

THE EFFECT OF LANDSCAPE POSITION ON SOIL MORPHOLOGY IN FOREST AND RAINFED LAND-USES ON LORDEGAN COUNTY – IN CHAHARMAHAL AND BAKHTIARI PROVINCE

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INTRODUCTION: Soils are an integral part of landscapes and the knowledge of the distribution of different soils helps to preserve a high standard in environmental quality (Malo et al., 1974). The difference among climate (i.e. precipitation, temperature, evapotranspiration, discontinuous permafrost, wind and solar radiation) have created different soils because of effect on soil processes (Jafari and Sarmadian, 2003). Soil taxonomy is a function of soil profile properties and type of dominated minerals. The aim of this study is to investigate the effect of land-use changes on soil evolution.

MATERIALS AND METHODS: The site located in the Lordegan hilly lands including Oak forest land use that some areas changed to rainfed under barley and wheat cultivation from 50 years ago in five different slopes. Lordegan has Xeric moisture regime and Thermic temperature regime with average height of sea level of 1793 m and average temperature were 15.5 °c. Physical-chemical properties of soil samples determinate by routing methods and soil classification by the U.S. Soil Taxonomy.

RESULTS AND DISCUSSION: Ochric epipedon regencies in all soil profiles. The effects of land-use changes and soil management caused to reduce the depth of accumulation organic matter in both land-uses and mollic epipedon transformed to ochric epipedon. The most of forest landuse classified as alfisols against inceptisol in rainfed landuse. The soil classification changed from inceptisols to alfisols from upper slope to downwards in both. It seems that the important factor was gradual transitions of clays to downwards of slope due to create argillic horizon. Also, destroying natural vegetable cover, erosion and land-use changes cause to create inceptisol in the forest soil on back-slope.

Keywords: slope positions, rainfed Landuse, forest Landuse, Morphology

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