequacies of current economic theory. A few quotes tell the story:

"In fact, the partial blindness of our current economic system is the single most powerful force behind what seems to be irrational decisions about the global environment."

"Classical economics also fails to account properly for all the costs associated with what we will call consumption. Every time we consume something, some sort of waste is created, but this fact is conveniently forgotten by classical economists."

"Our failure to measure economic externalities is a kind of economic blindness, and its consequences can be staggering."

I wonder if it is that simple. When a product is manufactured it has value because people will buy it. The waste produced has no value because no one will buy it

and so it does not get into the economic equation.

Gore appears to hold the classical economists at fault for not including these external costs in the equation to assess the true costs of our economic transactions. I rather would point out that no one presently knows how to do this! And therefore I would call for serious research to update the economic theory currently in use. It is out of date so we are indeed blind to the real and urgent need for full economic costing.

In the interests of the long term sustainability of the planet we must put our minds, and our money, on the development of a “Holistic Theory of Economics” so that we can get the true measure of economic growth and its global long term effects. Measurement we must do, but we must learn to measure the right things. And as yet we don’t know how. Sounds simple, but it is a strong challenge and worth doing.

At the end of his Chapter 10, Gore quotes a speech by Winston Churchill to urge the government to action in the face of the oncoming War in Europe. It bears repeating.

“The era of procrastination, ...half-measures, delays, is coming to its close. In its place we are entering a period of consequences.”

A stirring speech indeed and just as appropriate today when serious consequences are envisioned. Economic growth must be contained or the wars of the future will be fought over the remaining resources that Earth may provide.

Jared Diamond

“Collapse: How Societies Choose to Fail or Suc-

ceed.”⁷⁾ by Jared Diamond does a first class job of telling how societies go through this cycle. It is covered briefly in Chapter 1 on Cassandras, but here I would like to add his story of the island of Hispaniola containing Haiti and Dominican Republic.

What makes the story of the two countries on Hispaniola island in the Caribbean interesting, is the stark comparison with their condition today. When Columbus discovered them in 1492 they were both completely forested. Now it is a different story. Haiti is impoverished and has a forest cover of barely 1%, and the Dominican Republic has 28% and less poverty. The main reason is that during the years of the slave trade, ships would arrive in Haiti, unload slaves from Africa and return to France with a shipload of timber. In addition to the unrestricted logging, the farmers practised slash and burn to gain new land for their subsistence agriculture.

The Dominican Republic on the other hand received immigrants from Europe, mostly Spanish and constrained their logging operations. During the rule of Trujillo, this dictator logged for his own purposes but did not let in private operators. After his assassination, logging by private parties resumed. Then when Delaguer, another dictator, took over, he legislated the banning of commercial logging. In spite of that, private interests bootlegged logging until Delaguer sent in the army to stop it. So it was a determined effort to preserve nature’s resource.

Diamond tells of standing on the border between Haiti and Dominican Republic and looking west to see relatively barren land, then looking east to see forest cover. A dramatic experience indeed. Data from the two countries for the year 2000 show the contrast even more clearly.

	Haiti	Dominican Republic
Unemployment	70%	13.8%
Literacy	48.8%	83.2%
Life expectancy	54.1 years	71.4 years

It would not be fair to claim that all this difference is because of denuding the forests, but it is indeed one important factor and must be considered.

Measurement

The whole theory and practice of economics is based on measurement - in one form or another. As a prominent British scientist once said that to fully understand anything you must properly measure it.

This is so true of economic growth.

Measuring it has been a strange beast however. To measure a country's economic progress the "Gross Domestic Product" includes everything that has monetary value, including collecting garbage or fixing anything that's broken. Other systems have been developed but none has been generally adopted. My paper looking at these various efforts "Genuine Progress and Well-being Indicators" is available on the Internet ⁸⁾. Much needs to be done in this area of measurement.

In a visit to Cuba recently I had an interesting view of the contrast between a wealthy country and a third world one. The resort where I was staying was American style with all the high standards of Western accommodation. On a trip to one of the smaller towns on the island I saw what a very poor third world country looks like. The citizens were reportedly provided with free education and free health care but were, at the same time, very poor in the material sense. Bicycles were predominant on the main streets, and cars, what there were, were rare and of ancient vintage. Taxis were bicycle based. When I got back home

to Canada I found some statistics that were, for the purpose of this document, very revealing. The CO₂ put into the atmosphere in terms of tons per capita per year (data for 2004) were as follows. Canada = 16.5 and Cuba = 2.1 . That says it all.

In my early years as an industrial engineer I learned that every job consisted of three parts: Make Ready, Do, and Put Away. In the modern industrial practice these parts are not completely followed. The preparation for the production of a product most often does not include the full costs of Make Ready. The cost of denuding the forest does not enter into the equation of preparation of packaging. The Do part is usually well covered. The Put Away part is the disposal of the waste of the product which is generally ignored and becomes part of public expense. A new "holistic economics" would necessarily have to consider all of these work elements in some new and innovative form.

What must be done

First of all we must accept that economic growth, as it now operates, must be changed or simply reduced in high-consuming countries. Some of the key points then appear to be:

- make the general public, business and governments more fully aware of the need to change economic growth.
- find ways to reduce the incentives that drive the growth syndrome
- develop a form of "holistic economics" to modernize economic theory and practice with a view to encompassing the long range view towards a sustainable planet.

So, the two engines of change, population increase and economic growth are driving the bus called Earth

relentlessly towards the breaks in the road ahead as yet not fully seen by the bus driver or those directing and managing the trip. The road map for this trip is the current economic theory ignoring the long term view.

The changes required to ensure a sustainable planet are not going to be easy. Population control has shown some possibility of achievement, but economic growth has not. It will be like what I once labeled a major task as "turning the elephant around"⁹⁾. It isn't easy, or at least not in a hurry!

REFERENCES

- 1) Smith, Adam, "The Wealth of Nations" see Internet: www.blupte.com/Literature/Biographies/Philosophy/Smith.htm
- 2) Schumacher, E. F. "Small is Beautiful" Harper & Row, New York, 1973
- 3) Elgin, Duane "Voluntary Simplicity" William Morrow, 1981
- 4) Gore, Al "An Inconvenient Truth"
- 5) Hillin, Hank "Al Gore - His Life and Career" 1992
- 6) Gore, Al "Earth in the Balance" Houghton Mifflin, 1992
- 7) Diamond, Jarod "Collapse - How Societies Choose to Fail or Succeed" , Penguin Group, 1995
- 8) Thompson, Fred G., "Genuine Progress and Well-being Indicators", and follow links on the sidebar to Proceedings then select January 2006 and see page 28.
- 9) Thompson, Fred G. "Turning the Elephant Around" and follow links to Proceedings and select May 2007, page 17.

Chapter 4

Global Warming

The two preceding Chapters on Population and Economic Growth are the driving forces of environmental breakdown, leading of course to climate change and global warming. Much has been covered in these Chapters about global warming and its causes but the importance of the subject is such that I think it will be useful to present more of the critical aspects of it in a separate Chapter.

By happenstance I picked up "The Next Hundred Years" by Jonathan Weiner²⁾ off the bargain counter of my favourite bookstore. It was a fortunate find.

Weiner's story of the research by Charles David Keeling reveals a lot about the occurrence of CO₂ in the world's atmosphere and therefore global warming.

Keeling graduated in chemistry from Northwestern University in Evanston, Ill and began working at Caltech in Los Angeles in 1954. Early on he took an interest in measuring the amount of CO₂ in the air including devising a manometer to do that. It was the beginning of a life career to measure CO₂ and he did this first around the laboratory then out in the field, up the local mountains then finally around the world. The consistency of the results was surprising; around 315 parts per million, no matter where he measured it. There were variations in the seasons and in some local regions but the 315 figure seemed to be a consistent average. That was in the early years of his measurements. By 1988 that figure had risen to 350 ppm. Weiner's book was published in 1990 but a check on the Internet showed more up-to-date values of CO₂.

As any modern researcher knows, the Internet is the

"library of the world" to check first. The website for the U.S. Environmental Protection Agency (EPA) is a large source of reference material on global warming.¹⁾ The Office of Oceanic and Atmospheric Research, part of the U.S. Department of Commerce, reports data from 2004 showing 378 ppm of CO₂ in the atmosphere. And Wikipedia shows the current rate (2007) to be 385 ppm. So there is a documented steady rise in the content. Their information also included some historical data showing that pre-industrial levels of CO₂ (however they measured it at the time) at 278 ppm. They report also that the rise per year appears to be about 1.5 ppm. This is very significant information.

