SUSTAINABLE DEVELOPMENT:
A Mirage and a Dangerous Trap

by
C.R. (Buzz) Nixon

Until the primary and overwhelming priority of a sustainable ecosphere is recognized, effort and programs based on the concept of "sustainable development" are likely to be wasted in search of that unachievable "will-o'-the-wisp". Worse still, during the time that is lost in chasing unachievable "sustainable development" the overall predicament of the earth's ecosphere is being exacerbated at an accelerating rate.

"Sustainable Development": the Oxymoron

The human race is deluding itself by jumping onto the beguiling but completely empty bandwagon of "sustainable development" with its promise to extricate mankind from the environmental mess which humans have created.

Even worse, the unfulfillable expectations of "sustainable development" divert attention from action that might be effective in redressing the catastrophic mess that the human species is making of the Earth's ecosphere, at an accelerating rate . The more effort is directed towards "sustainable development", the more elusive that condition will become.

"Sustainable development", could be one of the most damaging hoaxes that has ever been perpetrated. Unfortunately, it has not been presented as a hoax, but as a sincere concept that is supposed to enable the human species to redress the damage it has done to the ecosphere, while at the same time enjoying the fruits of development. That is as impractical, if not impossible, as trying to suck and blow at the same time!

The phrase "sustainable development" is a contradiction in terms - an oxymoron. It is dangerously misleading as it promises: that development can go on and on: that development (the noun) is superior to sustainability (the adjective); that there is no crisis imperilling the life supporting capability of the planet; and that there is not a problem with the conduct of mankind *vis-a-vis* the ecosphere, or with the relationship between humans and the other species of this planet.

When the caveat "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" is added to "sustainable development" , the message becomes even more garbled. The caveat on its own implies a "sustainable ecosphere", as **must** pertain and **must** be the priority consideration for there to be any long-term future. But that condition constrains mankind's development, which **must** be subordinate to the achievement of a sustainable ecosphere.

Indulging in constructive ambiguity, which is one explanation for the invention of the term "sustainable development", may be pragmatic, but it does not help to provide clear understanding. Constructive ambiguity may have been excusable in order to obtain the agreement of the political international members of the Brundtland Commission, but it should not be perpetuated when it comes to trying to achieve international environmental accords. Clarity and forthrightness are what are required. It reminds one of that old proverb: *Oh what a tangled web we weave when first we practice to deceive*.

It is difficult enough to discuss and seek solutions to complex situations even when the clearest and the most precise language is used. However, when bafflegab intrudes, the result is a bamboozled audience, the raising of unfulfillable expectations, and the misdirection of an enormous effort on "sustainable development" which should be clearly seen as unachievable.

> *Until the goal of a sustainable ecosphere is recognized and given overwhelming priority, the effort and programs based on the concept of sustainable development are likely to be wasted, because sustainable development cannot be achieved. Worse still, during the time that is lost in chasing the will-o'-the-wisp of sustainable development, the earth's ecosphere will still be deteriorating at an accelerating rate.*

The Questions

The unequivocal fact that a **sustainable ecosphere** is both the prerequisite to, and the restriction on human development, raises a host of questions.

- Why isn't it explicitly recognized and publicized that sustainable development is an unachievable goal, and that a **sustainable ecosphere must** be the priority objective?
- Why aren't the efforts and programs related to the environment formulated to achieving a sustainable ecosphere rather than the chimerical "sustainable development"?
- Why are there so many officials, politicians, academics, communicators and analysts who remain silent even though they should also perceive (and possibly do) the hollowness of the concept of sustainable development?

The factors relevant to these questions warrant discussion.

Priorities and Objectives.

What is the fundamental **long term** problem facing mankind? Is it the ability to provide a future for life as we know it on this planet, i.e., achieving a sustainable ecosphere? Or is it the alleviation of the multiple afflictions of the human condition such as poverty, disease, hunger, illiteracy, etc.?

Surely, there can be no doubt that priority must be accorded to the re-establishment of a sustainable ecosphere. Not only is that the first priority, but it is also a prerequisite to the alleviation of the deplorable state of the human condition being experienced by the majority of the world's population.

Given this unequivocal long-term priority, it follows that such economic and human development as is achievable must be limited to that which does not frustrate the re-establishment of a sustainable ecosphere.

Regrettably, a sense of priority for a sustainable ecosphere is missing in the Brundtland report, and also in the totality of the papers resulting from the UNCED Rio Conference. In an attempt to compromise, these documents and the related debate have left the false impression that there is a free choice; that there is no conflict of priority between improving the human condition, and taking action towards a sustainable ecosphere. The conventional wisdom from the Brundtland report and from UNCED and its follow-on program is that the problems of reestablishing a sustainable ecosphere **and** alleviating the human condition for the bulk of the world's population must be achieved simultaneously. In attempting to achieve both simultaneously, both are being placed in jeopardy.

