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E-mail: mohamshabani@yahoo.com

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-Kuhnle et,al

-Goodwin creek

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50° 39' 33.39"

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36° 20' 45.93"

51° 11' 26.15"

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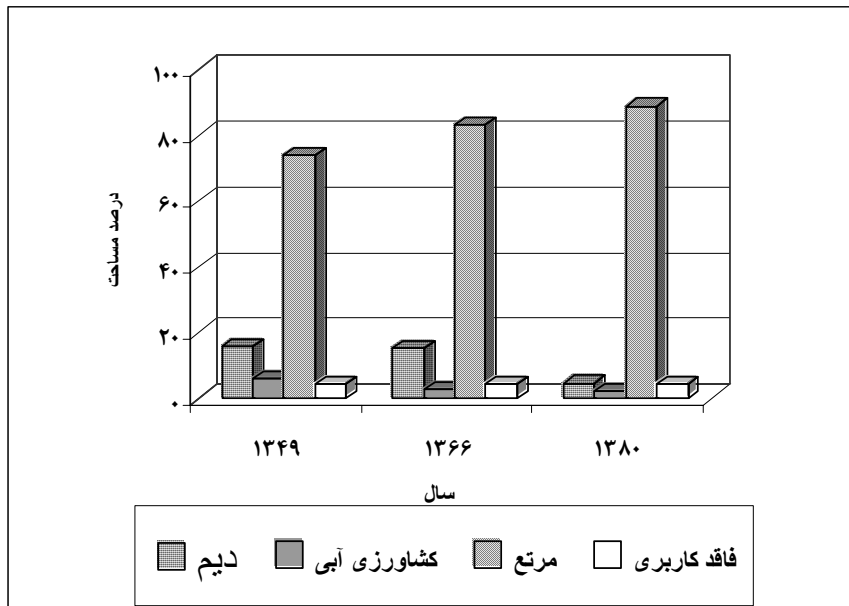
