

**Environmental Impact Assessment**  
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**Indian Institute of Technology, Roorkee**  
**Lecture – 019**

**EIA – Law, Policy and Institutional Arrangements for EIA Systems (Part-VII) Noise**

Welcome to the course Environmental Impact Assessments. In this session, we will cover noise in our larger ambient where we are looking at the law, policy, and institutional arrangements for the EIA system.

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**Coverage**

- ① International Level Legislation, Guidance and Standard.
- ② Standards and Guidelines for measuring and assessing noise and vibration.
- ③ National Noise level policy and Guidance.

4

So, our coverage will include that, we are going to look at the international level legislation, guidance, and standards in these areas. Then we will look at the standards and guidelines, for measuring and assessing noise and vibration, which all are available and then, we will look at the National noise level policy and guidelines in the context of India.

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**Learning Outcomes**

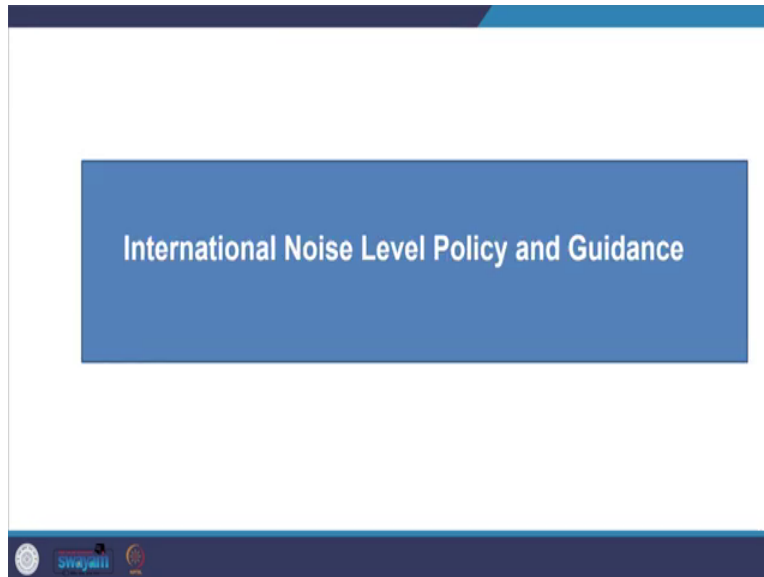
- ① International Level Legislation, Guidance and Standard.
- ② Identify various Standards and guidelines for measuring and assessing noise and vibration.
- ③ Identify National noise level policy and guidance and connect with EIA process.

6

So, accordingly, our learning outcome, expected learning outcome would be that you should be able to list the international level legislation, guidance, and available standards. You should be able to identify various

standards and guidelines for measuring and assessing noise and vibrations. You should be able to like tell which standards and guidelines are there for what purpose, and then you should be able to identify national noise level policies and guidelines and connect all these to the EIA process.

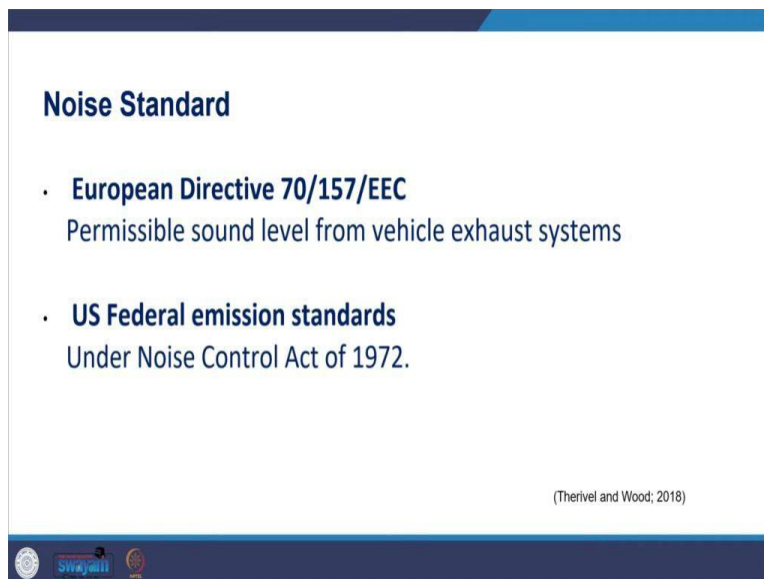
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So, looking at the international noise level policy and guidelines. So, when we deal with noise assessments when we are dealing with it, the regulation varies a lot, and there might be a lot of variations from place to place, from country to country. Therefore, the environmental authorities should be consulted very early in the stage at scoping stage for the purpose of EIA, so that, whether it has to be included or not included, what should come in this.

