

Ecology of Shortsighted Entrepreneurialism

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That the uninterrupted sustainability of bio-geo-chemical universe, which I would prefer to refer to as the 'geome', is determined by, and dependent on, solely the ecological economics dictated by the dynamic equilibrium attained through the interactions between demands of living and non-living systems and their accomplishment through the extrinsic supply of resources so satisfying the cost-benefit requirements is the key ecological axiom that not only economists and sociologists, but also, and perhaps more tragically, most ecologists have failed to understand and comprehend, let alone appreciate. It is my contention that this failure has been the cause and creator of many ecological problems, which have now aggravated and manifested as human crises culminating in anthropogenic unrest that is likely to be the signal destructive force that may decide the future of the entire ecosphere initially and the geome eventually.

It is the shortsighted commercialization, jargonized as entrepreneurialism, that has led to this succession of social, economic, cultural, political and spiritual deterioration which would ultimately be accentuated as a bio-geo-chemical retrogression culminating in irreparable and irrevocable ecological disasters. At the rate of the present technological advancements, not only the mother-earth but even the other planets are under the constant and continuous threat of over-exploitation by the greedy human beings. The sky-rocketting

continuation of technological progression is purely and solely an outcome of shortsighted commercialization which has now developed into a social-killer more dangerous and destructive than even the neutron-bomb, for the entire mother-nature has already become the innocent victim of this unlimited and self-centered commercialization which is, in fact, a manipulation by a handful of power-hungry and powerful human beings popularly known as leaders. Except these so-called leaders, everyone else has now become a pleader, and, in fact, it is the mother-nature which has become the most victimized of all pleaders.

A cost-benefit analysis is an essential prerequisite of any social, economic, technological and even political venture designed and defined by human leaders known as intellectual experts. Yet most of these so-called experts rarely and hardly appreciate that the cost-benefit balance is the basis of bio-geo-chemical evolution that has led to the persistence of the entire geome, and this is the prime deficiency and defect that most humans have unwittingly experienced with far-reaching and very often irrevocable repercussions. The Darwinian concept of the survival of the fittest is, in actual fact, the mother-nature's way of making a cost-benefit analysis of the sustainability of any living being. If the ecological cost inflicted by an organism on its surroundings is unacceptable to the external environment, then, the extrinsic forces act as determinants overriding the stringent demands placed by the organism, so leading to its extinction. Only those organisms whose demands lie within the supplying capacity of the mother-nature could and would survive, and this was what Charles Darwin conceptualized as the survival of the fittest, which in turn leads to the concept of natural selection. The process of Darwinian natural selection is a function of two

intricating phenomena *viz.* stringency of the demands placed upon the surroundings by the organism and the capacity of the external environment in fulfilling the requirements of the organism; these two phenomena are now referred to as demand and supply respectively by economists, which are the bases of commercialization and entrepreneurialism. In actual fact, the concepts of demand and supply are not peculiar to the socioeconomic culture created by human animal through the process of civilization, but are essential prerequisites of continued persistence of all living beings, for the origin, development and evolution of any living-system is an outcome of the ability of the extrinsic environmental complex to fulfil the demands dictated by the genetic constitution of the living matter. The birth of any living being is nothing but the beginning of a succession of stringent demands on the geo-chemical environmental complex, and the sustainable evolution of any species is the result of the ability of the geome to satisfy the bio-geo-chemical demands.

Demand and supply are the bases of geome dynamics

The prime constancy of the geome is its eternal inconsistency, which is manifested as continuous and concomitant temporal and spatial changes. This continuous dynamism is the axiomatic basis of all bio-geo-chemical processes and phenomena that collectively constitute the constant and consistent fluxes and rhythms which are the essential drivers of universe. Every living being must live in harmony with the fluxes and rhythms that determine the bio-geo-chemical trends and tendencies, for otherwise the external forces exert and exercise their mightiness to eliminate the so-called unadaptable beings. The human animal is either ignorant or indifferent of this fundamental bio-geo-chemical norm, for

he is the only living being who attempts to accomplish a constant and continuous sustainability in an inconsistent and violently-changing geome, and this shortsightedness has led to the ever-aggravating ecological turbulence that is manifested as cosmic deformations and disturbances in the form, for example, of the greenhouse effect, the ozone depletion and the energy crunch.

The cultural evolution and social metamorphosis, anthropologically regarded as human civilization, have led to the disruption of the dynamic equilibrium between anthropogenic demands and the capacity of mother-earth to fulfil them through the supply of resources. The demand-supply equilibrium is essential for the harmonious persistence of any living being as an ecological being, and the human being is no exception. However, the human animal has failed miserably to realize the gravity of this bio-geo-chemical axiom, and this ignorance has led him to pursue the indifferent attitude, socioeconomically known as commercialized entrepreneurialism.

Today, the entire complex of bio-geo-chemical processes and phenomena constituting the geome has become the impedimenta essential for venturesome commercialization, so that commercial man has become the emperor of a fool's paradise controlled by the so-called entrepreneurs. The consequent ecological chaos manifested as socioeconomic crises is an outcome of the failure of human animal to appreciate and comprehend the delicate dynamics of his own biological self, which is solely and subtly governed and controlled by the bio-geo-chemical forces empowered with their own norms of inconsistency.

The dynamism and axiomatic equilibrium of the geome are determined by and dependent on the never-ending interactions of four fundamental bio-geo-chemical propensities, *viz.*

Geomic norms
Geomic constitutents
Geomic factors
and Geomic beings

These four propensities are equivalent to the four corners of a tetrahedron, so that none is more nor less important than the others, for it is their concomitantly and concordantly collaborative and collective interactions that drive the entire geome. Unfortunately, however, this fundamental axiom has hardly and rarely received appropriate and appreciative attention of the power-hungry power-hunters and their (so-called) intellectual advisers, more particularly the professional economists and business tycoons, whose prime goal is to maximize monetary profit at any cost, so that they compel themselves to be indifferent of the ecological venturesomeness of the shortsighted entrepreneurialism. This is however, not to ignore the ecological ignorance of other professionals!

The ecological disaster is the cumulative outcome of commercialized approaches and entrepreneurialized attitudes at identifying, classifying, assessing, managing, manipulating and exploiting the geomic resources, so that the maximization of commercial profitability has become the anthropogenic norms of evaluating the utility value of the entire bio-geo-chemical complex. The unscientific and absurd attitude that money can solve any problem and end any crisis has been the suicidal dictum that has led to the succession of ecological catastrophes aggravating in the form of human unrest. The concept of human unrest itself is a result of unlimited and unequitable utilitarianism and materialism. Consequently, the human beings are concerned only with the so-called human unrest so that the biological and ecological unrest experienced by other organisms is given little attention.

Throughout the modern world the socioeconomic and politicoeconomic priorities are focused on profit-oriented entrepreneurial development without much regard or concern on the accentuating repercussions of ecological disruption and social exploitation of the suppressed majority. The postulated aim of every nation is to make maximum utilization of economic resources for human prosperity, and therefore, the invaluableity of bio-geo-chemical wealth is assessed on the basis of its economically exploitable utility value and not on the ecological sustainability. Moreover, the real objective of commercialized management and utilization of common resources is not the wellbeing of the entire humankind but the prosperity of a minority of greedy power-hunters, so that the concept of entrepreneurialism has developed with the prime goal of satisfying the needs of the so-called 'producers' and 'investors' at the expense of the entire geome. The national, regional and global priorities of commercialized resource management are designed not for the wellbeing of the consumers but for the glorified persistence of entrepreneurs who should more appropriately be regarded as exploiters. Can we expect much ecological compassion from entrepreneurs whose prime objective is to maximize economic profitability? Can we expect any humaneness from such entrepreneurs? Can we expect any environmentalistic mentality from such entrepreneurs who flourish at the sacrifice of the fellow human brethren? My answer to all these questions is an explosive No!