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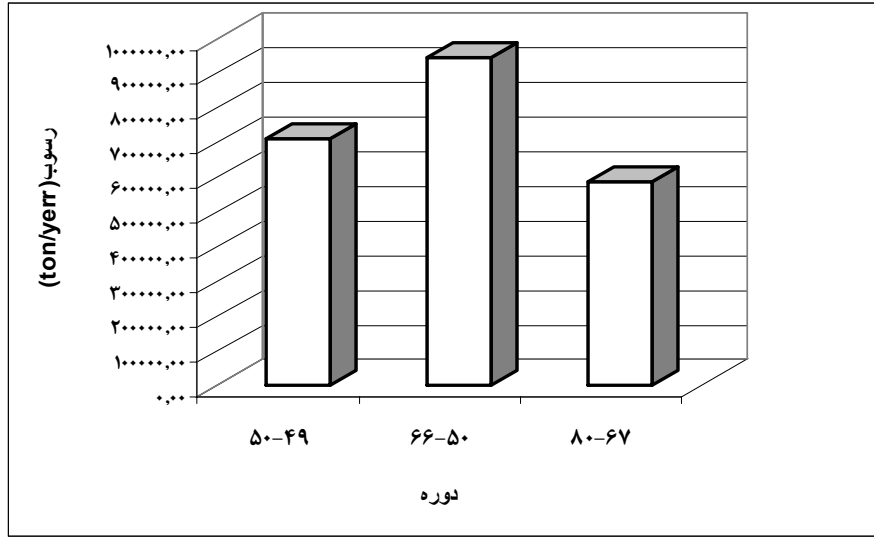
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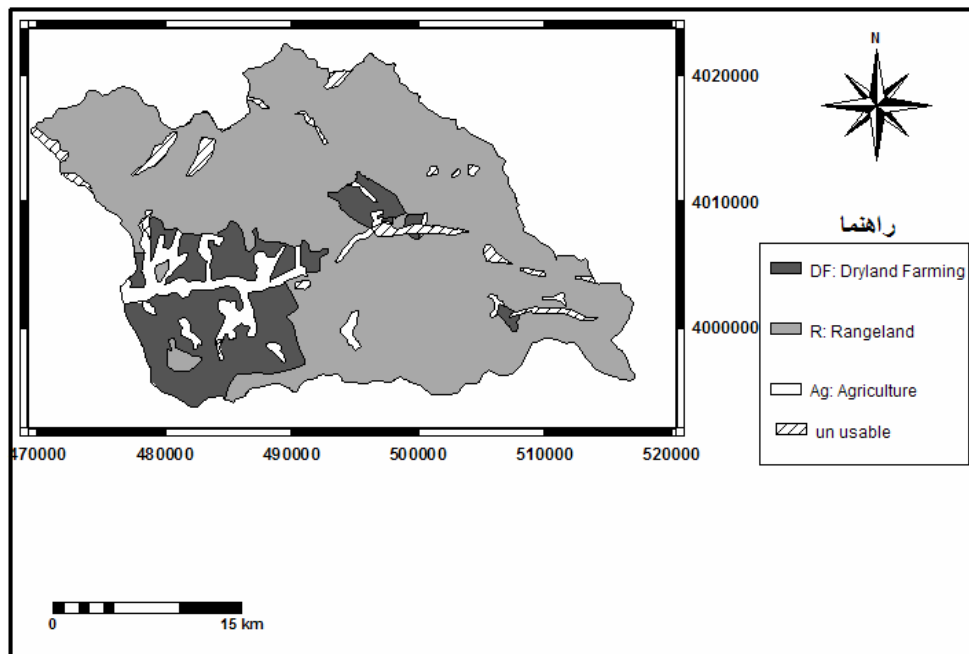
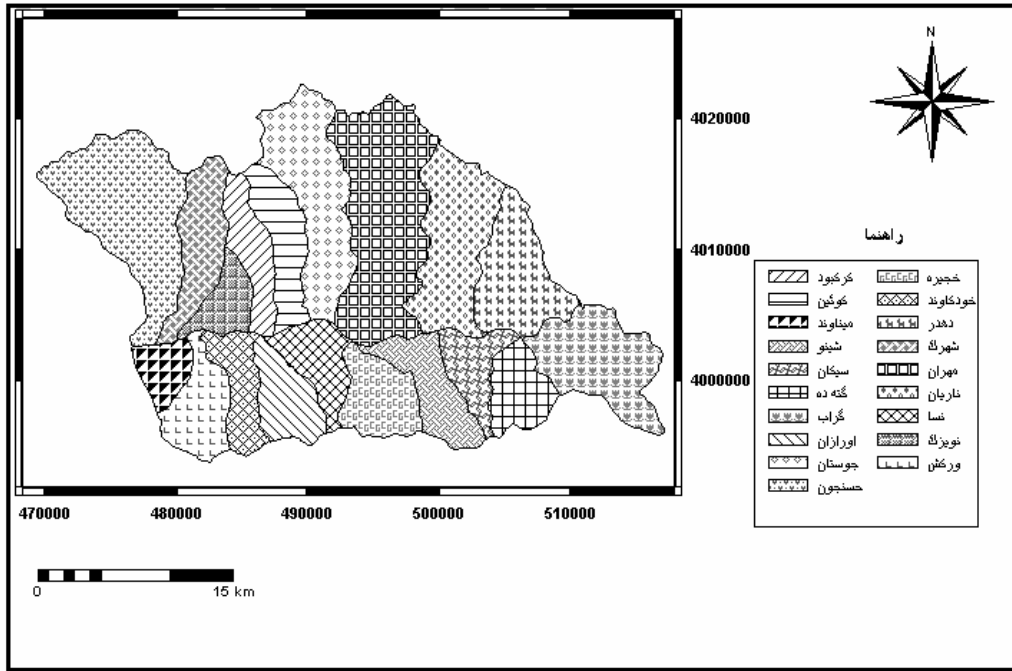
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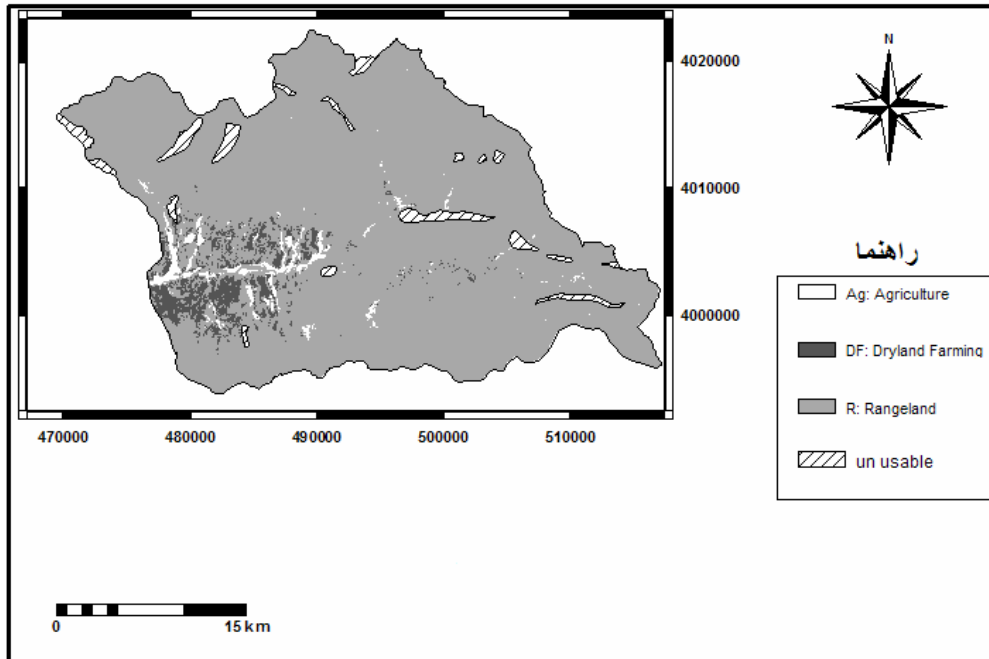
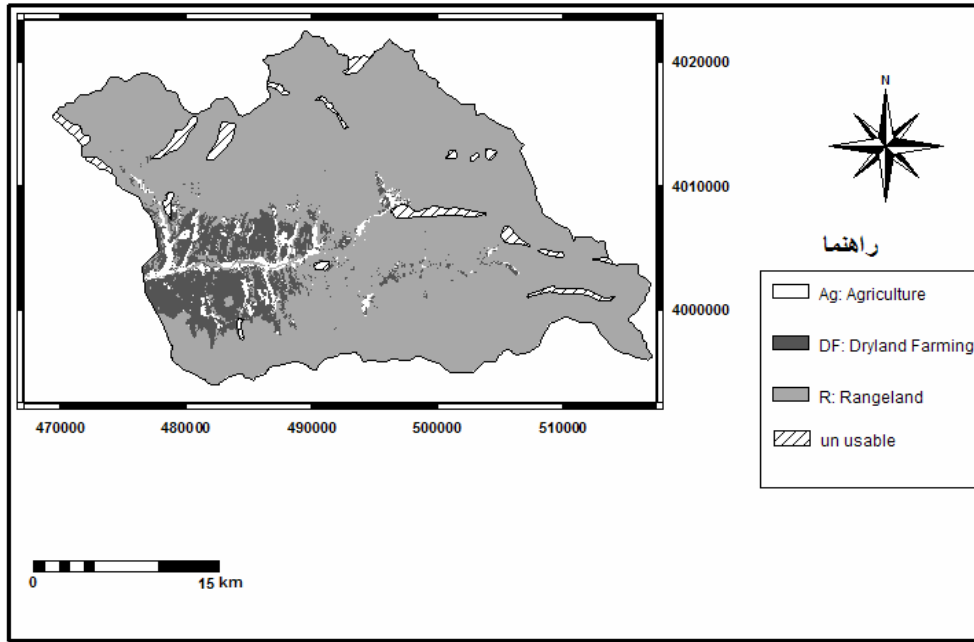
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The Effect of Landuse Change on Watershed Sediment Yield (Case Study: Taleghan Watershed)