So, generally, you would see that the policy and legislation concerning noise include the standards for noise levels. So, what would be the maximum noise level for those, the standards are prescribed, so that, is usually what you will find that, the standard, you will usually find in all the places, in most of the places.

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For example, you have a European directive relating to the permissible sound level from vehicle exhaust systems, or you would also find an example of US Federal emission standards set up by the Noise Control Act

of 1972. So these standards are theirs, which are very general standards and you would find them in many places.

There is another approach that is also taken apart from this standard for the maximum level, you would also find that countries can maintain or manage overall environmental noise levels as per the health impact. So, they would not set up the maximum level, but they would look at the overall environmental noise level.

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### Noise Map

- Countries prepare noise maps in given land use / density/ project areas and manage noise where necessary, and also to prevent specified quiet areas from getting noisier
  - Reference : Europe, Directive 2002/49/EC (EC 2002) – the Environmental Noise Directive.

(Therivel and Wood; 2018)

For example, in Europe directive, you see that, the environmental noise directive is there. Through that, it is required that countries prepare noise maps, especially in areas that are densely populated, or areas near the major transport projects. Or, if there are plans to introduce certain new projects, so there all the noise maps have to be prepared too.

There would be also designated areas that would be identified as quiet areas, and then it would be certain kinds of projects would be avoided in those areas. So, this approach of mapping and maintaining the noise level is also used. So, in this, they do not specify the quantitative levels rather a generalized environment is maintained.

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### Guideline values for community noise in specific environments.

**GUIDELINES**

FOR  
**COMMUNITY NOISE**

Edited by

**Birgitta Berglund  
Thomas Lindvall  
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This WHO document on the Guidelines for Community Noise is the outcome of the WHO expert task force meeting held in London, United Kingdom, in April 1999. It bases on the document entitled "Community Noise" that was prepared for the World Health Organization and published in 1995 by the Stockholm University and Karolinska Institute.

<https://www.who.int/docstore/peh/noise/Comnoise-1.pdf>

World Health Organization, Geneva  
Centre of Sustainable Development and Healthy Environment (SDH)  
Department of the Protection of the Human Environment (PH)  
Occupational and Environmental Health (OEH)

