

Why should assess Possible Impacts on Groundwater Resources due to Proposed Mining Activities

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Sri Lanka is rich in natural mineral resources. Among them, gems, graphite, mineral sand, apatite, and iron ore are considered as rare minerals. These minerals have great economic value and are used in various products. Apart from this, feldspar, marble, limestone, granite, sand, and gravel soils are common in the island and these minerals are obtained by mining for various needs.

Special attention should be paid to the environmental impacts that may occur during mining to obtain minerals and it is mandatory to provide necessary technical guidance by the departments responsible for mining activities so that the environmental impacts are minimized.

Otherwise, many problems such as landslides, land subsidence, floods, desertification, loss of natural surface and groundwater sources, changes in rainfall patterns, and changes in biodiversity will be faced.

Therefore, recommendations regarding the mining activities make after study of the geological and geohydrological condition of the proposed mining area, topography and topography, biodiversity, plant diversity, archeological background, etc.

Among these sectors, the study of the possible impact on groundwater sources during excavation takes a special attention and the Water Resources Board makes recommendations on that through various research activities.

Currently, Water Resources Board has engaged to provide recommendation to avoid impact on groundwater resources by mining activities carried out across the island by different parties. Throughout this setup, it is proposed possible techniques and methods to minimize such effect on groundwater resources.

In Northern Province of Sri Lanka, Water Resources Board is conducting research activities regarding the identify possibility of limestone mining. Limestone is a natural resource used for many industries such as cement, tiles & bathwares, fertilizers, toothpastes, etc.

Geologically, limestone is a type of sedimentary rock and is widespread in the coastal region of the island from Puttalam to Jaffna and Mullaitivu. This limestone region is commonly named as Jaffna limestone region.

Sri Lanka's first cement factory was in Kankasanthura and the limestone available in that area was used for cement production. At present, large scale limestone mining is done only in Aruvakkalu area in Puttalam for above purpose. Due to the high demand for cement, locally produced cement is not enough and therefore cement is imported from other countries.

Except that, other raw materials for cement production in Sri Lanka are minimal and it is therefore most of them are imported from other countries.

Limestone existing areas in Sri Lanka have a low elevation compared to the mean sea level. Aruvakkalu and Kankasanture areas have relatively high elevation compared to the sea level, but the height of the other areas where limestone is located will be minimum approximately 3 – 4 meters from the mean sea level. Due to this reason, the limestone mining in those areas have to be done as open pit mining. In the process of this mining, it has to face various difficulties such as shallow ground water level, sea water intrusion, etc.

The salinity and hardness of groundwater are high in limestone areas. Geological nature of limestone in Sri Lanka is karstic and it is therefore, it has small-scale to large-scale cavities and

