MAHENDRA INSTITUTE OF ENGINEERING AND TECHNOLOGY

# NOISE POLLUTION MONITORING

INITIALIZATION **:** Noise or sound level monitoring or measurement is a process to measure the magnitude of Noise in industries and residential area. Data collected from Noise level monitoring & Testing helps us to understand trends and action can be taken to reduce noise pollution. Noise pollution is Low or High-frequency sound that can cause/harm the activity of human life. It can be caused by various industrial Machines, Motor Vehicles and Craft etc. Noise Pollution Monitoring process is a part of Environmental Monitoring & Testing as noise pollution is also increasing exponentially in recent years. At workplace machines, traffic, vehicles create occupational noise. Employees and occupants are exposed to this harmful noise. Due to this occupants can face many health problems such as headache, hearing impairment, hypertension, heart problem, annoyance and sleep disorder. to Avoid this situation Perfect Pollucon Services conducts Noise Testing in the company or home to measure high noise within premises. Actions can be taken once the locations and source are identified which are causing the noise. it helps to keep your employee or family safe from Harmful Noise.

#### **PLANNING OF NOISE POLLUTION:**

Atmospheric pollution is not the only type of contamination that is harming living beings on the planet. According to the World Health Organization (WHO), it is one of the most dangerous environmental threats to health. And according to the European Environment Agency (EEA), noise is responsible for 12,000 premature deaths and 48,000 new cases of ischaemic heart disease every year. Drivers honking the horn, groups of workers drilling the road surface, aircraft flying over us in the sky... Noise, noise and more noise. Cities have become the epicentre of a type of pollution, acoustics, which, although its invisibility and the fact that coronavirus crisis reduced it until almost yearn it, is severely damaging to human beings. So much so that the European Environment Agency estimates that noise is responsible for 12,000 premature deaths and 48,000 new cases of ischaemic heart disease.

Not only does it hurt humans, it is bad for animals, too. According to the National Park Service (NPS) in the United States, noise pollution has an enormous environmental impact and does seriousdamage to wildlife**.** Experts say noise pollution can interfere with breeding cycles and rearing and is even hastening [the extinction of some species](https://www.iberdrola.com/environment/climate-change-endangered-species).

here are many sources of noise pollution, but here are some of the main ones:

1.Traffic noise

Traffic noise accounts for most polluting noise in cities. For example, a car horn produces 90 dB and a bus produces 100 dB.

2.Air traffic noise

There are fewer aircraft flying over cities than there are cars on the roads, but the impact is greater: a single aircraft produces 130 dB.

3.Construction sites

Building and car park construction and road and pavement resurfacing works are very noisy. For example, a pneumatic drill produces 110 dB.

## 4.Catering and night life

Bars, restaurants and terraces that spill outside when the weather is good can produce more than 100 dB. This includes noise from pubs and clubs.

# 5.Animals

Noise made by animals can go unnoticed, but a howling or barking dog,for example, can produce around 60-80 dB.

#### EXECUTION OF NOISE POLLUTION:

1. At the level of city planning, industrial facilities, factories, and airports should be placed outside of residential areas. And if the cities grow through them, they should be moved.

2.The horns of motor vehicles are the main sources of noise. So traffic rules should ban using them unnecessarily.

3.There should be certain rules about forbidding all types of loud noises at all kinds of public places.

4.To protect workers from noise at their working places, like factories, necessary insulation processes should be mandatory. For example, in our country, there is a detailed regulation that runs by the government, to minimize the noise level at workplaces. This way, the health of the workers is protected.

5.Noise pollution should be mandatory for buildings and living spaces. Especially, places like nightclubs, factories, train stations, and so many more, create so much noise. So, the noise insulation at these structures will protect both inside and outside of these places.

6.Again, as the most effective method, noise barrier usage should be widened.

7.The management of cities should encourage reducing the use of motor vehicles. This way, they can solve, or at least reduce the traffic, air, and noise pollution problems. The government can lead people to use public transportation to have a healthier life.

#### CONTROL OF NOISE POLLUTION:

## 1. Close the Windows

Reducing the amount of noise entering into our [homes and buildings](https://www.conserve-energy-future.com/top-15-green-home-building-techniques-and-ideas.php) is possible by simply closing the windows. It keeps away annoying sound. The best thing would be to only open windows during the quieter times of the day, most probably late in the evenings.