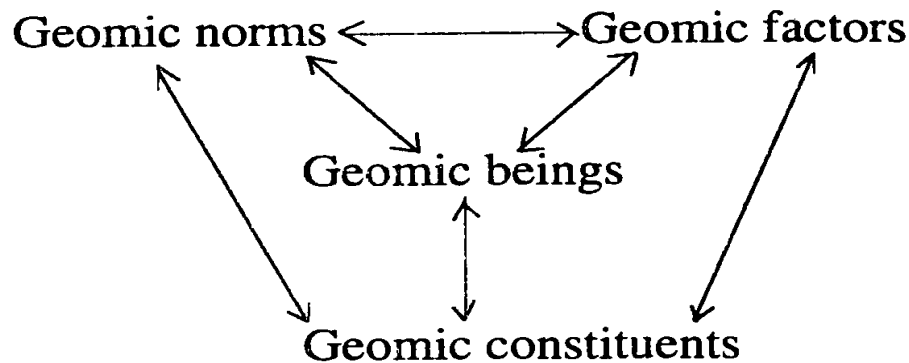
It is hardly realistic to expect much environmentalistic compassion for mother-nature from an exploiter whose prime pointer is to extract maximum profit from commercialized utilization of ecological resources with little concern on the inevitable repercussions which would be detrimental not

only to the down-trodden majority but also to the privileged minority. An exploiter hardly concerned with the gravity of the ravishment of his own surroundings cannot be expected to be alert about the destruction of local, national and regional environments nor about the ever-aggravating deterioration of the harmonious dynamism of mother-nature. One must first develop one's ecological compassion on the immediate surroundings, and then only one would be able to extend environmentalistic love at the local, national and regional environments, and in turn at the mother-nature. No profit-oriented exploiter can, therefore, be expected to be alert about the repercussions of the accentuating ecological crisis causing unforeseen harassment to the geome, and this fact is more obvious from the indifferent attitude of the multinational business tycoons on the aggravating problem, for example, of global warming, for otherwise the so-called scientific intellectuals may not be manipulated to extract evidence against the deleterious effects of accumulation of carbon dioxide and to over-highlight the exaggerated greenhouse effect of methane liberated from rice-fields and intestinal gases of cattle.

Entrepreneur's niche lacks an ecological nucleus

The seed of the crisis lies in the indifference, ignorance and shortsightedness of the entrepreneurs on the dynamic harmony and sustainable equilibrium between the tetrahedrally interacting geomic norms, geomic constituents, geomic factors and geomic beings. There is no alternative to the optimization of utilization of this geomic tetrahedron, and in fact comprehension and appreciation of this axiom is an essential prerequisite of properly managed commercialization of ecological resources.

This tetrahedral relationship may be conceptualized as follows :



It must be emphasized that geomic beings, jargonized as organisms, are focused as the nucleus of the scheme not because they are more important but because our present concern is on the living world.

The dynamic equilibrium of the bio-geo-chemical complex of the entire geome is an outcome of the eternal interactions between the four geomic components as postulated above. The origin, development, evolution as well as deterioration leading to the eventual degradation of the living world should be visualized and comprehended as an outstanding outcome of these interactions, which act holistically as well as individually.

No organism would be extincted by, or be a danger to, the external bio-geo-chemical complex if it exists in harmony with extrinsic phenomena. If, on the other hand, an organism exerts unrealistic demands on the environment that cannot be satisfied through justifiable supply of ecological resources, then such an organism cannot thrive and would be eliminated through Darwinian natural selection. The postulated fate of dinosaurs is a well known example.

For any organism to persist, it should not make unnecessarily stringent demands which the bio-geo-chemical environment cannot fulfil. Such organisms are certain to be eliminated and their extinction cannot be prevented.

The humankind must understand and appreciate the gravity of this ecological norm. The commercialized management and entrepreneurialized exploitation of geomic resources must therefore be designed with due consideration on the long-term successional repercussions, for otherwise economic prosperity would be certain to be culminated in ecological calamity. Is this not the bitter experience that is aggravating in the world today?

The main cause of this calamity is the misconception that natural processes and phenomena in the geome in general and in the earth in particular can be, and should be, manipulated to satisfy the shortsighted longevity of greedy human animals. The concept of sustainable development is a result of this greedy shortsightedness, for it is a venturesome attempt at acquiring consistent development in an inconsistent geome. What does the humankind do to attain sustainability? Placing unjustifiable and unrealistically stringent demands that the mother-nature cannot withstand nor tolerate. Unlimited demand on natural energy and raw materials is a consequence of such a shortsighted greed, and the consequently continued commercialized pressurization by the industrial man has now caused almost irrevocable crises that are manifested as global warming, ozone depletion, pollution and erosion, for example. All these calamities and catastrophic crises are the inevitable repercussions of shortsighted commercialization of ecological propensities for the prosperity of a minority of power-hunters, more particularly entrepreneurs.

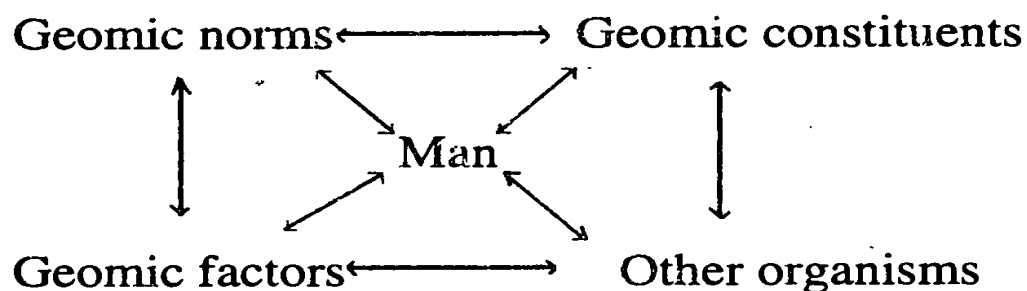
Commercialization of human ecological niche

The biological essentiality of every organism is to utilize ecological resources for its own survival and for the persistence of its own species so that the evolutionary norm is that no more resources should be consumed, utilized nor demanded than what is optimally required. Like all other living beings, the primitive human animal too organized his life in accordance with this ecological norm. The human animal began to deviate and dissociate from this geomorphic norm once he metamorphosed from a **resource-consumer** to a **resource-utilizer**. For example, as a hunter, the primitive human animal killed his prey only for consumption, but as a utilizer the modern human animal kills his prey not only for his own consumption but also, and perhaps mostly, for utilization as a commercial produce. This change in attitude has created the so-called economic culture which has been the driving force of civilization.

As a result of the evolution of economic culture, man metamorphosed from a **consumer** to a **producer** and ultimately to a **supplier**, so that the ecological phenomenon of demand-and-supply has become an anthropogenically designed and defined economic phenomenon with profit-oriented commercialization as the nucleus. As a result of this commercialized metamorphosis every ecological resource, including man himself, has become a commercially utilizable creation, or more appropriately an exploitable commodity, in the eyes of the minority of entrepreneurs whose prime objective is to propagate and practise the concepts of utilitarianism, materialism and monetarism.

Unlike other organisms for whom ecological constituents, resources, norms and factors are merely the biological

pivots of persistence, the commercial man utilizes them as economic utencils for entrepreneurial perpetuation with continued maximization of profit. In the profit-oriented entrepreneurial environment man interacts and interferes with the external environment as follows:



In a world where man has become the decision-making nucleus can we expect ecological sustainability? The profit-oriented greed has created an unsustainable commercial culture jargonized as entrepreneurialism, which has now become the nucleus of global economics as well as of global ecology. The global economy is an anthropological creation while the global ecology is a natural propensity, but both these are now under the disastrous controlling influence of a minority of greedy entrepreneurs whose signal objective is to maximize the economic surplus popularly known as sustainable development which should more precisely be regarded as an ecological disaster.

Why am I so cynical about the concept of sustainable development?

Ecologically disastrous economic surplus

The unlimited desire for over-exploitation of geomic resources, geomic processes and geomic phenomena has not only created the concepts of utilitarianism and monetarism, but also caused the metamorphosis of human animal from an

ecological being into a profit-minded **economic being** whose prime aim is **production** not merely for **consumption** but mainly for **trade**. Thus the anthropogenic utilization of geomic norms, resources, constituents and organisms is controlled and governed by commercialized management and monopolized administration where ecological axioms are outweighed by economically prioritized commercial norms necessitated for the perpetuation and proliferation of materialism.

Every organism lives to satisfy its own requirements, and satisfying the biological requirements is the pivotal basis of life. Man, in contrast, tries not only to satisfy his own expectations but also to fulfil the requirements of others. The utilitarianism and entrepreneurialism have evolved as a conjunctive outcome of development of this double propensity. Accordingly, the ecological concept of demand-and-supply has to be modified into an economic concept of supply-and-demand. This cultural metamorphosis has led to the evolution of scientific and technological materialism culminating in utilitarianism and monetarism so that ecological rights, ecological values and ecological needs have modified into entrepreneurial rights, entrepreneurial values and entrepreneurial needs respectively.

The so-called civilization is a result of conversion of ecological values to human values, ecological rights to human rights and ecological needs to human needs, so that the human being deviated and dissociated from his natural self as an ecological being to become an economic being. The continued commercialization caused a disintegration of humankind into privileged minority and down-trodden majority so that human values, human rights and human needs have

become unaccessible luxuries to the latter with their respective conversion into entrepreneurial values, entrepreneurial rights and entrepreneurial needs for the former.