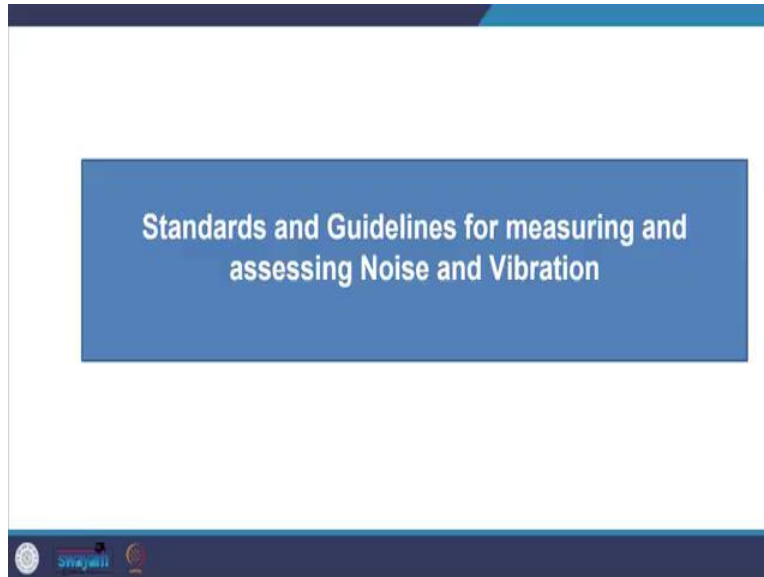
Specific environment	Critical health effects)	Area [dB(A)]	Time base (hours)	Time base [dB]
Outdoor living areas	Serious annoyance, daytime and evening Moderate annoyance, daytime and evening	55 50	16 16	- -
Dwelling, indoors	Speech intelligibility & moderate annoyance, daytime & evening	35	16	-
Inside bedrooms	Sleep disturbance, night-time	30	8	45
Outside bedrooms	Sleep disturbance, window open (outdoor values)	45	8	40
School class rooms & pre-schools, indoors	Speech intelligibility, disturbance of information extraction, message communication	35	during class	-
Pre-school bedrooms, indoor	Sleep disturbance	30	sleeping time	45
School, playground outdoor	Annoyance (external source)	55	during play	-
Hospital, ward rooms, indoors	Sleep disturbance, night-time Sleep disturbance, daytime and evenings	30 30	8 16	40 -
Hospitals, treatment rooms, indoors	Interference with rest and recovery	41		
Industrial, commercial shopping and traffic areas, indoors and outdoors	Hearing impairment	70	24	110
Ceremonies, festivals and entertainment events	Hearing impairment (patients < 5 times/year)	100	4	110
Public addresses, indoors and outdoors	Hearing impairment	85	1	110
Music and other sounds through headphones/speakers	Hearing impairment (free-field value)	85 #4	1	110
Impulse sounds from toys, fireworks and firearms	Hearing impairment (adults)	-	-	140
	Hearing impairment (children)	-	-	120
Outdoors in parkland and conservation areas	Disruption of tranquillity	41		42

So, you would also find World Health Organization WHO guidelines for community noise, which especially gives noise levels based on health parameters. You can see different environments like those given in the

guideline, and now you can look at the critical health noise level. And you can see that all the measurements are given in decibels, decibel is the relative loudness of sound in air, as perceived by the human ear. So, that, is how it is that, is the unit, and that, is what levels are prescribed here.

So, the guidelines, also recommend internal and external noise levels that, will prevent detrimental effects on a community, including rest, sleep, and work, that, require concentration among others. So, you see, how different for different activities also it is being determined.

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Now, looking at different standards and guidelines for measuring and assessing noise and vibration. So, you see that you have international standards like ISO 1996 to 2007.

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**Examples of key standards and guidelines for the measurement and assessment of noise and vibration**

Standard/Guidelines	Title	Description
International Standard ISO 1996-2:2007	Description, Measurement and Assessment of Environmental Noise Part 2: Determination of Environmental Noise Levels	Describes procedures for determining sound pressure levels by direct measurement, extrapolation of measurement through calculation, or exclusively by calculation. Recommends preferable conditions for measurement or calculation to be used in cases where other regulations do not apply. Provides guidance on evaluating the uncertainty of noise assessment results.
International Standard: ISO 9613-2:1996	Acoustics – Attenuation of Sound During Propagation Outdoors – Part 2: General Method of Calculation	Provides algorithms for the prediction of noise levels in the community from sound emission sources. Key mechanisms of sound attenuation include geometric divergence, atmospheric absorption, ground effect, reflection from surfaces and screening. Algorithms are widely adopted in commercially available software.
International Institute of Noise Control Engineering 2011	Guidelines for Community Noise Impact Assessment and Mitigation	Non-technical guidance aimed at policy makers involved with noise regulation and control through EIA. Focuses primarily on the broad approach to undertaking a noise impact assessment. Also provides information on dose-response relationships and land use planning to control exposure to environmental noise.

(Source: Methods of Environmental and Social Impact Assessment, Noise, Graham Wood and Riki Therivel; 2022; pg 495)

19

So, here you see this is meant to like it provides procedures for determining sound pressure levels by direct measurements. Then, you also can do extrapolation of measurements and undertake calculations, or by the like completely you can take it through calculations.

