

Problems and Issues Related to River Sand Mining in Sri Lanka

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In the recent past rapid development has led to an increased demand for river sand as a construction material. In-stream sand mining is a common practice because the mining locations are usually near the “markets” or along the transportation route, hence reducing the transportation costs. This has resulted in a mushrooming of river sand mining activities which have given rise to various problems that require urgent action by the authorities. These include river bank erosion, river bed degradation, river buffer zone encroachment and deterioration of river water quality and groundwater availability. Over-mining of rivers in Sri Lanka causes many problems like salination of public drinking water supply schemes due to the intrusion of sea water into the river, collapse of river bank, erosion of riverbank land areas and many more. It is difficult to totally ban sand mining practices in rivers, because many people living near the river are totally dependent on this job, and also there should be an alternative for the construction sector.

The present research study covered three rivers i.e. Walawe Ganga, Nilwala Ganga and Deduruoya in the western and southern parts of Sri Lanka that have different levels of river sand mining activities and problems. The objective of the present study was to identify the impact of river sand mining through a hydrological assessment. Nilwala river in the southern part of Sri Lanka has a long history of sand mining activity along the upper reach. Walawe river recently has been a major source of sand for construction with the development of the southern region of Sri Lanka. Presently due to a legal order fewer activities of sand mining are on-going in Deduru oya in the western part of Sri Lanka.

Field research studies were conducted at selected sites of the three rivers to assess the capacity for river sand removal and its impact on the environment. Data collection on bed material was made to characterize the physical characteristics of sediment responsible for sediment transport that determines the river’s response in terms of erosion and deposition.

The study revealed that in recent decades the Deduru Oya River has been deeply damaged and degraded by unsustainable mechanized river sand mining. Water resources of the area are highly affected by over extraction of river sand that has lead to declining ground water levels. Due to uncontrolled and illogical extraction of sand the depth to groundwater has deepened to 12-15 meters and goes down to 30 meters in certain places. Over-mining in the Nilwala river causes many problems like salinization of public drinking water supply due to the intrusion of sea water into the river, collapse of river bank and loss of river land. River sand mining and inland sand mining along the Walawe river during the past two decades has deepened the riverbed by an average three to four meters, while there are some points where it has dropped by more than six meters.

Sand is required for development of the country, but at the same time the threats posed due to sand mining cannot be ignored. Uncontrolled illicit river sand mining creates a level of damage to rivers that are ecologically irreversible even in the long run; an urgent and sustainable solution is now needed for the affected rivers and communities in Sri Lanka. Hence decisive steps have to be taken and alternate solutions found for sand mining, without disturbing the environment.