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Role of palaeo-channels in developing badlands in Lower Chambal valley, India.

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The badlands along the lower Chambal valley represent the worst case of water erosion in India. These badlands are believed to have developed due to peripheral bulge uplift during the last major thrusting event (500-700ka ago) of the Himalayan orogeny. The lower reaches of Chambal River are supposedly affected by this uplift and incised in their own sediment deposits which caused badlands formation along both sides of its banks and its tributaries. With the incision of the Chambal River, also the plan morphology of the river changed from a multi-channel towards a single-channel planform, as is evidenced by the traces of many palaeo-channels. These palaeo-channels have significantly influenced the development of badlands along the lower Chambal River and gave them a distinct spatial pattern which is conspicuously visible on satellite images as well as in the field. A schematic geomorphic evolution of badlands development was constructed starting from a pre-uplift scenario till the present-day situation in the lower Chambal valley.

Keywords: Lower Chambal Valley, palaeo-channel, geomorphological evolution, badlands.