

NOISE POLLUTION

Noise is a disturbance to the human environment and is escalating at such a high rate that it will become a major threat to the quality of human lives. Noise in all areas, especially in urban areas, have been increasing rapidly during the last few decades. There are numerous effects on the human environment due to increase in noise pollution, especially leading to physiological and psychological deterioration to human beings.

The various activities of the West Bengal Pollution Control Board (WBPCB) in 2005-2006 to combat noise pollution is illustrated below.

MEASURES TAKEN TO COMBAT NOISE DURING DURGA PUJA

The Board had taken major steps to tackle noise and other pollution-related problems during Durga Puja in 2005. The WBPCB had set up a Control Room at its Head Office at Paribesh Bhawan and other Regional offices during Durga Puja. In addition, mobile teams patrolled Kolkata, Howrah, Salt Lake and

other district towns. A nodal network was set up involving the Police departments, District Convener NGOs and enlisted NGOs of the Board for smooth functioning of the process.

Results of complaints received show that during Durga Puja, a little less than 50 per cent complaints were received in 2005 compared to the same in the last year. Moreover, there were no complaints lodged against use of banned crackers during Durga Puja. Further, the District and Kolkata Police authorities raided various places against illegal

TABLE: 2.4.1
STATUS OF COMPLAINTS RECEIVED
DURING DURGA PUJA 2005

Festival Days in 2005	No. of complaints received
Sasthi (9.10.2005)	4 (13)
Saptami (10.10.2005)	6 (12)
Astami (11.10.2005)	9 (14)
Nabami (12.10.2005)	7 (14)

* Figures in brackets indicate values for the year 2004

manufacturing and storing of banned fireworks. During the raids conducted in September 2005, the Police seized 3304 kilograms and 16 packets of banned fireworks, arrested 19 persons and filed 16 cases. The seizures took place in Dankuni, Panduah, Chanditala, Jaypur, Uluberia, Panchla, Sankrail, Maheshtala, Budge Budge, Baruipur and Cossipur Police Station areas.

Prior to the advent of the festive season, the Board had requested the puja organisers to comply with some directions:

- Restrict use of loudspeakers/public address system at night between 10 p.m. and 6 a.m. barring occasions of public emergencies;
- Mandatory use of sound limiter whenever loudspeaker/public address system is used in open air;
- Restrict the use of noisy crackers;
- Follow guidelines for control of water pollution after idol immersion; and
- Restrict use of plastic throwaway bags and cups during the festivals.

About 4000 banners carrying messages related to environmental protection were put up at prime locations of Kolkata, Howrah, Salt Lake and other district towns of the state. Also, short films on awareness on noise and water pollution were telecasted on television channels.

Appeal to Puja Organisers

The Board issued 18,666 letters of appeal to the Organisers / Clubs / Committees of Durga Puja, Kali Puja and other Pujas in West Bengal including 2781 Puja organisers in Kolkata. The clubs were requested to comply with the different noise pollution control norms, namely mandatory use of sound limiters while playing loudspeakers or restriction on bursting of noisy firecrackers during the festive season.

REPORT OF ASSESSMENT OF NOISE POLLUTION SURVEY IN KOLKATA DURING KALI PUJA & DIWALI FESTIVALS IN 2005

The use of loudspeakers is regulated in terms of the Rules under the Environment Protection Act, 1986 as well as the orders of the Supreme Court and the Calcutta High Court. The Police is empowered to enforce these rules and the orders. While the legal restrictions are known by and large, special vigilance becomes necessary during festivals like Durga Puja, Kali Puja and Diwali. To have a clear idea about the increase of ambient noise level in residential areas in Kolkata and other district town during festivals, the WBPCB, as in previous years, undertook a noise monitoring survey during Kali Puja/Diwali in 2005.

Noise pollution survey procedure

Firecrackers generate instantaneous impulsive noise, which when measured in free field condition in impulsive mode, gives peak sound pressure level. It is quite obvious that a number of crackers when bursting serially can easily form a band of continuous noise in the presence of reflecting surfaces. The reverberation of sound wave due to repeated reflection in the surface prolongs the time interval of prevailing sound intensity. The continuous band of noise, thus formed, definitely affects the ambient level in close proximity.

