THE ECOLOGICAL FOOTPRINT

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When one talk about challenges of sustainable development a vital point comes to mind: the fact that humanity has the ability to sustain natural resources regardless of the fact that they are scarce.

Nowadays there is a common misconception in our society that preserving the environment is somehow linked with compromising on economic terms of a country, city or community. This very belief has fuelled the countless debates "Economy versus Environment". However, the opposite is true to this perception of ours. In reality, there is enough that the planet earth can provide us to satisfy our needs. Our economy can prosper and sustain in the long run without putting undue stress on the natural resources. It is the epidemic of greed to possess and enjoy as many luxuries as possible that has led to the state in which we find ourselves today - scarcity. The use of green technologies and renewable sources of energy should solve the energy crisis to a great extent without putting any burden on the existing natural resources. It means the economic growth of the country/region doesn't get hampered owing to environmental concerns.

But one must be aware about globalization and its impact on the environment.

The concept of the Ecological Footprint can help to find the optimal level of consumption to reach sustainable development. The Ecological Footprint has emerged as the world's premier measure of humanity's demand on nature. It measures how much land and water area a human population requires to produce the resource it consumes and to absorb its carbon dioxide emissions. It shows how many planets we would need if everyone lived like you.

The Ecological Footprint is rooted in the fact that all renewable resources come from the earth. It accounts for the flows of energy and matter to and from any defined economy and converts these into the corresponding land/water area required for nature to support these flows. The Ecological Footprint is defined as "the area of productive land and water ecosystems required to produce the resources that the population consumes and assimilate the wastes that the population produces, wherever on Earth the land and water is located". It compares actual throughput of renewable resources relative to what is annually renewed. Non-renewable resources are not assessed, as by definition their use is not sustainable.

More precisely, your ecological footprint is the area of viable, functioning land and water ecosystem that it takes to sustainability: produce the resources you consume, and detoxify, restore and recycle the wastes that you produce. Everything around you is derived from, and eventually returns to, nature.

Figure 1. The Ecological Footprint

Your ecological footprint components comprise the choices you make to sustain your way of life. The area of earth's ecosystem that your life uses up - your ecological footprint - depends on the amount of resources flowing into your life as consumption and out of your life as waste.

So a refined measure of it would include careful account of how you dispose of your waste, how much is recycled and the ecological impact (noxiousness and toxicity) of your waste. However, because the amount of waste you produce is directly affected by the amount of resources you consume, we can estimate your ecological footprint based mainly on your consumption habits. The main ecological footprint components that determine how much of the planet must be dedicated to sustaining your lifestyle are food, goods, shelter and mobility.

The Ecological Footprint is not a precise measure of ecological sustainability. While it is perhaps the best estimate to date, it is important to recognize its limitations. In general, the Footprint underestimates the impact of human activities on the biosphere. But it measures how fast we consume resources and generate waste.

The most challenging things to overcome in developing in a sustainable way is how do we maintain the same living standards and at the same time become innovative enough to “down scale” on the usage of energy and other resources in a way that will still meet all our current needs.

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