

### **Environmental Impacts of Gem Mining in Nivithigala Area**

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#### **Abstract**

Nivithigala is a fascinating place with full of natural beauty which belongs to Rathnapura District. Not only the beauty, but also it is a well-known area where most of the precious gems are found. However, mining of gems has become the threat to the environment of the area.

Gem mining is one of the main income sources and the employment of the people live in that area. It also contributes to increase the foreign exchange for the country. However, gem mining practices that have been carried out for many years, the environment including streams, vegetation cover, soil of the Nivithigala area has been badly affected. Therefore, the general aim of the current case study was to identify the actual scenario behind this problem and to determine the environmental impacts due to gem mining. By identifying those impacts we aspired to provide some suggestions to carry out the gem mining process in a sustainable manner by mitigating the adverse environmental impacts.

In order to identify the impacts of gem mining on the environment, case study was designed in three aspects; visual observations of the adverse impacts to the environment within the study area of three villages, test the water quality parameters of the rivers affected by gem mining and questionnaire based survey among residents and mining workers in the area related to adverse impacts caused by gem mining to the environment.

According to the results, it was observed that substantial adverse environmental impacts caused by the gem mining in the study area namely water pollution of streams such as Kalu ganga and Way ganga, loss of soil fertility due to continuous removal of top soil layer, soil erosion and river bank erosion, land degradation, reduction in agricultural practices mainly for tea, damages to man-made structures such as roads, buildings, due to tunneling, reduction of the floral diversity noise pollution due to heavy machinery usage.

Therefore, it can be concluded that, authorities should take necessary actions to mitigate the environmental problems created by gem

mining while carrying out the gem mining industry in a sustainable manner.

**Keywords:** Nivithigala area, gem mining, environmental impacts, case study