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基于SRP概念模型的沂蒙山区生态环境脆弱性评价

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Vulnerability assessment of eco-environment in Yimeng mountainous area of Shandong Province based on SRP conceptual model.

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摘要 基于生态敏感性-生态恢复力-生态压力度（SRP）概念模型，选取景观多样性指数、土壤侵蚀、高程等13个评价指标，在GIS环境下，结合空间主成分分析法和层次分析法，对沂蒙山区生态环境脆弱性进行评价，并根据生态环境脆弱性指数(EVI)值，将研究区生态环境脆弱度分为5级：微度脆弱(<1.8)、轻度脆弱(1.8～2.8)、中度脆弱(2.8～3.5)、重度脆弱 (3.5～4.0) 和极度脆弱(>4.0).结果表明：沂蒙山区生态环境脆弱性以中度脆弱性为主，其中，微度、轻度、中度、重度和极度脆弱区面积分别占研究区总面积的6.1%、33.8%、43.3%、15.9%和0.9%，重度和极度脆弱区主要集中在地形较复杂的山地丘陵区或人类活动强度较大的丘陵和平原过渡交错带.

关键词： 生态环境 脆弱性 地理信息系统 生态敏感性-生态恢复力-生态压力度（SRP）概念模型 沂蒙山区

Abstract: Based on the ecological sensitivity-resilience-pressure (SRP) conceptual model, and selecting 13 indices including landscape diversity index, soil erosion, and elevation, *etc*., the vulnerability of the eco-environment in Yimeng mountainous area of Shandong Province was assessed under the support of GIS and by using principal component analysis and hierarchy analytical method. According to the eco-environmental vulnerability index (EVI) values, the eco-environment vulnerability of study area was classified into 5 levels, *i.e*., slight (<1.8), light (1.8-2.8), moderate (2.8-3.5), heavy (3.5-4.0), and extreme vulnerability (>4.0). In the study area, moderately vulnerable area occupied 43.3% of the total, while the slightly, lightly, heavily, and extremely vulnerable areas occupied 6.1%, 33.8%, 15.9%, and 0.9%, respectively. The heavily and extremely vulnerable areas mainly located in the topographically complicated hilly area or the hill-plain ecotone with frequent human activities.

Key words: eco-environment vulnerability GIS ecological sensitivity-resilience-pressure (SRP) conceptual model Yimeng mountainous area

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