Keeling also looked into historical data and as Weiner reports:

"The record shows an exponentially rising curve, in lock step with the rising curve of the human population. In one hundred years there had been only three hesitations in either rise. These hesitations occurred around the years 1915, 1930, and 1940; one world depression and two world wars."

I can't help but be amused by the quote from Weiner about the occurrence of methane (worse than CO₂) as a contributor to global warming.

"Cows belch about twice a minute, and put a few pounds of methane into the air every week. Thus, clearing a rain forest to make a cow pasture releases methane twice over. First the gas rises from the explosion of termites that eat the wood, then from the grassy herds that eat the grass."

So it seems that no matter what you do, it creates more global warming!

Keeling met Roger Revelle when they were working on the planning for the International Geophysical Year program. And when I reviewed (for the third time) the DVD of Al Gore's "An Inconvenient Truth" I noticed that when Gore was a student at university one of his professors was Roger Revelle.

Revelle impressed Gore with his information on the growing presence of CO₂ in the atmosphere and the resulting global warming and all its implications. Thus began Gore's lifelong interest in these critical issues. Gore also mentions in the DVD presentation that his efforts as a Senator in Congress to promote concerns for global warming were not too successful. I also learned that when Gore was Vice President for Bill Clinton he had to suppress his enthusiasm for global warming issues in order to conform with political strategies at the time.

Gore's research on the subject of global warming as shown in the presentation is thorough and very convincing. Here are some of the highlights:

- analysis of ice cores show CO₂ concentrations for an unbelievable time span - 650,000 years and show a steady increase, with the odd blip for certain climate conditions as ice ages, etc.
- pictures show the occurrence of steadily melting glaciers in various mountain ranges and arctic and antarctic ice caps.
- 40% of the world population depend on water from the melting glaciers and that is rapidly drying up.
- occurrence of CO₂ in the atmosphere has never been over 300 parts per million until recent decades and now is rising faster than ever.

- global temperatures have never been hotter than over the last 10 years with a peak in 2005
- if the global temperatures increase, as predicted, many large shoreline settlements world-wide (including Manhattan Island) will be gradually flooded
- increasing global temperatures exacerbate extreme weather as hurricanes and tornados and evaporate additional water from water bodies and the land itself.
- a survey showed that world scientists all agreed on the reality of global warming but the media was something like 52% uncertain.
- the public reaction is likened to the frog who, when put in gradually increasing hot water, cannot realize what is going on and is destroyed; yet if he is tossed into boiling water he is suddenly fully aware and jumps out. It takes a shock to get action
- but it may be too late.

The evidence is so strong that we can no longer deny the occurrence of climate change and global warming.

Looking at the long range history of humankind can put the present and future in perspective and we can more easily see how the changes would generate increasing amounts of CO₂ in the world's envelope.

Early man was a hunter and a nomad moving to where the hunting was best. With the advent of agriculture, people began to settle in one spot. This required clearing the forests to cultivate the land. People in villages had the houses clustered close together because of primitive transportation. When the car was invented then people lived in houses with lawn and gardens and travelled to work wherever it was. The suburbs evolved. At each stage more energy and more natural resources were

consumed per capita and more greenhouse gases were generated.

The question then arises, at what point will this consuming lifestyle be changed, slowed down or even reversed?

Almost all the Cassandras previously mentioned have identified and discussed global warming so the debate on its existence and significance is clearly over.

REFERENCES

- 1) Check the Internet:
<http://www.epa.gov/climatechange/>
- 2) Weiner, Jonathan, "The Next One Hundred Years",
Random Century Publishing Group Ltd. London,
UK, 1990

Chapter Five

Blockages

Having come this far in examining population growth and economic growth, the two most powerful engines driving the world towards an unsustainable future, what is stopping us correcting course for a sustainable world? What are the blockages?

First, it must be granted that some measures are indeed being taken to lead us to a sustainable global environment. The Kyoto Protocol is an example.¹⁾ But the measures proposed are not being adopted by all countries. The U.S. has not signed up, mostly for economic reasons. Canada has signed on but it is not reaching the proposed levels of constraint. So, what then are the factors that are stopping us from making progress toward reasonable goals? I have listed a few.

Apathy

Apathy of the general public is often pointed out as a cause of not enforcing proper actions in the interests of sustainability. The public is heavily influenced by the media and the media are too often focused on getting the attention of their audience by whatever means - game shows, entertainment. Hence, a lack of interest on the part of the public in serious issues, particularly those of a long term nature.

Complacency

Webster's dictionary defines complacency as the unawareness of actual dangers. The British expression "I'm all right Jack" embodies this unawareness.

Another description of it would be "It's not important: don't worry about it."

Denial

On matters of importance there is often an attitude of denial. This is particularly so if the issues involve major changes or are frightening to behold. Climate change has been in denial for a long time, and is still so for some people.

Thomas Homer-Dixon in his book “The Upside of Down”²⁾ identifies three stages of denial. The first stage says the issue just doesn’t exist; the second stage admits the problem but says it doesn’t matter; the third says we are just not going to think about it.

So denial is a blockage to taking action on major problems with which people just cannot deal.

Another search on Google³⁾ brought up this quote from Sanjay Nirupam, a politician in India, “One always hears about AIDS and how it’s this big problem. But I have personally never come across anyone with AIDS or seen anyone dying of the disease... I think it’s just hype.” Hard to believe, but there it is.

After the Katrina disaster in the U.S. many people returned to their homes in denial that it could ever happen again. Others acknowledged the possibility of a recurrence, taking the long term view and moved elsewhere out of danger.

Compassion

It is natural to want to conserve and lengthen life even at considerable cost. As pointed out in the previous Chapter, it is better to put the emphasis on education to prevent the existence of poverty or ignorance. Bill Gates with a sincere heart, is donating a good share of his fortune to the relief of AIDS in Africa. It would be better in the long run for that money to go to preventing the disease to

which he is donating. Compassion is short term, but reality must be dealt with to prevent even more suffering in the longer term. So in that sense, compassion can be a blockage. Seems harsh but it is really more realistic.

An interesting example: I provided support by small monthly payments to a family in a developing country through one of the several agencies that provided that service. A friend of mine had occasion to visit the country concerned and the actual family receiving the benefits. It turned out that the money being provided set the family apart from their peers and although all were in deep poverty it upset the social balance and was resented. The glasses that were provided by the agency from my contributions were not worn by the child needing them as it made him stand out unfavourably from his friends and neighbours. In other words the acts of compassion did not contribute to an improved social situation.

For compassion to be a blockage to improvement is a strange phenomenon but must first be recognized, then exercised with reasonable judgement.

Belief systems

Belief systems, like tribalism, can act as blockages to certain aspects of the social structure. Religion is a belief system that, when rigid and strictly followed, can conflict with or limit the application of such programs as birth control, social stability. Wars are often based on a religious struggle for power or dominance.

Tribalism

In her book ‘‘World on Fire’’⁴⁾ the author Amy Chua talks about the impact of tribalism on world activities. She describes it as ‘‘ethnic hatred’’. It can be seen in Israel vs Palestine, in Sunni vs Shiite and Muslim vs Christian.

Chua starts her book with the story of the murder of her aunt in the Philippines by her chauffeur. Her aunt was one of the Chinese minority that controlled much of the Philippine economy and the chauffeur was of the native majority. Ethnic hatred, Chua says, is rampant in such jurisdictions where the ethnic minority controls the majority of the tools of power. The sub-title of her book tells the substance of the content: ‘How exporting free market democracy breeds ethnic hatred and global instability’.

Ethnic beliefs and customs are so ingrained that they override ordinary justice and equality of relationships, and individuals in the native majority are willing to go to the extreme in their behaviour to protect their culture. Anyone willing to go to the extreme is a dangerous person and potentially liable to create social instability.

Birth Control

The reluctance to practice birth control is a major factor in population control. As mentioned before, the Catholic Church bans the use of artificial birth control methods or abortion. Agencies and activists that oppose artificial methods of birth control and abortion are a definite blockage to the control of population growth, one of the most serious factors in the creation of a sustainable planet.

If saving lives is the issue then one must consider the costs in lives on a planet that cannot sustain its growing population. Short term thinking and compassion can act to lead the world into mass starvation and social stresses of the worst kind.

Poverty

Poverty is a recognized source and cause of population growth. Countries with the lowest standard of living

have the largest growth rates. Raising the economic level does result, generally, in lower birth rates. But this at the expense of increased economic growth and its consequences to the environment.

Poverty then, is another blockage to environmental stability.

