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THE IMPACT OF URBANIZATION AND PROTECTION OF WATER RESOURCES, OWERRI, NIGERIA

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ABSTRACT

Short-term surface water and groundwater pollution surveys of the Owerri urban area and environs were conducted to establish current levels of pollution. An attempt has been made to show the relationships between pollution levels, population density, and industrial and agricultural activities. The spatial distribution of pollutants due to a poor land use system and human activities were investigated, thus emphasizing integrated planned development as a preventive measure for arresting pollution levels in fast growing urban centers. The total groundwater stored in the area amounts to $7.87 \times 10^9 \text{ m}^3$. Twenty five percent of this is released as base flow into the adjacent rivers (Otamiri and Nworie). The annual groundwater recharge is $3.4 \times 10^9 \text{ m}^3$. The enormous volume of groundwater stored and the comparatively low cost of development makes groundwater a better alternative supply source to the area.

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