

New landscape ecology approach to the assessment of land degradation

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ABSTRACT:

Land degradation, as a long-term decline in the ecosystem services, is one of the most important environmental problems especially in the arid and semi-arid regions of the world. Quantitative assessment of land degradation is a prerequisite to its control and management. This paper proposes a new approach to land degradation assessment that considers all dimensions of ecological status and trends of the area of study. Due to the limitation of data collection and the lack of sufficient information about ecological trends, this method can be used as an effective tool in environmental assessments. This paper proposes a new approach for assessing the land degradation that uses landscape ecology concepts and theories, focusing on landscape structure and functional relationships. The approach is based on a conceptual model that is expressed in a methodological framework developed for land degradation assessment in the Lake Urmia basin, as a case study. The results showed that landscape ecology concepts and theories can be useful in establishing the links of causality that are often missed in degradation assessments, thereby improving the available methodology for land degradation assessment, especially in regions with high level of chorological relationships.

Keywords:

Land degradation, landscape ecology, Lake Urmia