## 2. Put on Earplugs

Wearing earplugs is a cost-effective solution for reducing noise pollution. A pair of earplugs can be worn while sleeping or at any other time of the day when you want to reduce the amount of noise hitting your eardrums.Earplugs have their [health benefits](https://www.conserve-energy-future.com/15-health-benefits-eating-organic-food.php), especially for those who wish to have a healthy sleeping habit in noisy areas.

## 3. Improve your Insulation

Insulation measures are some of the primary and [most practical ways to reduce](https://www.conserve-energy-future.com/impressive-ways-reduce-light-pollution.php) noise pollution at home. It’s an art of soundproofing, which helps in blocking the sound vibrations and noise.By improving insulation, it means installing soundproofing materials on the walls, ceiling, and even on the floor. Using double-pane windows and weather-stripping in your home can aid in absorbing noise and work as added insulation [saving energy bill](https://www.conserve-energy-future.com/go-green-and-save-your-summer-energy-bill.php).

## 4. Invest in Noise-Canceling Headphones

The majority of people may not realize this, but sound-canceling headphones are good for reducing noise [pollution](https://www.conserve-energy-future.com/causes-effects-solutions-to-smog-pollution.php). It’s essentially important for [industrial and construction](https://www.conserve-energy-future.com/become-environmentally-friendly-construction-industry.php) workers. The noise-canceling headphones filter the unwanted noise well before it reaches the ears.

## 5. Do Wall-to-Wall Carpeting

Wall-to-wall carpeting comes in as another practical and straightforward way of reducing noise [pollution](https://www.conserve-energy-future.com/causes-and-effects-of-environmental-pollution.php). This kind of arrangement goes a long way in lowering incoming noise into our homes or offices.

## 6. Install a Fence

It may sound extreme, but it qualifies as a practical way to reduce noise pollution. Noise is produced by strong sound waves or vibrations, which can be significantly reduced by barriers.By installing a fence, you’ll be creating a barrier that absorbs the strong sound waves or vibrations, thereby reducing noise pollution around your office or home.

## 7. Be Creative with the Office or House Layout

One [way to reduce noise in the house or an office](https://www.conserve-energy-future.com/simple-ways-reduce-printing-and-paper-wastage-office.php) setting is to get innovative with the general layout or design. For instance, noisy machines can be placed in areas that are not close to the sitting/resting or working areas.

## 8. Invest in Noise-Friendly Flooring

Floors can offer [remarkable ways of reducing](https://www.conserve-energy-future.com/stepsreducecarbonfootprint.php) noise pollution. However, it depends on the type of floor you have in your place. Carpeting, for instance, usually reduces a substantial amount of noise, but better results can be achieved by the use of noise-friendly flooring like vinyl.Vinyl is a resourceful alternative to carpeting and delivers better in reducing noise pollution because of its sound-absorbing qualities.

## 9. Invest in Sound-Friendly Furniture

Furniture is excellent sound absorbers as they reduce echo and sound vibrations. Therefore, sound friendly lounge chairs, bookshelves, couches, and cabinets can affect the acoustics of open spaces.For instance, in the case of a noisy neighbor, put a big bookshelf against the wall to reduce the noise coming from their house or building. Also, [use soft furnishings such as rugs](https://www.everythingconnects.org/reduce-noise-pollution.html), carpets, and wall hangings, which reduce sound.

## 10. Use of Modern Acoustic Wall Panels

Not all wall panels incredibly serve well at reducing noise pollution. Because of technological advancements, there are modern designed acoustic wall panel options available in the market that [can effectively reduce](https://www.conserve-energy-future.com/easy-and-effective-ways-to-reduce-indoor-air-pollution.php) noise pollution.

## 11. Turn off Electronic Devices or Reduce the Volume

Game systems, computers, Hi-fi systems, and televisions can contribute to noise pollution when on high volumes. The solution is to turn them off when not in use and also keep them on moderate volume to reduce noise pollution.Besides, by turning them off, you’ll also be [saving electricity costs](https://www.conserve-energy-future.com/41-super-easy-ways-to-lower-your-electricity-bill.php). Place padding under noisy equipment to reduce noise, such as blenders.

[](https://www.conserve-energy-future.com/wp-content/uploads/2017/03/women-holding-ears-noise-pollution.jpg)

## 12. Use Noise Absorbents in Noisy Machinery

If some pieces of machinery are creating noise due to vibrations, you can check the noise by applying some noise absorbents to reduce noise.

## 13. Do Frequent Lubrication and Better Maintenance of Machinery

Proper lubrication and better maintenance of machines are beneficial practices to reduce noise pollution and improve efficiency. As lubrication reduces friction between movable parts, it helps to reduce noise.

