

# Investigating The Adverse Psychological Effect Of Noise Pollution On Human Health And The Status Un-Wanted Noise Control Laws In Pakistan

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## Abstract

This is fact that every living being in the in this world either on the earth or inside the water wants to live a comfortable and undisturbed life, especially a human being in particular. The traffic on the roads in terms of cars, bikes, and trucks etc. are the main sources of noise and are responsible for disturbing the peace of life and is really common in our country. Noise is the name of any sound or situation which produces physiological or psychological undesirable effects and is perpetrated of unwanted interruption in the social hobbies of a person or group. In these social hobbies business, communication, refreshment, comfortableness and sleeping are included. Unwanted noise means unsuitable, huge, loud and unnecessary sounds that become the cause of grating of human and also effect his environment, in the same way unnecessary sounds and recreations may result in annoyances, disturbance in human sleep and does effects human health. This is such a pollution which we also face before our birth and then this infirmity remains like a shadow with us. The study is an attempt to explore the nexus between human mind and Noise and further tries to explore the possible adverse effect of noise on human psychology.

**Key Words:** Noise pollution, Environment, Human & Psychology

## Background

Unwanted noise pollution has become a leaking ulcer in our society. Take step out of your home and noise will start entering into your ears. Motorcycles, rickshaws and other vehicles produce so much noise. In playground the noise of bawdy songs will strike your ears. Similarly a lot of noise is created in national galas and festivals.<sup>1</sup> Such jars like sounds are created due to tape recorders and video movies in market places and streets that passing through these places become troublesome. This is the situation outside the home. In home also most of the youngsters get

enjoyment from gauche music and loud sounded movies but this noise is also not less than poison for him and for other residents and stands the ability of hidden danger for his health.(Tabraiz, Ahmad et al. 2015) It seems that the nature of our nation is noise loving and we are getting far away from calmness and quietness. Fireworks used in nuptials and firing also come in the category of unnecessary noise and on such occasions bands of unsuitable music make the environment more troublesome.

## Research Objectives and Methodology

This study is aimed to investigate the status on noise pollution in the legal system of Pakistan in the first place. To pin-point the noise pollution controls mechanism if any in the civil, criminal or any other special jurisprudence. Secondly the study also tries to dive into the interrelationship among human, environment and law in order to get a clear picture of environmental influence on human rights in general and fundamental rights of the people of Pakistan in particular. The research shall further lead to the possible options to overcome this human hazard in Pakistan. In order to achieve the above mentioned objective we have adopted a mix method with empirical material in form of both primary as well as secondary data carefully analysed and discussed under themes headings and subheadings to reach a reliable conclusion

## 1. Introduction

Any excessive or unwanted sound which annoy is termed as noise pollution, conversely any pleasing sound will not be a noise. Sometimes it happens that if a sound is pleasing for one person it might be very unpleasant for other person due to certain psychological factors. Now it seems that noise has become the part of our society.(Stansfeld and Matheson 2003) Some of our economic situation has also adopted this noise. We like to live along and in the noise of machines fitted in our close and dark streets. Because of the reason that we will have to live far away from our work place for which we have to spend quite portion of our earning on the transport. We accept the noise in the foresight of financial problems. If the noise pollution is given free hand and remained un-checked with the regular increasing of moving vehicles on the roads, increase in number of factories, construction, the use of un-necessary loudspeakers, playing loud music in wedding

occasions, then the days are not for a way that people shall face the hearing problems.<sup>2</sup> Besides, our other problems are so much that in the presence of them we do not feel noise so much painful. For example going to bazar for buying inexpensive vegetable, we accept the whole noise of the city for saving few coins.

