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Application of remote sensing and Geographic Information System to elaborate urban quality index: Case of Casablanca, Morocco

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The urban environmental quality remains currently difficult to be assessed because of overlapping of several natural and anthropogenic factors having socio-economic and environmental outstanding impacts. The fast developing and uncontrolled urbanization is behind the development of some negative side effects on the urban environment. Many studies demonstrate the ability of remote sensing and Geographic information system to monitor urban environment quality. Casablanca, Morocco's economical capital is facing a fast growing demographic development amplified by a massive rural depopulation and all this in an anarchic way. This lead to the urban change, development of informal settlements and lack of green spaces. This study is made possible by using a SPOT-5 image of Casablanca city, taken March 16, 2004 merged with 2.5m spatial resolution and census data. Indicators were defined and listed in social, economic and environmental categories. An index of environmental quality in Casablanca city for the 17 urban municipalities was calculated after the Standardization and weighting of indicators used. The results may be useful to city managers and planners who are concerned with urban environment quality issues and sustainable development.

Keywords: Urban Quality Index; Indicators; Remote sensing; Census data; Metadata; ArcGis

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