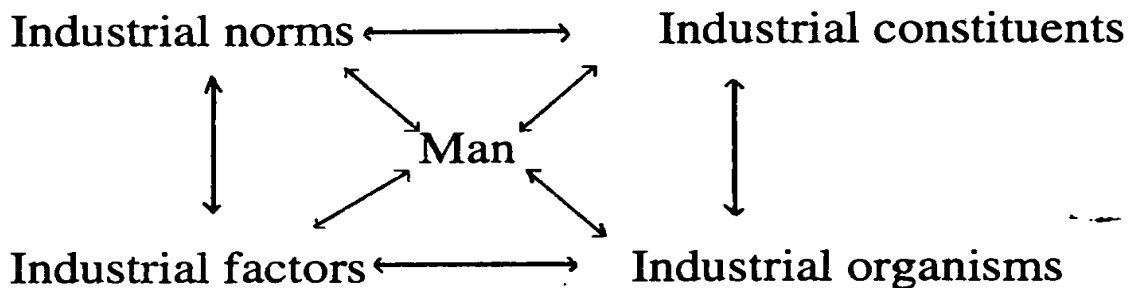
The development of science and technology was the cause of these cleavages.

The development of science was only an anthropogenic adaptation to provide temporary solutions to proliferating expectations which cannot be fulfilled with natural ecological propensities. Thus, science must be regarded as a medium of achieving temporary satisfaction for over-anxious human beings whose shortsighted expectations cannot be satisfied with natural means. The continued accumulation of scientific expectations leads to the development of a parallel medium for providing quick satisfaction and this is jargonized as technological advancement. Thus, science and technology are equivalent to the rails of a railway-line so that extension of one necessitates the extension of the other, for one cannot exist in isolation of the other.

The extension of the science and technology railway leads to the exploitation of new frontiers collectively known as industry. Thus, incorporation of science and technology into the anthropogenically modified geome has introduced a new dimension into civilization, and today we hail it as the **industrial culture**. Thus the ecological being *Homo sapiens* underwent a cultural mutation culminating in the evolution of a new human variety referred to as *Homo sapiens industrialis*.

The continued industrialization has led to the development of economic priorities so outweighing the ecological propensities of human animal. Thus, economic priorities

have become the decision-making forces of the technosphere which continued to expand at the expense of the ecosphere. The intensification of the inevitable rivalry between ecosphere and technosphere had forced the humankind to dissociate from the ecological tetrahedron of geomic norms, geomic factors, geomic constituents and geomic organisms in preference to utilitarian priorities determined by the following complex of interactions:



In the geome, ecological norms govern the dynamics of ecological factors, which in turn control the behaviour of geo-chemical components and persistence of ecological beings. In contrast, in the technosphere industrial norms determine the priorities of industrial factors which are the ultimate decision-makers of manipulating the industrially prioritized geo-chemical constituents and organisms. In the ecosphere natural selection is the driver of evolution while in the technosphere industrial selection is the driving force. Thus, there is a widening cleavage between ecological norms and industrial norms, between ecological factors and industrial factors, between ecological constituents and industrial constituents, and between ecological organisms and industrial organisms, because there is very little parallelism between ecological propensities and economic priorities.

For example, in the technosphere only a handful of selected ecological beings are utilized and exploited as industrial beings which are conducive for economic progres-

sion, so that those organisms that are harmful to the maximization of production are considered and relegated as pests, and techniques are developed to eradicate them. In contrast, in the ecosphere no ecological being is condemned as a pest, so that the problem of eradication does not arise. The concept of pest control has no meaning in environmentalism while it is a basic theme in utilitarianism.

Utilitarianism and entrepreneurialism

The inevitable consequence of uncontrolled industrial growth and technological progress is the unlimited proliferation of industrial production so creating a surplus, which necessitates the development of techniques of management and administration for maximization of profit. The commercially motivated industrial managers and bureaucratic administrators have now become the manipulators of business giants and trade tycoons who control not only the global economy but even the geomorphic ecology. They constitute the powerful human minority exerting their pressure as the driving force of cultural evolution and civilization, so that the remaining majority of human beings is nothing more than puppets manipulated by privileged entrepreneurs.

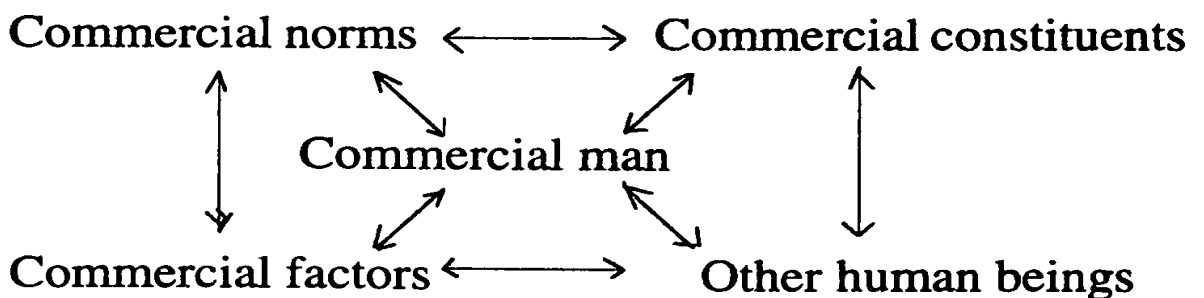
It is essential, therefore, to identify this power-hunting minority of human beings who have evolved as a repercussion of cultural mutation, and they may be regarded as a new variety of human animal who should be specified as the **commercialized human animal** or more scientifically as *Homo sapiens commercialis*.

Whilst *Homo sapiens industrialis* manipulates the ecosphere with the prime goal of expanding the technosphere, *Homo sapiens commercialis* exploits both the ecosphere and

technosphere with his self-centered objective of achieving economic supremacy. Thus, the power-hungry human minority has created a supreme niche for themselves and this may be identified as the commercialized technosphere or more precisely *entreneuriosphere*.

Environmentalism is the nucleus of the ecosphere, while utilitarianism is the nucleus of the technosphere. In contrast, monetarism is the nucleus of the *entreneuriosphere*, where only those technoeconomic priorities that are conducive for the profit-generating persistence of entrepreneurialism would be allowed to operate.

Accordingly, only those industrial norms, factors, constituents and organisms that are conducive for the advancement and favourable for the evolution of the commercialized utilitarianism are allowed to operate within the *entreneuriosphere*. It is the *Homo sapiens commercialis* who decides the types of norms, factors, constituents and organisms that should be incorporated into his commercial empire. In contrast, the entire humankind is under the influence and control of the entrepreneurs who have acquired the ownership of the industrial and commercial culture, and how he interacts, interferes and influences the rest of the ecosphere can be summarized as follows:



The interrelationships, rivalries and corollaries between the ecosphere, technosphere and entrepreneursphere should be evident from the foregoing brief analysis. The entire complexes of organisms are essential and indispensable members of the ecosphere, so that no organism is superior nor inferior ecologically to another, and the mother-nature treats all of them as ecological beings with little favourism. In the technosphere, every other ecological being is under the influence of industrial man who is the ultimate decision-maker, so that anthropogenic priorities override natural propensities. At the other extreme is the entrepreneursphere in which commercial priorities override both the anthropogenic selection and natural selection, so that a minority of entrepreneurs exercises the authority of making final decisions which dictate what the future of the technosphere should be. Today, the entire humankind has been forced to metamorphose as slaves of the privileged minority enjoying not only the economic authority but also the ecological leadership of the globe.

Today, the concept of development is nothing more than a gimmick where politicoeconomic manipulation of global resources is jargonized as socioeconomic utilization so that the prosperity of entrepreneurs has become the nucleus of human civilization. The industrial world is that part of the globe where shortsighted commercialization has been manipulated to accomplish short-term economic prosperity of a privileged minority. The remaining portion of the globe has become the supplier of ecological resources for the persistence and economic progression of the industrial minority. The socioeconomic, agroeconomic, technoeconomic and politicoeconomic tendencies and politicobureaucratic priorities are decided by the commercial norms dictated by the entrepreneurs, so that the so-called sustainable development is nothing more than a sustainable prosperity of a privileged

minority at the sacrifice of the under-privileged majority. This has led to the widening of cleavages not only between the developed and under-developed nations but also between the privileged and under-privileged social strata of the same nation.