The absence of any perception of clear priorities is dangerous. There is not a free choice! This is not a chicken-or-egg conundrum. Clearly, a sustainable ecosphere must come first even at the expense and pain of the human condition. The achievement of a sustainable ecosphere cannot be set aside while preference is given to the human condition, nor can the alleviation of the human condition be seen as a prerequisite to achieving a sustainable ecosphere. It is worth repeating that the re-establishment of a sustainable ecosphere is a prerequisite to alleviating the human condition. If there is confusion as to objectives and priorities, then it is only to be expected that a realizable plan is not likely to emerge.

Aside from exhibiting no sense of priority, the Brundtland report and the subsequent work and debate (including the UNCED Conference) related to "sustainable development" leave the impression that the environment is there to be managed for human benefit, an anthropocentric perspective. Such a perspective suggests that those who have been responsible for national and international activities relating to "sustainable development" just do not understand or are choosing to ignore the fact that the ecosphere is not at the beck-and-call of humanity, but that humans must recognize and adjust their activities to that required for a sustainable ecosphere. Otherwise, the ecosphere is likely to move to an new operating state which may not be at all welcomed by or beneficial to humanity.

Prerequisites

The prerequisites for achieving a sustainable ecosphere are clearly that:

- the variety and diversity of the earth's biota **must** be maintained, subject to species evolution and extinction that occur naturally, as each life form is an essential link or member of the seamless web required in a sustainable ecosphere.
- the characteristics of the space above the land and water surface of the earth **must** be maintained within the very narrow bounds of chemical composition and physical properties wherein life as we know it can be sustained.

- the quality and the quantity of the earth's land and waters **must** be maintained in a condition which can provide adequate habitat and sustenance for the earth's biota in all its forms.

Nota Bene: *Nothing in these prerequisites says anything about the human species. These prerequisites are ecocentric, not anthropocentric, as must be the context for all human efforts to redress the human-generated environmental mess.*

Note also that these prerequisites are completely different from anthropocentric major concerns for the future, such as the adequacy of the human food supply, the alleviation of the appalling human condition, the minimization of pollution and the availability of energy and resources to improve the human standard of living.

These prerequisites for a sustainable ecosphere place further bounds on economic and human development. That is, the first consideration in any programs for economic and human development **must** be that they do not violate any of these prerequisites without providing adequate compensating action, either simultaneously with the development program or within a time-frame such that achieving a sustainable ecosphere will not be jeopardized.

If there is not a clear sense of long-term objectives and priorities, then it should be no surprise that there is no coherence to any plan or no recognition of the prerequisites for achieving a sustainable ecosphere. Not only is there no coherence, but there are numerous examples of the chicken-or-the-egg conundrum, which illustrate confused thinking and lack of recognition that the long-term priority objective **must** be achieving a sustainable ecosphere.

There is the frequent cry that a healthy economy is required in order to be able to devote resources to redressing environmental issues. This means that there must be economic development, a growing economy, with jobs-jobs-jobs, increased resource extraction and associated waste production. It also means, as has happened in most overdeveloped countries, that one of the first items of public expenditure to be reduced during a recession is that of funds allocated for redressing the environmental damage.

The Response

Saying or believing that a healthy economy is a prerequisite to redressing the ecosphere problems carries the clear unequivocal message that development and alleviation of the immediate human condition take priority over the correction of the problem of the sustainability of the ecosphere. With that sense of priority, with that anthropocentric rather than ecocentric perception, the result can only be further destruction of the ability of the ecosphere to sustain life.

In the underdeveloped world, the predominant theme seems to be that the human condition is so dire and demanding of so much effort and resources that such countries just cannot devote any appreciable effort to correcting the condition of the ecosphere. Moreover, because of this dire human condition it is argued that it may be necessary for the underdeveloped countries to give priority to alleviating the human condition even if the results are destruction of the sustainability of the ecosphere. That is tantamount to saying that the only way to survive is to commit suicide!

The response that priority must be given to alleviation of the human condition with respect to the underdeveloped countries does not recognize the absolute essentiality of a sustainable ecosphere in order for there to be any long-term future. Nor does it recognize that there is not a free choice between alleviating the human condition and redressing the condition of the ecosphere. It also clearly shows confused thinking on the part of the overdeveloped countries in two respects.