Like the third world countries we also have no proper planning according to social, curial, economic and educational point of view. Whereas according to population and economical needs we have created so much botheration. That is why too noise has entered like affliction in our society. Settlement of industries without proper planning, highly meaningless, aimless and vehicles running without any order that include old vehicles and then small roads.<sup>3</sup> These all are those factors that have been stood in our front in the form of noise and if their solution is not searched on this location then they will become more harmful. In the current situation 20 percent population of Pakistan has become loud hearers. There is no change seen in the system for the past few years, it is observed that the laws enacted for the noise control are openly and regularly violated everywhere, there is still time for the authorities to wake up and to come out with plans and ideas to solve the problem of noise pollution in Pakistan.<sup>4</sup> One tragedy is that we have villages build near roads, stations, bus terminals and airports. It may have economic reasons. If noise produced is in open place then its power remains less, or finishes soon after it is produced or made. But if noise produces in such place which is surrounded by the buildings then noise become arrested and screams. The moving of bikes with no silencers on the roads is another nuisance for the public health; it is at peak in Lahore, Karachi and Peshawar city.<sup>5</sup> This is the reason that the sound of the vault ends after long time. Villages arrest the sound. Thus noise become arrested and

descends hearing. In developed countries noise has adopted the shape of infliction. One of the main reasons of this is that they are more active due to advanced. Moreover scientific development has snatched their natural life due to which very harmful results are confronted. According to a survey 70 percent population of Paris are suffering from mental and neural diseases. In America the hearing of 20 million people has been affected from noise produced in the industrial areas therefor they has made proper criteria and rules to control noise pollution in America.<sup>6</sup> The grievousness of the problem can be guessed from this fact that every year 4 million people in the world become affected from noise and loss their hearing ability.

## **2. Collective Source of Noise**

Only two common sources of noise are discussed:

### **2.1. Noise of Mechanical Transport**

Two kinds of noise arise by the use of mechanical transport. One kind of noise occurs through Exhaust and the other kind of noise produces due to the fractioning of tyres on the road. In vehicles at speed 55 km per hour the noise of the exhaust is comparatively more than the noise of the tyres. However at the speed above 80 km per hour the noise of the tyres is more than the noise of exhaust. Trucks produce more noise pollution as compared to other vehicles.(Farooqi, Sabir et al. 2020) The trucks running on diesel become 8 to 10 decibel more cause of pollution than trucks running on petrol. The noise produced by motorcycle increases according to the increased proportion of speed. Engines of two cycles produce more vocal pollution than engines of four cycles.

### **2.3. Noise of Airplanes**

Except few turbojet planes, small planes produce less noise as compared to big planes. All airplanes

produce more sound during take-off time than landing. In static running of the airplanes sound pollution touches the highness.(Mehdi, Kim et al. 2011)

### **2.4. Noise of Construction**

During construction a lot of kinds of noise take place due to the colliding of constructive materials and machines and due to the process of mutual breakage of the constructive equipment's. This pollution plays an important role in making the local environment unnatural.(Baqar, Arslan et al. 2018)

### **2.5. Industries**

Industries: industries are considered as the second major cause of noise production, mostly in the commercial zone where it produces a tremendous amount of noise, fume and vibration. Industrial setups are not allowed in the residential localities as they cross the power of listening capacity of humans sometimes, for instance 45db day time and 35db by night causing serious health issues.(Hyder, Ghaffar et al. 2006)

### **2.6. Transport**

Transport: transport is considered as one of the major cause of noise pollution, due to the rapid and un-stoppable transportation it has grown as a major cause of unrest among the public in general. We can imagine the transport noise in major cities in Pakistan such as Karachi, Lahore, Islamabad and Peshawar and often people heads towards hilly or even tribal areas for mental peace.

## **3. The Action of Hearing**

To examine the harmful effects of the noise it is necessary that we should know about the structure of the ear. Our ear consists of three parts means outer ear, inner ear and middle ear. It is compulsory for the hearing of sound that the

connection of ear is set with the auditory nerve and with the central neurons of the brain.(Anees, Qasim et al. 2017) These all parts collectively are called natural hearing aid. When the wave of sound strikes the ear drum through auditory canal, through outer ear then due to the effects of its strictness vibration produces in the ear. This vibration so called the tremor produces in the three small bones (malleus, incus and stapes) of the ear finally passes through Cochlea and enters into the Organ of Corte in which present cells come in action in the form of impulse according to the first vibration. This impulse reaches the central nerves of the brain through auditory nerves and from this impulse brain recognizes the sound like computer.

### 3.1. Sound has the following three types

#### 3.1.1. Continuous Noise

This is a continuous vocal level in which during the time of observation only 5 decibel difference occurs. The example of this noise is the sound produced by the running of domestic fans.

