



BAB  
CHAPTER 2



## PENGAWASAN BUNYI BISING AMBIEN

Pada tahun 2013, Jabatan Alam Sekitar (JAS) telah melaksanakan program pengawasan bunyi bising ambien di tiga (3) jenis penerimaan gunatanah yang berbeza iaitu kawasan sensitif bunyi bising, trafik dan industri seperti yang ditunjukkan dalam **Jadual 1**.

## AMBIENT NOISE MONITORING

In 2013, the Department of Environment (DOE) conducted the ambient noise monitoring programme at three (3) different types of land use for noise sensitive areas, traffic and industry, as shown in **Table 1**.

Kategori / Categories	Lokasi / Location
Sensitif Bunyi Bising / Noise Sensitive	Sekolah / School
	Hospital / Hospital
	Tempat Keagamaan / Place of Worship
	Lapangan Terbang / Airport
Trafik / Traffic	Lebuhraya / Highway
	Jalan Persekutuan / Federal Road
	Jalan Luar Bandar / Suburban Road
Industri / Industry	Industri Berat / Heavy Industry
	Industri Sederhana / Medium Industry
	Industri Kecil / Small Industry

**Jadual 1. Kategori guna tanah**  
**Table 1. Categories of land use**

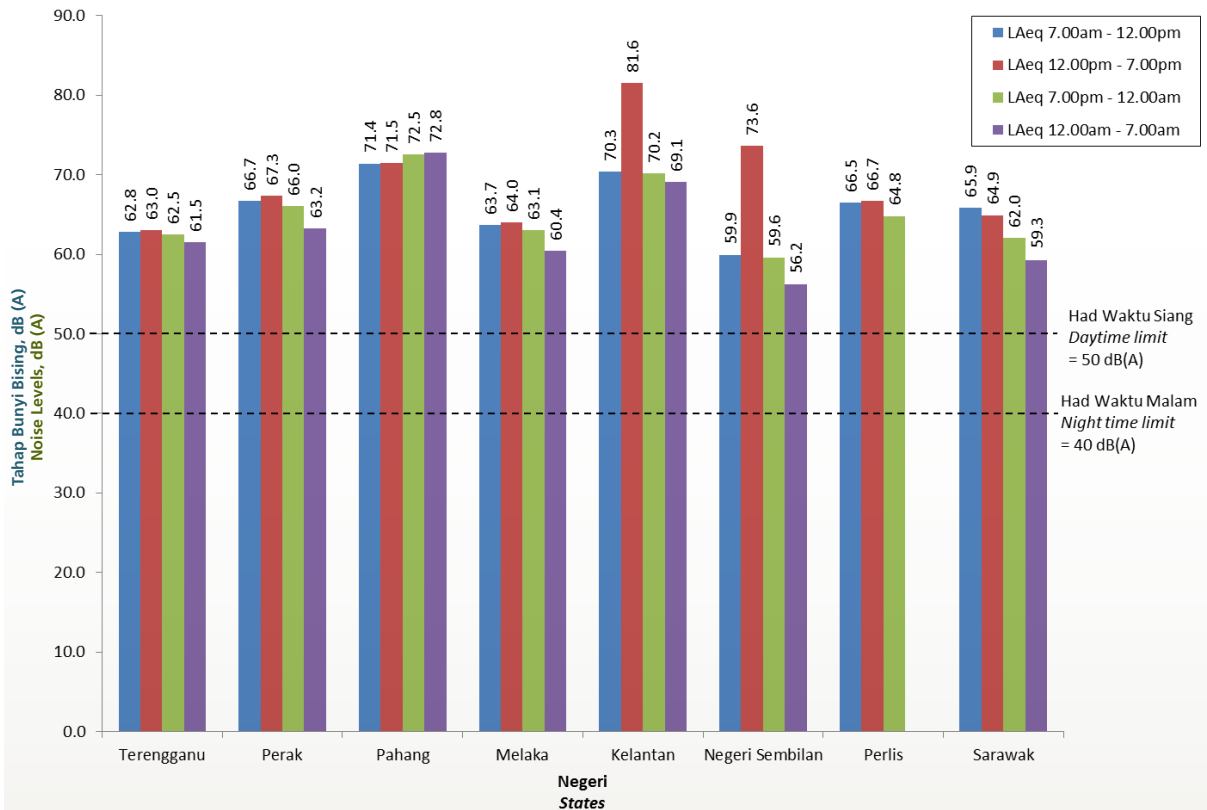
Bagi tujuan pengawasan, 60 minit sampel bunyi bising diukur bagi empat (4) tempoh masa sepanjang hari. Pengukuran tersebut dilaksanakan oleh JAS Negeri. Data yang dikumpul daripada program ini akan memberi manfaat sebagai data asas untuk tujuan perancangan dan pembangunan peraturan bunyi bising pada masa hadapan. Data bunyi bising dicatatkan semasa program pengawasan dan perbandingan dibuat dengan menggunakan Garis Panduan Perancangan Untuk Had Dan Kawalan Bunyi Bising Persekitaran, 2004 yang diterbitkan oleh Jabatan Alam Sekitar.