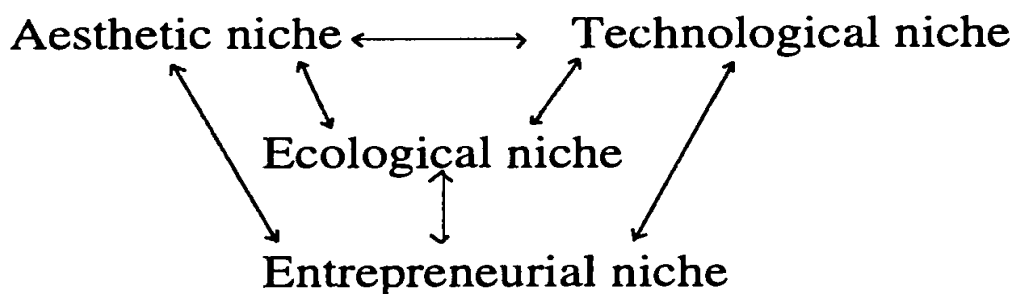
Commercialized human ecological niche

The physico-chemical structure, biochemical functions and biological activities constituting the ecological dynamism of every organism are decided and defined by the interactions of its genetic constitution and bio-geo-chemical environment, and these interactions demarcate what is conceptualized by ecologists as the *ecological niche*. The concept of ecological niche is, therefore, an abstract outlining the complex of interactions between geomic norms, geomic factors, geomic constituents and geomic organisms in relation to the specificity of a given ecological being. The properties defined by the genetic constitution and extrinsic propensities constituting the external environment act symbiotically and synergistically in determining the ecological niche of every organism.

As conceptualized by Evelyn Hutchinson (1964) in his famous treatise titled *Ecological Theater and Evolutionary Play*, the so-called fundamental niche of every organism is defined by its biological propensities prescribed by the genetic constitution and is the maximum geomic space that it is potentially capable of occupying. However, the ecological constraints caused by the interference of other organisms allow every ecological being to occupy only a portion of the fundamental niche, and this is referred to as the realized niche. The human animal is the only exception to this geomic axiom, for he has designed techniques of expanding his own

fundamental niche, and this drastic deviation from the naturality has caused a succession of ecological repercussions generally manifested as global catastrophes.

The perpetuation of cultural evolution paralleled by commercialized industrialization has led to the incorporation of three major components into the human ecological niche, and these are conceptualized as **aesthetic niche**, **technological niche** and **entrepreneurial niche** which interact with each other thus,



The transfer of expanding knowledge through education has led to the evolution of cultural niche which is in fact the product as well as the cause of accumulation of experience and knowledge acquired by countless past generations. In contrast, the ecological niche is organized through the bio-geo-chemical propensities prescribed by the genetic constitution, and the enomours amount of information hidden within the genes constitutes what should be regarded as intrinsic knowledge, which is complemented by the extrinsic knowledge acquired through experience.

The intrinsic knowledge stored in genes is modified and modernized only through biochemical alteration of genes known as mutation while the extrinsic knowledge continues to be modified and modernized through education, research and review.

The continued accumulation, modification and modernization of extrinsic knowledge through scientific ad-

vancement had created the technological niche and its commercialized expansion has been both the cause and effect of the entrepreneurial niche, for the commercialized utilitarianism is the cumulative and ultimate determinant of the scientific, technoeconomic and aesthetic priorities of the modern world. The prime objective of the self-centred *Homo sapiens commercialis* is to manipulate the three basic components of the modern human culture, viz. science, technology and aesthetics, for the socioeconomic upliftment of a minority of entrepreneurs who are the final decision-makers of the globe, and they already have extended their authority into the outer space as well through space technology.

I would regard science, technology and aesthetics as the triple-gems of human culture and fundamental pivots of civilization of modern human animal. Today, these precious triple-gems have become commercial commodities providing monetary bases for business tycoons, for all three factors of human culture are under the direct and/or indirect control of entrepreneurs. No scientific discovery, technological invention or aesthetic innovation enjoys long-lasting utility value unless it is exploited by entrepreneurs, for everything is valued on the basis of commercial priorities.

Let us take gene technology as an example to illustrate entrepreneurial manipulation of technological niche. The premier objective of gene technology is to eradicate harmful organisms and invent favourable ones on a utilitarian priority. The development of genetic engineering techniques involves enormous expenditure and utilization of time, labour, experience and knowledge of experts and these require heavy financial commitments. The western capitalism has provided a solution to this burden through the evolution of entrepreneurship in the form of multinational companies and organizations. No entrepreneur would invest money unless

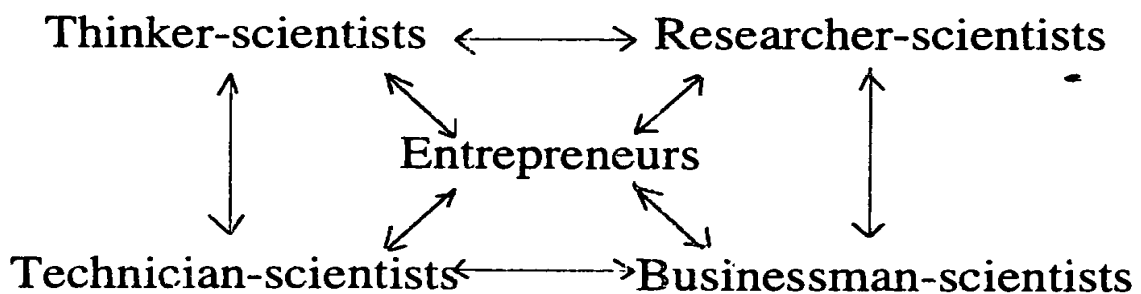
the returns are highly encouraging and attractive, for investors are motivated by economic profits and not merely by scientific results of academic interest. Thus the entire entrepreneursphere is polluted with commercialized manipulation of science, technology and aesthetics so that modern culture is designed not to satisfy the consumers' requirements but to fulfil the short-term economic expectations of entrepreneurs. Do the multinational companies providing the financial pillars and economic pivots to the prosperity of the United States, Japan, China, Russia and Germany, for example, launch their scientific, technological and industrial ventures with the compassionate objective of satisfying the consumer's demands of the starving Third World? No! Do the global pharmaceutical companies invest their moneys on pharmaceutical research in order to make the globe an ecosphere free of diseases? No! Their primary objective is to launch economically profitable, commercially viable and entrepreneurially sustainable industrial ventures, while the well-being of the mankind, more particularly the down-trodden Third World societies, is only of secondary interest, for otherwise the profiteering companies would not flood the market with, for example, varieties of medicines containing the same active ingredient but differing only in the trade name and price. Are they not exploiting the innocent majority with the assistance of professional scientists who have themselves become guinea-pigs manipulated by money-thirsty entrepreneurs.

The same succession of inhumane and unethical events occur in almost every commercialized compartment of the technosphere as evident from the multinational companies monopolizing the manufacture of agrochemicals, energy resources and other human requirements.

The scientists must win their bread and butter through the medium of science, and the successive steps in the metamorphosis of science into technology have been made possible as a result of the enforced evolution of four major categories of scientists, *viz*,

Thinker-scientists
 Researcher-scientists
 Technician-scientists
 and Businessman-scientists

The climax of this succession is the evolution of an entrepreneurial science or more correctly the conversion of sciences into a business. The scientific discoveries are ultimately metamorphosed into commercial inventions through industrial technology. This was the fate of, for example, Alexander Flemming's penicillin, Watson-Crick's DNA-model, Albert Einstein's Theory of Relativity and the famous equation $E = mC^2$, and a multitude of other scientific discoveries, for every tribe of scientists has become the victims of their greediness and selfishness so that the entrepreneurs can buy them to be manipulated for shortsighted economic gains with little regard on long-term ecological repercussions. The predicament of the scenario may be summarized thus:



Thus, the trends, tendencies and priorities of science and technology are decided and dictated by the entrepreneurs,

because the entire community of scientists has now become mere servants or more appropriately slaves at the mercy of entrepreneurial might.

The complex communities of intellectuals, scientists, technocrats and other professionals in the modern world are forced to devote their knowledge, labour, time, experience and the entire selves to maximize the economic profitability and commercial viability of entrepreneurs who employ, or more appropriately exploit, them purely to extract their wisdom through manipulated utilization of their intrinsic abilities.

The entrepreneur is an investor. His prime objective is to extract as much profit as possible from his investment. No entrepreneur is seriously concerned about the long-term ethical erosion, cultural degradation and ecological destruction that are inevitable of shortsighted attempts at maximization of economic profitability and commercial viability. The deterioration of ecology, economics and ethics through several generations arouses little attention of profit-motivated entrepreneurs whose signal goal is to flourish during their short life-span, a fact that can be supported by an abundance of historical evidence.