First, it is in the interests of the overdeveloped countries to make it possible for the underdeveloped countries to make some progress in alleviating their abysmal human conditions without destroying the ecosphere. It is not a matter of charity or of aid. It is a case of pure simple selfish self-interest for the overdeveloped countries to assist the underdeveloped. Otherwise, the underdeveloped countries may well, and with a clear conscience pursue development, as the overdeveloped countries have already done, in a manner that destroys the ecosphere for everyone.

Second, it simply will not be possible on a global basis for the average level of per capita energy and resource consumption to reach anything like that which exists in the overdeveloped countries without destroying the ecosphere. That applies even if the overdeveloped

countries have the greatest possible success with energy conservation and reduction in resource consumption (renewable and non-renewable) . It is mainly the less than a billion humans in the overdeveloped countries who have wreaked such havoc on the ecosphere over the past five decades. This small minority who have created this mess would have to reduce their material and energy consumption as well as their waste generation in their own self-interest, even without the five (and rapidly growing) billion in the underdeveloped countries trying to emulate the life style of the overdeveloped countries. However, in reality, the overdeveloped societies must doubly reduce their energy and resource consumption and waste generation in order to leave room for the underdeveloped countries to expand their use of energy, resources and waste generation in an attempt to improve their conditions of life..

Do we see any evidence of these two previous issues in the programs or even in the rhetoric of the overdeveloped countries? Do we see any evidence of action or even argument that the overdeveloped countries must drastically reduce their per capita level of energy and resource consumption and the associated generation of wastes and pollution? A resounding NO! to both questions.

Rather, in the overdeveloped countries more prominence is given to the population explosion in the underdeveloped world. The advanced societies see this growing population, with aspirations of the overdeveloped world standard of living, as a serious potential problem. Such a response is clearly an attempt to shift the blame and is a pure denial of the reality that it is the overdeveloped countries which have generated the mess that has been made of this planet. This has been done directly through non sustainable consumption of resources (renewable and non-renewable) and through the generation of the associated wastes beyond the absorption capability of the ecosphere. It has also been done indirectly by inducing in the underdeveloped countries practices and habits which have destroyed the former sustainable, albeit harsh, life style of these countries.

Parenthetically, given the concern in the overdeveloped countries about the population explosion, why isn't family planning and contraception the primary focus in their aid budgets? Data from the Population Crisis Centre suggests that if contraceptive devices were available that they would be used much more widely (as is corroborated by the experience of Mr. Condom in Thailand), but that it is the lack of funds which is the biggest barrier to wider use of contraception in the underdeveloped countries. The data notes that Norway has the highest portion, 4%, of its aid budget directed to family planning, while Canada has only 1%. That suggests little sense of priority in the overdeveloped countries for family planning to avert the population explosion.

Reluctance to Face the Issues

The previous comments provide the essential answers to the first two questions:

- Why isn't it explicitly recognized and publicized that sustainable development is an unachievable goal, and that a **sustainable ecosphere must** be the priority objective?
- Why aren't the efforts and programs related to the environment directed towards achieving a sustainable ecosphere rather than chimerical "sustainable development"?

Mankind is not exhibiting any clear sense of the long-term objectives and the related priorities for the continuation of life on earth; and therefore does not recognize that the prerequisites for that long-term objective must be ecocentric, putting human concerns secondary and subordinate to the re-establishment of a sustainable ecosphere.

Mankind, particularly in the Judeo-Christian overdeveloped countries is so culturally egocentric and anthropocentric that generally the overriding concern is that for human well-being, with primary concern for one's self. To conventional human thinking, it is an anathema to suggest, let alone accept, that human well-being must come second to the well-being of the ecosphere; that the well-being of the ecosphere is a prerequisite to human well-being; or for each individual in the overdeveloped societies to admit that they are primarily responsible for the destruction of the sustainability of the ecosphere. Until these human foibles, if not mental blocks are overcome, mankind will continue to have no sense of long term priority for the continuation of life on earth, let alone for the future of the human species, and most of its efforts will

continue to be directed towards unachievable "sustainable development".

For the overdeveloped countries, grasping onto the concept of "sustainable development" has been seen as the easy way to supposedly redress the environmental mess without enduring any pain, without foregoing any of the existing amenities of life based on energy and material consumption and the generation of the associated wastes. For the underdeveloped countries, "sustainable development" promises to enable those societies to develop toward the standard of living of the overdeveloped world while at the same time not adding to the destruction of the sustainability of the ecosphere. Doesn't this strike one as trying to have-your-cake-and-eat-it, of wishful thinking, of pie-in-the-sky? The-emperor-wears-no-clothes?