#### 3.1.2. Intermittent Noise

This noise keeps for more than one second and then at that time brake appears in it. This sound can be heard during the use of drill machine of dentist.

#### 3.1.3. Impulse Noise

In this noise 40 decibel or more than 40 decibel change occurs in the pressure of sound. This change appears only in half a second for time less than one second. The noise produces due to the bullet fired from the gun comes in this category.(Aftab, Bashir et al. 2007)

#### 2.4.1. Measurement of High Intensity Sound

The scale for the measurement of high intensity sound is known as Decibel. The instrument used for its measurement is known as Noise Meter. Types of conversation and their units are given below:

- Whispering  
20.15 decibel
- Normal conversation  
50 decibels
- Conversation on telephone  
80.65 decibels

Usually a man can listen sound from 20 to 100 decibel. If noise is greater than 80 decibel then it will become unbearable and will become the cause of grating. In the below given table different kinds of noise and their sources are discussed:

**Table 12: Kinds of Noise and there Sources**

Noise	Decibel	Source
Making Deaf	140	Jet Planes
Very Loud Noise	100	Industrial Plant
Loud Noise	90	Bazar And Streets
Middle Level Noise	50	Restaurant
Little Noise	20	Murmuring of Leaves
Very Little Noise	10	Normal Respirations

Source: National Survey 2014

### 3.1.4. Measurement of High Frequency Sound

Hertz scale is used for the measurement of high frequency sound. One hertz is equal to one cycle per second. Human ear can only listen sound of frequency 20 to 20,000 hertz. The measuring instrument is known as Sound Level Meter.

## 4. Harmful Effects of Unwanted Noise

**Psychological Effect:** beside physical effects the noise pollution inflicts severe psychological effects on human health. Noise pollution push people toward mental disorders, for instance due to noise most of the people lose their patience. Patience is directly related with health sleep, either their anger is due to the reason that they are lacking the required amount of sleep or noise.(Geravandi, Takdastan et al. 2015) The more is the noise the increase is in the production of annoying hormones in human minds which every one of us witness every day. There some other psychological effects of noise pollution which are;

- Reduced efficiency to do work; effects appear on the mental ability of a person and his creative abilities also become paralytic.
- Depression
- Loss of interest to do work
- Irritation.

Beside these, there are other physical and Physiological Effects of noise pollution which are as under:

- Due to unwanted noise not only the comfortableness of the man is destroyed but if its level is high then bad affect can lies on the hearing ability of the ear. Hearing ability can be lost temporarily or permanently. According to an estimate

made, at global level more 125 Million peoples has to face hearing problems due to noise pollution.<sup>7</sup>

- In noise students are not able to get education with full intentions. They do not concentrate in readings for a long time.
- The effects of healthiness of the patients become less because due to noise they receive mental and psychological un-comfortableness. Person feel mental tiredness remains depressed and becomes deprived from sleep. Due to the dejection of the sleep he faces other afflictions.(Kam, Kam et al. 1994)
- Pregnant women during maternity remain infected by many mental and other diseases due to living in the continuous noise.<sup>8</sup> Their born children become entangled in mental diseases from the beginning of the life.
- Most of the neural diseases occur due to noise.
- The blood pressure of the people raises living in the environment of noise. Intricateness and fractiousness produces in their nature.
- Like humans wildlife also hates noise. Animals usually do not like to live in the suburb of airports and prefer calm area. Very loud noise affects their breeding. Take the example of crows that caw due to explosion or fire of the gun and abscond.(Bugliarello, Alexandre et al. 2014)
- People working in the pollution of noise feel physical weakness.
- Because of noise speediness occur in the process of different cells of the human Body due to which several fluids discharge unusually from them.

- Negative effects appear on the digestive system. According to a medical research the acidity of the stomach increases due to noise.
- In unnecessary vocal effects a person loses his standard personality. Due to noise improper changes appear in his living.