The monitoring was conducted at 20 pre-selected locations in Kolkata and Howrah. The previously chosen 11 locations include Salt Lake, Lake Town, Kankurgachi, Beliaghata, Behala, Minto Park, Burrabazar, Jadavpur, Rabindra Sarani, Talapark and Howrah Maidan, and nine new locations include Howrah-Kadamtala, Howrah-Mandirtala, Baranagar, Nagerbazer, Baguihatijangra, Kasba-Bosepukur, Ballygunge Place, Tollygunge-Golf Club Road and New Alipur

B Block. The monitoring was done on a normal working day between 6.00 p.m. and 10.00 p.m. The microphone of the sound level meter fitted with windscreen was placed 1.5 m above the ground and at least 1 m from the façade of the building at each location. Data recorded at each location was used to compute the one-hour equivalent continuous noise level L_{eq} . On the same locations, the above procedure was repeated on the days of Kali Puja (01.11.2005) and Diwali (02.11.2005).

Results of noise pollution survey

The noise survey results in 2005 (Table 2.4.2) reveal slight increase in the ambient noise level in various residential areas in Kolkata and Howrah on the day of Kali Puja in comparison to any normal day. The main cause of increase in ambient noise level on festival days is bursting of crackers, whereas in normal days,

the main contributions to the ambient noise level of any residential area are from trade activities, transport system and various domestic activities. The main observations are summarised as follows:

- i. The increase of the noise level at the selected locations on Kali Puja compared to a normal day in 2005 varies from -3 per cent to 9 per cent. This is much lower compared to the figure during 2004, but almost similar compared to 2003 (Table 2.4.3).
- ii. As compared to 2004, there is a decrease in the noise level in most of the sample locations, which varied from -18 per cent to 0 per cent, except in one location where 6 per cent rise in noise level was recorded (Table 2.4.4).
- iii. A reduction of noise level on Kali puja day of 11 per cent to 0 per cent was observed during 2005 when compared to 2003 (Table 2.4.5).

TABLE: 2.4.2
NOISE LEVEL IN KALI PUJA AND DIWALI IN 2005

Location	Noise Level in $dB_{L_{Aeq}}$		
	Normal day (before Kali Puja)	Kali Puja Day	Diwali Day
Salt Lake- Sector-III	60	62	61
Lake Town- B Block	63	65	64
Kankurgachi-Scheme VIIIIM	68	66	65
Beliaghata CIT Building	66	67	67
Behala- Biren Roy Road	65	69	68
Minto Park- Sarat Bose Road	70	73	74
Kalakar Street- Burrabazer	69	70	70
Jadavpur 8B Bus Terminus	70	74	68
Rabindra Sarani- Ganesh Takie	65	71	68
Talapark- Belgachia	68	65	66
Howrah Maidan	71	71	69
Kadamtala	63	76	77
Mandirtala	69	79	81
Baranagar	66	71	68
Nagerbazar	69	70	65
Baguihati-Jagra	68	66	68
Kasba-Bosepukur	63	83	76
Ballygunj Place	68	74	78
Tollygunj- Golf Club Road	66	78	81
New Alipur B-Block	71	72	77