It also provides recommendations for preferable conditions for measurements or calculations and so on. So, this particular international standard can be used for this purpose, then you also see another international standard ISO 9613-1996, so, which is related to the acoustics attenuation of sound.

So, you see that, it provides algorithms for the prediction of noise levels in a community from sound emission sources, so all these standards can like all these algorithms be used. Then you also see the International Institute of Noise Control Engineering 2011, which also provides guidelines for community noise impact, assessment, and mitigation. So, this is provided and this gives you non-technical guidance, especially aimed at policy for the policymakers, who are involved in noise regulations and control through the EIA process.

So, this guideline is also available. This primarily focuses on the broad approach to undertaking noise impact assessments, so, how you can do that, assessment. It also provides information on the dose-response relationship and how land use planning can be taken care of to control more noise exposure.

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Standard/Guidelines	Title	Description
World Health Organisation 2009	Night Noise Guidelines for Europe	Provides additional information on the health effects of night noise, including health-based guideline values. Proposes an Interim Target level of 55 dB Light, outside.
Association of Noise Consultants 2012	Measurement and Assessment of Ground borne Noise and Vibration (2nd edn.)	Practical guidance with particular attention paid to railway vibration and ground-borne noise. Provides advice on overcoming problems associated with widely different procedures, criteria and equipment adopted across the industry.
British Standard 5228-1:2009+A1:2014, 5228-2:2009	Code of Practice for Noise and Vibration Control on Construction and Open Sites. Part 1: Noise and Part 2: Vibration	Part 1 provides a methodology for calculating noise levels generated for a range of common construction plant (both fixed and mobile). Includes a database of equivalent continuous noise source levels (LAeq dB> for various plant, for use in the absence of measured data. Outlines a simple noise propagation model that incorporates allowances for source-receiver distances, ground effects, surface reflection, barriers, and duration and timing of activities. The standard also outlines methods for determining the significance of noise effects and provides guidance on minimising potential effects through mitigation. Part 2 provides guidance on measuring vibration-including procedures for estimating vibration attributable to vibratory rolling and piling activities. Annex B provides guidance on the effects of vibration levels on human receptors, as well as guide values for cosmetic damage to building structures. The standard provides information on vibration control, including a review of relevant vibration criteria.

(Source: Methods of Environmental and Social Impact Assessment, Noise, Graham Wood and Riki Therivel; 2022; pg 495)

You also see the World Health Organization guideline, which also gives information additional information on the health effects of night noise. So, what could happen, then you also see the association of noise Consultants 2012. They provide measurements and assessments of ground-borne noise and vibration.


So, this is practical guidance with particular attention paid to the railway vibration ground-borne noise. It also provides advice on how to overcome these problems and what could be the mitigation strategies for this. You also find British Standards which are like the Code of Practice for noise and vibration control on construction and open sights, so, this is also available.

And in this, has many parts, and then these parts provide a methodology for calculating noise levels, generated for a range of common construction plants like those construction work, which are both fixed or mobile, so it provides that, Further, you see part two, another part guides measuring vibrations, including what kind of procedures have to be used for estimation of vibration, and so on. So, that, all is provided in this British standard which can be used for noise estimations impact assessment.

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Standard/Guidelines	Title	Description
Environmental Protection Authority (EPA) Western Australia 2014	Environmental Assessment Guideline: Consideration of Environmental Impacts from Noise	Assists project proponents in determining whether noise emissions may cause significant impacts; explains how potential noise impacts are considered by the EPA and assessed within the EIA process; and directs proponents to appropriate regulatory standards and technical guidance.
Environmental Protection Department Hong Kong	EIA Ordinance. Technical Memorandum Annex 13: Guidelines for Noise Assessment	Basic guidance on commonly adopted approaches and methodologies for assessment of noise impacts arising from designated EIA projects.
British Standard 4142:2014	Methods for Rating and Assessing Industrial and Commercial Sound	Guidance on the monitoring and assessment of industrial and commercial sound sources. Provides a methodology and criteria for assessing the impacts of new or existing sound sources by comparing the operational sound level (the 'rating' level) with the background level (i.e. the baseline without the development). The rating level can incorporate a 'rating penalty' based on a subjective or objective assessment of its characteristics (e.g. tonal, impulsive).