Agonizingly difficult to answer, but of most crucial importance is the last question:

- Why are there so many officials, politicians, academics, communicators and analysts who remain silent even though they should also perceive (and possibly do) the hollowness and the misleading impression of sustainable development?

The answer is crucial because it is the individuals in this group who are at the heart of decisions as to the direction, as well as the implementation of any effort to redress the mess that mankind has made of this planet. If these individuals are confused about the situation and lack clarity as to the objectives, the priorities and the prerequisites which have already been discussed, then national and international effort related to the ecosphere are likely to be not only in the wrong direction, but counterproductive in that they will only slow down but not reverse the destruction of the ecosphere which will, consequently, never reach a state of sustainability..

The anguish and the difficulty in trying to answer the last question arises because it involves scrutinizing the motivation that causes officials, politicians, academics, environmental writers, and perceived experts to avoid even discussing, let alone dealing with, the worst aspects of the predicament of the ecosphere. To illustrate this point, consider some of the seminal but seldom discussed issues relating to a sustainable ecosphere.

Some Important Issues

(and why they are not addressed)

Carrying Capacity of the Planet

What is the human carrying capacity of the planet **which does not violate the noted three prerequisites for a sustainable ecosphere?** Surely that is a central question. Surely it is amenable to comprehensive analysis. Is it being seriously addressed? Not in any writings that have come to this writer's attention. Why hasn't that issue been addressed? Perhaps because those who have a comprehensive appreciation of the predicament of the ecosphere also have a visceral appreciation that the answer may be far lower than the current world population, and they just do not have any idea how this lower population figure could be achieved. At some stage the rampant world population and its consumption of resources, generating of wastes, and resulting destruction of the sustainability of the ecosphere will be beyond reversibility. Rather than face this grim prospect, the question of the human carrying capacity of the planet in a sustainable ecosphere is an unmentionable subject which is to be avoided.

The headlong rush towards ecological unsustainability has been caused essentially by less than one billion humans in the overdeveloped countries over a period of about 50 years operating during that period at lower levels of energy and material consumption and waste generation than currently is the case. Given that situation, it takes a leap of faith and imagination to believe that the planet with a sustainable ecosphere could support even two billion at the average standard of living of the overdeveloped countries. The same general conclusion is reached by looking at average energy consumption per capita. A similar conclusion also is reached after examining the food production potential under conditions of a sustainable ecosphere. Why aren't these types of analysis and thinking receiving more attention? Perhaps because to do so may bring forth the type of answers that we don't want to hear. So these issues are not analyzed or discussed in public fora!

Protected Habitat

Another undiscussed question is how much uncultivated land, forest, wetland, etc., must be set aside to ensure that there is enough habitat for the sustainable propagation of the biota of the planet? Surely that question is fundamental to the re-

establishment of a sustainable ecosphere. Is it being addressed? Are human development plans being formulated in the light of the answer to that question? As far as can be seen, the question is not being addressed, and human development is proceeding as though the question doesn't even warrant being asked, let alone answered.

Food

A related but subordinate question to the human carrying capacity of the planet in a sustainable ecosphere is; how much food for human consumption can be produced under conditions of a sustainable ecosphere? Repeatedly there are releases of studies which argue that it is possible to produce enough food for a 10 billion plus world population. However, to do so would require not only a continuation of, but an increase in all of the factors which have contributed to the tremendous growth in food production achieved since 1950, such as high usage of inorganic fertilizers, pesticides, herbicides, irrigation, and land clearance coupled with the introduction of high-yield varieties of grains from the "green revolution". That is not a sustainable method of agriculture. Therefore the fundamental question returns to what would be the world's food production **with the prerequisites for a sustainable ecosphere** where the factors which have contributed to large increases in food production have largely been foregone in order that the ecosphere can be sustainable?

A recent study emanating from the International Rice Research Institute has declared "In short, the Green Revolution has been judged unsustainable" (Globe and Mail 2 Feb. 1993.) Another recent report (Ottawa Citizen 30 Jan. 1993) was headlined, "Famine Won't Go Away - World food shortages could be eight times as bad by year 2000", and went on to say that without an increase in agricultural research and conservation, "the tragic famine in Somalia will seem infinitesimal compared with the massive food shortage the world will face by the end of the decade,". That begs the question as to what could possibly take place as a result of agricultural research which in the eight years remaining in the decade could possibly have an effect to ward off the suggested catastrophe? Nothing short of a miracle could avoid what now should be seen as a highly probable catastrophic famine clear across sub-Saharan Africa.