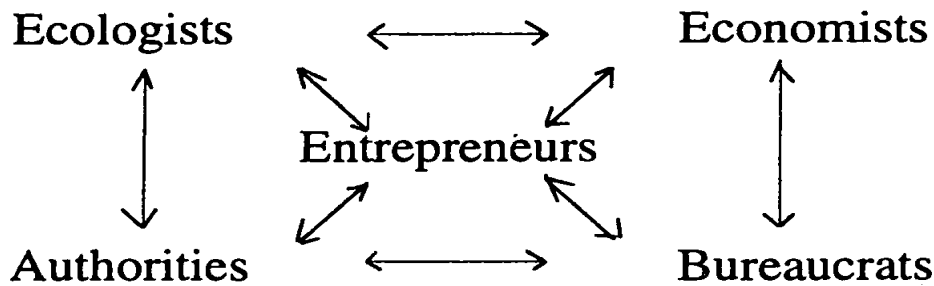
The repeated ecological catastrophes are the consequence of shortsighted commercialization of science and technology for maximization of short-term economic gains. The entrepreneurs employ scientific and technological knowledge purely on utilitarian priorities defined by economic advisers so that ecological repercussions are given hardly any attention, for they are of the mythical belief that money can solve any problem. That this is still the attitude of shortsighted economists and entrepreneurs is evident from their indifference on the problems of greenhouse effect and ozone depletion, for example. The so-called Montreal Protocol on global warming is designed with the belief that

ecological deterioration aggravated by global utilitarianism can be prevented if sufficient resources and time are devoted, and the so-called Earth Summit Resolutions provide classic example for this myth.

Can money prevent global warming and resulting disappearance from the world map of the Maldives and other low-lying countries? No! Can money prevent depletion of the ozone layer and consequent harmful mutations caused by excessive ultraviolet radiation? No! What money can regain the genetic loss through the extinction of species as a consequence of greedy use of noxious chemicals to eradicate the so-called pests which are argued to cause considerable damage to crops, for example? In short, no money can regenerate the distorted global ecology. But further ecological deterioration should be minimized, and this can only be accomplished by reorganizing the entrepreneuriosphere.

Ecological reorganization of entrepreneuriosphere

Ecologically viable economic sustainability can only be achieved through symbiotic coexistence of the ecosphere, technosphere and entrepreneuriosphere, and for this the rivalry between these three components of the modern geome must be eradicated. Time is ripe for both the economists and entrepreneurs to appreciate the axiom that technosphere and entrepreneuriosphere are parasitic on the ecosphere. The destruction of the host is suicidal for the parasite itself, and analogously the over-exploitation of ecosphere is disastrous for both the technosphere and the entrepreneuriosphere. The preservation of ecology and conservation of nature are the essential prerequisites of protection of the sustainability of global economy. Accordingly, environmental economists and environmental entrepreneurs are fundamentally pivotal for the symbiotic persistence of ecosphere, technosphere and entrepreneuriosphere, and their amalgamation can be made possible and favourable if the following complex of interactions is properly controlled:



These are the five major varieties of the modern *Homo sapiens* who monopolize both the ecology and economy of the globe, and control the priorities and tendencies of human civilization and culture. Both the utilitarian attitudes and entrepreneurial approaches must be severely modified and scientifically restructured for the technosphere and entrepreneursphere to be reorganized in order to achieve sustainable harmony with the ecosphere.

The economic viability with ecological sustainability can only be achieved through harmonious manipulation of contentions of economists and conceptions of ecologists through politicobureaucratic amalgamation of utilitarian and entrepreneurspheric priorities. Nothing can be accomplished without sacrificing something!

Such an amalgamation is postulated to provide socioeconomic prosperity thus:

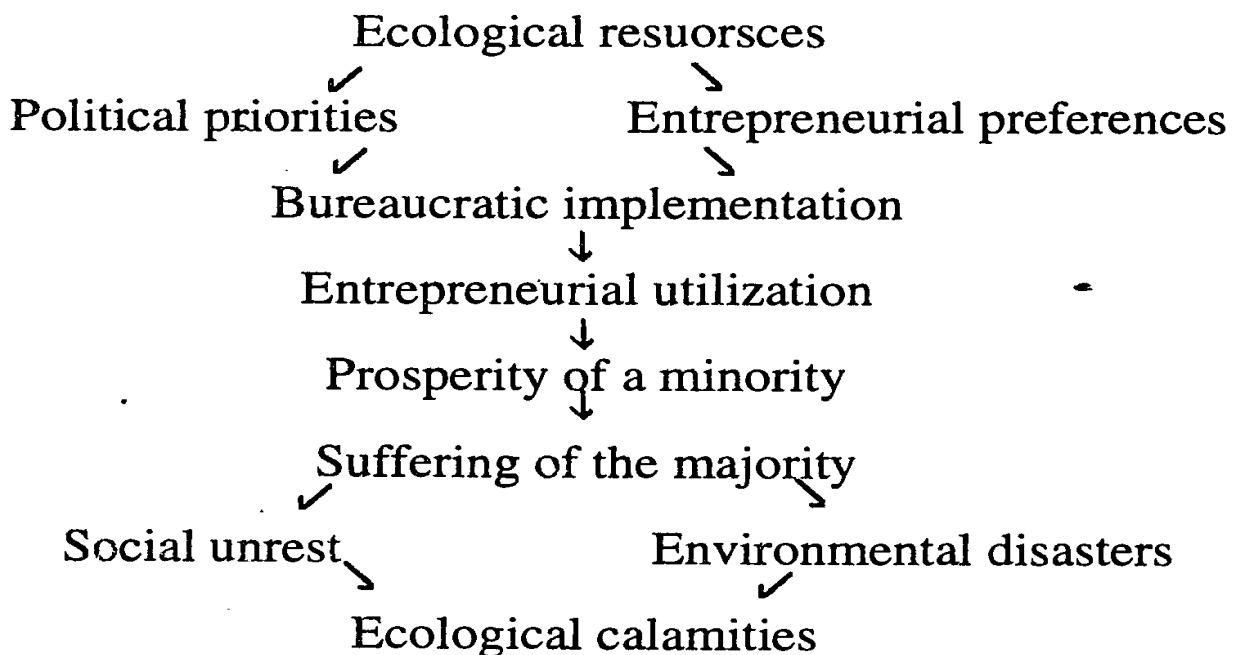


The geome is the creator and host of not only the ecosphere but also the technosphere and the

entrepneurosphere, so that these three geomic components must be the collective and cumulative prosperity of the entire living world, but, unfortunately, this theoretical expectation is hardly materialized and manifested in the modern world, for the entrepreneurial utilization of ecological resources provides prosperity only for a power-hungry minority who is crowned as the economic emperors of the globe. If the ecological resources are utilized for the prosperity of a privileged minority at the expense of the oppressed majority, such utilization should best be regarded as an ecological disaster.

What is the cause of this calamity?

Politico-bureaucratic monopolization of socioeconomic priorities and associated amalgamation with the entrepreneurial propensities are decided and designed with a view to accomplishing short-term politicoeconomic progress so that long-term ecological deteriorations are given little attention. The cumulative outcome of the shortsighted politicization of resource utilization leads to a succession of socioeconomic and ecological disasters which may be summarized as follows:



The self-centered entrepreneur's greedy objective is merely his own prosperity and not the socioeconomic upliftment of the society, so that the primary emphasis is placed on the problem of maximizing economic efficiency and financial profitability. The tendency in the entrepreneursphere has been to explore paths of least resistance for the maximization of economic efficiency and utilitarian sustainability, and this has inevitably led to the misuse and abuse of resources. The past global experience has been that attempts at making and meeting short-term economic targets create long-term ecological disasters culminating in social calamities manifested as human unrest. The so-called cost-benefit analyses have rarely been attempted with ecological sustainability as the indispensable ultimate goal, and this shortsightedness has led to the economic disasters and ecological catastrophes.

The politicobureaucratic manipulation of common ecological resources with the selfish objective of satisfying the entrepreneurial greed of a privilege minority is the cause of global ecological disasters, and much of the blame for this calamity must be shared by economists, ecologists, bureaucrats and politicians, in addition to scientists.

The politicoeconomic tragedies of the Third World are classic examples for the ignorance of the local scientists and indifference of foreign experts who sell their knowledge as advisers to politicobureaucrats and entrepreneurs. The so-called green revolution and gene revolution, for example, are two of the most tragic ventures launched by the industrial nations with the assistance of scientists who have allowed themselves to be manipulated by the multinational entrepre-

neurs such as Rockefeller Foundation, Ford Foundation and Nuffield Foundation.

The venturesomeness of the green revolution is chiefly evident from the continued aggravation of ecological repercussions, environmental degradation and economic retrogression which have led to the oppression of the already suppressed Third World cultivators who have been the target of the multinational entrepreneurs, a dramatic revelation publicized by the global agricultural experts in a special issue of *Scientific American* (September 1976) devoted exclusively for **Food and Agriculture**.

The publicized objective of green revolution was to intensify agricultural productivity in order to meet the inevitably sky-rocketing demand for food with accentuating demographic explosion, a socioeconomic goal of global significance indeed. Unfortunately, however, the realized objective has been outrageous, because while starvation has become the rule in the Third World the multinational dynasties flourish exceptionally with the blessings of the green revolution. What went wrong for the Third World and why ?

