

Effective Curbing with Crowdsourcing for Sustainable Sand Mining, Transport and Regulation in Sri Lanka

W.M.H.G.T.C.K. Weerakoon^{1*}, W.G.S. Bandula² and W.G.S. Kokila³

*wmhgckweerakoon@std.appsc.sab.ac.lk

¹ Department of Physical Sciences and Technology, Sabaragamuwa University of Sri Lanka, Belihuloya, Sri Lanka

² Aasa IT Solutions, 146/7, Pasal Mawatha, Attidiya, Dehiwala, 10350, Sri Lanka

³ Geological Survey and Mining Bureau, 569, Epitamulla Road, Pitakotte, 10100, Sri Lanka

Raw materials of construction, such as sand should be extracted in a sustainable manner, so in Sri Lanka the Geological Survey and Mines Bureau (GSMB) imposes Laws and Regulations to maintain sustainability in sand extraction. Because of the high consumption miners try illegal means of extraction and transportation bypassing the law. Considering this, GSMB took initiatives to digitize licensing lifecycle with Mining and Mineral Production (mmPro) solution, a mobile and cloud-based information system that allows recording sand dispatches by the mining license owners directly from their site using mobile application or SMS. Meanwhile anyone including the general public, police officers, GSMB enforcement unit are permitted to check any lorry, anywhere by giving only a lorry number via mobile application or SMS. This study was carried out to assess the progress of the mmPro pilot run and to acknowledge the stakeholders of the sand mining industry on promising feasibility of mmPro for industry sustainability. During this study, the data prior to mmPro were analyzed and compared against the data generated from mmPro, thereby the conclusions were drawn. According to the data prior to mmPro at GSMB, a 50% disparity between the sand consumption and production from 2014-2018 can be traced, which means sand had been extracted through illegal means without being traceable by GSMB. Then with the mmPro's pilot rollout at Sri Lanka's largest river sand mining site in Manampitiya, Polonnaruwa shows impactful results in sustainable raw material extraction, dispatch and utilization by managing dispatch of more than 400 Lorries per day without missing any of them. Hence, mmPro's pilot rollout shows impactful results in sustainable raw material extraction, dispatch and utilization.

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