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River Gem Mining, its Impacts and Mitigation: A Case from Kumbukkan Oya, Monaragala Divisional Secretariat Area

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Abstract

Gem mining is one of the oldest industries and a major source of income in Sri Lanka. Both traditional and recent mechanical gem mining methods are currently being practiced. However excessive, uncontrolled and illegal gem mining activities have caused many adverse impacts. This study was carried out to analyze the environmental impacts of river gem mining and to propose suitable remedial and mitigatory measures, with more emphasis on existing legal framework. Study was conducted along a 15 km stretch of Kumbukkan Oya in Monaragala Divisional Secretariat area, where both legal and illegal gem mining activities are taking place at a high intensity. Data were collected by spatial surveys, field surveys and interviews with mine-owners, government officials and general public. All observed mining sites were within the 60m area on both sides of riverbanks. More than 80.00% of the localities from 36 observed sites were unlicensed mines. Natural vegetation had been removed and banks were collapsed due to uncontrolled mining, destructing riverine and aquatic ecosystems. Deep pits were observed in riverbeds at 12 locations. Removed trees and debris were accumulated at the middle of the river, causing flow direction changes. Washing out of damaged banks and disturbances to the riverbed had increased river turbidity and siltation. High number of unlicensed mines, negligence of miners for license conditions, poor monitoring by relevant authorities, lack of cohesion in gem mining policies and laws and the lack of awareness have triggered these issues. Immediate cancellation of condition-violated mining licenses and initiation of legal actions against illegitimate mining activities are important in preventing unregulated mining activities. Systematic rehabilitation of damaged riverine vegetation and riverbanks shall be conducted. Issuance of mining licenses in compliance with the National Environmental (Prohibition of the use of equipment for exploration, mining and extraction of sand and gem) Regulations No.01 of 2006 in Gazette Extraordinary No.1454/4 dated 17.07.2006, demarcation of the "Reservation Limit" of the river mentioned in the said Gazette Notification and obtaining Environmental Recommendations from Central Environmental Authority prior to issuing the license are important to avoid conflicts between the provisions of National Environmental Act and National Gem and Jewellery Authority Act. Issuance of licenses only subject to an acceptable rehabilitation plan submitted by the mine owners, continuous monitoring by relevant authorities and raising awareness among all the stakeholders shall be implemented. More comprehensive studies can be carried out to find the ability of implementing modern environmentally friendly mining technologies.

Keywords: River gem mining, Impacts, Mitigation, Kumbukkan Oya