TABLE: 2.4.3
COMPARISON OF NOISE LEVEL IN A NORMAL DAY WITH KALI PUJA DAY

Location	Noise Level in dBL _{Aeq}								
	2003			2004			2005		
	Normal Day (before Kali Puja)	Kali Puja Day	Percentage increase	Normal Day (before Kali Puja)	Kali Puja Day	Percentage increase	Normal Day (before Kali Puja)	Kali Puja Day	Percentage increase
Salt Lake- Sector-III	65	67	3	67	74	10	60	62	3
Lake Town- B Block	69	72	4	69	79	14	63	65	3
Kankurgachi-Scheme VIIM	67	71	5	67	75	12	68	66	-3
Beliaghata CIT Building	70	75	7	73	79	8	66	67	1
Behala- Biren Roy Road	73	78	6	70	74	6	65	69	5
Minto Park- Sarat Bose Road	77	82	6	70	73	4	70	73	3
Kalakar Street- Burrabazer	74	75	1	76	79	4	69	70	1
Jadavpur 8B Bus Terminus	72	74	2	67	70	4	70	74	6
Rabindra Sarani- Ganesh Talkie	74	77	4	69	75	9	65	71	9
Talapark- Belgachia	68	72	5	65	70	8	68	65	-4
Howrah Maidan	74	76	2	74	78	5	71	71	0

TABLE: 2.4.4
COMPARISON OF NOISE LEVEL IN KALI PUJA DAY DURING 2004 & 2005

Location	Noise Level in dBL _{Aeq}		
	2004	2005	Percentage Increase
Salt Lake- Sector-III	74	62	-11
Lake Town- B Block	79	65	-18
Kankurgachi-Scheme VIIM	75	66	-12
Beliaghata CIT Building	79	67	-15
Behala- Biren Roy Road	74	69	-7
Minto Park- Sarat Bose Road	73	73	0
Kalakar Street- Burrabazer	79	70	-11
Jadavpur 8B Bus Terminus	70	74	6
Rabindra Sarani- Ganesh Talkie	75	71	-5
Talapark- Belgachia	70	65	-7
Howrah Maidan	78	71	-9

TABLE: 2.4.5
COMPARISON OF NOISE LEVEL IN KALI PUJA DAY DURING 2003 & 2005

Location	Noise Level in dBL _{Aeq}		
	2003	2005	Percentage Increase
Salt Lake- Sector-III	67	62	-7
Lake Town- B Block	72	65	-10
Kankurgachi-Scheme VIIIIM	71	66	-7
Beliaghata CIT Building	75	67	-11
Behala- Biren Roy Road	78	69	-11
Minto Park- Sarat Bose Road	82	73	-11
Kalakar Street- Burrabazer	75	70	-7
Jadavpur 8B Bus Terminus	74	74	0
Rabindra Sarani- Ganesh Talkie	77	71	-8
Talapark- Belgachia	72	65	-10
Howrah Maidan	76	71	-6

Analysis of Complaints

A central Control Room was set up at Paribesh Bhawan, Kolkata on four days from pre-Kali Puja day (31.10.2005) to post Diwali day (02.11.2005) during evening to late night to receive complaints. In addition, control rooms

were set up in the Regional Offices of the Board at Haldia, Hooghly, Barrackpore, Durgapur and Siliguri as well as at Asansol Sub-Regional Office. The details of complaints received in the years 2004 and 2005 in the WBPCB Control Room at Paribesh Bhawan are tabulated below.

TABLE: 2.4.6
NATURE OF COMPLAINTS RECEIVED IN 2005

Festival Days in 2005	Kolkata Police area	West Bengal Police area	Complaints against bursting of crackers	Complaints against playing of loudspeakers
Kali Puja Day (01.11.2005)	29 (Jorabagan, Shyampukur, Kalighat, Lake, Bhawanipur, New Alipur, Ballygung, Gariahat, Watgunge, Manicktola, Talla, Girishpark, Muchipara, Burrabazer, Beliaghata, Burtolla etc.)	31 (Jadavpur, Rajarhat, Sibpur, Kasba, Dum Dum, Sreerampur, Dasnagar, Bidhannagar, Lake Town, Chandernagar, Belghoria, Khardah, Rishra etc)	54 (62)*	06 (09)*
Diwali Day (02.11.2005)	13 (Lake, Bhawanipur, Gariahat, Narkeldanga, Tollygunge, Chitpur, Cossipur etc.)	11 (Jadavpur, Kasba, Uttarpara, Falta, Maheshtala, Tiljala, Malipanchgara etc.)	15 (68)*	09 (10)*

