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The physical and chemical properties of water and sandy soil found in the ex-mining lake regions in Malaysia
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Abstract
The Lake catchments are important bodies of water for water management to maintain the ecological balance of a region, rural, state, and urban areas. Water quality can be assessed by evaluating the physical, biological, and chemical characteristics. However, the criteria for evaluation vary depending on geology and other associated factors. Most of the environmental damage in the past two decades was caused by the growth of mining operations, which led to the shutdown and abandonment of mines and the development of an ex-mining lake. The characteristics of the soil in the ex-mining area have an impact on the quality of the water. Previous studies have shown that sandy soils are predominant in ex-mining areas. The poor water holding and nutrient retention capacity of sandy soils pose a challenge for water quality management. In terms of its composition and characteristics, sandy soil is extremely weathered, has a low pH, a low CEC, and shows a low level of microbial activity, all of which can lead to a variety of possible problems, particularly in areas where different materials have been mixed and sand mining operations have been performed. Additionally, it improves the mobility and bioavailability of inorganic pollutants, like heavy metals, in an acidic environment. The physical characteristics of the water and soil in the vicinity of the ex-mining lake were reviewed in this chapter. Thereafter, the researchers identified a strategy to remediate all the pollutants based on their characteristics and improve the quality of water. © 2023 Nova Science Publishers, Inc.

Author Keywords
Ex mining area; Inorganic contaminants; Sandy soil; Water quality index

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