Self-interest

Self-interest is one of the most powerful incentives in both individual and organizational decisions and actions, and self-interest rarely looks very far ahead. As Adam Smith said, self-interest is the driving force of the marketplace and should not be interfered with. Self-interest is arguably the most important blockage to the implementation of programs to ensure a sustainable future world.

Short-term vs long term thinking.

Short-term thinking is one of the most critical of blockages to the acceptance and implementation of programs to preserve the environment. ‘‘Right now, everything is going well, don’t disturb it’’, is a common attitude. Such an attitude pervades current economics.

Actions to protect the world from excessive global warming or the consuming of resources to the point of extinction are, by their nature long range concerns. Scientists for many years were warning the Canadian government of the trends in over-fishing on the Atlantic coast, but it was not until the short-term forecasts made the end of the cod fishery appear frighteningly close that the long-term trends became an immanent reality.

Incentives

To understand any action it is important to look for

the incentives that underlie and drive the process. To understand why people do what they do, just examine their incentive. The key to many of the blockages listed here is to seek and identify the incentives that drive them.

Economics

In the field of economics the practice of not allowing for full product costing is an important blockage to the constraints of consumption. The costs of disposing of waste during manufacture and of packaging by the consumer are two external costs borne by the taxpayer.

In some industries, by-products or wastes dumped freely into the air or water systems, are significant contributors to pollution and global warming.

The whole issue of externalities in the costing process is worthy of examination. New methods must be found towards a more equitable system. The solution is not only in the field of economics but also in the creating of public acceptance of appropriate methods of allocating these externalities fairly .

We have shown how growth drives the economic engine. It is one of the most powerful forces that must be re-aligned in the interest of stability of the planet. Must we face a "no-growth" economy? Well, perhaps, but not in the old way

Capitalism (business)

One of the most powerful influences in the running of a country is business, or capitalism as practised in the West. Mentioned before was the U.S. senator who declined to run for re-election when his seat was assured, because, as he said, the country was ungovernable. He was referring to the power of lobbies to influence the votes in Congress, often over-riding the wishes of the people in

the constituency.

This was also the case when the U.S. declined to ratify the Kyoto Protocol; the current economy and the impact of businesses taking precedence over the long-run interests of the country. It was economics first, and environment second.

For another example, it took years of effort to effect changes in the use of tobacco by the citizenry because of the strength of the business opposition. Business is one powerful blockage to measures that affect them.

Cost

Cost of implementation of programs to protect the environment or the over-consumption of resources is a blockage to concerted action on the part of both business and government.

However, many companies have shown that the costs of implementing conservation measures have been recoverable in the short term by innovation and new technology. Ray Anderson CEO of his carpet manufacturing company is a good example.⁵⁾ The Internet has a quote from the reference:

"By combining environmentalism with dedication to his company's success, Anderson has proven that being green can also bring in the green for big business"

Governance

Although democracy is said to be the best form of government that the world has experienced, it is often discouragingly slow to act when important issues are of a long term nature. Whether population control is a good thing or not, it is abundantly clear that it would be very difficult to legislate in a democracy, although it has been

in China. A new form of governance may yet be found, and practiced, that will serve the people with the long-term interests of the nation.

It is possible that in the future when stability is seriously threatened, a more firm form of governance will be the alternative to our present democratic form.

In the early days of the British parliamentary system they set up a House of Lords. This was to ensure that the decisions of parliament, consisting of the elected peasants and merchants, did not endanger the stability of the nation. Thus the tyranny of the majority was kept in check by the so-called upper house.

Decisions by governments can be so all-embracing as to be the most important level of policy making and action that exists in a nation. Therefore, it is more important to work at this level for major changes in the overall environment. The top-down approach is more effective than trying to implement large changes at the individual level.

Democracy is supposed to bring stability to the nation, but sometimes the will of the majority is indeed dangerous. This has been demonstrated many times. In America's effort to spread democracy to other countries, it has often backfired by generating anti-American government movements in the target country..

I was told that when Canada's then Prime Minister, Pierre Trudeau, was in Salzburg attending a Club of Rome meeting, he was heard to say something to this effect: "I agree with the importance of all we are discussing, but if I were to go back to Canada and try to implement the required programs, I would be out of office at the next election - or before. And the sad part is that my successor would be in the same fix." Sober words, but I see this as reality. Moving into Iraq by the U.S. in 2001 when the

evidence was not sufficient and the public was not fully supportive, shows the frailty of the democratic process.

Political will

After the remarks in the previous paragraph, it is easy to see that it takes strong political will to propose and possibly implement programs that involve major changes and costs in the interest of the long term life of the planet.

It is said that to implement any government program, it takes the support of at least 80% of the people. This may or not be an accurate figure, but it does show the difficulties, yes blockages to the implementation of bold initiatives in the democratic regimes.

Globalization

With modern methods of transportation and communications, the process of globalization is moving rapidly and seems unstoppable. It creates and encourages increased economic growth, corporate concentration and therefore increased consumption and pollution.

Globalization by creating the concentration of wealth in fewer hands gives more power to business and increases the spread between the social classes. How to deal with this ongoing phenomenon is not clear, but the first step is to be aware of the dangers to the environment and plan appropriate steps. It can be indeed a significant blockage to adopting widespread environmental programs.

To sum up

The key blockages, to put it simply, are:

1. The lack of political will and courage for governments to recognize and enact the necessary steps to protect the future, and
2. The incentives that keep the economy growing relent-

lessly onward.

REFERENCES

- 1) Search for Kyoto Protocol in Wikipedia on the Internet
- 2) Homer-Dixon, Thomas "The Upside of Down"
Alfred A. Knopf Canada, 2006
- 3) Google search for "Aids, India, Sanjay Nuripam"
- 4) Chua, Amy "World on Fire" Random House, Inc.,
New York, 2003
- 5) See Internet;
[http://www.myhero.com/myhero/
hero.asp?hero=r_anderson](http://www.myhero.com/myhero/hero.asp?hero=r_anderson)

Chapter Six

The Laws of Change

Change is essential if humanity is to progress. We may be subjected to it, or indeed we may be the agents of change. Perhaps both!

Peter de Jager, a consultant on the management of change¹⁾ showed how Sir Isaac Newton's Laws of Motion applied to the implementation of change in human behaviour. Newton's laws show that a process will continue along the same path unless some outside force is applied. So, human behaviour will only change when effort is applied. The magnitude of change is proportional to the force applied. It makes sense.

There is a law of change that I heard of at one time and have found quite useful that goes something like this: "To make an arithmetic change it is necessary to apply an exponential effort." In other words to make a two times difference it takes a four times the effort. Or three to nine, etc.

A personal case: I was giving a talk to a group of foremen in a paper mill during one of my consulting assignments and mentioned the laws of change and how they applied. Then I said to make a significant change you have to BLAST!

Well, next day as I went around the plant, various people said: "What did you say to the foremen last night? They are all raising hell today!" So, maybe I overdid the lesson.

Having said that, I now have to recognize a chapter in my book "Management Reader"²⁾ called "Trying Harder". The essence here is that effort alone can only increase output a small amount, something like 28%. On the other hand, a change of method can increase the output

many times over. So the message is simply: “Trying harder doesn’t work; change the method”. A lesson to be remembered, and to be included with the laws of change.

Another example: I was in charge of a job evaluation project where the target was to write and rate 10,000 jobs in one year. A large commitment, and we were getting behind schedule. Our team was writing and rating an average of 3 jobs per interviewer per day and that was not enough. I urged the staff to work harder and improve the current output. After a while, no change. Still 3 jobs per day.

So I remembered a seminar where we were told how to reschedule work to reach deadlines that were slipping. This was for companies working on equipment to reach and land on the moon, and return safely to Earth. Hundreds, if not thousands of contractors and sub-contractors were involved and all had to coordinate to a fixed schedule to make the established deadlines. A small delay in one operation could cost the whole program huge losses. So the individual projects had to be finished on time.

If a project gets behind schedule what can you do to catch up? Four options:

- add a lot more labour
- add an infusion of much more money
- increase the quality risk
- make a major change of method

We could not add more money or more labour but we could consider quality and method. So we changed from each interviewer working directly with the job incumbent, to training the supervisor of the job to be described to write the job and our interviewer would edit the output. This increased the quality risk a small amount

but increased output by two or three times. We then were able to meet our deadline of 10,000 jobs in that one year, a major accomplishment.

How does all this relate to creating a sustainable world through a new ethic? Well, it takes huge effort to make major changes and an urgent need for new methods that we may yet have to learn. No mean task.

Now, what kind of changes would we anticipate to create a sustainable world?