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Abstract

Erosion and sediment Formation is a complex function of different factors, and depending upon regional conditions one or another may be responsible for their intensification. In this research, from among the effective factors on sediment production, land use change was studied in detail. The study area was Taleghan Drainage Basin. Through use of air photos, remote sensing as well as field studies, land use maps of this drainage basin was prepared for years 1970, 1987 and 2000. Then the amount of suspended sediment yield during 1970-1971, 1971-1987 and 1987-2000 were calculated from water discharge-sediment yield data of Taleghan Watershed hydrometric station, located in Galinak. For determination of accuracy of sediment yield data, sediment yield in sub- catchments were calculated using EPM model. Some conclusions are as follows: -Rangelands have been increased by 15% and, dry and agriculture lands decreased by 11.1% and 3.8% respectively. The reasons for these are immigration of young population to nearby cities and climate changes of the basin. -The amount of suspended sediment load has increased during 1970-1987 while being decreased during 1987-2000. The reason for the increase during 1970-1987 is climatic changes such as droughts and wet periods and change in the amount and spread of rainfall. The reasons for the decrease during 1988 to 2000 have been land use as well as climatic changes. The most effective factors in sediment yield of sub-catchments during 1970 to 1987 have been water discharge and dry land form of land use. During 1971 to 2000 they have been due to rangeland form of land use and due to precipitation factors.

Keywords: Land use, Sediment yield, Taleghan Watershed, Regression analysis

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