## 5. Relevant Noise Control Mechanism in Pakistan

It is very true that the people Pakistan are faced with serious Noise hazard which has mentioned above. Beside other reasons, the chief problem was that attention was not given to environmental protection. The word “environment” was unfamiliar to people of Pakistan even after promulgation of the 1983 Environmental Protection Ordinance. Pakistan Environmental Protection Council-an Apex body for setting up environmental policies, met for the first time after 9 years since the Ordinance became effective. Even the rules to operate the 1983 Ordinance could not be formulated in 13 years span till it was replaced with a new act of Parliament in 1997. Environmental institutions at the federal and provincial levels were too weak to enforce the laws. Environmental awareness was non-existence and whatever efforts exerted made a little change due to low literacy rate. Though with having limited resources, Pakistan has made an effort to strike back and overcome on the environmental problems.

### 5.1. Legislative Framework an Overview

There are no such statements of principles or policies in regard to the rights and responsibilities

of the State and its citizens with respect to the environment in the Constitution of the Islamic Republic of Pakistan 1973. According to the general legislative scheme in regard of issues enclosed in the Concurrent Legislative List, the principal liability lies with the Federal Government. Both the constitutional and executive powers have been defined in the Constitution. Therefore a constant nationwide leadership can be provided by the Federal Government while leaving detailed issues where assumes to each of the province.

The Provincial Governments are independent with respect to the subject areas coming under their horizon.<sup>9</sup> The only restriction to the provincial action is in a few areas that are within the exclusive authority of the Federal Government. These strategic areas are port quarantine; maritime shipping and navigation on tidal waters; major ports and port authorities and fishing and fisheries beyond territorial waters. Insofar in the Concurrent List, however, the Constitution gives priority to Federal Laws over Provincial laws, if the two fight. Article 9<sup>10</sup>, 14<sup>11</sup> and 184(3)<sup>12</sup> and 199(1) (c) <sup>13</sup>are the related articles of the Constitution of Pakistan 1973 dealing with the protection of environment. These have been used in a milestone environmental law case of the Supreme Court of Pakistan, Shehla Zia Vs. Wapda.<sup>14</sup>

Beside these we have “The West Pakistan Regulation and Control of Loud Speakers and Sound Amplifiers Ordinance, 1965 and general Regulation of Motor Vehicle under which those vehicles which have crossed the prescribed limits of gas emissions and noise are hereby by prohibited.<sup>15</sup> Standards are laid down by Pak – EPA in the form of NEQS, the compliance of

which is obligator on the owner of motor vehicles. For the purpose of strict compliance with the rules of PEPA, the Federal Agency came out with the idea of installing the emission inspecting devices in the vehicles, conversion of oil into gas and regular testing to overcome the problem in hand.

### Way Forward

In order to prevent noise pollution, more comprehensive law is needed. It is suggested to bring the issue of noise pollution within the range of local laws and the infringers should be handled with strong hands by the environmental magistrate's courts. Though, there are some laws available in the books of legislation but they have become old. Now, for the measurement of noise, the new scientific methods are needed to be integrated in some of the prevailing laws regarding to traffic and industrial noise. It is also recommended in the exiting atmosphere either new rules are made or the current laws concerning to noise pollution are totally renovated. Besides these, the following points shall also be kept in mind that;

- The standards which are specified for the emission of noise in Pakistan needs to be revised.
- The application of the draft made for noise emission in 1965 must be applied without any further delay.
- For the purpose of noise control all EPAs are required to co-ordinate among themselves. They must get a combine campaign against noise pollution at country level with special reference of traffic police. In this regard the contribution of various government departments, NGO, transport unions and people from social sector is evident.
- Under country law such vehicles are banned due to which there is more possibility of noise production.

- Under the rules of traffic drivers should be bounded that they should use horn minimally. Pressure horn should be fully banned.
- The use of audio and video should be limited at public places and that is also to the desirable level. Only license holder people should have the authority to use these instruments in the public places.
- Patience and tolerance should be created in oneself so that the atmosphere of angriness and screechiness do not produce in home. Talking with common people should be with soft speech and in polite manner.
- In mosques the use of the loudspeakers should be in limit. Beside the timings of the prayer they should be used minimally.
- The silencers of the motorcycles and rickshaws should be in accurate condition so that less noise produces. Rickshaw drivers should be informed and incited that the use of broken silencers will not only affect their life but also petrol is not saved
- Speed breakers should be designed on the roads according to the principles of engineering because of incorrect speed breakers risk of damaging the silencers of the vehicles occur.

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