Change requires motivation and incentives or we continue as with Newton's Laws of Motion - continuing in the same old way. Change can happen from the bottom up (activists and public demonstrations) or from the top down (government or CEO dictum). The average citizen can respond and adapt to change, or preferably act as a motivator of change.

We saw in a previous Chapter how the incentives for profit create an ever-changing growth economy. So how do you stop it? There must be constraints, as well as incentives, in some form of balance. Constraints are the rules and regulations imposed by governments. In a democracy, constraints can only be imposed on an accepting public and that has limits.

Lester Brown in his book 'Eco-Economy'³⁾ shows how tax shifting, as applied in some countries in Europe is a useful government policy to encourage ecological improvement. In this case, personal income taxes are reduced but a tax on polluters is increased so that the total tax gathered is the same. It is an excellent example of applying new concepts to the traditional economic growth syndrome in the interests of preserving the environment.

All this invites the question, can you legislate human behaviour? In a democracy, yes if the people generally are in support. Take for example Human Rights.

Establishing laws for the recognition of human rights was a major achievement of the 20th century. Consider also tobacco legislation, and seat-belt laws. But how far can a political leader go in enforcing measures to reduce global warming? Not very far, as we see in the Kyoto accord, and the action of various countries of the world.

Fear is a powerful motivator for inducing change. Fear of the drastic effects of climate change, as pointed out by many scientists, has shown some positive results. Some people say that fear of terrorism has produced an over-reaction. This may be so, but the reason is that it is an issue that people can see and experience. It is here today.

Fear of the effects on the world environment is a longer term issue and is often denied or neutralized. Fear often generates denial and the reluctance to act, or the replacement with hope. Reality must be acknowledged.

The trick therefore is to understand the laws of change then find out how to create the incentives and motivators combined with a balance of constraints to ensure a sustainable world.

REFERENCES

- 1) deJager, Peter on Management of Change: <http://www.technobility.com/docs/article054.htm>
- 2) Thompson, Fred G. "Management Reader", Futurescan Consulting, 1992. See page 28
- 3) Brown, Lester "Eco-Economy - Building an Economy for the Earth" Kogan Page, 2003

Chapter Seven

Global Manifesto

This Global Manifesto is a self-standing document to alert decision makers in business government and academia to the issues of concern to the future of the planet. It was prepared previously as part of my related futures activities and included here as a separate chapter. It may be freely copied and distributed, giving credit to its source.

PREAMBLE

It is becoming more and more obvious that steadily increasing population and increasing material consumption are creating a world that is fast consuming its capital and pushing Nature's limits. There has been no lack of warnings issued by various individuals and organizations but more corrective action must be implemented. Now is the time when urgent action is required before pollution and shortages of fertile land, water and other resources create a world that cannot recover from the pillaging that has been and is going on.

A. POPULATION

FACTS

World population in 2007 is estimated by the U.S. Census Bureau to be 6.6 billion and increasing by 73 million per year at a growth rate of 1.15%. By 2050 they estimate it will reach 9.4 billion at the reduced rate of increase of 0.49 depending on rates of fertility, especially in the third world.¹⁾

Increasing population requires increasing supplies of energy, water, grazing land, grainlands, fisheries and

other natural resources all of which are already at risk, and declining on an absolute and per person basis.

Increased consumption by the growing population generates more pollution of air, water and the soil.

Increasing population becomes concentrated in cities which generates problems of housing, transportation, food and energy, as well as increased potential for poverty and social unrest

ACTION REQUIRED

National governments must make urgent efforts to stabilize population by limiting births by: family planning, birth control and upgrading the status of women, and in some cases the enacting of legislation limiting family size.

Religious and social bodies must lift restrictions on birth control.

The education of women in less developed countries should be encouraged and financed by the more developed countries.

B. ENERGY

FACTS

Oil and coal represent 64% of world energy used of which oil was 36% in 2006 ²⁾ most of which is burned releasing large amounts of CO₂ to the atmosphere, a major contribution to global warming,

Massive burning of coal, 28% of world energy (2006) will have a serious impact on global warming due again to the release of CO₂ to the atmosphere. Alternative energy to replace oil is unlikely to be available to satisfy increasing demands by 2010 or 2020 at present rates of development.

Political decisions in oil producing countries could drastically reduce or cut off oil supplies to the major oil consuming countries causing a major fuel crisis in transportation, heating and electric power generation.

The website “The Coming Global Oil Crisis” supports the above concerns :³⁾ In May, 2003, a growing number of analysts at the Institut FranAais du PEtrole predicted that global oil production will peak within the coming decade and then start to decline, leading to higher energy prices with major economic consequences. Oil is the largest single traded commodity in the world. It supplies about 95 percent of all transportation fuels and 40 percent of the world’s commercial energy. It also provides feedstock for thousands of manufactured products and is critical for food production.

ACTION REQUIRED

Commitment, by government and business, of much larger resources to the development of alternative energy such as wind, geothermal, fuel cell and hydrogen to replace oil, particularly in transportation, with specific targets of availability to a definite time horizon is urgently required.

Large increase in investment in the processes for the capturing and sequestering of CO₂ prior to its release into the atmosphere, including the immediate funding of prototypes, is also urgently required.

Governments must set and enforce stricter standards for automobile generated pollution as in California.

Programs must be implemented by the energy industry to increase public acceptance of nuclear energy to enable the installation of the required supply of energy by the time the oil supply is over the peak in the next 10 or so years. Research must be increased on acceptable means of

disposal of nuclear waste.

Both governments and business are urged to prepare and publish realistic alternative scenarios for the anticipated constraints imposed by a reduced oil supply including recommended solutions.

Emergency plans should be set up to deal with a possible sudden cutting off of foreign oil supplies to major oil consuming countries.

C. ENVIRONMENT

FACTS

Global warming is now an accepted fact with its impact on sea levels, weather, desertification and melting of glaciers and ice caps.⁴⁾

Global warming requires increasing amounts of water for irrigation.

Water tables world-wide are dropping year-by-year in the face of rising population and industry demands. Water may well be the critical resource of the future.⁵⁾

Industrial pollution is increasingly contaminating fresh water bodies, making them unsafe to drink and killing off marine life.

Destruction of the rain forests and forests in general is causing rapid species extinction and has a negative impact on weather patterns. Transportation and manufacturing are creating major levels of pollution of both air and water resources, and the rate will rapidly increase as less developed countries increase their aspirations.

The major bases of food supply are rapidly deteriorating including grasslands, grazing lands, fisheries, while demands increase on a per person basis and as world totals. See various research papers of the Worldwatch Institute.⁶⁾

ACTION REQUIRED

To reduce global warming, stricter regulations and standards must be established towards reducing the escape of CO₂ into the atmosphere.

Water consumption must be rationed, or alternative procedures developed, to preserve water tables in appropriate areas with responsible stewardship before they become exhausted.

Clean water laws need to be created or re-inforced with appropriate penalties for non-compliance.

Deforestation must stop and programs developed by wealthier countries for the less developed countries where the deforestation is taking place. Stewardship of forests is called for.

Governments and industry must set new and stricter standards of pollution, beyond those already set at Kyoto and Rio with severe penalties for infraction. Long term scenarios must be developed to rationalize this procedure.

Governments must implement appropriate taxation on removal of natural resources to allow for replacement or development of alternative less destructive procedures.

D. ECONOMICS

FACTS

Economic theory and practice does not adequately factor in the cost of non-renewable resource consumption and depletion.

Both governments and business are dedicated to a continual increase in economic growth and profit, with a lack of concern for the cost to the ecoshpere.

Economic growth has been and is now the basis of increasing standard of living but is consuming nature's capital and creating industrial waste and air, water and soil

pollution.

Economic growth cannot continue especially as less developed countries attempt to attain the high consumption levels of the more developed countries. Nature has limits.

Current indices of gross domestic product (GDP) do not reflect the ecological cost of the consumption of resources and concern for the longer term future of the planet.

Economics is taking priority over the environment to the detriment of the long term human life on the planet.

ACTION REQUIRED

Economists must now band together to create new approaches to economic theory and practices to include longer term impacts of consumption of the Earth's capital resources.

New indices of the true state of the economy must be developed to take into account the consumption of nature's capital and the loss of unrenewable resources.

Business must re-examine its role in viewing growth as the only way to succeed, and find ways to satisfy shareholders in the short term without polluting the earth and unnecessarily consuming resources.

E. VALUES

FACTS

Governments, and their leaders, are too often waiting for the people to demand stricter standards for population, energy and the environment and not providing the vision, courage and leadership required to cope with the longer term trends that threaten the planet.

