

ENVIRONMENTAL IMPACT ASSESSMENT USING GEOPROCESSING TECHNIQUES

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This work presents a evaluation of the environment impact of non- organized urban expansion, by using the GeoEnvironment Analysis System (SAGA/UFRRJ- Brazil). By using several digital cartograms of the municipal area, environment impacts of the urban expansion on several variables (geomorphology, lithology, soil land use, etc) represent by basic digital cartograms. Through the use of Decision Support Techniques, environmental evaluations of the municipal area were development. Assemblages of the evaluation cartograms allowed estimates of impact area. As a result of the data association, areas with seven ordinal classes related to environment impact studies were registered and analyzed. As an example, cartograms of urban expansion and sand extraction potential areas were used for the analysis of the impact urbanization process as related to environment impact studies were registered and analyzed. As an example, cartograms of urban expansion and sand extraction potential areas were used for the analysis of the impact urbanization process as related to the mining activities. All this information was also based on conventional research techniques: field work, sample gathering and processing, geostatic analysis, cartographic and remote sensing documents interpretation. Thematic maps for environmental analysis were created by reprocessing. The whole data set will be useful as support for academic decision, scientific research and, also, for administrative measures, such as control urban expansion and others.