The so-called scientific approaches to agriculture introduced by the industrial nations and proliferated in the Third World have led to cumulative degradation of soil, disruption of natural equilibrium of the local environments and economic recession so aggravating poverty and accentuating starvation. The tragedy is purely and primarily the outcome of blind adoption of techniques of green revolution with little relevance to the local ecological conditions and national agricultural priorities.

The proponents of green revolution advocate the concept that agriculture is an ecological investment in which productivity must be economically profitable. The agro-economic profitability can only be maximized by increasing productivity through scientific manipulation of agroecological cultural practices, and this necessitated modernization of agricultural traditions through modification into an agro-industry which is, in fact, a profitable venture for multinational companies monopolizing an agro-business of manufacturing agrochemicals and machinery. The so-called green revolution had been designed with the ulterior objective of popularizing mechanized agriculture dependent chiefly on synthetic fertilizers and pest-killers so compelling the Third World cultivators to abolish their agricultural heritage that had been evolved for optimizing productivity in concordant with minimization of ecological degradation. The scientific approaches to agriculture introduced by industrial nations, led by the United States, the European Community and Japan, into the Third World have caused cumulative degradation of soil, ravishment of water, destruction of ecological balance, eradication of gene banks and long-term economic disruptions. Thus, the Third World cultivators have become mere puppets serving and slaving for agricultural entrepreneurs who continue to flourish with the assistance of money-thirsty professionals. The multinational agro-industrial entrepreneurs have cleverly and cunningly been able to exploit not only the Third World cultivators but also the elite world professionals who had allowed themselves to be manipulated by the business tycoons. Thus, in actual fact, the so-called green revolution should more appropriately be decorated as a greedy revolution satisfying the short-term anxieties of economic giants seeking entrepreneurial superiority and sociopolitical supremacy.

Green revolution is ecologically disastrous

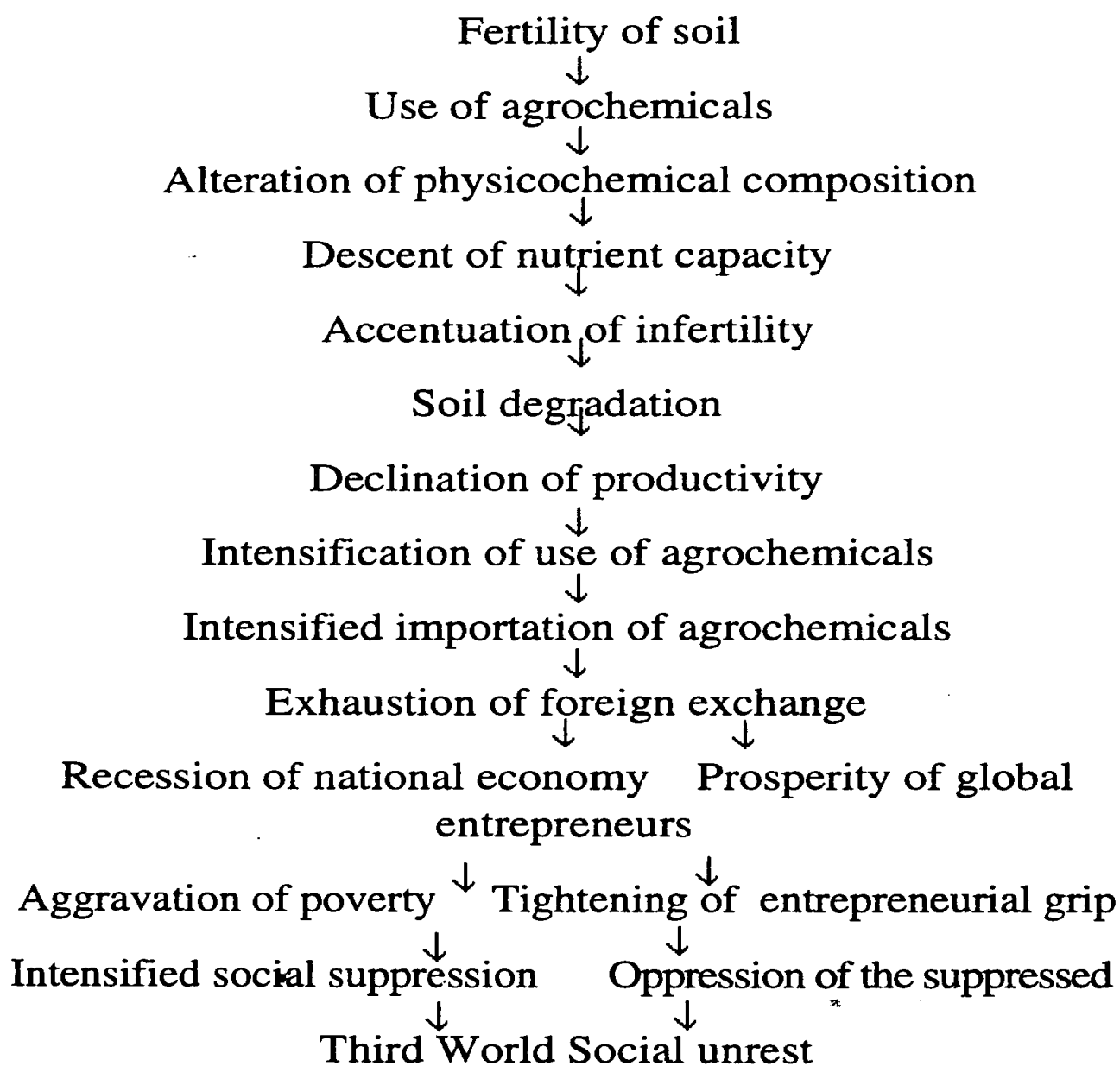
The metamorphosis of traditional agriculture into an agro-business through the introduction of green-revolutionary techniques has been an inevitable necessity enforced and imposed on the Third World by the profit-thirsty Elite World, and the resulting entrepreneurial-grip has allowed the latter to accomplish agro-industrial dictatorship over the former. Today, the Third World cultivators are no more than mere debtors, and for them cultivation is hardly a culture but a never-ending struggle. Thus, the green revolution has created an economic struggle, ecological struggle and social struggle for the already down-trodden Third World cultivators.

The profit-oriented agriculture, commercialized as an agro-business, has created a succession of ecological and economic crises which may be illustrated as taking the use of agrochemicals as an example:

This is the predicament accentuating in the Third World today, as an inevitable consequence of blind adoption of the so-called green-revolutionary techniques for improving agriculture and increasing productivity.

Parallel predicaments can conveniently be demonstrated for the long-term repercussions of gene revolution, greenhouse effect, electronic communication and many more ventures designed by the industrial nations with the main objective of expanding their entrepreneursphere at the expense of the common ecosphere where ecological serenity is continued to be ravished by the economic aridity culminating in aggravation of poverty and slavery of the oppressed majority with contemporaneous intensification of the prosperity of the privileged minority. Every avenue of the entrepreneurial progression has been evolved at the expense

of the down-trodden Third World nations with concordant over-exploitation of their share of the ecosphere which is under the intensifying threat of distortion. The succession of events leading to such a distortion and disruption of ecological balance may be generalized as in scheme 2



SCHEME 1



SCHEME 2

Unscientific entrepreneurial management and commercialized utilization of ecological resources must, in the long run, be regarded as shortsightedly greedy exploitation of natural-heritage of the Third World leading to irrevocable

degradation of sustainability and disruption of dynamic equilibrium of the entire ecosphere, and this would successionaly culminate in an inevitable deterioration of socioeconomic balance of the entire mankind. The ultimate outcome of this greedy exploitation of ecosphere would be the exhaustion of raw materials and energy leading to the demolition of technosphere and consequent destruction of the entrepreneursphere itself. However, the initial victims of entrepreneurial exploitation of global heritage are the poverty-stricken Third World nations. The continued ecological degradation and cultural deterioration would lead to social unrest culminating in politicobureaucratic upheavals in the Third World countries where oppression of the already suppressed majority would be the inevitable outcome.

Who created these crises?

The politicoeconomically and politobureaucratically motivated technocrats who created the entrepreneurial revolution which opened the paths for greedy profit-seekers and power-hunters to exploit the ecosphere willy nilly are the real destroyers of the ecological sustainability of mother-nature. Their shortsighted over-exploitation had led to unforeseen crises which were themselves had to be mitigated with similarly shortsighted alternatives. For example, the aggravation of global warming has been a cumulative outcome of shortsighted over-use of natural energy sources necessitated by technospheric advancement for meeting sky-rocketting entrepreneurspheric demands. There is no alternative mitigatory measure but to minimize the entrepreneurial activities causing excessive liberation of greenhouse gasses,

and this can only be achieved through drastic and dramatic reduction of the over-use of carbon-energy sources in the industrial world and concordant improvement of green-mantle of the tropical world by extensive reforestation so intensifying the efficiency of global fixation of carbon which would create an *anti-greenhouse effect*.