Why is this state of affairs not being clearly articulated by authorities, with plans not to attempt to avoid that catastrophe, (as any effort to do so would most likely be wasted), but rather with plans of how to make the best use of any resources and effort to prevent a repetition of such a terrible situation? Probably to do so would require the acceptance of the reality of an unacceptable situation, so it clears the conscience and is less heart rending to ignore the inevitability, to attempt to provide immediate relief (even if the prospect is that any surviving recipients will starve in the next famine), and hope and pray for its non eventuality. This is a prime example of avoiding the triage type "Tough Decisions" discussed in the article under that title in a recent edition of these *Proceedings*.

Energy

A further big issue that is seldom fully discussed is energy generation, consumption, the related production of wastes in the form of CO_2, other greenhouse gases, particulate matter, and radioactive wastes, and the associated health and safety aspects of energy production..

The availability of non-animal energy has been and continues to be the key factor in contributing to an increase in the standard of living, the alleviation of the human condition, and the explosion in the world population. It is also the availability of such energy which has been and will continue to be a principal factor in the generation of wastes related to the increasing standard of living. It is also a major factor in increasing per capita resource consumption, and increasing world population, resulting in the growing destruction of the sustainability of the ecosphere. Despite this crucial role of energy, it is difficult to find any in-depth energy analysis which boldly faces all aspects of the energy issue.

The greenhouse effect is no longer mainly caused by "overdeveloped" countries. Today it matters little what is done in the overdeveloped world to reduce CO_2 emissions, whether through energy conservation, or to changing from coal, to oil, to natural gas, as long as underdeveloped populous countries such as India, China, Indonesia, etc., are embarked on their tremendous coal-fired energy generation expansion programs in order to develop and alleviate their human condition. If overdeveloped countries are serious about reducing CO_2 emissions globally then these countries must find a way to assist the developing countries to expand their energy generation without relying on coal. As noted previously, to provide such assistance would not be charity or aid but would be something that the

overdeveloped countries must do in their own self-interest.

Two questions are begged by the above discussion. First, why isn't assistance to the underdeveloped world for non-CO_2 producing energy generation a central issue in the environmental programs of the overdeveloped world? Second, if assistance was provided by the overdeveloped countries, what form would it take and what energy generation technology would be involved?

Global Warming

On the first question, there are at least two issues. There is not a clear acceptance in the overdeveloped countries that there is a global heating problem due to greenhouse gas effect. Some argue that the recorded high temperatures of several recent years are within statistical limits, and even if there should be global heating that its effects could be compensated for by human ingenuity and effort. That denial and wishful thinking is certainly at variance with:

- the greenhouse theory which has been around for almost 300 years,
- the predictions of several global circulation models whose credibility has been demonstrated by the fact that they track reasonably well with actual results when using historic data.
- the strong correlation between CO_2 content of the atmosphere and temperature as determined from the examination of 5,000 years of ice cores,
- the record high temperature grouping of several recent years,
- the increased frequency and severity of tropical storms which is symptomatic of global heating, and,
- the fact that the effects of forecast global heating could have profound if not catastrophic effects in several ways including the destruction of low-lying coastal areas where such a large portion of the world's population are located, and the destruction of food production capability (plant, land and marine animal) to an extent not as yet fully assessed.

Even if the inevitability of global heating was accepted, there still remains the difficulty of encouraging the overdeveloped countries to accept that it would be in their interests to assist the underdeveloped countries in CO_2-free energy generation programs, and that to do so would not be charity or aid. Perhaps the underdeveloped countries should be compensated by their richer neighbours for forgoing the luxury of burning carbon. Some might say that this is blackmail. That would only be true if the overdeveloped countries had made a concerted effort to drastically curb their emissions of CO_2 and other greenhouse gases, including abandoning coal-fired generation. Furthermore, the underdeveloped countries have had to suffer with no compensation for the global pollution effects caused by the overdeveloped countries in the past, such as CO_2 emissions due to the high consumption of fossil fuels and the damage to the ozone layer.

Note has just been made of the fact that the overdeveloped countries have not taken any forceful action to drastically curb their CO_2 emissions, despite the initial undertakings in 1988 to do so. In general it could be said that the overdeveloped countries have not taken any action that has caused hardship or pain or disruption of economic and development programs in order to redress the destruction of the sustainability of the ecosphere. Little if any progress will be made in re-establishing a sustainable ecosphere until the overdeveloped countries accept that priority must be given to that objective, and that economic development, job-jobs-jobs, and material standard of living must take second place to the ecosphere.

