

Noise level measurements at Matara city

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Rising traffic noise, due to rapidly increasing traffic density in urban cities in Sri Lanka, is becoming a severe problem, especially, for residents and workers in cities. High noise exposure causes mental and physical disorders. Noise exposure above 85 dB for 8 hours frequently could cause permanent hearing loss. The traffic noise patterns throughout the day at three locations in Matara city, close to the bus stand, base hospital and Matara Bodhiya, are presented here.

The traffic noise, continuously for 15 minutes at each hour from 6.00 am to 6.00 pm, on three days per week for three weeks at three locations were measured and analyzed. The noise level (L_{Aeq}) was measured using a B&K Type-2250 handheld analyzer (IEC 61672-1; 2002 Class 1) with essential calibrations. Handheld analyzer mounted on a tripod about 1.2 m above the ground level, to reduce the Ground Effects, was fixed about 8 m away from the middle of the road in taking measurements. Noise level at all three locations remains between 72-78.2 dB throughout the period of study and more than 75 dB for 10 hours per day, which is much higher than the recommended day time level of 63 dB for a urban areas and 50 dB for silent zones like hospitals, public libraries and schools by the National Environmental Act (No 47, 1980).

Workers in the area can be severely affected due to high noise exposure. The hearing level of such workers must be monitored frequently. The results suggest that necessary regulations must be imposed to control the sound pollution. Furthermore, local authorities must take necessary mitigation actions to establish suitable sound barriers, such as such vegetation barriers, wall-type barriers and to develop overpass/underpass for pedestrian crossing and to improve the road condition for smooth traffic flow.

Keywords: traffic noise, noise exposure time and hearing loss

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