(Source: Methods of Environmental and Social Impact Assessment, Noise, Graham Wood and Riki Therivel; 2022; pg 495)



25

Then, you also see the Environmental Protection Authority EPA Western Australia also giving Environmental Assessment guidelines and Consideration of Environmental Impact assessment from the noise perspective. So, they also come up with a guideline. So, these particular guidelines assist the project proponents to find out whether the noise emissions may cause significant impact or not, so, these guidelines are available. And they explain how potential noise impacts or is considered in the environmental protection by the Environmental Protection Authority, and how this assessment has to be done within the EIA process.

So, all, guidelines are provided to undertake the study. We see another which is like the Environmental Protection Department Hong Kong, which gives EIA ordinance. So, it provides the ordinance, which gives the technical memorandum and guidelines for noise assessment, so noise assessment can be done through this.

It also gives assessments of noise impacts and different kinds of impacts, which might happen because of the nature of the project. So, all those things are provided here. For the industrial and commercial sound, how you are going to rate it and how you are going to assess the noise level and the impact is given by British standards.

So, this standard guides how to monitor, how to assess industrial and commercial purposes. It also gives you the methodology for this and then the criteria for how this can be done, and how these existing sound sources can be taken care of by comparing the operational sound. The British Standard gives guidance on the monitoring and assessment and it also provides you the methodology and also provides you the criteria for assessing the impact.

(Refer Slide Time: 11:48)

Standard/Guidelines	Title	Description
<b>British Standard 8233:2014</b>	Guidance on Sound Insulation and Noise Reduction for Buildings	Provides guidance for the control of noise in and around buildings. Applicable to new buildings, or refurbished buildings undergoing a change of use. Provides indicative internal and external guideline noise values. Provides design guidelines for internal acoustic environments within buildings dependent upon their function.
<b>British Standard 6472 Part 1: 2008</b>	Guide to Evaluation of Human Exposure to Vibration in Buildings. Part 1: Vibration Sources Other Than Blasting	Guidance on the magnitude of vibration (expressed as a Vibration Dose Value) at which adverse comments may arise. Is also referred to within BS5228-2:2009.
<b>British Standard 7385 Part 2: 1993</b>	Evaluation and Measurement for Vibration in Buildings – Part 2: Guide to Damage Levels from Groundborne Vibration	Guidance on the levels of vibration (expressed as peak particle velocity) at which cosmetic damage is likely to occur within buildings.
<b>Environment Agency 2004</b>	Horizontal Guidance for Noise Part 2 – ‘Noise Assessment and Control’	Provides basic noise theory and describes the principles of noise measurements and prediction. Considers the control of noise through design, operational and management techniques and abatement technologies.

(Source: Methods of Environmental and Social Impact Assessment, Noise, Graham Wood and Riki Therivel; 2022; pg 495)

Standard/Guidelines	Title	Description
<b>Department for Transport and Welsh Office 1988</b>	Calculation of Road Traffic Noise (CRTN)	Gives procedures for calculating road traffic noise levels, incorporating factors including: traffic volume, composition, and speed; road gradient; road surface; distance between the road and receptor; ground cover; barrier screening; and reflection from facades. The noise parameter calculated is the LAJ0,18hr and is based on the 18-hour Annual Average Weekday Traffic.
<b>Highways Agency 2011</b>	Design Manual for Roads and Bridges (Volume 11 Section 3 Part 7 HD213/11 Noise and Vibration)	Describes procedures for assessing the impacts/effects of road traffic using noise descriptors based upon statistical noise level LA10,18hr i.e. over an 18-hour period between 06:00 and 24:00 (the traffic noise index).