*Figures in brackets indicate values for the year 2004

TABLE: 2.4.7
COMPLAINTS RECEIVED IN 2004 & 2005 IN THE CONTROL ROOM OF
PARIBESH BHAWAN

Year	Kali Puja Day	Following day (Diwali)	Total no. of complaints received in two days
2004	71	78 (till 12:45 a.m.)	149
2005	60	24 (till 12.40 a.m.)	84

From the above data, the following observations were made:

1. As compared to 2004, the Board received lesser number of complaints on both Kali Puja and Diwali. These may be due to increased awareness among the public about the Board's direction and existence of the Board's toll free telephone number (1800 345 3390), and lesser violation of noise pollution norms; and
2. On the day of Kali Puja, the maximum numbers of complaints were received from the West Bengal Police areas, while on the day of Diwali, the maximum number of complaints were received from the Kolkata Police areas.

Awareness campaign and specific measures

The WBPCB gave a wide publicity to the Supreme Court's direction on the fireworks through the electronic and print media. In addition, requests were made to the cellular operators (Airtel, Hutch, etc) for sending messages on awareness generation to their customers. Such messages were "Say NO to CRACKERS", "Celebrate Deepavali with lamps, candles and fireworks". The WBPCB also arranged to display 4000 festoons in Kolkata, Howrah and Salt Lake at various crowded places as well as near schools. The posters on noise pollution were distributed to non-governmental organisations for public awareness.

In addition, four different short films on various issues (such as idol immersion, use of loudspeakers and firecrackers) were telecasted in primetime in Doordarshan, E-TV, Tara

Bangla, Aakash Bangla and Tazza Khabar between October 10 and November 24, 2005 for creating awareness among general public. The Board also conducted inspections at the various fireworks manufacturing units well ahead of the festive season. The West Bengal Police had seized about 14500 kgs, 39 bags, 9259 packets and 91439 pieces of prohibited firecrackers during the raids conducted in October 2005. Similar pre-Kali puja raids were conducted by Kolkata Police and seized about 2800 kgs and 1,50,000 pieces of prohibited firecrackers. About 50 cases were filed and 1120 persons were arrested during this operation throughout the state.

BRIEF REPORT ON STATUS OF ROAD TRAFFIC NOISE LEVELS DURING WINTER OF 2005 IN KOLKATA

During the year 2005-2006, a study was undertaken to assess the impact of road traffic noise on the ambient noise level in the city during winter (December 2005 to February 2006).

Results

1. The highest and lowest total traffic count in winter was observed in JLN Nehru Road-AJC Bose Road Crossing and Nagerbazer. Car and taxi were the dominant traffic components in almost all monitoring locations except in Esplanade, where bus was dominant.
2. The total traffic volume in the Central Business District (CBD) was much more than that in both north and south Kolkata. Traffic volume in the north was lower than that in the south.