Lobbying by private and commercial groups, often

associated with large sums of money, has too much influence on government decisions and legislation to the point where public interest is bypassed.

ACTION REQUIRED

Governments must take a leadership role in the protection of the environment for the long range good of the people they govern, and not be delayed or diverted by large financial inputs from private interests.

Politicians and those responsible for government decisions must be responsible to the people and the practice of lobbying by commercial interests constrained or made an open book available to all citizens.

Governments should implement a senior department on the environment, as in Holland, that will have seniority over other departments and the right of advice and veto in proposed legislation

F. OTHER OBSERVATIONS

Enough studies have been done on the above problems and concerns; now is the time for action to be responsible stewards of the Earth to avoid political, social, economic and environmental difficulties. We are pushing nature's limits, and stronger corrective action can be put off no longer.

This Global Manifesto focuses on issues of the environment, to protect the finite planet on which we live. It does not cover other concerns such as poverty, human rights or armed conflict..

Dealing with the environment though, as noted above, would have a huge and beneficial impact on all aspects of long term life on the planet.

Let us learn from the story of Easter Island in the

Pacific Ocean. See the website: <http://www.eco-action.org/dt/eisland.html>

And that is the Global Manifesto which is freely available for copying and redistribution with credit to Fred G. Thompson and Futurescan Consulting.

REFERENCES

- 1) www.census.gov/ipc/www/idb/worldpop.html
(Slight variation from UN data in Chapter 2)
- 2) USGS website: http://energy.cr.usgs.gov/energy/stats_ctry/Stat1.html
- 3) <http://www.oilcrisis.com/news/article.asp?id=4157>
- 4) <http://www.nrdc.org/globalWarming/default.asp>
- 5) <http://www.worldwatch.org/pubs/paper/128/>
- 6) <http://www.worldwatch.org/pubs/paper/>

PART TWO

Chapter Eight

Social Inventions

When Stuart Conger was Executive Director of the Canadian government program New Start, he conducted a study of “Social Inventions” and published a valuable in-house document on it in 1970. I knew him as an innovative thinker when I was in the federal government so I paid attention to his study. He pointed out that there have been many technical and scientific inventions over the years but the development of social inventions has not kept pace.

After Conger first published his paper on Social Inventions, it was published as an article in *The Futurist* of August 1973 and attracted the interest of people in Europe who were active in this field.

Robert Jungk, a prominent European futurist, and creator of the project Mankind 2000, noticed the *Futurist* article on social inventions and passed the word along to the newly formed Paris group, International Foundation for Social Innovation. They sent a representative, Jeannine Gueron, over to North America to learn of social innovations and in the process looked up Stuart Conger in Ottawa. On April 16, 1975, she convened a meeting of interested people in the Ottawa area and included me.

At this meeting Gueron talked about the work of the International Foundation and learned about some of the social innovations we had in Canada. She also invited us to attend the proposed conference on Social Innovation to be held in Paris on September 25, 26, 1975, which I was also able to attend ¹.

The organizers then set up the Institute for Social Inventions in England, followed by their creating the Encyclo-

paedia of Social Inventions and a Who's Who of Social Inventions.

Research on these topics on the Internet today attributes the existence of both the Institute and the Encyclopaedia to Nicholas Albery. I have not been able to find out if these activities were an offshoot from the early days or are original efforts. Be that as it may, it is good to see the work on social inventions continuing and with a global outreach on the Internet.

Conger's original social inventions thesis defines social invention as:

"A new law, organization or procedure that changes the way that people relate to themselves or to others".

Social invention over time have included those in various categories as institutions, procedures, laws. He has listed hundreds of them including such concepts as:

INVENTION	YEAR	LOCATION
Labour union	1696	England
Penitentiary	1700	Rome
Y.M.C.A.	1844	England
Red Cross	1864	Geneva
United Appeal	1913	Cleveland
Hansard	1608	London
Democracy	510 B.C.	Athens
I.Q. tests	1905	Paris
State supported schools	75	Rome
Unemploy't Ins.	1789	Switzerland
Old age pensions	1908	Great Britain

As can be imagined the list could go on and on, yet the number of new social inventions in the last hundred years is still relatively small; compared, that is, to those in the hard science and technical fields.

Because we are coming into a new age, one where new laws and procedures need to be developed and applied, it is important to be aware of the potential and need for new social inventions.

We must note here the difference between invention and innovation. The latter means the application of an invention. So first there is the invention then the innovation which may or may not follow.

The reason that social inventions have lagged behind technological ones seems to be rooted in the incentive for the technological invention, and that is the profit of the marketplace. There is not always a commercial market for social inventions. In fact the social invention (like day-care, medi-care, etc.) may indeed cost the citizen a greater tax burden.

Where should we start in looking for new social inventions? The potential is, of course, enormous. In the over-crowded world of today, and more so of the future, we will need many new rules and guidelines to living peacefully and constructively together on the planet. Some areas of concern would include:

- new concepts of learning to live together in a world of different belief systems and tribal histories; new laws, procedures and institutions.
- economic growth must be contained with new concepts, laws and procedures.
- urban design needs new approaches to ensure safe food and energy supply.

- world governance must provide the strength to enforce measures to ensure global stability and environmental sustainability

The social inventions of the past have served us well for thousands of years but now the need for new ways to ensure a sustainable global future demands many new and innovative ways. Research with the necessary funding is an urgent need.

Conger has done well to call our attention to the concept of social inventions, but now it is time to put the process of inventing and applying new laws, institutions and procedures into the social system.

REFERENCES

- 1) see Thompson, Fred G., ‘Looking Back on the Future’ Futurescan Consulting, Ottawa, Canada, 1992, Check: www.fredgthompson.com, and click on Publications and follow the links.

Chapter Nine

Communities

It seems appropriate that a chapter on communities should follow the one on Social Inventions. Intentional communities can surely be put in that category. We intend to think of communities as just those in a geographical area like the suburbs or villages. However, intentional communities are those that are formed by people gathering together with some special common interest, be it religious, spiritual, environmental or a particular secular interest.

Intentional communities are becoming more and more popular . Because of the uncertainties of the future and the likelihood that large urban metropolitan areas will suffer severely, it is almost certain that more people will choose some type of alternative community. This Chapter therefore is offered to those who can visualize such a move, and maybe sooner than later.

Religious Communities

Included under this heading are the Hutterites, Amish and Mennonites all of which had their roots in the Reformation in Europe of the 16th century. This was the time when Martin Luther began the Reformation, effectively separating church from state.

When the Bible became available to the public in printed form, the literate could judge for themselves what was their true way to God. During this period the Anabaptists arose believing that the baptism ceremony was not appropriate for infants but only for adults who knowingly and willingly confessed their faith. Such

differences in beliefs arose among them that the Hutterites, Mennonites and Amish were the eventual outcome.

Because of persecution of these Anabaptists, they in their various forms were driven out of their own countries in Europe and fled to other parts of the world.

The lifestyle of the Hutterites and Amish were somewhat similar in that they espoused the simple and peaceful agricultural and communal life. The Biblical reference is their guide in the book of Acts:

ACTS 2:44 And all that believed were together, and had all things common;

ACTS 2:45 And sold their possessions and goods, and parted them to all men, as every man had need.

In these communities the land was owned communally and the individual had no possessions. Administration was by an elected group of elders, and clothing and life necessities were distributed to the individuals according to need. Speaking generally, the pastor was the first clerical authority, men came next, then women in that order. Men and women ate separately. Suffering was an accepted part of their belief system. Education was limited to classes within the community; post secondary education outside the community was discouraged. These communities were agricultural based and they lived simply within their community. The Mennonites have been split into several factions and not all follow these strict social rules.

These religious communities tried to live self sustainably but now with the advent of large commercial farms they are currently having a difficult time economically. Modern ways of life are attracting the young people to leave the community in search of a less restrictive life. Growth continues within the community; no outsiders are

invited to join.

Sanctuaries

Jack and Marcia Kelly wrote a book "Sanctuaries" ¹⁾ which is described by them as "A Guide to Lodgings in Monasteries, Abbeys, and Retreats of the United States". My wife and I found the document very useful when travelling by car in the U.S. One New Year's Eve we stopped for the night at one we found from the book on our trip through New York State, "The Abode of the Message" in New Lebanon, N.Y. It turned out to be a delightful experience. We participated in their devotional service New Year's Eve in their meditation hall and in their communal meals the next day. The community follows the traditions of Sufism "in which life is seen as a garden where all possibilities exist for creativity and the expression of beauty." To further quote the book about Abode of the Message:

"The community does not promote a particular creed or church, but works to unite the followers of different religions and faiths in wisdom."

