

PAST AND PRESENT RELATIONSHIP OF RIVER ALLUVIAL TERRACES AND ISFAHAN CIVILIZATION

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INTRODUCTION: The historic authenticity and specific condition of Zayandehroud basin has characterized the stability of Isfahan civilization in the Past and present times and its uniqueness among the regional basins nationwide. This fact makes us to conduct a study on the pedologic-geomorphic aspects of this natural phenomenon. Zayandehroud basin is recorded as a Quaternary inheritance in reliable paleogeographic, natural and civil archives. Being close to and influenced by the Zagross macro-geostructural in the west, Karkas geform in the north and Kavir geform in the east give a unique characteristic to this basin. So, the Zayandehroud as a permanent river with its terraces plays a unique role in this region compared to other basins.

MATERIALS AND METHODS: The study method and evaluation of the assumptions are based on descriptive, empirical, and content analytic, documentary, historical etc. accompanied with field studies and laboratory examinations (soil analysis). This study focuses on the natural history and paleogeography of Zayandehroud and seeks to investigate the following subjects:

- Define the criteria for distinction and separation of 23 major morphogenic – pedogenic spaces of Gavkhouni basin in order to determine the similarities and dissimilarities.
- Surveying the soil and geomorphic units and delineating the river alluvial terraces using morphogenic - pedogenic processes and evidences.
- Dating and clarifying the sedimentary deposit and river alluvial terraces.
- Study the characteristics and Relationship between natural and civil history.

RESULTS AND DISCUSSION: Correlation of morphogenic-pedogenic spaces with natural evolution of basin and human civilizations concordant with climate changes in highlighted in life style effect and influx society. The dynamism of the physical geography and the history of civilization of this basin have attracted the interest of many researchers in the geography sciences. This multifunctional information (morphogenic, pedogenic and hydrogenic aspects) are adopted in geomorphic – pedologic helps us to decoding the secrets behind every visual natural feature of the basin and define the history of human race. The results of this study confirm that: Due to the diversities generated from the morphogenic and pedogenic factors, three morphogenetic sub environments (upstream=hydrogenic, middle basin=tankage and downstream), and 23 morphogenic - pedogenic spaces subdivisions in Gavkhouni basin together with 12 ancient lowlands and depressions are formed and distinguished. The results of the study indicate that the prevailing change-factors in the basin are the tectonic and geogenic processes and climate had last influential effect. The history of the basin evolution is dynamically complex and full of ambiguity with constant change of character. There is no doubt that the natural history of this basin is intertwined with the uplifting orogenesis history of the Zagros Mountains. The Zayandehroud initiate from Zagros horst to the Gavkhouni graben and drains the whole over–underground water on its path. Zayandehroud is an ancient sweet (non saline) water river, karst originated, continuous, wanderer, tectonized, asymmetric, meandering, influent, morphogenic, pedogenic, with the capability of unifying the bank soil type, non indigenous to its environment, life giving, civilization promoting and threatened river ecosystem. The triad alluvial terraces of Zayandehroud (new landscape) are of Holocene era. According to absolute dating



through thermoluminescence, the age of the first alluvial terrace at 12 meters deep in Atsharan, is 7100 ± 520 years; in Jalalabad at 2 meters depth is 3650 ± 200 year. For the second alluvial terrace, in "Houieh (Dorcheh)" have the age of 2680 ± 350 years (Ghaiumi, 2011).

Key words: Zayandehroud Basin, alluvial terraces, Isfahan civilization, Soil, Quaternary period.



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