Such a change in priorities of the overdeveloped nations is required on three counts. First, because the overdeveloped countries have led, if not generated, the destruction of the ecosphere, and must therefore set the example and lead the way towards redressing that condition. Second, because regardless of what the underdeveloped nations do, if the overdeveloped nations do not correct their ways, the destruction of the ecosphere will continue. And third, because the overdeveloped countries, having enjoyed the fruits of development, cannot expect the underdeveloped nations to forego similar development unless the underdeveloped see that the overdeveloped are taking steps to deal with their own share of the problem.

Assume that the overdeveloped countries accept that global heating is inevitable unless CO_2 emissions are drastically reduced and that the overdeveloped countries must help the underdeveloped countries in the installation of CO_2-free energy generation programs. What type of mature energy technology could the

overdeveloped countries propose? In the same vein, what mature energy technology could the overdeveloped countries change to should the conclusion be reached that their own fossil fuel energy generation plants must be replaced? There really is no practical answer to either question except to say that it will inevitably be mostly nuclear energy.

Alternative Fuels: the Probabilities

If time was not of the essence and it did not take fifty years to bring a proven new energy technology to the point of contributing significantly (say 20%) to the overall energy demand, then there is the prospect that solar energy either through solar thermal or photo-voltaic might, **repeat**, might have a role, but it is yet to be demonstrated that solar energy in large applications could be a significant net energy producer. Wind power also might, **repeat**, might make a contribution once all of the problems of reliability, maintainability, accessibility, wind rights, energy collection, noise and zoning are overcome. For solar and for wind there must be some method of mass energy storage to use when the sun is not shining, or the wind is not blowing, or is blowing too hard. However, it still seems today that neither biomass nor the futuristic modes of solar or wind really offer an adequate solution to the problem of CO_2-free energy generation in the light of the magnitude of the world's demands for energy. There does not seem to be any practical alternative to fossil fuels but nuclear energy.

The continued use of coal-fired generation implies the acceptance of the on-going unrelenting pile-up of deaths and suffering due to black lung disease, mine accidents, coal train level-crossing accidents, bronchitis and asthma and a continuing flow of radioactivity from the flue gases and ash from coal fired plants, in addition to the effect of global heating caused by the CO_2 emissions. The environmental damage by coal fired plants is inevitable, regardless of how thoroughly coal-fired energy generation is regulated. However, these negative effects are not displayed in large spectacular incidents (except for unusually large mine accidents). Rather the effects are insidious and widespread, due to the enormous quantities of coal that are handled and consumed. Coal kills and causes individual suffering that is not always directly attributable to the source and so does not attract notoriety in the media, or create in the public conscience a general awareness of the harmful effects of coal-fired energy generation.

Changing to nuclear energy generation would avoid the bulk of the harmful effects of coal-fired energy generation, but, would introduce the possibility of a major nuclear, Chernobyl type accident involving the release of radioactivity. It would also increase the problem of the control of large quantities of plutonium both because of its extreme toxicity and its nuclear weapon making potential, and increase the amount of nuclear wastes for safe disposal.

As to the question of a nuclear power plant accident, Chernobyl was an example of poor design, poor supervision of operations, and stupid experimentation. It was as though the pilot of a large passenger aircraft decided to attempt to do aerobatics with a full load of passengers and tore the wings off the plane while attempting to pull out of deliberate long steep dive. It can hardly be regarded as typical. The Three-Mile Island accident, although badly handled, did not release any radioactivity. Moreover, there is now nuclear technology which is inherently safe in that the reactor shuts down as the temperature increases beyond the normal operating limits.

Incidentally, if there is such concern in the overdeveloped countries about the possibility of nuclear accidents, then why is there no concerted program by these countries to assist in updating and improving the reliability of the control and safety systems of the numerous Chernobyl type reactors which are still operating to meet the energy demands in the former CIS countries?

As for nuclear waste disposal, there are methods demonstrated here in Canada that are safe, except for some event as improbable as reversing the direction of rotation of the earth. And, in the case of plutonium, if mankind is unable to structure a regime for its control, there is not much chance that mankind will be able to find a way to face up to and resolve all of the other challenging issues related to the re-establishment of a sustainable ecosphere.

It is a matter of Hobson's choice. Which is the least bad option? Accept the negative effects of coal-fired energy generation, including global heating, for the indefinite future; put up with fossil fuels until, and if solar, wind and biomass energy eventually are shown to have the potential to replace coal fired as well as nuclear plants; or, recognize that only nuclear power has the potential to solve the world-wide demand for electricity and that the risks are not out of line with, and may be actually be lower than the risks of death

and suffering from other causes that are already accepted in contemporary life.

