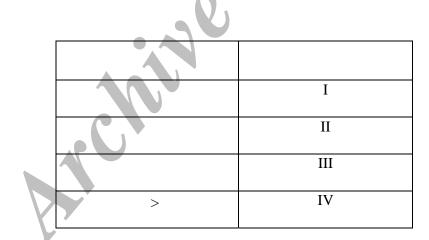
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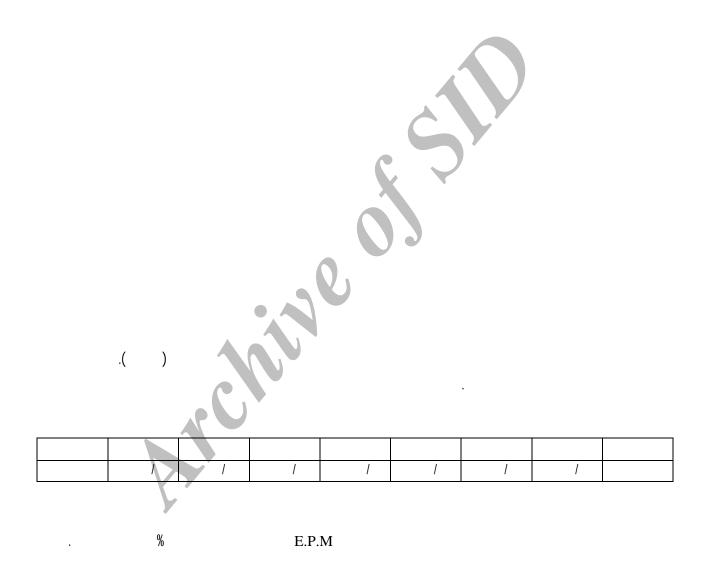


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## Investigation on Various Erosions Types in Masouleh-Rudkhan Drainage Basin (Gilan Province)

M.R. Sarvati<sup>1</sup> T. Fathollahzadeh<sup>2</sup>

## **Abstract**

The objective of this study was to define different erosions types in the drainage basin of Masouleh Rudkhan and to determine the rate of erosion and production of sediments. The factors affecting erosion such as phsiography, topography, climatic condition, hydrology, geology, geomorphology and vegetation were investigated. This drainage basin has an area of about 227.72 km². Based on the geomorphological survey, 3 joints, 18 geomorphological faces and 229 primitive joints could be determined. The rate of erosion and sediment production of every work-joint were studied, employing geomorphological units (qualitative) and E.P.M. method (quantitative).

The sub-drainage basin number 4 showed the highest erosion rate (2.1) and the largest sediment productions (94081 m³). This is due to the effects of slope and low resident of shale, clay and silt as well as the change of land use and. The sub-drainage basin number 8 showed the lowest rate of erosion (0.69) and sediment production (12297.5 m³) owing to the natural resistance of such stones as diorite, gneiss and gabbro. The results showed that in every geomorphic unit, the resistance of stone against erosion was the most important parameter and that the most important eroding factor was the change of land use and forest destruction. Furthermore, there was a logic relation between the geomorhological units and the rate of erosion. Thus, the use of E.P.M. model in this case was found to be appropriate and logical.

Keywords: Masouleh, Erosion, Geomorphologic units, Work unit, Geomorphological faces, E.P.M.

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