



Institute for Environment and Sanitation Studies

UG.IESS.IB.001

May 2012

Noise Pollution and Our health

An important environmental hazard facing Ghana today is **Noise Pollution**. Noise has become a norm in urban residencies to the extent that, one can be said to be blessed to have a goodnight sleep at least once a week.

A typical urban residents' day begins with loud dawn broadcasts by evangelist claiming to be preaching damnation for sin, coupled with the loud moslem calls for prayers through amplified loud speakers. This is followed by a drive through heavy vehicular traffic with taxis and trotros honking their horns for passengers to their various destinations. In the day, you may be lucky to be away from commercial centers or industrial areas. On return home, one is met with the blurring of music from corner shops, to which you have no control over. This will usually continue from dusk to dawn, then taken over again by the religious sects. This is the predicament residents have to go through almost every day.

While people are becoming increasingly aware of and disturbed by the cacophony of sounds in the environment., the tolerance of noise may seem like a necessary compromise for the services, improved construction and transportation we receive in return in urban settings. Nevertheless, as science teaches, there is a limit to everything.



Education

Noise travels through air and is measured in ambient air quality level. Noise is measured in decibels. Experts believe that continuous noise levels in excess of 90 decibels can cause loss of hearing and irreversible changes in nervous systems. The World Health Organization [WHO] has fixed 45 decibels as the safe noise level for a city.

In Ghana permissible ambient noise as set by the Environmental Protection Agency (EPA) for residential areas requires that, during the day noise levels should not be above 55 decibels during the day and 48 at night (EPA, 2008).

A study conducted in Cape Coast showed the range of noise pollution levels at high-density residential areas is 58-68 dB (A), while that of low-density residential areas is 53-72 dB (A) (Essandoh and Armah, 2011).

Noise does not only cause irritation or annoyance but also increases the flow of adrenaline and forces the heart to work faster.

Continuous noise causes an increase in the cholesterol level resulting in permanent constriction of blood vessels, making one prone to heart attacks and strokes. Health experts are of the opinion that excessive noise can also lead to neurosis and nervous breakdown. Stansfeld and Crombie, (2011) and Kempen et al., (2006) reported that there is a possible association between environmental noise exposure and hypertension. Exposure to acute noise influences the body's compensatory mechanics to stress (Maschke et al., 2000; Babisch, 2002), causes the arteries to constrict, increases blood pressure (Berglund et al., 2000), and may contribute to heart attacks. Noise is also known to cause learning disabilities (Moszynski, 2011) as well as cause deafness.

Way forward



References and Further Reading

- Babisch, W (2002). The noise/stress concept, risk assessment and research needs. *Noise Health*, 4, 1-11.
- Berglund, B., Lindvall, T., & Schwela, D.H (2000). *Guidelines for Community Noise*. Geneva: WHO.
- Essandoh, P.K & Armah, F. A., (2011). Determination of ambient noise levels in the commercial area of Cape Coast, Ghana. *Research Journal of Environmental and Earth Sciences*, 3(6):637-644.
- Environmental Protection Agency (2008). Ambient Noise Level Guidelines on Residential Areas, Ghana
- Kempen, E et al., (2006). Noise exposure and children's blood pressure and heart rate: the RANCH project. *Occupational and Environmental Medicine*, 63:632-639 doi:10.1136/oem.
- Maschke, C., Rupp, T., & Hecht, K. (2000). The influence of stressors on biochemical reactions - a review of present scientific findings with noise. *International Journal of Environmental Health*, 203, 45-53.
- Moszynski, P. (2011). WHO warns noise pollution is a growing hazard to health in Europe. <http://www.Bmj2011;342:d2114>.doi:10.1136/bmj.d2114 (April, 2011)

Author: Dzidzo Yirenya-Tawiah

Raising awareness of the cause and effects of noise pollution in the environment is vital to changing the attitudes and behaviours of people



living and working within it.

Did you know Ghana hosts a Noise Awareness day. Last year's day was celebrated 15th September, 2011. Look out for this year's Noise Day celebration and be part of it.

Enforcing regulations

Environmental Protection Agency (EPA) has guidelines on noise making and has asked metropolitan, municipal, district assemblies to adopt them into their bye-laws says Ag. Executive Director, EPA. To achieve any success with noise pollution control, it is incumbent for authorities responsible to enforce the existing regulations.

The Information Briefs series of the Institute for Environment and Sanitation Studies presents topical and emerging issues central to its mandate in simple, non-technical language in order to contribute to the general understanding of science and outreach. For more detailed information on any topic in the series: please contact the IESS below:

Institute for Environment and Sanitation Studies (IESS), University of Ghana, P.O. Box LG 209, Legon, Accra, GHANA
Tel: + 233 302 962 720 (Secretariat)
Tel: + 233 302 512 819 Fax: + 233 302 512 681
e-mail: infoiess@ug.edu.gh

The Mission of IESS, University of Ghana is: "To meet the nation's needs for broad-