## 14. Plant Trees

Trees have been established to be effective in reducing noise levels within urban settings, around major highways, and even at the places, we stay.Therefore, numerous [plants and trees](https://www.conserve-energy-future.com/fabulous-ways-to-protect-trees-and-conserve-forests.php) in an area mean less noise pollution. In addition to that, trees have various aesthetic advantages and [improve air quality](https://www.conserve-energy-future.com/what-is-air-quality.php).

## 15. Have a Dedicated Quiet Space

Having a dedicated quiet space can pay off whenever we want to escape from noises that make us feel uneasy and affect the quality of our life. Quiet spaces can guarantee as much as 100% soundproof areas.

## 16. Install Cubicles and Wall Partitions

Installation of wall partitions and cubicles in places such as offices with ample free space and big rooms at home reduces the overall indoor noise. Even with low-level installation, cubicles and wall partitions proved to be very useful noise absorbers.

## 17. Shut the Door

Shutting the door keeps away unpleasant sounds, especially if you have noisy neighbors. If there are appliances that produce loud noise such as dishwashers, blenders, and washing machines, you can have them run in separate rooms and shut the door to seal off the noise.

## 18. Cancel or Mask the Noise

Canceling or masking the noise is one of the most straightforward and practical techniques for reducing noise pollution. It is achieved through the creation of peaceful and soothing sounds to cancel the awful ones.It can simply be done by turning on a fan or hanging wind chimes. For the majority of people, it may seem contradictory, but it is a proven effective method of masking or canceling the horrible and bothering sounds.

Furthermore, there are white noise machines that can make canceling or masking easier.

## 19. Move or Choose a Home in Noise-Free Areas

Moving away from noisy areas can also qualify as a practical way of reducing noise pollution. It may sound exaggerated, but moving from areas such as airports, train stations, industrial districts, and major highways can reduce noise levels considerably.

## 20. Replace Old Automobiles with New Ones

Old automobiles are a significant source of noise pollution. They create unappealing and sometimes deafening sounds. Their replacement with new ones not only reduces noise pollution but will also lower the emission of soot and other [toxic substances](https://www.conserve-energy-future.com/top-10-worst-toxic-pollution-problems.php) into the atmosphere.

## 21. Create Awareness and Education on the Consequences of Noise Pollution

Creating awareness of noise pollution and its effects on both humans and [wildlife](https://www.conserve-energy-future.com/30-astounding-ways-to-protect-and-conserve-wildlife.php) can generate positive outcomes in efforts to reduce noise pollution.

Perhaps if most people could be aware that noise pollution can lead to hearing loss and mental stress, then the majority will invest in ways to reduce noise pollution.

## 22. Declare a “No Horn Zone” in Hospital, School, and Residential Areas

Horns from trucks, buses, and cars produce a considerable degree of noise pollution and as such, the introduction of no horn zone can help reduce noise pollution in hospitals, schools, and residential areas.

## 23. Let’s all be Good Neighbors

Being a good neighbor means maintaining awareness of loud music, barking dogs, or loud parties, among others. Keeping these on a check can make your neighbor follow the same, which eventually contributes to an easy and practical way of reducing noise pollution.

## 24. Put Pressure on the Relevant City or Governing Authorities to Introduce Noise Regulation Policies

The policies can also be integrated into transportation network construction and activities such as low-noise road surfaces, low- Governing and city authorities hold the power to introduce policies that can help reduce noise pollution. The laws should limit the amount of noise in public and private places to cut noise pollution noise tracks, redesigning street spaces, enforcing speed limits, and reducing traffic volume.

## 25. Do Regular Checking of Noise Levels

Keeping the noise level within the limit requires frequent verification of noise level in an industrial complex and indoor. Therefore see to it that regular checking of noise level is done.

## 26. Notify Authority for Breaking Noise Rules

You can notify government agencies if someone in a neighbor is not following rules and regulations regarding noise levels and also not maintaining the noise limit set by the city authority.

## 27. The Use of Calming Green Waves

These are the highway and noisy areas (such as airports, train stations, and industries) sound insulation measures that can help absorb the huge sounds produced by the operating machine

#### CLOSING OF NOISE POLLUTION:

Noise pollution impacts millions of people on a daily basis. The most common health problem it causes is Noise Induced Hearing Loss (NIHL). Exposure to loud noise can also cause high blood pressure, heart disease, sleep disturbances, and stress. These health problems can affect all age groups, especially children.

##### THANK YOU…….