

WORLDWIDE SUSTAINABILITY

By

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Abstract

At the present time humanity is moving headlong in the direction of self destruction because of the unsustainable way it is using its resources and because of the greed and self-interest that permeates business, government and private life. We have the knowledge and renewable resources to correct this situation, but it remains to be seen whether human kind will wake up and correct this destructive direction in time to prevent total collapse. Adequate, and cost-wise competitive, renewable energy resources are readily available to provide all of the energy we will ever need. Virtually unlimited amounts of clean water and food can be made available in a renewable way. We can easily keep the proper balance of oxygen (for humans and animals) and carbon dioxide (for vegetation) in the air that we breathe. We know the political systems and the approach to business that is sustainable. All that remains, is the will and determination to put all this into practice to achieve worldwide sustainability. The question remains: Will we do it—in time?

Background

There is agreement among environmentalists and many in political circles that the present way in which the people of the world are now living is not sustainable, and that it is only a matter of time before the world will self-destruct—unless drastic changes are implemented in the near future. This then raises the question: What must we do to prevent this self-destruction? Many books and articles have been written about this situation. Organizations have been created to study the problems and to try to find and implement solutions. The Bruntland Report, 1987, states that the world must meet the needs of the present without compromising the ability of future generations to meet their own needs.

Sargent, 2000, has clearly outlined the three elements of the problem of sustainability: population, resources and environment. The way in which we are now using our resources, that are presently available on the earth, we will not be able to support our present population, much less a continued population increase like the past 50 years. Village Earth (VE) (villageearth.org) and Hydrogen Now (hydrogennow.org) are two organizations that have been created to study the situation, to find solutions, to try to make the public aware of the urgency of the situation and to present solutions that are now available. The VE Model divides sustainability into: Environmental Sustainability, Economic Sustainability, Political Sustainability, Socio-Cultural Sustainability and Resource Sustainability. These must be integrated into any sustainable solution to the present critical problems. Sustainable Development in the future must incorporate these into any planning and action programs.

Environmental Sustainability

At the present time, the atmosphere surrounding us, and the air we are breathing, is continually being more and more polluted. The water for domestic, industrial and agricultural uses is being increasingly polluted. The quality of the soil for agricultural and other uses is being reduced. Other natural resources, such as timber and wildlife, are being greatly reduced, with serious damage to the watersheds and the quality and supply of water. Only inadequate plans are being implemented worldwide for rebuilding and replacing them. In summary, the ability of our environment to support life on earth is rapidly being destroyed. Although the worldwide scientific community realizes what is happening, and solutions to the problems are known, the people of the world in general, and the governments in particular, have refused to take the necessary action to reverse these deadly processes. See Worldwatch Institute, 2003, and Brown, 2002.

Economic Sustainability

It is imperative that all sizes of business and development activities and programs be viable economically in both the short term and the long term. Frequently, a conflict arises between making a short-term profit and long-term environmental sustainability. The approach to business worldwide is for profit exclusively--regardless of the impact it has on other people, other organizations and society in general. This approach is based entirely upon greed and benefits for the management personnel and the shareholders—especially for large corporations.

The foregoing approach to economics and business will continue to result in cycles of boom and bust, over and over, as it has for centuries in the past. This is a highly unsustainable approach to entrepreneurship. To overcome these disastrous cycles, it is necessary to include the **service motive** equal to the **profit motive**. If business includes service as important as profit, then it is a win-win situation for everyone, see “Business Ethics” and “In Business”, Albertson 1991, and Chappell 1994.

Political Sustainability.

Political sustainability is essential to overall sustainability. To accomplish this, the people must be in control. Political sustainability must be at all levels from local communities to national governments to international organizations and government. If any one individual or groups of individuals take control of a small or large group of people, the situation is unstable and it is only a matter of time before there will be conflict and downfall. Ultimately, the only sustainable and stable political system will be a people centered democracy.

Socio-Cultural Sustainability

Socio-cultural Sustainability is closely related to Political Sustainability. Many societies have cultural beliefs and practices that are very important to them. When these are ignored or destroyed, it has a very significant impact on the sustainability of the population and its ability to survive. These include cultural and religious beliefs and practices. The attempted socio-cultural destruction of the beliefs and practices of the Native Americans in the USA and the Aboriginal People in northern Australia are rather extreme examples of socio-cultural unsustainability. Similar problems of socio-cultural

sustainability have occurred in India with the Muslims and are now occurring in Indonesia, Afghanistan and Iraq. Political actions and technical innovation must offer a good fit between local socio-cultural knowledge and practices and scientific knowledge and appropriate technologies. Many efforts at technology transfer have been rejected at the village level, because outside authorities did not consider local needs and values.

Resource Sustainability

In order to maintain sustainability, the natural resources that are available on the earth must not be destroyed or used more rapidly than they are being replenished naturally. This includes the energy, the air, the soil and minerals, the water and the living organic material. Some materials, such as fossil fuels--and minerals, such as copper, platinum and iron, are being replenished so slowly geologically that we must assume there is no replacement. The fossil fuels have a very limited lifetime and the burning of them creates pollution in the atmosphere. Space on the surface of the earth for living, growing crops, conducting business and industry, and recreation is limited. Some people like to live in compact quarters like New York City--while others like a lot of space surrounding them, like the Great Plains and the Rocky Mountains. However, many times the present world population can be supported sustainably on the earth.

Even though these resources are limited, there are plenty to go around to meet everyone's need if we use them judiciously. There is virtually an unlimited supply of energy from the sun, the wind and the oceans. In South Dakota alone there is enough wind to provide all the electrical energy that the USA is consuming today. Likewise, the energy from the sun in Nevada alone can meet all the electricity needs of the USA. Consequently, there is an adequate supply of energy just in the wind and/or the sun. Wind energy today is economically competitive with natural gas and coal for producing electricity and new developments in solar energy will soon make it competitive for producing our electricity. The limited remaining supply of fossil fuels should be used for production of plastics, pharmaceuticals, etc. for a much higher rate of economic return than using them as fuels. Furthermore, the price of natural gas is rising so rapidly that natural gas will no longer be competitive for production of electricity.

We now have the technology for purifying polluted water so that it can be recycled. The rivers, lakes and oceans can provide all the water we could ever need. Kuwait desalts more than 5,000,000 gallons of seawater per day just for Kuwait City.

Water and the massive amounts of biomass waste can easily provide the very large quantities of hydrogen and methane for the fuel that is needed. The biomass can, at the same time, also provide the carbon for the carbon fiber that can replace steel for construction. Carbon fiber is 12 times stronger than steel and a fraction of the weight. Golf clubs, tennis racquets, fishing poles and car bodies are already being made of carbon fiber. Steel (iron) is not a renewable resource.

Conclusions

1. The present direction that humankind is taking worldwide is not sustainable and will inevitably lead to self destruction.
2. There are adequate renewable resources available on the earth to support sustainably the present population or a population several times as large as the present population.

3. The sustainability problem confronting the people on the earth at the present time is the proper use of these renewable resources.
4. We can eliminate atmospheric pollution, and other pollutants in our environment, by applying already known remedies—using renewable resources, which are readily available, and in adequate supply.
5. The supply of fossil fuels is very limited and must not be used as fuels because they pollute the atmosphere when burned and they are needed for the production of plastics, pharmaceuticals, carbon fiber and other materials for a much greater rate of economic return.
6. The USA is the nation that is the earth's largest consumer and largest polluter. Therefore, the USA has a special responsibility to provide world leadership for worldwide sustainable practices.

References

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