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

by

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We Must Restore Our Environment

On several occasions in my writing of articles, I talk about four of the most critical environmental issues plaguing our earth. The obvious one is climate change which we read about almost every day as it is continually becoming worse. Water quality and quantity is another one as almost one billion people do not have access to clean water. The over consumption of our natural resources has been calculated to show that today we are using the equivalent of 1.7 earths. And the fourth issue is the one that is driving the other three – population growth. Just in my lifetime, the world population has grown from a little over two billion to almost eight billion, and we are adding 10 million people every six weeks. So we must restore our environment. But how?

Since it is nature that we are destroying, why not learn from nature to restore it. There are many sustainability strategies, but the one that seems to be most applicable here is called "biomimicry". It is basically the use of nature's biological processes to solve problems that we are creating. Any company that wants to design a new product would be wise to place a biologist on the design team. For example, one of the objectives of many companies is to minimize the amount of carbon in the product so it doesn't convert to carbon dioxide and emitted into the atmosphere. It would be better if the design team could find a product that consumes carbon dioxide, actually sequestering it from the atmosphere.

Many of our existing processes were actually learned from nature. An example is the production of paper from wood pulp. In the 1600s, Europe was hit with a shortage of rags that were used to make paper. In 1666, England banned the use of cotton and linen for certain applications because of its value to make paper. Then a French scientist went for a walk in the woods when he came upon a wasp nest made of paper. It took some time but it was eventually determined that paper can be made from wood, just as the wasp had chewed the fibers of plants and wood to build its nest.

So we basically need to ask the question: What in the natural world has already solved the problem that we're trying to solve, and what can it teach us? Let's say we wanted to build a strong geometric structure using the least quantity of material. That geometric structure could be made by rings attached to each other, triangles, squares or rectangles, etc. This assignment was given to design engineers, and they determined that the best structure using the least amount of material would be intertwined hexagons. Well, if the design engineers looked into nature to see how it was done, they would have found something done for thousands of years – the formation of beehives. Yes, the bees have been building their homes in the form of hexagons because they use the least amount of material.

Another example can be derived from the term "a canary in the coal mine". Coal is nothing more than compressed vegetation over millions of years. When coal is exposed to the

atmosphere, various microbes come in contact with it and convert some of the carbon in the coal to a gas like methane. The amount of methane in the air could be dangerous to the miners, but it would have a detrimental effect to a canary long before it affected a coal miner. So they used the canary to detect potentially dangerous gases created by the microbes. Today, companies use the process of anaerobic digestion to convert coal and other organics to various gases that can be used for fuel. There is even a process where coal is not only converted to a gas, but a by-product of the process is a humic material that sequesters carbon dioxide. This process has the potential to be carbon negative.

Today's 'take-make-dispose' economy has long relied on inputs of cheap and available resources to create conditions for growth and stability. This cannot go on forever so over the past decade it has led to the "circular economy". And since life is based on a circular design, this new economy has a biomimicry component.

To learn more about this amazing sustainability strategy, get started by reading "Biomimicry: Innovation Inspired by Nature" written by Janine Benyus, a truly classic book. Also, go to the website "Ask Nature" for guidance on how to apply millions of years of science in nature to solve some of our problems today.