



PUDUCHERRY ENVIS HUB

(Environmental Information System)

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Ek Bharat Shreshtha Bharat

International Noise Awareness Day 27 April 2022



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International Noise Awareness Day (INAD)

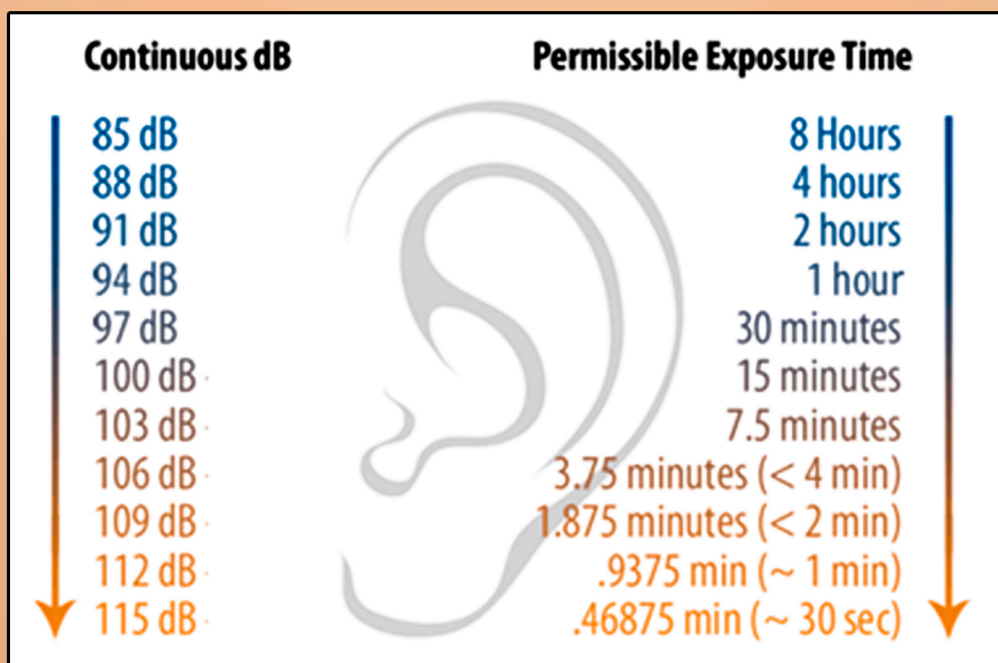
In 1996, aware of the growing increase in noise pollution and understanding that noise impacts adversely on mental and physical health, the Center for Hearing and Communication (CHC) established **International Noise Awareness Day (INAD)**. I assisted Nancy Nadler of CHC in this effort, with the fourth Wednesday in April being set as the day to educate people to the hazards of noise and the benefits of a quieter, healthier world. This year INAD will be celebrated on April 27.

What is Noise Pollution?

