

An Ecosystem Approach to Natural Resource Management: Case Study of the Topčiderska River, Serbia

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Abstract : Due to increasing demand, climate change, and world population growth, natural resources are getting exploit fast. One of the most important natural resources is soil, which is susceptible to degradation. Erosion as one of the forms of land degradation is also one of the most global environmental problems. Ecosystem services are often defined as benefits that nature provides to humankind. Soil, as the foundation of basic ecosystem functions, provides benefits to people, erosion control, water infiltration, food, fuel, fibers... This research is using the ecosystem approach as a strategy for natural resources management for promoting sustainability and conservation. The research was done on the Topčiderska River basin (Belgrade, Serbia). The InVEST Sediment Delivery Ratio model was used, to quantify erosion intensity with a spatial distribution output map of overland sediment generation and delivery to the stream. InVEST SDR, a spatially explicit model, is using a method based on the concept of hydrological connectivity and (R) USLE model. This, combined with socio-economic and law and policy analysis, gives a full set of information to decision-makers helping them to successfully manage and deliver sustainable ecosystems.

Keywords : ecosystem services, InVEST model, soil erosion, sustainability

Conference Title : ICEMS 2022 : International Conference on Ecosystem Management and Services

Conference Location : Paris, France

Conference Dates : December 29-30, 2022