Restoration and sustainable land management of degraded landscapes in Asia and Africa

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Land degradation causes reduction or loss of the biological or economic productivity and complexity, resulting from land uses or from processes arising from human activities and habitation patterns. As land degradation is also defined as “the processes of landscape changes caused by miss-match between natural land conditions and land use by human”, it is necessary to reconstruct new land use systems based on new human-environment relations which can realize sustainable use of ecosystem services. This paper introduces case studies on the sustainable land management (SLM) approaches, focusing on human-environment relations, or social-ecological systems in rangelands of Asia and Africa. Firstly, I show a modelling of trade-offs in ecosystem services and assessment of effectiveness of countermeasures on land restoration. Secondly, I show a concept and methodology of grassland management systems in consideration of biodiversity-ecosystem functioning relationships. Finally I propose future perspectives, possible research topics which should be further developed, and implication to SDGs.

Keywords: social-ecological system, threshold, biodiversity, ecosystem functioning, sustainable land management, non-equilibrium

