Ecological Footprint

Ecological Footprint : A measure of how much area of biologically productive land and wateran individual, population or activity requires to produce all the resources it consumes and to absorb the waste it generates, using prevailing technology and resource management practices. The Ecological Footprint is usually measured in global hectares. Because trade is global, an individual or country's Footprint includes land or sea from all over the world. Without further specification, Ecological Footprint generally refers to the Ecological Footprint of consumption. Ecological Footprint is often referred to in short form as Footprint. "Ecological Footprint" and "Footprint" are proper nouns and thus should always be capitalized.

biological capacity or biocapacity : The capacity of ecosystems to regenerate what people demand from those surfaces. Life, including human life, competes for space. The biocapacity of a particular surface represents its ability to renew what people demand. Biocapacity is therefore the ecosystems' capacity to produce biological materials used by people and to absorb waste material generated by humans, under current management schemes and extraction technologies. Biocapacity can change from year to year due to climate, management, and also what portions are considered useful inputs to the human economy. In the National Footprint Accounts, the biocapacity of an area is calculated by multiplying the actual physical area by the yield factor and the appropriate equivalence factor. Biocapacity is usually expressed in global hectares.

hectare : 1/100th of a square kilometre, 10,000 square meters, or 2.471 acres. A hectare is approximately the size of a soccer field. See also global hectare and local hectare

global hectare (gha) : Global hectares are the accounting unit for the Ecological Footprint and biocapacity accounts. These productivity weighted biologically productive hectares allow researchers to report both the biocapacity of the earth or a region and the demand on biocapacity (the Ecological Footprint). A global hectare is a biologically productive hectare with world average biological productivity for a given year. Global hecares are needed because different land types have different productivities. A global hectare of, for example, cropland, would occupy a smaller physical area than the much less biologically productive pasture land, as more pasture would be needed to provide the same biocapacity as one hectare of cropland. Because world productivity varies slightly from year to year, the value of a global hectare may change slightly from year to year.

carbon Footprint : The carbon Footprint measures CO_2 emissions associated with fossil fuel use. In Ecological Footprint accounts, these amounts are converted into biologically productive areas necessary for absorbing this CO_2. The carbon Footprint is added to the Ecological Footprint because it is a competing use of bioproductive space, since increasing CO_2concentrations in the atmosphere is considered to represent a build-up of ecological debt. Some carbon Footprint assessments express results in tonnes released per year, without translating this amount into area needed to sequester it.

Answer the following question on the right page of your notebook.

1. Compare and contrast the United States of America with Columbia with regard to trends in change over time in terms of their ecological footprints, biocapacity, and global hectares per capita.

   http://www.footprintnetwork.org/en/index.php/GFN/page/trends/united_states_of_america/

   http://www.footprintnetwork.org/en/index.php/GFN/page/trends/colombia/

2. Compare and contrast the China with Peru with regard to trends in change over time in terms of their ecological footprints, biocapacity, and global hectares per capita.

   http://www.footprintnetwork.org/en/index.php/GFN/page/trends/china/

   http://www.footprintnetwork.org/en/index.php/GFN/page/trends/peru/

3. Summarize what you learned from your analysis of the similarities and differences of the ecological footprints of these countries.

*For fun, you can calculate your own ecological footprint using the "Footprint Calculator":

http://www.footprintnetwork.org/en/index.php/GFN/page/calculators/