TABLE: 2.4.8
COMPARISON OF NOISE LEVELS DURING WINTER OF 2005

Monitoring Location	$L_{eq\ 24}$			L_D			L_N		
	1994	2004	2005	1994	2004	2005	1994	2004	2005
Dunlop	86.0	69.4	68.5	87.7	70.3	69.5	80.0	63.1	61.0
Chiria More	84.8	56.8	69.6	86.3	67.1	70.3	79.9	64.7	65.4
Nagerbazar	85.3	69.1	69.8	87.1	70.0	70.7	75.5	62.0	63.1
Shyambazar	82.5	70.8	72.1	83.4	71.6	73.1	80.1	66.1	64.5
Ultadanga	81.8	70.5	68.8	83.5	71.6	69.9	75.6	61.5	58.3
Manicktola	84.5	68.1	67.5	86.1	68.1	67.7	78.4	66.7	65.2
Ganesh Talkies	84.8	68.3	68.7	86.5	69.0	69.7	78.1	63.6	59.6
Howrah Bridge	87.6	80.2	78.3	89.0	81.2	79.2	83.3	72.8	72.3
Sealdah	84.8	66.2	69.3	86.2	67.2	70.3	80.5	57.7	61.8
Bowbazar	81.7	69.6	68.8	83.3	70.7	69.8	75.8	59.4	61.2
B.B.D.Bag	81.3	72.9	74.7	82.5	73.9	75.5	78.2	65.9	69.2
Esplanade	80.7	69.6	71.5	82.3	70.2	72.3	74.3	65.6	66.7
Moulali	85.2	78.8	75.7	86.6	79.9	76.7	79.7	68.6	67.7
Chowringhee	82.8	75.6	75.2	84.4	76.5	76.3	77.4	69.4	66.7
Park Circus	82.8	74.8	73.9	84.6	75.6	77.1	75.3	68.5	70.5
JN Road (AJC Bose Road Crossing)	83.1	80.3	80.2	83.5	81.3	81.1	77.0	71.4	74.1
Khidirpore	81.1	68.8	70.3	82.2	69.7	71.3	78.0	62.8	62.4
Hazra	83.6	74.2	77.1	85.4	75.2	78.0	76.1	66.5	70.6
Gariahat	79.7	78.1	80.3	80.9	79.2	83.4	75.2	67.3	73.4
Rashbehari	79.5	68.7	70.9	80.1	69.7	71.7	74.6	61.7	68.5
Taratola	84.7	71.9	74.4	86.2	73.0	75.3	79.5	63.3	68.7
Jadavpur	83.0	74.5	77.1	84.1	75.7	77.8	79.9	61.7	72.7
Behala	81.9	75.0	74.4	82.6	76.1	75.3	77.8	64.8	67.9
Garia	82.6	68.0	—	83.7	68.7	—	75.2	63.4	—

$L_{eq\ 24}$ = 24 hours equivalent continuous noise level in dBA; L_D = day time equivalent noise level i.e. L_{Aeq} (16h)
 L_N = night time equivalent noise level i.e. L_{Aeq} (8h)

3. The total honking events in CBD were much more than in the north and south. The honking events in the north were lower than that in the south.

Winter season monitoring (December 2005 to February 2006)

In 2005, the 24 hour equivalent continuous noise levels (L_{eq-24}) was considerably less in all the monitoring locations in comparison to 1994 winter value.

1. In 2005, the day time equivalent continuous noise level (L_D) values was less compared to 1994 winter values.



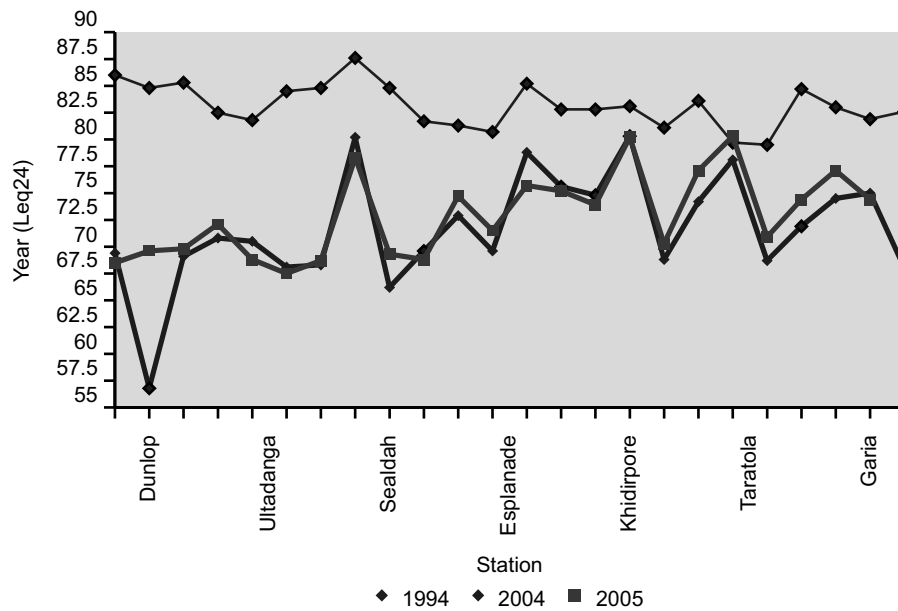
Road traffic noise level monitoring

2. The night time equivalent continuous noise level (L_N) values in 2005 was less compared to 1994 winter values.

The 2005 winter study revealed that the number of honking had increased at particular traffic intersections such as J.N. Rd.-A.J.C.

