

**Spatial Mapping Of Noise Exposure Zones Derived From Religious Activities And  
Perception In Residential Neighborhoods. The Case of Ashiaman Municipality, Ghana**

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**ABSTRACT**

Religious noise pollution is gradually becoming rampant and a nuisance in most residential areas in Ghana. This study set out to assess the levels of religious noise produced in some selected communities in the Ashaiman Municipality. A Geographical Positioning System (GPS) was used to obtain the coordinates of the churches and mosques and the distances of 50 m, 100 m, 150 m and 200 m away from the churches/mosques. Noise exposure zones were then mapped using ARCGIS 10.1 software and surface interpolation of the point data was carried out using Kriging technique and classified into classes of exposure levels. The perceptions of the residents in the respective communities regarding noise levels as well as the relevant actions and strategies taken by the communities that had high exposure to religious noise levels were also determined. The results showed that all of the churches and mosques sampled produced high levels of religious noise which far exceeded the permissible noise levels of EPA, Ghana; that is, 55dB for day (0060 - 2200h) and 48dB for night (2200 - 0060h). A few communities were within the Extremely High noise exposure zones but most were within the Moderately High and Very High noise exposure zones. Majority of the respondents (64.1 %) did not regard the noise as a nuisance including those within the Extremely High noise exposure zones. However, 35.9% of the participants considered the noise as a nuisance. Education of the public on the harmful effects of noise on individuals and enforcement of noise guidelines in residential neighbourhoods are highly recommended.

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