**Rajah 2.1** menunjukkan perbandingan tahap bunyi bising di kawasan sensitif seperti sekolah, masjid, lapangan terbang dan hospital. Pada tahun 2013, semua pengawasan di kawasan ini melebihi had waktu siang iaitu 50 dB(A) dan had waktu malam iaitu 40 dB(A) kerana pembangunan pesat di sekitar kawasan itu. Bacaan tertinggi iaitu 81.6 dB(A) dicatatkan di Kelantan antara 12:00pm hingga 7:00pm dan bacaan terendah iaitu 56.2 dB(A) telah dicatatkan di Negeri Sembilan antara 12:00am hingga 7:00am.

For monitoring purposes, a 60 minutes sample on noise levels were measured for four (4) periods during the day. The DOE state offices carried out these measurements. The valuable data collected from this exercise would be used as a baseline for future planning and also to develop on noise regulations. The Planning Guidelines for Environmental Noise Limits and Control, 2004, published by the Department of Environment was used as a comparison for all noise data recorded during this monitoring programme.

**Figure 2.1** shows a comparison of noise levels in sensitive areas such as schools, mosques, airports and hospitals. Due to rapid development around the area, data from the monitoring exceeded the daytime limit of 50 dB(A) and the night time limit of 40 dB(A). Kelantan recorded the highest reading of 81.6 dB(A), between 12.00pm to 7.00pm, whilst the lowest reading of 56.2 dB(A) was recorded in Negeri Sembilan between 12am to 7am.