(Source: Methods of Environmental and Social Impact Assessment, Noise, Graham Wood and Riki Therivel; 2022; pg 495)

So, you also find other British Standards for guidance on sound insulation and noise reduction for buildings. So, this provides guidance for control of noise in and around the building, how the noise has to be, and how you can control that noise. And then this guidance applies to the new buildings and then also the refurbished buildings, which are changing. It also provides indicative internal and external guidelines for the noise values that have to be maintained and the design environment that has to be maintained in this.

You also see the British Standard of 2008 which provides you with the guide to the evaluation of human exposure to vibration and buildings. So, what happens to the exposure, it gives you guidance on the magnitude of a vibration as per the dose value, at which the adverse impact would arise. So, those things are provided here. Further, you can see another British Standard of 1993, so that, gives you evaluation and measurement for vibrations in buildings. So, it gives you guidance on the levels of vibration, and then what kind of cosmetic damage is likely to occur within the building.

Then, also you see environmental, Environment Agency 2004, which provides you with horizontal guidance for noise, and noise assessment control. So, it provides basic noise theory and describes the principles of noise measurement and prediction, and how you can control it through design operations and management. And then it also gives you different techniques and other technology for reducing it. You also see the Department for Transport and Welsh Office gives you the calculation of road traffic noise, so, it helps you to calculate that.

So, it gives the procedure for calculating road traffic as well as noise levels. It also gives you incorporation factors including traffic volume, what factors have to be included, what compositions one has to look into the speed, and all these considerations: road gradient, road surface, how these factors have to be taken into consideration, so all those are given in this particular guidance. Then, you also see a highway agency, which provides you design manual for roads and bridges. So, it describes the procedure for assessing the impacts, and effects of road traffic, and then how you can use noise descriptors based on the statistical noise levels.

So, it gives you guidance on that, So, all of these can be referred to while you do that, and more we will see when we do the method section. So, these are the standards, range of standards, and guides you see.

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We also find International Finance Corporation which provides the. We have been seeing how IFC has been giving standards for several aspects. So, you see it also provides for the noise level, so, they have performance standards. It gives you the international benchmark for environmental and social risk management and it has specific reference to noise in its performance standards one, two, three, and six. Then, we see that 1.7 of the IFC also considers the environmental health and safety aspects of EHS guidelines. So, that also provides information on noise assessment and management including absolute noise level limits.

So, this is also available to help with like how to go about the assessment process. So, this guidance is useful for operational noise impact in particular, and I like measuring it during the function of the project as it provides a reference for these stationary noise sources. So, what IFC provides is much more useful for the operational noise impact compared to the mobile noise impact, because it provides references from the stationary noise source. So, you cannot use it for mobile purposes. So, you cannot use it when you are dealing with transport or mobile noise sources, for your measuring for mobile noise sources.

(Refer Slide Time: 16:48)



Table of Contents		
1.0	INTRODUCTION	01
2.0	NOISE	06
3.0	THE PROCESS OF ASSESSING NOISE IMPACTS	16
4.0	SCOPING	21
5.0	ESTABLISHING THE BASELINE	22
6.0	PREDICTION OF NOISE LEVELS	31
7.0	ASSESSMENT	33
8.0	MITIGATION	55
9.0	REPORTING AND MONITORING	59
10.0	REVIEW AND FOLLOW-UP OF THE NOISE IMPACT ASSESSMENT	62
	TECHNICAL ANNEX (to Chapter 6) - Predicting Noise Levels	64

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Furthermore, we find that is also very useful for EIA purposes is the Institute of Environmental Management and Assessment IEMA, IEMA guidelines for environmental noise impact assessment. So, they have specific guidelines for undertaking environmental noise impact assessment. In this snip of the guidelines you can see here that, it provides advice on how to do the noise assessment at the scoping level then, it also helps you to baseline noise environment. Then, also how you can predict changes in the noise level because of the development, and then how you would evaluate the entire impact, and how you would evaluate the significance of the impact it would have. So, all that is provided here.

It is also advised to include the sensitivity of the receptor, and then the frequency, and duration of noise sources, and the time of the day. You will study more in the method section. So now, looking at the national level policy and guidance. There are many statutory provisions related to noise pollution in our country. These provisions are spread across various laws. It is not just one law, but across the laws like, you have studied primary and secondary laws, which are there, policies which are there. So, it is spread across various laws and amendments.

