

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

by
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A Route to a Sustainable Environment

Last month I talked about how we are spending the future, whether it is in economic terms or in environmental terms. Based on this concern, I would like to propose how we can become sustainable. The term *sustainable* has a generic meaning of “that which can be maintained over time”. In recent years, it is also referring to maintaining the natural resources over time so that future generations can be provided with their needs.

There have been many different definitions of *sustainability* and many different recommendations or strategies on how to achieve sustainability. Let me summarize one alternative that is based on Richard Heinberg's “Peak Everything” where he talks about the five axioms of sustainability. Any society that continues to use critical resources unsustainably will eventually collapse. How long a society will survive can be attributed by the rate of resource consumption, something that is decisive, quantifiable and controllable. Of course, societies can collapse even if sustainable if they are subject to warfare or a natural disaster, for example.

The growth in population and/or the growth in the rate of resource consumption cannot be sustained. The world's population is getting to a critical stage as it took perhaps 100,000 years to achieve a one billion people by 1880. It has taken only another 130 years to add almost another six billion people. If the growth rate is as low as one percent per year, there will be over 13 billion people in just 70 more years. At this rate, by the year 3050 there would be one human per square meter of the land's surface. Similar calculations can be made for the natural resources like water. If we can assume that that we find a way to make all the water on Earth usable and that the consumption of water increases one per cent annually, we would be using every drop of water on the planet by the year 2600.

The most critical resources are the renewable ones like forests, crops and fish. It is theoretically possible to exhaust these renewable resources, so it is extremely critical that they are preserved. As these resources are consumed, they are continually being replenished and thus called *renewable*. The rate of consumption of these resources must be less than or equal to the rate of natural replenishment. Whether the decline in the resource is due to consumption or by, say, disease, adjustments in controllable consumption are necessary so that the replenishment rate can again exceed the consumption rate.

We are also consuming non-renewable resources, and these need to be consumed at some controlled rate. But how do we consume these resources and be sure they are not exhausted? The use of these resources must proceed at a rate that is declining, and the rate of decline must be greater than the rate of depletion. The rate of depletion is defined as the amount extracted over a year as a percentage of the amount left. In other words, the percentage of the resource remaining is more than the percentage that is being consumed. In this manner, there will always be some amount remaining of this non-renewable resource.

Whether the consumption of renewable or non-renewable resources is reduced, it is necessary to minimize the introduction of substances from human activity into the environment. For instance, if we reduce the consumption of fossil fuels like coal and oil, we will still need to take extra efforts to reduce the emission of carbon dioxide from these fuels. The emission of these greenhouse gases accumulate in the atmosphere and remain there for many years. So even a decline in consumption of our resources, we need to reduce the addition of substances into the atmosphere.

If we adhere to these five axioms, we will truly create a sustainable environment and protect God's gift to us. However, it is not going to be easy.