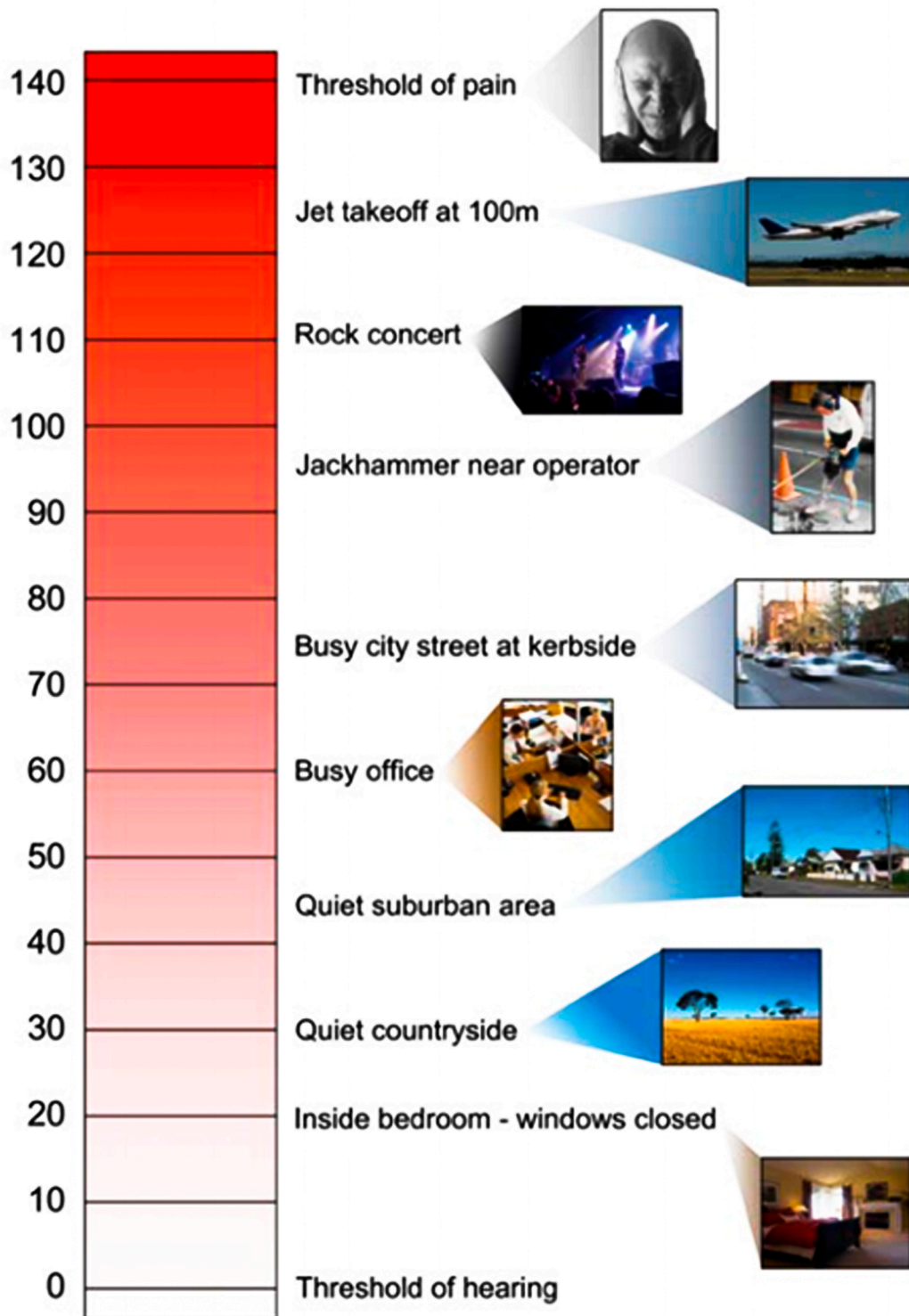
The word noise is derived from a Latin word 'Nausea' which means sickness in which one feels the need to vomit. Noise is the unpleasant and undesirable sound which leads to discomfort in human beings. **The intensity of sound is measured in decibels (dB)**. The faintest sound which can be heard by the Human ear is 1 Db. Due to increasing noise around the civilizations, noise pollution has become a matter of concern. Some of its major causes are vehicles, aircraft, industrial machines, loudspeakers, crackers, etc. Some other appliances also contribute to noise pollution like television, transistor, radio, etc. when used at high volume.

1 The cochlea is made up of microscopic sensory cells (called hair cells) that bend in the fluid of the cochlea with incoming sound vibrations. These hair cells can become damaged or disappear when exposed to noise. This is worse the longer the noise exposure occurs. One-off exposures to extremely high levels of impulse sound, such as the sound of a gunshot, can cause instantaneous damage to your hearing.

2 Noise exposure can be industrial noise or leisure sounds such as listening to music. Industry standards indicate that safe exposure to noise is 85 decibels for 8 hours. For every 3 decibels louder, the safe exposure time is halved. So, for 88 decibels, it is safe for 4 hours; for 91 decibels, it is safe for 2 hours; for 94 decibels it is safe for 1 hour. And so on. By the time you are exposed to 100 decibels of noise, it is only safe for 15 mins.



Indicative A-weighted decibel (dBA) noise levels



That is why noise protection is so important. It may not eliminate the sound totally but may lower it enough that it is at safe levels. For example, if you have noise plugs that attenuate or reduce the sound by 20dB and you are listening to music at 100dB, the ear plugs will limit the decibel level to 80dB which you can listen to safely for 8 hours.

