

Critical Review On The Awareness Of The Impact Of Noise Pollution

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Abstract:

The presence of disturbing excessive sounds in the environment which have bad effect on human and animal health is known as noise pollution. It is one of the forms of environmental pollution. Noise pollution occurs through transportation such as airplanes, trucks, trains and cars. Noise pollution occurs from industrial sites such as construction sites, factories and heavy machinery. Noise pollution occurring through entertainment activities such as sports and loud music. Natural and marine environment sources such as wind, rain, ships and marine life also create noise pollution. It provides bad effect on the health of human and animal. Permanent hearing loss, high blood pressure, sleeplessness, attention level and memory loss are caused by noise pollution. All sounds are not considered as noise pollution according to The World Health Organization (WHO), the noise above 65 decibels (dB) are considered as noise pollution.

Keywords: Noise pollution; Transportations; Cognitive impairment; Sleep disturbances; Cardiovascular diseases; Hearing loss; Hypertension

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1. Introduction:

Noise pollution is known as silent killer because it causes serious health problems to all human, animal beings and plants as well. Such type of sounds that are too loud, unpleasant, disruptive to hear cause noise pollution. Such abnormal sounds are produced by airplanes, trains other vehicles through transportation. Loud music, in parties' firecrackers also produce abnormal sound. Desired sound and noise both are vibrations through air or water as a medium. Awareness of noise pollution is important as it will be helpful in curtailing the different problems arise due to noise pollution. Raising awareness will improve the qualities of life of people by using sound proofing devices, changing policies, reduce harmful level of sound, regarding harmful sound community action to be promoted. Heart diseases and premature death will be reduced to many extents by becoming aware about noise pollution. Psychological effects such as sleep disorders, anxiety, stress which annoy our life can be controlled to some extent by becoming aware of it. Noise pollution statistics in India shows far exceeding the normal limits of Central Pollution Control Board (CPCB) which is violating the normal standard level of sound in metropolitan cities. Motor vehicles are main cause of noise pollution. Noise level come up to 90-95 dB on busy road, as compared to normal level 55 dB in residential area. Noise level can come up to 73.53 dB in hospitals, court, educational institution as compared to normal level 55 dB. Hence awareness regarding noise pollution is must for all people of different fields. The World Health Organization estimates that in Western Europe annually 45,000 children lost their lives due to cognitive impairment caused by noise, 903,000 due to sleep disturbances, 61,000 lives due to cardiovascular

diseases caused by noise. Annoyance created by noise causes disease to occur. Also lives suffer from disability. Historical data during World war I and World War II show that women working in chemical factories producing noise had negative health effects. During industrial revolution in US a disease was spread called boilermaker in which workers suffered from hearing loss while building engines.

2. Objectives:

1. To find out different sources of noise pollution.
2. To find out the impact of noise pollution.
3. To find out awareness regarding impact of noise pollution.

3. Review of Literature:

3.1 Sources of noise pollution:

Constant exposure to noise pollution can cause severe health issues, including fatigue, hearing impairment, high blood pressure (hypertension), and mental health issues. It also affects wildlife by doubling background noise in many protected areas.

3.1.1 Natural sources:

Thunderstorm is one of the forms of noise pollution by natural source which is fueled by air pollution than louder thunder occur which are harmful for both human and animal beings. Rushing river, waves of ocean, volcanic eruptions, earthquakes, chirping birds and roaring of animals, sounds of windstorm, lightening are all the sources of natural sounds. Many study showed that person residing at more louder noise area have hearing loss more as compared to person residing at lower noise area. Hearing loss is the problem generated by noise pollution. Exposure to noise level above normal

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that is above 80 dB(A) cause hearing impairment (Asuquo U. et al., 2012). Study showed that there is connecting link between exposure to loud noise and impaired hearing. In the ocean noise from human activities and ships cause negative effect on life of whales and many other creatures in the ocean. Awareness regarding ocean noise pollution will be able to make scientist to find solution to protect these living beings from noise pollution. Natural sources causing noise pollution include insects, birds and animals as well.

3.1.2 Transportations:

In urban areas the cause of noise pollution are mainly cars, trucks, buses, trains, aircrafts. Road traffic is considered as the largest producer of noise pollution in urban and rural area as well. In these areas noise pollution reaches to harmful level. Noise pollution caused by transportation give rise to health problems such as annoyance, anxieties and sleep disturbances. Noise level is very high particularly in metropolitan cities like Delhi has double the permissible noise level limit reaching 90-95 dB. Long term exposure to sound pollution will lead to negative physiological and psychological impacts on human health. Some noises are noticeable which are high and at time while others are not noticeable which are below normal level (Barbar et al. 2010). The growth of transportation is increasing day by day. Hence noise pollution is going to reach at risk level. So, awareness is essential regarding noise pollution so that health issue will not occur. Endocrine system gets effected by high level of noise pollution occurred by increasing traffic (Sorensen et al. 2020).

3.1.3 Construction and Industry:

Heavy duty machines and power generating set are the major source of noise pollution (Ebikabowei et al. 2016). Construction equipment such as bulldozer, hammer and dump trucks creates lots of high-level noise during construction of big building. Also, activities like mining and demolition create high level noise. Significant noise is created by fans, compressors and machines in industrial works. Construction noise has negative impact on psychological, physiological, socioeconomic consequences study has shown. (Samuel et al. 2000).

