

SAND MINING IN LOWER MAHAWELI AREA: AN IMINENT THREAT TO SENSITIVE IRRIGATION SYSTEM IN TRINCOMALEE DISTRICT

De Silva N.

*Geological Survey and Mines Bureau,
569, Epitamulla Rd. Pitakotte, Sri Lanka
nalinsilva@hotmail.com*

Unlike the cascade irrigation system of Rajarata, which consists of a series of tanks with differential elevations; the entire irrigation system of Trincomalee District is based on the River Mahaweli. Over 15,000 ha of paddy cultivation in Seruwila and Allai-Kantale are directly irrigated by the River Mahaweli, via Mawil Aru, while over 10,000 ha of Kantale paddy cultivation is indirectly linked to the behavior of the River Mahaweli. A fraction of paddy lands in Kantale area is irrigated via “Janaranjana Wewa”, diverting water from upstream of Mahaweli. The substantial physical changes of the River are possibly due to extensive sand extraction, which endangers this whole system, as the impact would be leading into an environmental disaster. Deepening of riverbed levels to a certain threshold value simply deny the intake of water via Mawil Aru and to “Janaranjana Wewa” under gravity. The irrigated lands of the left bank of Mahaweli, which are fed by Kantale Tank would become ineffective as water drain into Mahaweli, via the sand layers underneath of the alluvial clay formation. As the elevation difference between lower parts of this irrigation system and the Mean Sea Level (MSL) is uncomfortably close, saltwater intrusion into the farmlands remains as a sensitive issue particularly in droughts if the base-level is lowered drastically. A Substantial amount of sediments of the River Mahaweli retains in the upstream reservoirs. In these reservoirs, the sand replenishing rates are presumably negative and recently created Moragahakanda reservoir significantly reduces the sand input to the system via “Amban Ganga”. However, if the sand reserves of River Mahaweli are wisely managed, the amount of available sand is sufficient to cater the river-sand demand partially, with minimal damage to the irrigation systems in lower Mahaweli region.

Keywords: *lower Mahaweli, sand extraction, irrigation schemes*