

Costs Paid in Sand:

Assessing Land Reclamation and Sand Mining in Western Malaysia

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This thesis investigates the often overlooked but extensive impact of sand mining and land reclamation on Malaysia, both environmentally and from a social perspective. For sand mining the focus area is the Muda River, and for land reclamation three key development areas: Forest City, Melaka Gateway, and Penang Island. Through detailed fieldwork and remote sensing analysis, the study reveals an upriver trend in sand mining caused by an unsustainable rate of sand extraction, leading to ecological degradation. Sand mining, driven by urbanization demands, reshapes river morphology, exacerbates erosion, and disrupts sediment flow. Meanwhile, land reclamation projects exhibit speculative urbanism, with significant environmental and economic consequences. The research underscores the interconnection between sand mining and speculative development, emphasizing the exploitation of resources for short-term gains. By highlighting these processes, the study calls for increased vigilance and further research into the connection between these very impactful interdependent processes.

Key Words: Sand mining, Land reclamation, Environmental degradation, Malaysia, Speculative urbanism, Muda River



River sand mining on the lower Muda River, Malaysia. (Credit: Author)