The Abode of the Message is just one of well over a hundred religious or social groups described or listed in Kellys' book. Although the purpose of their book is to show possible lodging facilities in these groups at very reasonable costs, it does show how many spiritual and similar social groups exist. I was surprised at the scope of this community.

There exists a great number of unique religious and social groups that may be useful guides to the future in stressful times.

Kibbutzim

The Kibbutz is a form of communal living developed in Israel to carry out both political and social goals. It began in the early years of the 20th century and was populated mostly by young enthusiastic Jewish zealots promoting zionism and the development of the desert lands. Administration was by an elected board and property was owned by the community. Children were separated from parents except for visiting privileges. As in the religious groups above, clothing and the immediate necessities of life were allocated and distributed according to need. At first the community prospered and the arid land was transformed into a lush agricultural environment.

However, as time went on and the young people saw what was going on outside, they began to want private property and their own possessions and families. A lack of interest in zionism also contributed to a general decline in the Kibbutzim populations.

Arcosanti

Arcosanti is a totally different type of community. In fact it is more like an innovative mini-urban style development. It is an experimental town in the middle of the Arizona desert, north of Phoenix. It is the dream of Paolo Soleri an Italian architect, student of Frank Lloyd Wright. It was begun in 1970 with the object of demonstrating how an urban community can live lightly on the earth, conserving energy and providing much of the food from the surrounding agricultural land - which is now desert.

Although it was intended to house 3,000 to 5,000 people, it has attracted only 50 to 120 people, mostly those who are students or interns studying the project. My wife

and I visited the project in 1995 and I could not see why anybody would want to live in the middle of the desert far from any other settlements and be content within the few acres of this new form of town. Plans do, of course, include services as shops, entertainment facilities, and a 25 storey office and residential tower with other support services - schools, hospital, and churches that an independent community requires.

It is a worthy experiment and its completion might be a useful guide for future developments.

Mondragon

Mondragon is a vast cooperative enterprise in the Basque country of northern Spain begun by a young priest Father Arizmendi in the 1940's. He was aware of heavy unemployment in the area and started a school where studies of cooperatives were carried on.

In 1956 a group of students started the first cooperative enterprise to manufacture domestic appliances. This grew beyond manufacturing to co-op schools, housing, and a bank. Employees were members of the co-op who were required to invest the equivalent of a year's pay in co-op stock to ensure participation and support for the enterprise. Members could borrow this from the co-op bank at reduced rates.

Management was selected by democratic vote of the members and the wages set to allow specified ratios to the different levels of management. Growth of the co-op has been extraordinary with up to 150 separate companies in the group and is now the seventh largest company in Spain with a workforce of some 70,000 members

What is unusual is the way the co-op principles are carried into the whole community in addition to and in support of the manufacturing operations. These include

a wide range of co-op services for members such as housing, schools, insurance, credit union, etc.

Many of such social developments turn out to last not too long. But Mondragon has continued to prosper.

Intentional Communities

Intentional communities are generally membership based where the members gather together with a common interest, spiritual, economic, ecological or other. An excellent listing and description of the hundreds of intentional communities is in the "Directory of Intentional Communities." ²⁾ In one chapter of the book "The Soul of Community", the nature of such communities is described:

"All these communities share at least three things in common: 1) the members are there by choice, 2) they practice some form of cooperation at the economic level, and 3) they agree to live by a code, or social contract, as a condition of membership.

They go on to say:

"Most people attracted to group living have some degree of idealistic vision, some expectation of a better way of life."

Cohousing

As a futurist I have had a strong interest in Cohousing since the early days of their development. The concept originated in Denmark in the 70s and was discovered for Americans by Kathryn McCamant and Charles Durrett. ³⁾ The features they found included the following:

- individual homes were in a cluster with common services such as dining hall, workshops, laundry.
- each individual home had its own kitchen (small) and other facilities so the resident could be totally private or share meals, baby-sitting or socializing with other residents.
- each resident takes a turn at taking care of communal meals.
- ecological features were also included, such as conservation, recycling, vegetable gardening, etc.
- parking space was provided outside the cluster of houses so that children could play in the group space and be in view of adult residents.
- residents owned their own houses and paid their share of the common facilities
- administration was by weekly group meetings to resolve issues.

One good feature of most cohousing systems is the multigenerational nature of the membership.

Since the early discovery of cohousing it has been adopted extensively in America.

Ecovillages

As described by Karen Svensson in her co-authored book “Ecovillage Living,” ecovillages are “communities of people who strive to live a sustainable lifestyle in harmony each other, and other living beings and the Earth.”⁴⁾ They follow as far as possible such guidelines as:

- growing their own food in their own bioregion
- using natural locally available building materials
- practicing energy and waste management
- using renewable energy systems

- using minimal commuting times and methods
- encouraging local businesses to practise green technology

The Jackson-Svensson book describes many examples of ecovillages in Australia, Denmark, U.S., Columbia in considerable detail. It is apparent that each of the described ecovillages requires a lot of preliminary design and eventual management to maintain the sustainability principles involved.

It certainly is one good way people should strive to live in the future for the good of the planet and future generations.

Gated Communities

A novel approach to gated communities is found in "The Popcorn Report" by Faith Popcorn.⁵⁾ (Her original name was Potkin but it became corrupted by frequent use to Popcorn which she then adopted legally.) She gave the name "cocooning" to these gated communities, which is an apt connotation.

The book is her description of future trends which was addressed to the business community and has very many perceptive concepts, "cocooning" among them. What she means by "cocooning" is that people will begin to gather in a group of private homes surrounded by a high fence and with a guard at the entry. The main reason for this is not community association and intercommunication, as in intentional communities, but simply to protect them from violence in the surrounding neighbourhood. Mostly an urban condition.

And as she says, it is "the impulse to go inside when it just gets too tough and scary outside. To pull a shell of safety around yourself, so you're not at the mercy of a

mean, unpredictable world ...”

One type of this cocooning is the “Armored Cocoon”. Not a very inspiring goal for living, but one aspect of reality as the world turns.

Other sources of interest

In the book "The Spirit of Community" ⁶⁾ Amatai Etzioni talks about the responsibilities of community living. He makes the point, which I have long held, that there are too many rights given to people today and not enough responsibilities to balance the equation. He also says that there is a strong moral responsibility to living in community, and we all live in some form of community.

Another excellent source of information on community living is "Creating Community Anywhere".⁷⁾ The two authors interviewed hundreds of individuals living in various forms of community across the United States and give many useful examples of community living. One of the essentials of community life as they say is commitment - commitment that includes trust, compassion and respect.

REFERENCES

- 1) Kelly, Jack and Marcia "Sanctuaries - A Guide to Lodgings in Monasteries, Abbeys, and Retreats" Random House, N.Y.
- 2) "Directory of Intentional Communities", Fellowship for Intentional Community & Communities Publications Cooperative, Rutledge, MO 63563, 1992
- 3) McCamant, Kathryn; Durrett, Charles, "Cohousing, a Contemporary Approach to Housing Ourselves", Ten Speed Press, Berkley, CA, 1988
- 4) Jackson, Hildur; Svensson, Karen, "Ecovillage Living" Green Books, Foxhole, Dartington, Totnes, Devon TQ9 6EB, UK
- 5) Popcorn, Faith "The Popcorn Report", Harper Collins Publishers, Inc., New York, 1992
- 6) Etzioni, Amitai, "The Spirit of Community - Rights, Responsibilities, and the Communitarian Agenda", Crown Publishers Inc., New York, 1993
- 7) Anundsen, Kristin, & Shaffer, Carolyn R., "Creating Community Anywhere - Finding Support and Connection in a Fragmented World" Perigee Books, New York, 1993

Amazon lists other books on Community. I list these, but note that I have not seen them.

"Sustainable Communities"

by Jan Martin Bang

"The Cohousing Handbook: Building a Place for

- Community” by Kelly Scotthanson
- “Senior Cohousing” by Charles Durrett
- “Reinventing Community: Stories from the Walkways of Cohousing” by David Wann
- “Finding Community: How to Join an Ecovillage or Intentional Community” by Diana Leafe Christian
- “Ecovillages: A Practical Guide to Sustainable Communities” by Jan Martin Bang
- “Sustainable Community: Learning from the Cohousing Model” by Graham Meltzer

Chapter Ten

Other Ways to the Future

There are a number of different ways of alternative living that individuals and governments have set up. Some are compulsory, like national service, and some voluntary, but all aim to improve society and/or individuals in a positive way. We begin with land trusts that aim to make land more available directly to citizens that live on or directly use the land.

