

Article

## Integrating Stakeholder Preferences and GIS-Based Multicriteria Analysis to Identify Forest Landscape Restoration Priorities

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**Abstract:** A pressing question that arises during the planning of an ecological restoration process is: where to restore first? Answering this question is a complex task; it requires a multidimensional approach to consider economic constraints and the preferences of stakeholders. Being the problem of spatial nature, it may be explored effectively through Multicriteria Decision Analysis (MCDA) performed in a Geographical Information System (GIS) environment. The proposed approach is based on the definition and weighting of multiple criteria for evaluating land suitability. An MCDA-based methodology was used to identify priority areas for Forest Landscape Restoration in the Upper Mixtec region, Oaxaca (Mexico), one of the most degraded areas of Latin America. Socioeconomic and environmental criteria were selected and evaluated. The opinions of four different stakeholder groups were considered: general public, academic, Non-governmental organizations (NGOs) and governmental officers. The preferences of these groups were spatially modeled to identify their priorities. The final result was a map that identifies the most preferable sites for restoration, where resources and efforts should be concentrated. MCDA proved to be a very useful tool in collective planning, when alternative sites have to be identified and prioritized to guide the restoration work.