Regrettably, emotional anti-nuclear energy sentiment is so strong, particularly in North America, that rational debate along the preceding lines is not possible. The few real problems of nuclear power are exaggerated and a host of imaginary evils are conjured up by anti-nuclear protesters and idealistic environmentalists. Meanwhile, the long acknowledged harmful effects of coal-fired plants are just silently accepted as they have been since mankind first started to burn coal. It seems that the devil we know which, if not tamed, will destroy the sustainability of the ecosphere is not to be feared nearly as much as the new devil of nuclear power, in spite of the fact that it may be the only timely way to pursue the possibility of having a sustainable ecosphere.

The Aftermath of Rio

The deception that is implicit in the words "sustainable development" is most evident in the Rio Summit and the resulting agreements and documents. It takes a lot of wishful thinking to see the UNCED Rio episode as a real step towards any form of sustainability, be it of the ecosphere or of development as conventionally expressed. Moreover, Rio and the related activities, both leading up to and following the conference, do not show any signs of recognizing that it is a **sustainable ecosphere** which must be the goal.

Looking at the Rio documents: the *Conventions on Biodiversity and Climate Change*, the *Forest Principles*, *the Rio Declaration* and *Agenda 21*, it may be that these are the best documents which can be produced given:

- *the lack of acceptance that mankind is destroying the sustainability of the ecosphere at an accelerating rate;*
- *the prevailing international anthropocentric emphasis;*
- *the attempt to solve the problem of the sustainability of the ecosphere using conventional international diplomatic procedures.*

However, even if these documents and the related UN process are the best that can be expected under existing circumstances, why is there no outcry from the informed analysts, academics, officials, politicians and communicators that the United Nations approach exemplified by these documents has very little prospect of reversing the destruction of the ecosphere?

It is bad enough that this UN approach has little prospect of success, but the great danger is that it is being proclaimed as real progress and is lulling the populace into the complacent belief that everything is under control and that the problem of achieving a sustainable ecosphere is being solved.

Each of the two Convention documents is just over 20 pages long. About three pages are devoted to preamble; five to substance; three to information, reports and financial; four to conferences and secretariats; and five to dispute settlement, ratification, accession, etc.; with then four pages of annex. That is, about 25% of the documents deal with substance, and the rest is devoted to procedure and protocol. Is this the only way to proceed?

The substance of the Conventions is primarily the undertaking to prepare national plans and then to integrate those plans into the normal activities of each signatory. After allowing for the caveats which pervade the conventions - for national sovereignty, for phrases such as "as far as possible and as appropriate" and "taking into account the special needs of developing countries", and the soft action words of "support" and "encourage", these conventions really are nothing more than "best-effort" agreements.

All the documents are written as though all the signatories had a mature and effective government organization backed by the resources of the overdeveloped countries. It seems like dreaming in technicolour to think that the underdeveloped countries, many of which lack the governmental organization, the resources, and the motivation, will give effect to these conventions, noting that even in the overdeveloped countries it is hard to discern any forceful action, or plans to live up to the initial undertakings, made in 1988, to reduce CO_2 emissions.

If this appreciation of the Convention documents is valid, only further despair arises from reading the *Rio Declaration* and *Agenda 21*. The 27 *Principles of the Rio Declaration* carry a strong anthropocentric bias with the implicit acknowledgment that the environment must be protected for the benefit of mankind. The 40 chapters of *Agenda 21* are good motherhood material as far as they go. A major shortcoming of *Agenda 21* is its vagary and weakness in dealing with population control. Each of the 40 chapters of *Agenda 21* would have to be converted into some type of convention (as

for biodiversity and climate change) with all of the associated bureaucratic organization, machinery and process. Imagine the magnitude and complexity of all the secretariats, conferences, information exchange and report programs etc., that would emerge. The mind boggles. Will it have any chance of being a workable approach? Not likely!

Some may disagree with particular points in the foregoing discussion of population, energy, global heating, food production, the relationship between the overdeveloped and the underdeveloped notions, and the Rio documents. However, the important question is whether the composite impression of all of this discussion is valid. If this pessimistic picture **is** valid, then it is necessary to answer that third question:

- Why are there so many officials, politicians, academics, communicators and analysts who remain silent even though they should also perceive (and possibly do) the hollowness of the concept and the misleading impression given by the words "sustainable development"?

There are probably many of factors contributing to the answer to that question. There is, at the risk of some overlap and duplication:

Denial.

