A Sustainable Environment: Our Obligation to Protect God's Gift

by
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Renewables or Nonrenewables: Which is More Important?

One of the resources of great concern is the source for energy. Centuries ago, wood was the primary source of energy which was followed by coal at the beginning of the industrial revolution. We have since added oil and natural gas and working away from coal wherever possible. Most of the new electric power plants are fueled with natural gas for environmental and efficiency reasons.

There has been considerable focus on the supply and demand of these nonrenewable resources: coal, oil and gas. They are called nonrenewable because there is a finite supply of the material and once it is used up, there will be none. Although large quantities of each can be found in the earth's crust, we have to be careful how quickly they are consumed, not to mention the impact to the environment, as they are combusted. There are other nonrenewables that are of concern such as metals and minerals. But what about the renewable resources – those that can replenish themselves? Shouldn't we also be concerned about these resources?

Innovated technologies will create substitutes for many of the nonrenewable resources. For example, optical fiber has now replaced copper wire in many applications. Also, wind and solar energy will continue to replace energy from nonrenewable fossil fuels. The demand for minerals and metals may actually decrease because of recycling and reuse. The real threat to sustainability, however, is the depletion of the renewable sources.

In an earlier issue, I mentioned that about 70% of the major fisheries have been depleted or are at their biological limit. It is estimated that the forest cover has been reduced by as much as 50% worldwide; 50% of the wetlands and more than 90% of the grasslands have been lost. Currently, almost 40% of the world's population is experiencing serious water shortages. These are the resources for which we really must be concerned.

About thirty years ago, Paul Ehrlich and Barry Commoner, two of top environmentalists of their time, made a simple observation about sustainability. They stated that the total environmental burden created by human activity is the result of three factors: population, affluence or consumption, and technology, the latter describes how wealth is created. The total environmental burden is really described by the product of these three terms. To reduce the impact on the environment, one has to reduce one or more of these factors. But is that really possible?

The world population is currently growing at the rate of ten million people every six weeks and it is unrealistic to think this will change in the near future. Decreasing the level of affluence will only worsen the problem as the population growth rate increases with a decrease in consumption. That means our only option to control the impact on the environment is through technology. While the first two factors are societal issues, improving technology is a business issue. We must rely on technological innovation to reduce our dependency on the renewable resources.

Some estimate that the world population will double within the next 50 years. If the economic activity must increase by a factor of ten to provide the minimum essentials to this population, technology must improve by a factor of twenty just to keep the environmental burden at its current level. This very important subject has been an interesting discussion item with my friend, Stuart Hart, a professor at Cornell, and I would like to give him credit for some of these thoughts.

In future articles, I will discuss some innovate sustainable strategies to accomplish this so important goal.