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Morphological Changes Detection and Measuring over the Kashkan River Due to River Gravels and Sand Resources Mining

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Abstract

By developing urbanization and simultaneous of it, exploitation river resources from bed and banks of rivers speeded up increasingly. This expoit accompanied by changes in morphology and geometry of rivers. In this research we investigate geomorphological changes in parts of Kashkan River in Khoramabad county in Lorestan province from old Kashkan bridge to Cham Davood village along 14 km, which caused by removal of sand and gravels of the river bed. We used aerial photos of 1381 and satellite images of P5, Cartosat (for 2009) by an- eight -years time resolution to find and survey changes in river bends and bed width. By drawing two vector layers for river bed in two software environments of ARCGIS and AutCad, we calculated and get information on bed width in bendings of river, changes in Azimuth of river bends, the highest and the lowest radius of contact circles on rivers in two

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time intervals. During these investigations we detect changes during an- 8- year intervals in the river bed and compared changes. Field surveys and observations completed our research. Research shows that many bendings in river course caused by harvesting of gravel and sands during a short period of harvesting time, and regulations and rules of harvesting aren't sufficient for protecting area from unexpected environmental changes.

KeyWords: Applied Geomorphology, Removal of Sand and Gravels, Stream Morphology, Kashkan River.

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