Unfortunately, however, these are not the mitigatory measures advocated by the greenhouse-experts manipulated by the entrepreneurial nations such as the United States, the European Community and Japan. Instead, they propose, for example, to introduce a *carbon dioxide tax* on industries with the hope of compelling the entrepreneurs to reduce the use of carbon-dioxide liberating raw materials in their industries.

Should this so-called mitigatory measure be not decorated as a disguised attempt at further exploiting the already oppressed consumers?

Why am I arguing so?

Because it is the poor consumer and not the elite entrepreneur who is ultimately burdened with any taxation.

Let us take a simple example.

Any increase in excise tax on liquor and tobacco is ultimately passed on to the consumers by the producers through price hikes. So who does pay the tax? The consumers, of course! Thus, taxation is primarily a way of exploiting the consumers with little burden on the producers and more particularly on the entrepreneurs.

Similarly, the so-called carbon-dioxide-tax would eventually be a burden on the consumers, mainly in the Third World, because the multi-national companies would recover their taxes by sky-rocketing the price of commodities.

Clearly, the economic and industrial experts manipulated by the entrepreneurs devise and design methods to protect their masters at the sacrifice of the socioeconomically handicapped majority.

Today, any local or global crisis is rooted in the economic dynasties monopolized by multinational companies and organizations directly and/or indirectly manipulated by the industrial super-powers led by the United States, Japan and the European Community, who have acquired the world leadership through inequitable resource utilization. These economic giants directly and indirectly interfere with the social, economic, cultural and spiritual environment of the globe in order to safeguard their own vested interests.

One of the most recent instances of unwarranted interference by the entrepreneurial super-powers led by the United States is the Kuwait crisis which culminated in the destruction of about seven hundred oil-wells in addition, of course, to the loss of life and property. What were the environmental impacts and ecological repercussions of the burning of oil-wells? How much greenhouse gasses have polluted the regional atmosphere initially and the entire globe eventually? These catastrophes are only the immediate repercussions while the gravity of long-term ecological calamities accentuating as a result of ecological deterioration can hardly be evaluated and elucidated.

One might now argue that the culprit of Kuwait crisis is Suddham Hussein, for he initiated the war. But why should the United States and other economic giants interfere with regional affairs of the Middle-East ? What was the incentive of their intrusion? Was their objective to save and protect the innocent Kuwait from the Iraqi oppressor? These may have been the publicized objectives, but the actual reason for the involvement of the industrial giants was to safeguard their own entrepreneurial interests through the prevention of Iraqi domination of the petroleum-wealth in the Middle-East. Most industrial giants including the United States , Japan and the European Community depend heavily on the Middle-east for their petroleum requirements, and Kuwait is one of the chief suppliers of crude oil cheaply. It was very well known that Iraq had emerged as a great obstacle against the monopoly of petroleum trade controlled by the economic giants led by the United States, and this was the main reason that tempted them to invade Iraq in the guise of protecting Kuwait. Obviously, the prime objective of the United States and its allies has been not to protect the Kuwaitian people from the Iraqi invasion but to protect their own vested interests of maintaining the entrepreneurial superiority.

From the foregoing it should be clear that the entire complex of ecological catastrophes is the successional outcome of entrepreneurial greed of industrial giants, more particularly the United States, Japan and the European Community who had been opportuned by the paradoxically self-centered technocrats and other professionals. These economic giants have acquired the role of global watch-dog not to maintain world peace but to prevent socioeconomic intruders disrupting their entrepreneurial leadership. Their

signet objective is to remain at the zenith of the entrepreneurial empire, so that they continue to sacrifice global ecology to protect their economy.

Ecologically detrimental entrepreneurial exploitation

The man-made entrepreneurial niche has become a rival not only to the common ecological heritage and human ecological niche, but also to the aesthetic niche and technological niche, for it is proliferating as a hyperparasitic monster through over-exploitation of the entire ecosphere with the possibility of expanding its impact on the outer space as well. However, this hyperparasitic behaviour is not common to the entire mankind nor to all the money-thirsty entrepreneurs but specific chiefly to an ultra-greedy business tycoons, more specially those monopolizing the commercialized technosphere headed by the mega-entrepreneurs of the United States. Their over-exploitation of natural resources had widened the cleavages between the 'haves' and 'have-nots' not only of the world in general but even within the American society itself. Unfortunately, however, the entire American society is branded as the culprits of the entrepreneurial exploitation of common ecological heritage.

The gravity of unequal and unequitable utilization, commercialization and reorganization of natural resources culminating in over-exploitation of not only the mother-earth but even the other planets, which would be a disastrous reality in the future, had been clearly highlighted by such global experts as Harrison Brown, Fred Singer and Lester Brown through their contributions in a treatise title *The Ecosphere* published in 1973 by the *Scientific American*.

The revelations made, for example, by Harrison Brown in his most enlightening article titled *'Human Materials Production as a Process in the Biosphere'* are of considerable predictive significance of the global repercussions of technospheric advancements of industrial nations in general and of the United States in particular. The following excerpts are very revealing indeed:

“Levels of steel production and consumption are among the most useful indicators of worldwide technological and economic change. In the 19th century England became the dominant producer and consumer of steel, later being replaced by Germany. After World War I the U.S. became the largest industrial power, and steel production rose rapidly. In 1900 per capita steel production in the U.S. reached 140 kilograms, and by 1910 it was up to 300 kilograms. The level exceeded 400 kilograms during World War I, and during World War II it rose to 600 kilograms. Since World War II the picture has changed: although total steel production has continued to rise, the annual per capita level has changed little, averaging about 550 kilograms.

Per capita steel consumption has risen since World War II, but the rise has been slow. The difference between production and consumption has been made up by an increase in imports. In 1967 U.S. steel consumption was 634 kilograms per capita.

Although this is at present the highest per capita level of steel consumption in the world, the U.S. is being overtaken rapidly by other countries. Levels of consumption in much of western Europe and in Japan, Czechoslovakia, East Germany, the U.S.S.R. and Australia are now close to the U.S.

level, and the rates of growth are such that Japan will overtake the U.S. quite soon. The per capita level of steel consumption in the U.S.S.R. will probably equal that of the U.S. within another decade. The worldwide rate of increase in per capita steel consumption from 1957 to 1967 was 44 percent, compared with the U.S. rate of 12 percent and the Japanese rate of 270 percent. In view of the fact that vitually all elements of economic growth correlate reasonably well with per capita steel consumption, it is useful to inquire into the future levels of consumption in the U.S. and the rest of the world".

From the foregoing, the gravity of unequal and unequitable consumption of steel within the industrial world is appallingly obvious and the ecological tragedy is much more considerable if the consumption in the under-developed Third World countries is also considered, as evident from Table 1.

Table 1. Per capita steel consumption (kilograms) in 1957 and 1967 in the industrial world.

	1957	1967
United States	568	634
Soviet Union	263	415
Japan	139	513
Brazil	31	47
India	9	13
World	100	144

In most of the Third World countries the annual per capita steel consumption is less than 5 kilograms. Thus, it is

obvious that technological niche had created ecological and economic cleavages that nobody would ever be able to heal for several centuries, if at all.

The per capita consumption of non-metallic resources indicates quite alarmingly that the United States is the major culprit of most ecological catastrophes created by the expansion of technological and entrepreneurial niches. The data summarized in Table 2 are self-explanatory.

Table 2. Per capita consumption (kilograms) of some non-metallic raw materials in 1957 and 1967 in the United States.

	1957	1967
Stone, sand and gravel	3300	8000
Cement	235	1000
Clay	170	250
Phosphate rock	59	180
Common salt	95	180
Lime	38	82

In a world where nearly two-thirds of the human beings hardly enjoy the privilege of descent shelter, is the gravity of consumption of non-metallic resources by the American people not staggering?

In a world where more than two-thirds of the human-kind do not possess a purse to purchase even a kilograms of steel in the form of nail, for example, is it not appalling that the elite nations sacrifice the survival of the entire mother-earth for maintaining their extravagant persistence. As revealed by Harrison Brown, the life that an average American enjoyed in 1967 was very exorbitant indeed:

“The overall figures suggest that the U.S. now has in use for every person about 150 kilograms each of copper and lead, well over 100 kilograms of aluminium, some 100 kilograms of zinc and perhaps 20 kilograms of tin. To meet the need for raw materials and the products derived from them the nation transports almost 15,000 ton-kilometers of freight per capita per year. Each person travels on the average each year some 6500 kilometers between cities, makes more than 700 telephone calls and receives nearly 400 pieces of mail. There is now a ratio of almost one private automobile for every two people. In order to accomplish all the mining, production and distribution the American people spend energy at a rate equivalent to the burning of about 10 tons of coal annually per person”.

