

# Addressing Multiple, Interactive Land and Soil Degradation Processes

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## ABSTRACT

The physical, chemical and biological attributes of land and soil resources can favor, limit or completely inhibit their productive and profitable use. Humans historically understood and manipulated these attributes to develop and manage many successful agroecosystems. However, sustainable land use has been recently elusive, particularly on the marginal lands that presently comprise the majority of global areas not already under cultivation. Hence, serious human-induced land and soil degradation is now encountered on every inhabited continent, and assumes many forms that collectively pose serious threats to world food security and environmental quality. Assessing these degradation forms *individually* is a difficult task, especially if performed at a global scale (e.g. GLASOD). Also, individual assessments can be inaccurate because multiple and simultaneous degradation processes often occur, overlap, interact, and exacerbate one another. Making total degradation assessments, while needed, is challenging. Displaying the assessment data effectively for the benefit of land users, planners and policy makers is more challenging still. Yet, the case for inspiring strong actions to protect land resources needs degradation assessments that are complete, with systematically documented impacts. In addition, assessing or forecasting interdependent degradation forms together is more efficient and meaningful than when done individually. I will present actual case studies for various land use settings in different countries to demonstrate how multiple degradation processes interact, and suggest approaches that may be used to predict their occurrence and design preventive and conservation interventions.