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Sediment Production is one of the major problems in the watershed areas. It leads to erosion in excess of the threshold value of the new soil formation, causing severe deterioration of the top surface of the land. The Kollidam River, with its banks eroded as a result of legal and illegal sand mining for quite a long time and since the rise in prices of sand for construction industries. With drain canals blocked, agricultural lands were getting flooded in several places due to continued sand mining and riverbed encroachments on the other hand, affects the underlying villages during heavy rainy/flood season. This necessitates a field level investigation and information gathering using GPS technology and map the variables to derive a possible solution to a social problem that affect the villages nearby the river courses, which determine the geometric properties of sub-watersheds using GIS, to estimate sediment production rate, to locate the legal and illegal sand quarry locations along with a questionnaire response, towards peoples’ perception and knowledge about the impact. Finally a vulnerability map has been designed during flood season due to the uncontrolled sand quarrying would help the administrators to reduce the disasters in future.

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