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#### COMING TO TERMS WITH LIFE ON A SMALL PLANET

by: **HAREN BRONIA VALENCIA** Master Teacher I, Hermosa National High School

Earth, the home of life, is the third planet in the Sun. It is the only planet known to have an atmosphere containing free oxygen, oceans of water on its surface and, of course, life. To support life and meet people's needs, natural resources are Earth materials that are used. Natural resources are the raw materials to produce products that people use every day. Consequently, people need natural resources to survive life on the small planet Earth.

Earth's life is indeed unique in the whole universe. There are reasons to think that Earth and her life are special, perhaps even singular. The specifics of our planetary conditions and the observation that some fundamental natural laws seem to have been perfected for life's existence in such a way that the fundamental aspects of the universe are balanced close to the boundary that permits Earth and its life to exist provide some warning. Conceptualization of where life fits into the grand scheme of nature leads directly to a way to resolve the conundrum between persuasive, but unsolved, arguments that life must be abundant and exquisitely rare. In line with the same idea, Earth is definitely habitable: (a) its temperature influences how quickly atoms and molecules move; (b) its water dissolves and transports chemicals within and to and from a cell, a life; (c) its atmosphere traps heat, shields the surface from harmful radiation, and provides chemicals needed for life, such as nitrogen and carbon dioxide; (d) its energy that was used by organisms, light or chemical energy, to run their life processes; and (e) its nutrients that are used to build and maintain an organism's body. Earth's natural resources are considered as a complete package to support life, to endure life. Earth is habitable, livable, and comfortable.



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On the other hand, it is incredibly paradoxical that although Earth's inhabitants depend on its natural resources to survive, those same inhabitants – those who take good care of the planet – are also the ones who are slowly erasing it from existence. Ecosystems, the fabric of life on which all people depend, are declining rapidly due to human actions. The quality of life for humans will be drastically decreased if significant portions of the natural Earth are lost, and if no meaningful action is taken, the lives of future generations will be in danger. To fulfill growing human demands for resources like food, energy, and timber, the According to the present text, Earth is progressively being managed in a way that maximizes the flow of material from nature. As a result, humans have directly altered a huge portion of Earth's land, mainly for growing plants and keeping animals. These actions force deforestation, land degradation, biodiversity loss, and the production of greenhouse gases, which have the most negative consequences on terrestrial and freshwater ecosystems.

According to the analysis report of the Natural History Museum (London), the Earth will look at three very different scenarios: (a) Global Sustainability: the whole Earth is shifting towards sustainability by respecting environmental boundaries and ensuring that economic development encompasses everyone; (b) Regional Competition: nationalism is rising, with the focus on domestic subjects. There is less investment in education, particularly in the developing Earth; and (c) Economic Optimism: the Earth believes in cutting-edge technologies that are still being developed and that will help us address environmental matters. It is obvious that because people are consuming the globe's natural resources excessively, the planet will experience an "ecological credit crunch" that will be much worse than the current financial catastrophe.

One of the conflicts highlighting the problem between people and collective rationality of the Earth's natural resources is the overuse of natural resources is the socalled tragedy of the commons. This is an economic problem in which every individual has an incentive to consume a resource at the expense of every other individual without



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any means of excluding anyone from consumption. This results in overconsumption, underinvestment and, ultimately, in the depletion of the resource. As demand for the resource overwhelms supply, everyone who consumes the additional unit directly harms others who can no longer enjoy the benefits. Generally, the resource of interest is readily available to all individuals; the tragedy of the commons occurs when individuals neglect the well-being of society in pursuit of the commons. The tragedy of the commons is an economic problem that results in overconsumption, investment and, ultimately, the depletion of a common resource. For the tragedy of the commons to occur, the resource must be scarce, competing in consumption and non-exclusive. Private property rights, government control, or the creation of a collective action agreement are potential remedies for the tragedy of the commons. Historical examples of the tragedy of the commons include the collapse of the North Atlantic cod fishery and the extinction of the dodo bird.

There is only one life planet, the Earth. Its capacity to support a thriving diversity of species, humans included, is large but fundamentally limited. When human demand on this capacity exceeds what is available, when people surpass ecological limits, everyone erodes the health of the Earth's living systems. The ability of both natural and human systems to continue to thrive is now in danger because of the extensive chain reaction of environmental issues that human activity has set off. This loss ultimately poses a hazard to human welfare.

#### References:

Scharf, C. (2014). Is Earth's Life Unique in the Universe?. Scientific American, 15. Lammer, H., Bredehöft, J. H., Coustenis, A., Khodachenko, M. L., Kaltenegger, L., Grasset, O., ... & Wahlund, J. E. (2009). What Makes a Planet Habitable?. The Astronomy and Astrophysics Review, 17(2), 181-249.





Kasting, J. (2012). How to Find a Habitable Planet (Vol. 17). Princeton University Press. Crowe, B. L. (1969). The Tragedy of the Commons Revisited. Science, 166(3909), 1103-1107.

Singh, A. (2005). One Planet, Many People: Atlas of Our Changing Environment. UNEP/Earthprint.