3.1.4 Domestic appliances:

Household appliances such as mixers, grinders, exhaust fans (Envia et al.) and vacuum cleaner high-level noise at homes. Loud music from television, earphone, birthday parties, marriage ceremony are also the producer of high level of noise at residential area.

3.1.5 Social activities:

Sounds from firecrackers create noise pollution. Usually during weddings, religious festivals and night clubs use loudspeaker which generate high level unwanted noise.

3.1.6 Agriculture:

Agricultural machinery such as tractors, threshers and other appliances can create lots of noise during process which are harmful.

3.1.7 Military operations:

During rocket launching, missile operation and military aircraft practices lots of sounds are generated creating noise pollution.

3.1.8 Electrical generators:

Generators used in commercial and residential area which are without silencer are very noisy and harmful.

3.2 Impact of Noise Pollution;

According to World Health Organization (WHO) noise pollution is the second largest creating environmental pollution after air pollution. It has been seen in many studies that the impact of transportation, urban and factory noise pollution is very harmful for the existence of many species (Romain et al. 2020). Generally, the effect of noise pollution is considered as nuisance rather than environmental problems.

3.2.1 Impact of noise on wildlife:

Dolphin and whale rely on sound for communication but the noise pollution cause stress on them and their communication is disrupted. Loud noise disrupts feeding habit in animals, failure in breeding, causing negative impact on ecosystem. It has been seen in a study that many ocean mammals are getting exposure to several noise sources with unknown impact (Peter et al. 2003).

3.2.3 Impact of noise on human health:

3.2.3.1 Hearing problems: Recent research shows that noise pollution causes hearing loss. The World Health Organization reports that globally hearing loss is the most common disability. Noise induced hearing loss is almost preventable but it's awareness and implication is not so widespread among people. Similar research is found in (Nandi et al., 2008). Long term noise exposure can lead to tinnitus that is ringing in the ear and repeated exposure to high level of sounds can lead to permanent hearing loss (David 2017).

3.2.3.2 Cardiovascular Issues: The role of high-level sound causes negative impact on human health. Noise produces negative impact on human by effecting arterial hypertension, myocardial infarction and thus cardiovascular system is hampered resulting in stroke (Munzel 2014). Noise at night cause disturbances in sleep which result in increase in blood pressure and heart rate. Sleep is very complex process and effect many physiological process of human beings. Sleep disturbances and inadequate sleep due to high level of exposure of noise is associated with pancreatic insulin. (Buxton et al. 2012).

3.2.3.3 Central nervous system: Hypothalamus of the brain which has connection to the central nervous system get effected (Spreng 2000).

3.2.3.4 Stress: Long time exposure to high level noise effect physiological and psychological order causing stress and many more complication to other organ (Lundberg 1999).

3.2.3.5 Disturbance in sleep: Due to high level of sound present in environment people are not able to take sound and comfortable sleep which leads to obesity (Patel et al. 2008), and from obesity different types of health issue make them prey such as diabetes, hypertension, thyroid, kidney and liver.

3.2.3.6 Synergistic Effects: Noise pollution impact cognitive health which leads to Alzheimer's disease with increasing noise exposure. Prolonged noise exposure relates to other cognitive issue such as stress and inflammation in brain. It can also affect children's attention and memory. Noisy area reduces the sense of motivation, confidence, ability to learn and control on mind of individual. Thus, noise and air pollution co-exist giving rise to synergistic effects. (Jafari et al. 2019).

3.2.4 Impact of noise on plants:

Noise pollution impacts plant physiological processes by disrupting seed and hampering reproductive process. Noise pollution effects cause oxidative stress in plants. Some studies show that noise can hamper the plants' ability to sense of gravity which is beneficial for plant to give direction to root. Noise pollution harm the plant cell and due to this reason plants are not in a position to grow properly to give fruitful results to farmer. Noise pollution alters the balance of plant hormones (Kafash et al. 2022).

CONCLUSIONS:

After having detail study, it has been concluded that there are absence of awareness of how physiological effects and observed behavior convert into ecological repercussion of wildlife. Noise pollution impacts wildlife through communication and reproductions. Due to masking of sounds animals are not able to hear proper sound. Noisy area may be abandoned by animals. Birds, mammals, and other multiple groups such as amphibians, reptiles and fishes all have negative impact due to noise pollution. When ecosystem get effected through noise pollution than it also produces negative impact on human beings in all respect may be physiological or psychological system. It is needed that at large level major steps to be taken to make public aware about noise pollution. Targeted educational campaigns should be launched that focused on specific problems., celebrate international noise awareness day, encourage public to promote *Quite Hours* quite often, run campaign to discourage unnecessary sound especially near hospitals, schools, engage mass media, newspaper, television and radio to stop noise pollution by not creating unusual sounds. When people get exposed to excessive noise it creates health problems and it ultimately effect work performance and economy of country. Office and residential area should be fully insulated near construction site to avoid unusual noise this should be made aware to whole community so that community will raise voice if not insulated.

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