Fred Singer revealed the appalling extravagance of energy consumption in the United States in his article titled *‘Human Energy Production as a Process in the Biosphere’* as follows:

“The minimum per capita consumption of energy is what is required in food for a man to stay alive, namely about 2000 kilocalories per day or 100 watts (thermal) . Today the per capita use of energy in the U.S. is 10,000 watts, and the figure is rising by some 2.5 percent per year.

The worldwide consumption of energy can be estimated from the fact that the U.S. accounts for about a third of this consumption. The U.S. consumption of 685,000 million million B.T.U. per year is equivalent to 2.2 million megawatts. Put another way, the present situation is that the per capita consumption of energy in the U.S. of 10,000 watts compares with somewhat more than 100 watts (barely above the food-intake level) in most of the rest of the world”.

In order to meet the accentuating demand of American people for maintaining their extravagant life, rapid and uninterrupted expansion of the entrepreneurial niche is inevitable, but what are the repercussions of such an expansion? On the other hand, if the under-privileged Third World nations also follow their American monsters what would be the gravity of the ecological calamity and economic tragedy?

This was how Harrison Brown explained the anticipated predicament:

“Clearly man has become a major geologic force. The amount of rock and earth he moves each year in the present industrialized regions of the world is already prodigious and will continue to grow because of rising population levels, increasing demand from the industrialized nations and the gradual decline in grades of raw materials. If one adds to these requirements the fantastically high demand that would arise if the development process were to be accelerated in the poor countries, the total potential demand staggers the imagination. If the entire human population were to possess the average per capita level of metal characteristic of the 10 richest nations, all the present mines and factories in the world would have to be operated for more than 60 years just to produce the capital, assuming no loss”.

Lester Brown highlighted the aggravating predicament of inequality and inequity of food consumption in the world in his article titled “*Human Food Production as a Process in the Biosphere*” as follows:

“The two billion people living in the poor countries consume an average of about 300 pounds of grain per year,

or about a pound per day. With only one pound per day, nearly all must be consumed directly to meet minimal energy requirements, little remains for feeding to livestock, which may convert only a tenth of their feed intake into meat or other edible human food. The average American, in contrast, consumes more than 1600 pounds of grain per year. He eats only about 150 pounds of this directly in the form of bread, breakfast cereal and so on; the rest is consumed indirectly in the form of meat, milk and eggs. In short he enjoys the luxury of highly inefficient animal conversion of grain into tastier and somewhat more nutritious proteins.

Thus the average North American makes about four times as great a demand on earth's agricultural ecosystem as someone living in one of the poor countries. As the income levels in these countries rise, so will their demand for a richer diet of animal products. For the increasing world population at the end of the century, which is expected to be twice the 3.5 billion of today, the production of grain would have to be doubled merely to maintain present consumption levels. This increase, combined with the projected improvement in diet associated with gains in income over the next three decades, could nearly triple the demand for grain, requiring that the food supply increase more over the next three decades than it has in the 10,000 years since agriculture began".

The global experts have repeatedly warned that the accentuating gravity of increasing economic and entrepreneurial demand on the ecosphere could be ecologically fatal and perhaps irrevocable. This was how Harrison Brown summarized his predictions:

“Given an eventual world population of 10 billion, which is probably a conservative estimate, and a per capita steel inventory of 20 tons, some 200 billion tons of iron would have to be extracted from the earth. The task would require 400 years at the current rates of extraction. Anything approaching such a demand would clearly place enormous strains on the earth’s resources and would greatly accentuate rivalries between nations for the earth’s remaining deposits of relatively high-grade ores. Most of the industrialized nations already import a substantial fraction of their raw materials. Japan is almost completely dependent on imports”.

Thus, Harrison Brown focused his primary attention and concern not on the accentuating detriment of over-exploitation of raw materials but on the aggravating rivalry between industrial nations, so demonstrating the self-centred attitude of experts manipulated by entrepreneurial tycoons. It is also obvious that the privileged nations are greatly and greedily concerned with the possible threats of newly industrializing nations who would compete for the limited natural resources. A further problem endangering the global monopoly exercised by the industrial nations would be the restrictions likely to be imposed by the exporters of raw materials because of increase in their own demand for natural resources. Such restrictions would be a great threat to the entrepreneurial dictators who manipulate global economy with the objective of achieving their own prosperity at the sacrifice of the wellbeing of the Third World. If the Third World nations restrict the export of their resources it would create intolerable crises in the industrial nations for they depend largely or entirely on imported resources.

Obviously, the industrial nations are aware of the inevitable dangers likely to be imposed by the exhaustion of limited raw materials, and this is one of the major reasons for their latent efforts at restricting the industrial development of the Third World. This is exactly what Harrison Brown conceptualized as follows:

“The slowness of the development process and the magnitude of the task the poor countries face can be gauged by the fact that with existing production facilities the poor groups (not the poorest one) would need about 500 years to produce the per capita quantity of steel in use now characteristic of the U.S. Although production levels in the poor group are increasing fairly rapidly (close to 50 percent per decade on a per capita basis) many decades will be required, even in the absence of any major upheaval before the amounts of steel in use can enable those nations to feed, clothe and house their population adequately.”

Such conceptions demonstrate the ulterior greediness of the industrially elite nations, and emphasize their indifference of the inevitable dangers of over-exploitation of common ecological heritage of mother-earth . The inability of the Third World nations to exploit their natural resources is obviously a blessing in disguise for the industrial nations, for otherwise they would not be able to continue their entrepreneurial monopoly and economic supremacy. This greedy attitude is suicidal, but the industrial giants are so cleverly engaged in monopolizing the exploitation of mother-earth that they hardly exercise much attention on the accentuating ecological repercussions. That the continued attempts at expanding the entrepreneursphere is ecologically fatal, economically lethal and socially disastrous is an anthropogenic

reality that entrepreneurial humans must comprehend and appreciate, for otherwise the catastrophic outcome would be intolerable and irrevocable.

Then, what is the solution to the problem?

Entrepreneurial expansion must be restricted

The entrepreneursphere attempts to attain sustainable expansion through highly commercialized industrialization, a notoriously grave mistake that the greedy minority of elite nations continues to repeat despite the accumulation of ecological catastrophes and economic calamities manifested as accentuating global unrest. That most experts are least concerned with the gravity of the aggravating danger is evident from the contentions of Harrison Brown, for example, who advocates thus:

“From a purely technological point of view man could in principle live comfortably on a combination of his own trash and the leanest of earth substances . Already, for example, copper ore containing only 0.4 percent copper is being processed. If the need arose, copper could be extracted from ore that is considerably leaner than 0.4 percent. Eventually man could, if need be, extract his metal from ordinary rock. A ton of granite contains easily extractable uranium and thorium equivalent to about 15 tons of coal, plus all the elements necessary to perpetuate a highly technological civilization. Such a way of life would create new problems, because under those circumstances man would become a geologic force transcending by orders of magnitude his present effect on the earth. Per capita energy consumption

would come to the equivalent of perhaps 100 tons of coal per year, and there might be some 100 tons of steel in use per person. The world would be quite different from the present one, but there is no reason *a priori* why it would necessarily be unpleasant.

Man has it in his power technologically to maintain a high level of industrial civilization, to eliminate deprivation and hunger and to control his environment for many millenniums. His main danger is that he will not learn enough quickly enough and that he will not take adequate measures in time to forestall situations that will be very unpleasant indeed”.

This type of dangerously materialistic attitude and approach to the so-called sustainable civilization has already created almost irrevocable ecological crises that are extremely unpleasant to the majority of poverty-stricken human beings and other members of the innocent biosphere. The belief that man has the technological solutions to any ecological and economic problem is the greatest myth that continues to disillusion the greedy entrepreneurs and their expertise dependents, which had led to the shortsighted exploitation of mother-earth willy nilly with irrevocable repercussions.

Until and unless such mythical approaches and attitudes are demolished, very little ecological salvation can be expected and economic sustainability accomplished. Time is ripe, therefore, for the commercialized entrepreneurs and their expert advisers to restrict the entrepreneurial expansion, for otherwise they themselves would become the victims of their own greediness.

The technological culture is the greatest outcome of industrial civilization while the entrepreneurial culture is the monstrous repercussion of unforgivably commercialized civilization. The biosphere in general and humankind in particular cannot expect sustainable salvation unless this monstrous entrepreneurial culture is reorganized and self-centred mentality changed so that the entrepreneursphere would persist in harmony with the ecosphere.

The belief that man has the technological power to control his environment for many millenniums, as emphasized by Harrison Brown, is the greatest myth that economists, entrepreneurs, other experts and every human being must discard and it is the responsibility of ecologists and environmentalists to educate their brethren, for otherwise repercussions would be extremely unpleasant and ecologically unpardonable indeed.