



FROM THE DESK OF RATTAN LAL
Viewpoint 8.2017

1st August 2017

Sub: The Anthropocentrism and Soil Health

Fellow Soil Scientists,

The term “Anthropocene,” proposed since 1995, is an important theme of scientific discussions and research. Nonetheless, some ancient cultures have used similar terms for millennia (i.e., *Kali Yuga*, or the *age of vice*, in Vedic texts). The term “Anthropocene” implies that the impact of human activities is more pervasive and profound than any geological force. There is also a debate regarding the time of the onset of Anthropocene. While some argue that it began with the onset of the Industrial Revolution (circa 1750) or after World War II (circa 1950), others believe that the most defining moment was the discovery of settled agriculture ~10 to 12 millennia ago. Indeed, it is the beginning of settled agriculture that has increased the world population of 5-10 million at the end of the glacial era to 7.7 bn in 2017. National Geographic reports that human footprint is seen on 83% of Earth’s land. Human appropriation of NPP has increased from 6.4 Gt/yr (13%) in 1910 to 14.8 Gt/yr (25%) in 2005. Among other impacts, the Anthropocene has aggravated the extent and severity of soil degradation in all biomes, but especially in soils of managed ecosystems. In addition to farming, human activities impact soil by urbanization, mining, recreational activities, brickmaking, surface sealing, and accidental spill age of chemicals, oil, and radioactive wastes. Demands of the ever-increasing human population (2.5 bn in 1950, 7.6 bn in 2017, and projected to be 8.6 bn in 2030, 9.8 bn in 2050, and 11.2 bn in 2100) with affluent lifestyle has severely jeopardized soil’s resilience and the capacity to restore its life-support processes. Thus, resorting degraded soils and minimizing risks of new soil degradation are the prudent strategies. In addition to reducing population and perturbations of fragile and finite soil resources, the goal should be to reduce demands, enhance production from the agriculturally prime soils but return marginal soils to nature. Humans are an integral part of the soil. Thus, what ever harm we may do to the soil will also happen to us.

Sincerely,

Rattan Lal,
President, International Union of Soil Sciences

Columbus, Ohio