Land Trusts

The purpose of a land trust is to put the ownership of a piece of property in the name of one party for the benefit of a second party. There are different uses of the land trust principle such as to hide the name of the real owner of property in the case of a real estate development, to transfer property on death to avoid probate, for a community to own property to avoid real estate development or for conservation purposes. We are concerned with the latter use.

The Land Trust Alliance was founded in 1981 to provide technical support to a growing network of land trusts in the United States. They reported that by 2003 conservation land trusts had protected almost 9.4 million acres of land in the US. Conservation land trusts exist in 50 of the U.S. states, so it would appear that conservation land trusts is a large activity.

The E.F.Schumacher Society of Great Barrington, Mass. has been active in setting up land trusts in many areas.¹⁾ The Society website reports that Robert Swann and Slater King set up the first community land trust in 1967 in Albany, Georgia. Robert Swann and others of the

Society wrote a pioneering book on the subject: "The Community Land Trust - a Guide to the New Model for Land Tenure in America." A website now tells of the activities of the National CLT Network. The Schumacher Society has also published "The Community Land Trust Online Handbook" to help others start land trust organizations.

The E. F. Schumacher Society has provided technical assistance to the Community Land Trust in the southern Berkshires which owns tracts of land including Forest Row, a residential locale of permanently affordable housing; and a community supported farm, a model for farmland preservation and conservation.

Susan Witt of the Society visited the settlements on the west side of Lake Bailkaal in Russia to work with USAID projects to establish land trusts where applicable in that area. They set up plans for a land trust to include the village of Tolovkah and adjoining farm land. This would give the local people ownership and control of their own land in the area.

I found it interesting that the personnel from the Schumacher Society were reaching out to contribute internationally to the development of the concept of land trusts. A model for others to emulate.

National Youth Agencies

From time to time governments feel the need to set up agencies to engage the youth of the country into meaningful and challenging opportunities and prepare them better for the full citizenship role. Organizations such as the Peace Corps in the U.S. and Outward Bound in Canada come to mind. Some countries have compulsory military service for a year or two. Two organizations were set up in Canada to engage youth, the Company of

Young Canadians and Katimavik.

A search on Google reveals more national youth agencies than I had expected to find. However, let us deal with the Canadian situation first.

Company of Young Canadians.

The Company of Young Canadians (CYC) was set up in 1966 by the federal government to provide an opportunity for young people to become active in social and community service during the time when some of them were going through very great social changes, expressed by beards and aberrant behaviour.

The program was voluntary and soon became disorganized and finally died a slow death and was discontinued in 1977. The first executive director, Alan Clarke (recently deceased) was a graduate of Philosophy and Ethics from the University of Toronto, Victoria College. He was a good friend of mine but not trained in executive management. That and changing times contributed to the program's demise.

Katimavik

Canada's Katimavik was inspired and founded by retired senator Jaques Hebert in 1977 with the object of giving young Canadians from all walks of life the chance to discover their country, live in a group and be involved in communities. It also included learning Canada's official languages and protecting the environment.

The first year nearly 1,000 young people participated in over 80 separate projects. By 1986 15,000 participants were experiencing the program. But then the axe fell. The budget was cut and the program went into decline. Senator Hebert went on a 21 day hunger strike to protest the cut. I recall the stir that this caused in the media

to have such a distinguished citizen take such dramatic action against his own government. By 1994 the program was resumed and today some 1,200 participants enjoy the program in more than 100 communities across Canada.

National service for youth, as described below, takes different forms, including military service, in other countries,

The United Kingdom

In 1991, The National Youth Agency was set up in the United Kingdom. Their mission is to support “young people’s personal and social development and work to enable all young people to fulfil their potential within a just society.” Programs include the topics of Health, Achievement and Justice, Youth Action and Young Adult Learning Partnership.

The program is still active and on-going.

Jamaica

Jamaica, a Commonwealth country in the Caribbean, has a National Youth Service (NYS) launched in 1995 amidst major concerns about the high level of youth unemployment, academic underachievement, the lack of training opportunities for young people and their escalating trend toward anti-social behaviour. Programs include such activities as:

- a four-week career training and re-socialization residential orientation then six-month job placement for high school graduates, aged 17-24 years
- an annual youth exchange program conducted in association with Canada World Youth ²⁾ focused on literary projects

- a program that provides partial payment of tuition fees in exchange for voluntary service.
- a certificate course for the disabled.
- an annual program employing on average 4,000 students island-wide during the summer holidays.
- a new project geared toward instilling core values in high school students through service clubs.
- a projects managed by the NYS in association with private sponsors, national, parish and community organizations, cadets, community members and NYS participants.

I have included the above details of the Jamaica program because of the comprehensive nature of the service in such a relatively small country. An example that others could well follow.

Compulsory Military Service

As a form of National Youth Service, Wikipedia on the Internet lists 32 countries without compulsory military service, and 31 with the service. Those without included Canada and also France. In the case of France I recall working in the Economic Council of Canada during the 1970s and there were at one time 2 or 3 young people we had employed from France who were doing their military service by working in a foreign country. This struck me as strange at the time to have military representatives working in one of our more sensitive government organizations. However, in 1996 the French government discontinued that service.

Another interesting item I got from the list of countries that do not have compulsory military service, or conscription, is Iraq.

It appears that Iraq did have conscription until after

the second Gulf War when the army was disbanded. Just before that they did have conscription with the following note in Wikipedia: "In the intervening years, Iraq's military suffered from decay and poor leadership, but there was still compulsory service."

One program of note was "Ashbal Saddam" known as "Saddam's Cubs" in Iraq where children were trained to defend their country through "toughening" exercises such as firearms training and dismembering live chickens with their teeth!

Another interesting note from Wikipedia; Switzerland has a large militia army of 220,000 persons including reserves. Military service for Swiss men is obligatory according to the Federal Constitution.

Of the more populated countries, India does not have compulsory military service, but China does.

Whether or not compulsory military service is good life training for young people is an open question. The National Youth organizations above are as much for individual training as for community service. Service in the military would not seem to emphasize the community service aspect, but in my mind it does fall into the category of training young people for the future, therefore I have included it in this Chapter..

Homesteading

As it functioned in the early days of the 20th century, homesteading offered land to citizens who would work the land for a certain number of years then gain title to it. It was a method used to attract immigrants to develop the Canadian West. Some 170,000 immigrants from the Ukraine came to Canada at that time to settle in the Prairie Provinces.

Around 1910, my father as a young man was living

in Toronto and suffered a nervous breakdown from the loss of his parents and over-work and the doctor prescribed going out to the West to homestead to get back his health. He did this for a couple of years and got so healthy he came back to Toronto and married my mother! So much for his homesteading!

In my early days, just after graduation, when I was working in the mines in Sudbury, Ontario I would take trips from there to Toronto, my parental home, and travel on the train's "colonist cars". These were train coaches that were very sparsely equipped and I would climb into the unupholstered upper bunk, gather my coat around me and sleep for the overnight trip. Very primitive but functional and deemed adequate for the thousands of incoming immigrants heading West.

The principle of homesteading might well be reviewed to develop programs to direct immigrants to the rural areas where land is available to reduce the pressure on the rapidly growing and over-crowded urban areas.

Voluntary Simplicity

In 1981 Duane Elgin wrote the book "Voluntary Simplicity" which became a best seller.³⁾ It espoused a simpler way of life to get away from the burden of ownership of many material goods and the pace of modern urban life. I read Elgin's book at the time as it was quite popular and enjoyed the many examples of living the simple life. I recall the story of a business couple living in Chicago who divested the majority of their belongings and moved up into the bush in Ontario to start a new and simpler life - and were contented with the move.

Helen and Scott Nearing moved to an older house in rural Vermont to downscale their life and published "Living the Good Life" to describe and praise the move

and recommend the simpler lifestyle.⁴⁾ Scott Nearing was an avid believer in the simple life and advocated creation of a modern method of homesteading.

This simpler lifestyle may well be more common in the future as the economy tightens up due to the eventual shortages of nature's bounty

Outward Bound

Outward Bound is a non-profit organization headquartered in Omaha, U.S. with activities in over 30 countries of the world. It is designed to give individuals a learning experience that advances personal growth by challenging their limits. Adventures are provided in wilderness and also urban areas. I have heard from participants that it gives the individual a real test of inner and outer strength that is often life changing, and always highly recommended.

Corporate Knights

Corporate Knights Inc. was established in 2002, and is an independent Canadian-based media company in Toronto.⁵⁾ They publish an annual report on the 50 best corporate citizens in Canada. They also create an annual "Global 100 Most Sustainable Corporations in the World", announced each year at the World Economic Forum in Davos.