- Denial that mankind is destroying the ecosphere at an ever-increasing rate.
- Denial that the first priority must be the achievement of a **sustainable ecosphere**; that an ecocentric and not an anthropocentric/egocentric philosophy and mode of human operation must prevail.
- Denial that **the overdeveloped countries are the prime culprit**.
- Denial that the overdeveloped countries **must clean up their own activities** which are destroying the sustainability of the ecosphere, both as creators of the problem and to provide an example and leadership for the developing countries.
- Denial that redressing the situation will require a **substantial reduction** in the material standard of living of the overdeveloped countries.
- Denial by the overdeveloped countries that they must reduce their own level of energy and resource consumption and associated generation of waste both **in their own self-interest** and to enable the underdeveloped countries to alleviate their human plight without destroying the sustainability of the ecosphere while so doing.
- Denial that the overdeveloped countries in their own self-interest must provide **assistance** to the underdeveloped countries to develop without destroying the sustainability of the ecosphere.

Fear.

- Fear that in-depth analysis under the prerequisites for a sustainable ecosphere of issues like human carrying capacity of the planet, food production capability, and level of energy and resource use, will show that the world is already beyond its limits for a sustainable ecosphere. In other words, this fear occasions the avoidance of analysis if the anticipated results are likely to be both absolutely unacceptable, and absolutely unavoidable.
- Fear that the admission of the results from the type of analysis noted in the previous paragraph would indicate that the achievement of a sustainable ecosphere is beyond the grasp of mankind without the development of behavioral and attitudinal changes that would be deemed to be beyond any sensible reach. That is to say fear that the situation has degenerated to the point where catastrophe is unavoidable.
- Fear that to raise discussion along the lines of this paper would indicate that indeed the supposed leaders (political, spiritual, analytic, communication and academic) just do not understand the gravity of our plight and do not have any idea as to how to go about providing the guidance and policies to redress the situation.
- Fear of individuals' status *vis-a-vis* peers and/or superiors, believing that to articulate such concerns as raised in this paper would be viewed as insolence if not heresy and would jeopardize one's position and status, if not employment. While there may be some individuals in this category, it's hard to accept that there are not a substantial portion who would be prepared to call a spade a spade if that was their perception.

Desire.

- Desire for easy solutions, such as "sustainable development", Blue-Boxes, home composting and other do-it-yourself corrective actions, etc., which promise that the sustainability of the ecosphere can

be achieved without real hardship, sacrifice (particularly by the overdeveloped countries), or change in behaviour or attitude *vis-a-vis* the human species and the environment.

Biological Programming.

- Humans, as with other animals, are biologically programmed to be self-centred (anthropocentric and egocentric), and also to be concerned for the short term. It is the human conceptualizing capability which must be drawn on in order to enable mankind to throw off this biological programming and adopt a long term perspective so as to rise above itself by recognizing that only when this species becomes ecocentric will it be possible for it to have a promising future.

This point is particularly worrisome. It suggests that unless mankind overcomes the biological programming, the forces of the short term exerted on elected politicians will prevent them from taking the long term view and making the change from anthropocentric/egocentric conduct to ecocentric emphasis. If democracies can't reestablish a sustainable ecosphere, it certainly isn't likely to be established by totalitarian governments unless led by the most benevolent and far-sighted messiahs.

Reliance on Faith.

- Faith that mankind will muddle-through this crisis of living in a manner which has so far produced an unsustainable ecosphere.
- Faith that technology will produce solutions to all aspects of population control, food production, biodiversity, excessive energy and material consumption along with excessive generation of wastes.
- Faith that economic and "free market" forces will induce the type of change in behaviour, consumption and waste production patterns which will redress the environmental degradation.
- Faith that leaders (political, spiritual, communication, analytical and academic) fully understand the problem and will provide the guidance, the policies and programs to enable society to redress the situation.

The Way Out

These factors which constitute the answer to the third question add up to a desperate, if not hopeless situation. Theoretically it certainly is possible to redress the damaged, if not destroyed sustainability of the ecosphere. However, on a meaningful scale it seems to be beyond the wit of man, most particularly those in the overdeveloped countries:

- first, to accept the situation as being potentially catastrophic,
- second, to come to grips with the intractable unpleasant issues raised in this paper,
- third, to acknowledge that "sustainable development" is not the answer but rather is a mirage and a dangerously beguiling trap, and,
- finally, to devise practical working programs which will indeed redress the situation.

It is time, if it is not too late, for all mankind, most particularly for the political leaders, the informed officials, the spiritual leaders, the analysts, the communicators and the academics who are supposedly versed in issues related to the sustainability of the ecosphere to:

- Think the unthinkable,
- Change the unchangeable,

Otherwise, the **AVOIDABLE catastrophe will not be AVOIDED!**