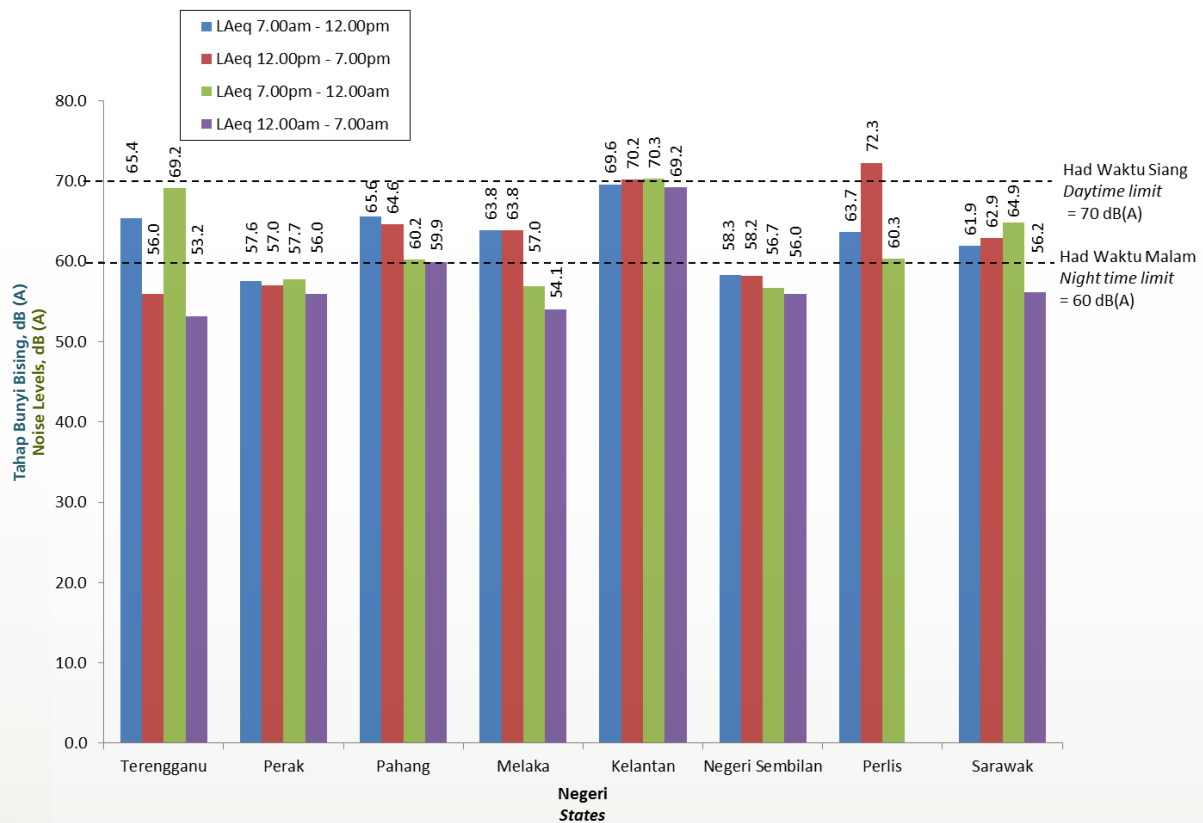




**Rajah 2.1: Perbandingan Tahap Bunyi Bising di Kawasan Sensitif Mengikut Negeri**  
**Figure 2.1: Comparison of Noise Levels for Noise Sensitive Areas in Various States**

**Rajah 2.2** menunjukkan perbandingan tahap bunyi bising di pelbagai kawasan industri. Kawasan ini dibahagikan kepada tiga (3) lokasi seperti industri berat, industri sederhana dan industri kecil. Ia menunjukkan bacaan tertinggi dicatatkan di Perlis dengan bacaan 72.3 dB(A) di antara 12:00pm hingga 7:00pm dan bacaan terendah yang dicatatkan adalah di Terengganu dengan bacaan 53.2 dB(A) di antara 12:00am hingga 7:00am.

