APPLICATION OF GEOINFORMATICS AND ANALYTICAL HIERARCHY PROCESS FOR ENVIRONMENTAL HAZARD MAPPING IN DONG TRIEU DISTRICT, VIETNAM

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Abstract: In recent years, the economy of Vietnam has been developing in high pace, with its numerous industrial and agriculture activities by the large foreign and government investment, which and keep constantly expanding in many areas of the country. However, fast development causes serious impact to the natural environmental resources which has negative impact to its quality seriously, especially in industrial and mining areas. It brings tremendous threat to the social sustainable development and the health of human beings. Environmental quality assessment and protection are complicated and dynamic process, since spatial information from multi-sector, multi-region and multi-field sources are involved and needs to have complicated full-system data processing. Therefore, an effective environmental protection information system is necessary to provide to the management and administration sectors, in which considerable factors hidden in the complex relationships will become clearly and visually. In this paper, the authors present the developed methodology that used to generate environmental hazard map which is applied the integration of Analytic Hierarchy Process (AHP) and Geographical Information system (GIS). This paper also demonstrates the results that were obtained from the study area in Dong Trieu district, Quang Ninh province. This research study has contributed an overall perspective of environmental quality and identified the devastating affected areas where the administration urgently needs to establish an appropriate policy to improve and protect the environment.

Keyword: Environmental Hazard Mapping, GIS, Analytic Hierarchy Process, Quang Ninh