Bose Rd. Crossing, Chowringhee-Park St. Crossing, B.B.D. Bag, Ultadanga, Gariahat, Howrah Bridge Approach etc. This had contributed to the increase in ambient noise level of Kolkata, apart from creating annoyance to the public.

FIGURE: 2.4.1
COMPOSITION OF NOISE LEVELS DURING WINTER OF 2005



TRAINING PROGRAMMES FOR POLICE OFFICIALS

For effective control of noise pollution, the Board had conducted six training programmes on air-noise pollution monitoring and control techniques in the year 2005-2006. A total of 165 participants, who attended training programmes included the officials of the West Bengal Police, Kolkata Police, Motor Vehicles Inspectors and Faculty members of Barrackpore Police Training College of West Bengal Police.



WBPCB conducts training programme on a regular basis

TABLE: 2.4.9
TRAINING PROGRAMMES FOR POLICE OFFICIEALS ON NOISE POLLUTION

Sl No.	Date	No. of Participants	Participants
1.	08.07.2005 to 09.07.2005	24	Kolkata Police Personnel
2.	22.07.2005 to 23.07.2005	42	West Bengal Police Personnel
3.	05.08.2005 to 06.08.2005	26	Kolkata Police Personnel
4.	19.08.2005 to 20.08.2005	32	West Bengal Police Personnel
5.	09.09.2005 to 10.09.2005	22	Nodal Officers of Kolkata Police & West Bengal Police
6.	17.03.2006 to 18.03.2006	19	Faculty members of Barrackpore Police Training College, West Bengal Police

COMPLIANCE OF IMPORTANT DIRECTIONS PERTAINING TO NOISE POLLUTION

Resolution on manufacturing / sale of fireworks

A set of resolutions were drawn on April 26, 2005 during two meetings held at Paribesh Bhaban, with the fireworks dealers, namely, *Pradesh Atasbazi Byabsayee Samity* and *Burrabazar Fireworks Dealers Association*, for issuing certificates of 'Consent for Establishment' as well as 'Consent for Operation' for manufacturing fireworks. Representatives of the District and Police Administration of South 24 Parganas district, Joint Chief Controller of Explosives-East Circle (Kolkata), Chief Inspector of Factories of West Bengal and officials of the West Bengal Pollution Control Board attended the meetings.

Simplifications were made to the existing application process for manufacturing fireworks generating noise level below 90 dB(AI) at 5 m distance from the point of bursting. It was decided that the units seeking 'Consent for Establishment' may be considered by submitting duly filled prescribed application forms along with requisite fees and site clearance documents from the local authority. On the other hand, 'Consent for Operation' may be considered upon submission of duly filled prescribed application

forms along with requisite fees and current trade licenses only.

'Consent for Establishment' and 'Consent for Operation' for DG sets (Order dated 28-07-2005)

The 'Consent for Establishment' and 'Consent for Operation' for Diesel Generator (DG) sets of 15 KVA and above capacity for non-industrial use (except health care establishments) are being issued from the Regional Offices of Camac Street and Salt Lake Regional Offices instead of the ANA&T Cell of the Board, as issued earlier.

Restrictions on noise pollution during secondary/higher secondary examinations

In order to provide a quiet environment for students during exams, like every year, the West Bengal Pollution Control Board had imposed restrictions on noise pollution during the Secondary/Higher Secondary examination period. The WBPCB directed all concerned (including District Magistrates, Superintendents of Police, Deputy Commissioners of Police, Kolkata) to refrain from issuing permission for use of microphones/loudspeakers for open-air functions prior to three days of the commencement of these examinations till the end. Use of sound boxes/amplifiers were also not allowed within 100 metres of the examination centres.