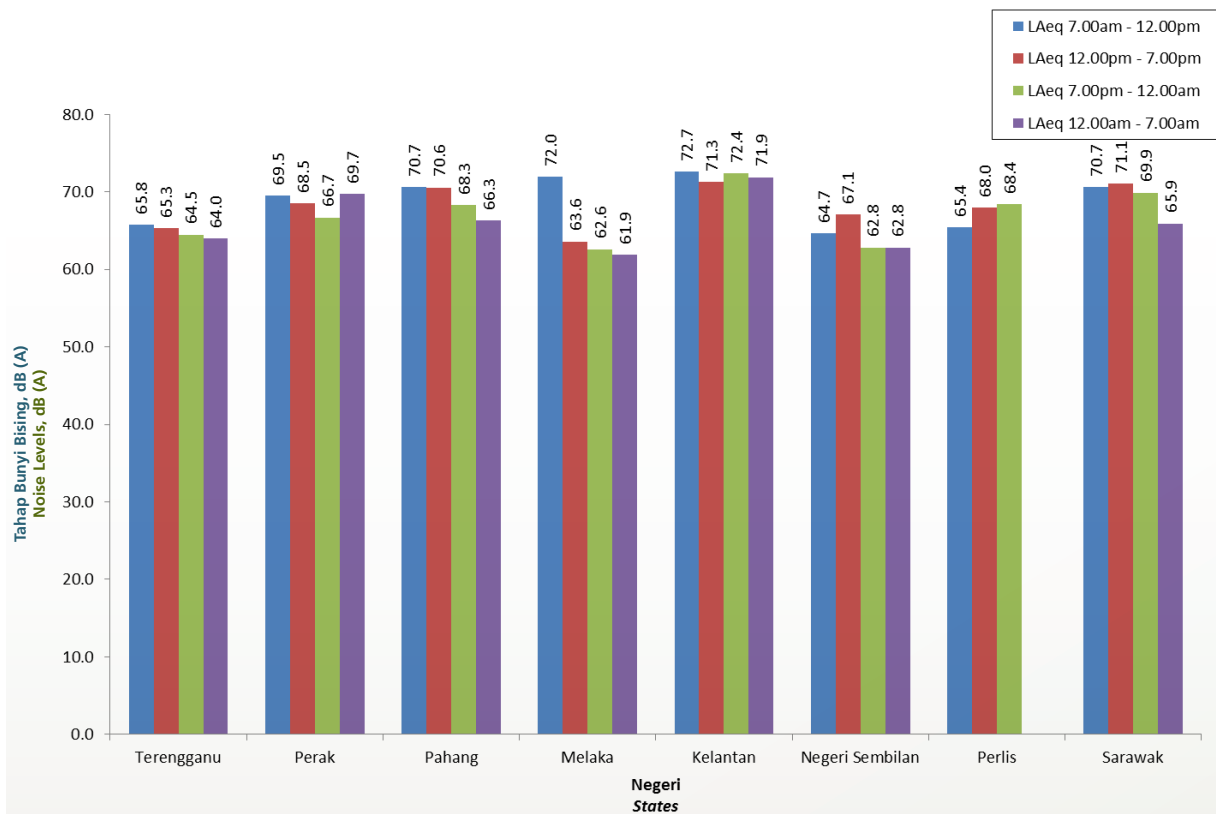
**Figure 2.2** shows noise level comparisons within various industrial areas. These areas were divided into three main (3) locations, comprising of heavy industry, medium industry and small industry. Perlis recorded the highest reading with 72.3 dB(A), between 12.00pm to 7.00pm, whilst the lowest reading recorded between 12am to 7am was in Terengganu, at 53.2 dB(A).



**Rajah 2.2: Perbandingan Tahap Bunyi Bising di kawasan Industri Mengikut Negeri**  
**Figure 2.2: Comparison of Noise Levels for Industrial Areas in Various States**

**Rajah 2.3** menunjukkan perbandingan tahap bunyi bising di pelbagai kawasan trafik seperti lebuh raya, jalan persekutuan dan jalan luar bandar. Tahap bunyi bising di lokasi-lokasi ini adalah di antara 63.6 dB(A) hingga 72.7 dB(A) bagi pemantauan pada waktu siang manakala pemantauan pada waktu malam mencatatkan bacaan antara 61.9 dB(A) hingga 72.4 dB(A). Ia menunjukkan bahawa bacaan pengawasan pada waktu siang mencatatkan bacaan yang lebih tinggi berbanding pengawasan pada waktu malam. Ini mungkin disebabkan bilangan kenderaan bermotor yang berkurangan di jalan raya pada waktu malam.

**Figure 2.3** shows noise level comparisons within traffic areas such as highways, federal roads and suburban roads. Noise levels in these locations ranged between 63.6 dB(A) to 72.7 dB(A) during day time monitoring, while night time monitoring recorded readings between 61.9 dB(A) to 72.4 dB(A). Daytime monitoring recorded higher reading levels due to a probable decrease in number of motor vehicles on the road during night time.



**Rajah 2.3: Perbandingan Tahap Bunyi Bising bagi Kawasan Trafik Mengikut Negeri**  
**Figure 2.3: Comparison of Noise Levels for Traffic Areas in Various States**