Session 1: Ecosystem Services and the Value of Biodiversity

Polysemous Aspect of Ecosystem Function and Redefining "Sustainability"

Shuichi Kitoh

Professor, Graduate School of Frontier Sciences, The University of Tokyo, Japan

Fundamental trade-off has generally been considered to exist between nature conservation and human impacts on ecosystems following activities of use and consumption of land and nature resources. However, an anthropogenic disturbance with a continuous and adequate use is beginning to be recognized to have a crucial meaning for maintaining biodiversity in a biocultural nature such as Satoyama, and this is starting to attract a considerable attention as a way of managing both biodiversity and sustainability. Moreover, along with emerging notion of ecosystem services, simple take on the ecosystems either as provisioning services, which means appreciating the ecosystems in terms of utility, or supporting services, which means appreciating the ecosystems as a means to fulfill our ontological needs, have now matured to the point where it regards the ecosystems as something that carries higher values than mere utility. This includes appreciating the ecosystems as regulating services, which is viewing the ecosystems as something that secures our long-term welfare as well as human wellbeing, and cultural services, which is viewing the ecosystems as a facilitator for our spiritual value and richness. As it became possible to take polysemous view of ecosystem function, biodiversity and sustainable use of land and nature resources are no longer considered, at least in principle, conflicting notions. Accordingly, it is now necessary to broaden the concept of sustainability from the level of natural environment and redefine it with two other integral aspects such as social environmental level that concerns with social justice, and spiritual environment level that concerns with ontological richness.



Shuichi Kitoh

Professor, Graduate School of Frontier Sciences, The University of Tokyo, Japan
Academic Degrees
1981 Master of Science, Graduate School of Science, The University of Tokyo, Japan
1977 Master of Pharmacology, Graduate School of Pharmacology, The University of Tokyo, Japan

Field of Study Environmental Ethics