Comparative assessment of mountain landscapes and their use in alpine regions

*Abhik Chakraborty[1]

1. Wakayama University

This paper provides a conceptual framework of assessing landscapes through the lens of integrated complex dynamic systems. Complex systems have emerged as a key concept in contemporary spatial theory, but a focus on only the spatial complexity (i.e. 'diversity' of landforms or landscape types) lacks the vital insight of landscape formation and evolution; leading to the need to add the 'dynamic' angle (of change and evolution of landscapes). Mountain regions possibly offer some of the best examples of dynamic and complex systems that are located within a short distance from one another (due to vertical zonation of ecosystems and processes) and are tightly connected by geomorphic agents. However mountain regions have so far been evaluated mainly for their visual beauty or endangered ecosystems, not for the dynamic earth processes that engender these attributes in the first place. The paper provides examples from mountain regions such as the Japanese Alps, Hidaka and Daisetsu Mountains of Hokkaido, Cerro Torre massif (Patagonia) and the Himalayas to illustrate the key facets of complex dynamic systems, and their value for contemporary landscape studies.

Keywords: Complex dynamic systems, Mountain landscapes, Earth processes , Landscape evolution

