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Land Use Planning Tool to Achieve Land Degradation Neutrality: Tunisia Case Study

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Abstract : In Tunisia, landscape change and land degradation are critical issues for landscape conservation, management, and planning. Landscapes are undergoing crucial environmental problems made evident by soil degradation and desertification. Human improper uses of land resources (e.g., unsuitable land uses, unsustainable crop intensification, and poor rangeland management) and climate change are the main factors leading to the landscape transformation and desertification affecting high proportions of the Tunisian lands. Land use planning (LUP) to achieve Land Degradation Neutrality (LDN) must be supported by methodologies and technologies that help identify best solutions and practices and design context-specific sustainable land management (SLM) strategies. Such strategies must include restoration or rehabilitation efforts in areas with high land degradation, as well as prevention of degradation that could be caused by improper land use (LU) and land management (LM). The geoinformatics Land Use Planning for LDN (LUP4LDN) tool has been designed for this purpose. Its aim is to support national and sub-national planners in i) mapping geographic patterns of current land degradation; ii) anticipating further future land degradation expected in areas that are unsustainably managed; and iii) providing an interactive procedure for developing participatory LU-LM transitional scenarios over selected regions of interest and timeframes, visualizing the related expected levels of impacts on ecosystem services via maps and graphs. The tool has been co-developed and piloted with national stakeholders in Tunisia. The piloting implementation assessed how the LUP4LDN tool fits with existing LUP processes and the benefits achieved by using the tool to support land use planning for LDN.

Keywords : land use system, land cover, sustainable land management, land use planning for land degradation neutrality
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