

RIVERBANK SCOURS AND ITS SCIENCES – REVEAL FROM THE STUDY OF FLOOD PROBLEMS PERTAINING TO MIGHTY RIVER BRAHMAPUTRA

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ABSTRACT

Mighty River Brahmaputra is a very complex river comprising multi-reach-flow network channel system from hydrological point of view. It possesses multifaceted problems. Of many, severe riverbank scour is the prime. Such scours reveal failure of embankments, high grade silting, development of unstable river-deltas, widening of river channel, losses of land, lives and properties. List of such losses produces a high statistics every year. However, there are no scientific literatures dealing the problems which can handle such natural phenomena. Consequently, conventional practices are concluded as unsuccessful temporary measures only. To overcome it, study of riverbank scours becomes a time demanding innovative work. Therefore, efforts were made to achieve scientific decision through prototype river study since 2010. Present study recognizes its behaviour as well as identified the sciences. Procedures for handling the occurrence of such scouring phenomenon have also been developed with new scientific relationships, which were proven true for the site. In conclusion, the natural phenomena of occurring riverbank scour under water reveals massive soil-block-fall which can be handled with the developed science and technology with a new concept. Thus riverbank scour problems can be solved permanently, which encourages to evolve total solution process against flood problems of Brahmaputra valley.

KEYWORDS: Brahmaputra, Multi-Reach-Flow, Riverbank, Scour, Dredging, Soil-Block-Fall, Prototype, Study