Searching the Internet for eco-responsible companies shows quite an interest in the topic in the business community. So the business community **is** concerned about their role in helping to create a sustainable world.

REFERENCES

- 1) see the E.F.Schumacher website:
www.smallisbeautiful.org/clts.html
- 2) for Canada World Youth see:
<http://www.cwy-jcm.org/en>
- 3) Elgin, Duane, “Voluntary Simplicity - Toward A Way
Of Life That Is Outwardly Simple, Inwardly Rich”,
Quill, Rev. Ed. 1998
- 4) Nearing, Helen and Scott, “Living the Good Life”,
1954
- 5) see: www.corporateknightsforum.com and
related sites

Chapter Eleven

Personal Responses

The purpose of this Chapter is to explore the potential of a personal response to the expected difficulties of the future. Most of what has preceded this has dealt with the environment, economy and world issues. But how does an individual deal with such issues? A lot depends on where one lives, in what country and under what present conditions. In any case, awareness of trends and blockages, and preparation in advance is certainly the best policy for each individual and each family.

Being aware of what is likely to transpire in one's area in the future is the prelude to any action. Because of the many competing forces, and the journalistic tendency to see pro and con it is not easy to sort out the realities. The urge to denial is a powerful force. The former residents of New Orleans moving back into their old area after Katrina is an example. It is almost certain that another and greater tropical storm will occur again and the calamity repeated. The popular view to set economics ahead of the environment is so strong that it takes clear perception to follow the right course.

A person or family can choose to act independently and become insulated from future change as much as possible. Or one might prefer to live in a select community that features harmony with the environment. In any case it is prudent to adopt the principles of voluntary simplicity and live lightly on the Earth.

One might consider to provide as much as possible of one's own food by adequate farming or gardening. The current situation of food coming into urban areas from far

distant sources may no longer be reliable when transportation becomes restricted.

Clean water requires living in a location where this can be assured. Water tables have been shrinking for many years and with climate change this will be accelerated. Electrical energy, an important component of life, and necessary for most lifestyles, may become unreliable or non-existent from normal sources of supply. This must be taken into account in relation to the many possible alternatives available. As time unfolds, some of these problems will make themselves apparent but their possibilities must be considered in advance of the pressures of high demand.

Perhaps all of this is obvious but preparation in advance is not likely to be the general reaction of the population. For those that do act ahead of an impending crisis it alleviates the general pressure that is likely.

But what of those that cannot afford to relocate in order to live a simpler lifestyle?

In general it is best to live as simply as possible under the circumstances and help others to do the same. Helping others would include an outreach function; that is to be an activist to help influence others in the community to act in an environmentally conservative manner.

Keeping personally fit is fundamental to any and all of these proposals. A careful diet and plenty of exercise is not the popular norm but should be observed strictly for those interested in creating a workable and sustainable future.

An activist role could also be useful. This means writing letters to the editor, contacting one's local political representative, or business executives, to promote the causes of sustainability or to inform those who violate or don't understand the conservation issues. As the saying goes, one person can make a difference. "The Power of One" could be an inspiration.

Chapter Twelve

Summing it all up

There is no question that we are entering a New Age, another Hinge of History and we must prepare for it.

A Club of Rome document ¹⁾ said that when we consider changes in the world it is necessary to consider that we are really talking about TEN worlds. What the answers are for North America will not be the same for most of the Southern Hemisphere. Yet they all will of necessity interact with each other as time moves on.

What Amy Chua has described as Tribalism is a consideration to recognize. In the long range of history many cultures have not changed in a thousand years. The U.S. invasion of Iraq, and the resulting internal conflicts, is an example of how different cultures clash. This will have to be included and dealt with in the unfolding of future scenarios.

There are two powerful forces that have to be dealt with for a sustainable world. One is overpopulation, which has possible solutions as demonstrated in some countries and with alternate forms of living. De-urbanisation is urgently required to relieve the pressures of a crowded world.

The other force driving the future is continuing economic growth with the environment taking second place. This has more difficult aspects yet here again there are many possible solutions. The development of "holistic economic theory" and new forms of social performance measurement is one important direction to follow.

All this will take awareness and political will, and business courage to implement the longer range and more evident procedures. For this, the Western democracies

must take the lead. Although every citizen should take his or her part in changing the world for the better, the real responsibility rests with the leaders in government and business. Will they respond in an appropriate manner? Or will they continue to be influenced by current economic and political pressures of short term issues. It will take courage and acceptance of the risks.

After talking about the issues of the future, I am often asked "Are you a pessimist?" And I hasten to reply "No, I am not a pessimist. I am a realist."

What is written today will no doubt be out of date tomorrow as this New Age unfolds, but we must not flinch in our efforts to change the world for the better. All this requires a New Ethic for Humankind.

As a final thrust, I must refer to the more positive references included in the work of the Millennium Project, a project of the World Federation of UN Associations. See their website: **www.millennium.project.org**

For a huge source of information on their work and linkages to other work on futures projects see their website: **<http://www.acunu.org/millennium/env-scanning.html>**.

The amount of work they report as going on in the world is quite impressive and encouraging.

Once we realize the seriousness of the future, and it is now clear and without doubt, then it is necessary to bend our efforts tirelessly to seek ameliorations and solutions.

That is what this "New Ethic for Humankind" is all about.

REFERENCE

- 1) Mesarovic, Mihajlo and Pestel, Eduard "Mankind at the Turning Point" Penguin Group (USA), 1976

Appendix

A speech by George Monbiot author of "Heat" in August 2007 notes that the issues in his book need a significant update.¹⁾ This deserves putting an excerpt here because of the strength of his convictions and the corresponding implications.

"I'm going to start with some bad news, and the bad news is this. Two degrees is no longer the target. And the news is contained in a recent paper written by James Hansen of NASA in the Philosophical Transactions of the Royal Society. And what Hansen shows is that the profoundly pessimistic assumptions in the latest IPCC Report are insufficiently pessimistic.

And the reason for this is as follows. The IPCC assumes that the melting of the ice sheets at the poles will take place in a gradual and linear fashion. And Hansen's own work with the paleontological record shows that that is an "entirely implausible" (to use his term) scenario.

The last time we had two degrees of warming in the Pliocene 55 million years ago, the ice sheets at the poles did not melt - as the IPCC proposes - over a millennia, but within the course of one century. And they did not cause a maximum sea level rise within the course of one century - as predicted by the IPCC - of 59 centimetres, but of 25 meters.

And Hansen proposes that through a series of factors - the collapse of the buttresses that prevent the ice from sliding into the sea, the melt water trickling down through crevasses and lubricating the base of the ice sheets, and melt water on the surface of the ice sheets changing the albedo, making the ice darker and therefore absorbing more heat, will lead to the sudden

and - certainly in geological terms - almost immediate collapse of both the West Antarctic and Greenland ice sheets within the course of one a century at somewhat less than two degrees of warming.

Not only does this lead to the immediate affect of inundation of most of the inhabited world - something like 60% of the people live within 50 Km of the coast - it also means that you get a severe and sudden change in global albedo change as white stuff at the poles gives way to dark stuff absorbing much more solar radiation.

And he proposes that we can't go beyond 1.5 to 1.7 degrees of warming above 1990 levels. Combine this with what Richard was talking about and the stuff contained in the IPCC's 4th Assessment Report which shows that in order to have a maximum cap of two degrees of warming we need an 85% global reduction even before you take population growth into account.

So when that's added to the fact that we're going to have something like a 50% increase in population, you can see that that pushes way over 90% even before you take the issue of global equity into account which means that the rich nations must cut the emissions much further than anybody else, you realize that we are talking at a minimum of a 100% cut, and it looks like it might have to go to 110% or 115%.

You laugh but we're talking about sequestration and we're talking about such things for example, as growing bio fuel and burying it, simply for growing as much bio mass as we can and sticking it back on the ground....something..... anything to stave off this catastrophe.

We're not talking any more about measures which require a little bit of tweaking here and there, or a little bit of political tweaking here and there. We're talking

about measures which require global revolutionary change.

And that is a much tougher message than any that I've put out before, and this is the first opportunity really that I've had since that paper came out, to express the fact that what I thought were rather bold and revolutionary proposals in my book "Heat", those proposals don't go nearly far enough."

George Monbiot²⁾

Reference

- 1) The **book** is: Monbiot, George "Heat - How to Stop the Planet from Burning" Random House of Canada Ltd., 2006
- 2) Monbiot's **speech** is: <http://www.indymedia.org.uk/en/2007/08/379803.html>

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A New Ethic for Mankind

Fred G. Thompson
2007