An assessment of environmental and socio-economic impacts of metal quarries in Anuradhapura district: A case study of Medawachchiya DS Division

Extended Abstract

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Background

Economic development is one of the main objectives of the developed and developing nations in worldwide. Raw materials are essential to achieve this objective. Stone mining is viewed as one of the important economic activities which have the potential of contributing to the development of economies (James, 1999). At the same time, the environmental and socio-economic impacts of stone mining on surrounding communities have been major concerns to governments, the general public and stakeholder organizations as well as individuals (Rosa and Lyon, 1997). While the contributions of stone mining activities to economic development of Sri Lanka is well acknowledged, others contend that the gains from the stone mining sector to the economy is achieved at significant environmental, health and social costs to the country.

Objectives

The researcher mainly focused on assessing the perceptions of the people who are engaging in stone mining and other affected parties of stone mining. The main goal here was to make suggestions to reduce environmental impacts of stone mining, identify the current status of environmental management in stone mining quarries in the area, to review the existing legal provision in relation to metal mining and examine the responsibility and roles of government institutions for reducing environmental impacts, level of environmental literacy among the community of the research area were the specific objectives of this research.

Methodology

This study has been conducted in methodology that it completes the requirements of examining the effects of stone mining including environmental, social and economic impacts in Medawachchiya DS division which represent by researcher for purpose of conceptualizing the study. In this study, five GN divisions are selected to collect the primary data. The primary data about the environmental literacy and other environmental variables were collected by using questionnaire, field observation and interviews.

Results

Findings of the study highlighted that stone was mined most from environmental sensitive areas in Medawachchiyan DS division. Stone Mining is used for economic development - to construct durable, modern structures, employment creation and revenue collection - but removal of stones leads to acceleration of the environmental degradation. Water, air and noise pollution, waste accumulation and land degradation are considerable environmental problems arising from stone quarries in the selected sites. Stones are extracted from open quarries creating uncovered deep pits, which cause accidental damages to humans and animals. Erosion and environmental degradation occur due to continuous mining, which was confirmed by respondent's perception and experiences assessment. Miners dispose waste on open areas causing land pollution. Dust and noise pollution from tipper trucks and machines are disturbed for community life style in the area.

Conclusion and Recommendation

According to the findings of this study, stone mining is one of the major threats to environment in the dry zone of Sri Lanka. In the light of the present study, it is required an integrated approach to manage the main problems caused by stone mining are the destruction of the ecosystem. Socioeconomic and environmental consequences are stressed. It is essential to encourage technical and scientific knowledge transfer to the authorities responsible for public resources. It is also needed the development and application of innovative methodologies in a faster and precisely. People's perception about natural resources consumption and its environmental and socio- economic effects must be improved with education and training and through awareness programs.

Keywords: Economic development, metal quarries, socio-economic impacts

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