How is Sound measured?

The intensity of sound is measured in decibels (dB).

Types of Noise Pollution

Following are the three types of pollution:

1. Transport Noise
2. Neighborhood Noise
3. Industrial Noise



Transport Noise

It mainly consists of traffic noise which has increased in recent years with the increase in the number of vehicles. The increase in noise pollution leads to deafening of older people, headache, hypertension, etc.

Neighbourhood Noise

The noise from gadgets, household utensils etc. Some of the main sources are musical instruments, transistors, loudspeakers, etc.

Industrial Noise

It is the high-intensity sound which is caused by heavy industrial machines. According to many researches, industrial noise pollution damages the hearing ability to around 20%.

Causes and Sources of Noise Pollution

Industrialisation: Industrialisation has led to an increase in noise pollution as the use of heavy machinery such as generators, mills, huge exhaust fans are used, resulting in the production of unwanted noise.

Vehicles: Increased number of vehicles on the roads are the second reason for noise pollution.

Events: Weddings, public gatherings involve loudspeakers to play music resulting in the production of unwanted noise in the neighbourhood.

Construction sites: Mining, construction of buildings, etc add to the noise pollution.

Noise Pollution Examples

- Unnecessary usage of horns
- Using loudspeakers either for religious functions or for political purposes
- Unnecessary usage of fireworks
- Industrial noise
- Construction noise
- Noise from transportation such as railway and aircraft

Effects of Noise Pollution on Human Health

- **Hypertension:** It is a direct result of noise pollution which is caused due to elevated blood levels for a longer duration.
- **Hearing loss:** Constant exposure of human ears to loud noise that are beyond the range of sound that human ears can withstand damages the eardrums, resulting in loss of hearing.
- **Sleeping disorders:** Lack of sleep might result in fatigue and low energy level throughout the day affecting everyday activities. Noise pollution hampers the sleep cycles leading to irritation and an uncomfortable state of mind.
- **Cardiovascular issues:** Heart-related problems such as blood pressure level, stress and cardiovascular diseases might come up in a normal person and a person suffering from any of these diseases might feel a sudden shoot up in the level.



Prevention of Noise Pollution

Some noise pollution preventive measures are provided in the points below.

- Honking in public places like teaching institutes, hospital, etc. should be banned.
- In commercial, hospital, and industrial buildings, adequate soundproof systems should be installed.
- Musical instruments sound should be controlled to desirable limits.
- Dense tree cover is useful in noise pollution prevention.
- Explosives should be not used in forest, mountainous and mining areas.

Ways to protect your hearing:

- Limit your output on your phone.
- Limit your exposure time to loud sounds.
- Use noise cancelling headphones if listening to music/podcasts in noisy places as this can prevent you turning up the music too loud to be heard.
- Remove yourself from exposure to loud sounds.
- Wear noise-attenuating headphones when you use loud power tools or equipment.

Please remember that noise damage is caused by the amount of exposure time as well as the loudness of the sound. Noise damage is also cumulative; it all adds up over time. Noise damage is permanent; once your hearing is damaged, it cannot be reversed. Most importantly, noise damage is entirely preventable.



How Loud Is Too Loud?

The louder the sound, the quicker it can damage your hearing. Sound is measured in decibels. Sounds at or above 85 dBA* can cause hearing loss.

*dBA = A-weighted decibels

2 minutes at 110 dBA
can damage your hearing.

140-160 dBA
Fireworks show



110-129 dBA
Ambulance sirens



14 minutes at 100 dBA
can damage your hearing.

94-110 dBA
Headphones, sporting events and concerts



8 hours at 85 dBA
can damage your hearing.

80-100 dBA
Lawnmower



74-104 dBA
Movie theater



At or below 70 dBA,
sounds are generally considered safe.

60-70 dBA
Normal conversation



30 dBA
Whisper



Source: CDC National Center for Environmental Health

Why Protect Your Hearing?

Noise-induced hearing loss:

- » Can build over time.
- » Is permanent.
- » Is preventable.

How to Protect Your Hearing:

- » Lower the volume.
- » Move away from the noise.
- » Wear hearing protectors, such as earplugs or earmuffs.

