

Effects of Soil Erosion on Vegetation Development

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Abstract : The relationship between vegetation and soil erosion deserves attention due to its scientific importance and practical applications. A great deal of information is available about the mechanisms and benefits of vegetation in the control of soil erosion, but the effects of soil erosion on vegetation development and succession is poorly documented. Research shows that soil erosion is the most important driving force for the degradation of upland and mountain ecosystems. Soil erosion interferes with the process of plant community development and vegetation succession, commencing with seed formation and impacting throughout the whole growth phase and affecting seed availability, dispersal, germination and establishment, plant community structure and spatial distribution. There have been almost no studies on the effects of soil erosion on seed development and availability, of surface flows on seed movement and redistribution, and their influences on soil seed bank and on vegetation establishment and distribution. However, these effects may be the main cause of low vegetation cover in regions of high soil erosion activity, and these issues need to be investigated. Moreover, soil erosion is not only a negative influence on vegetation succession and restoration but also a driving force of plant adaptation and evolution. Consequently, we need to study the effects of soil erosion on ecological processes and on development and regulation of vegetation succession from the points of view of pedology and vegetation, plant and seed ecology, and to establish an integrated theory and technology for deriving practical solutions to soil erosion problems

Keywords : soil erosion, vegetation, development, seed availability

Conference Title : ICAEFM 2023 : International Conference on Agricultural Environment and Farm Management

Conference Location : New York, United States

Conference Dates : July 06-07, 2023