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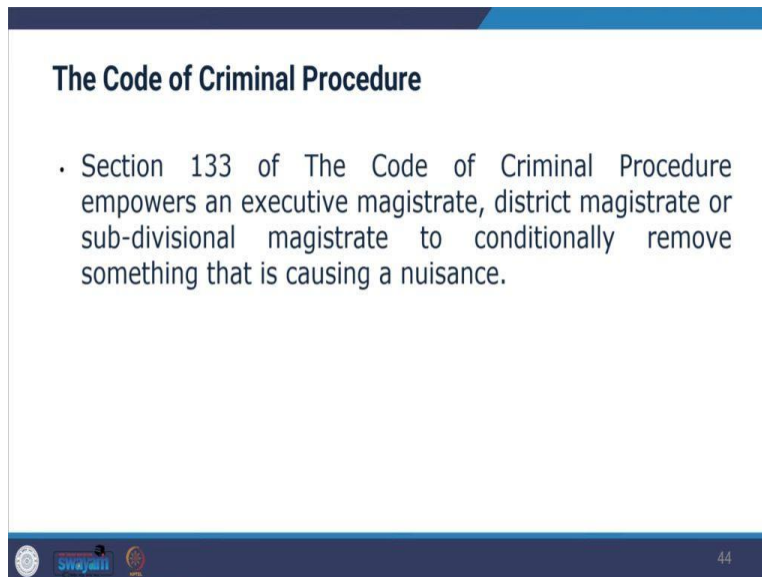
## Constitution of India

- Article 21 of the Indian Constitution grants the right to life to the citizens of India.
  - The scope of Article 21 is large and it is stated that it ensures a person to live with dignity or right to a better life.

Various statutory provisions we can see are like, you have one is Article 21 of the Indian constitution, which grants the right to life to the citizens of India. So, through this, through the Supreme Court pronouncement, it has been made clear that the right to life does not just mean the mere existence or survival of a person. But, it also, addresses the quality of life, dignity right to a better life. So, under that, article, it is also it is covered

primarily under the Constitution of India. And so any person who faces a problem due to noise pollution disrupts the person's peace and comfort then, it means the noise pollution is violating a person's right to life, so, that, also you see.

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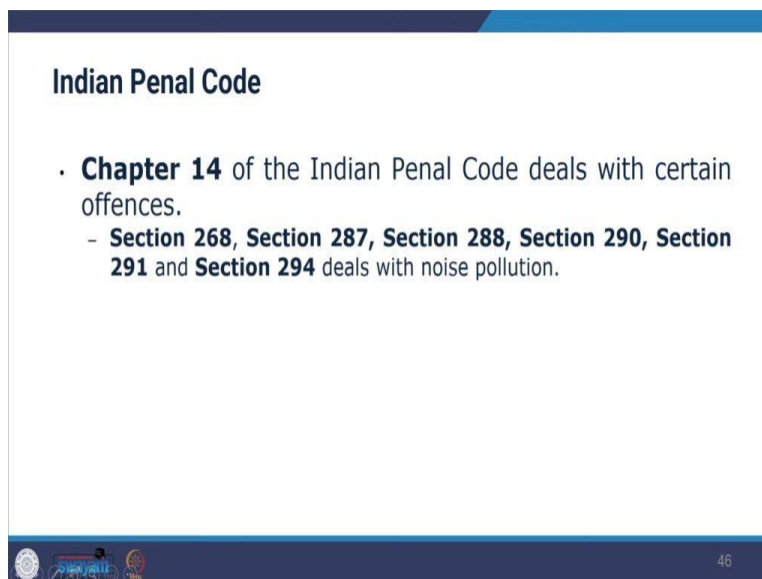
**The Code of Criminal Procedure**

- Section 133 of The Code of Criminal Procedure empowers an executive magistrate, district magistrate or sub-divisional magistrate to conditionally remove something that is causing a nuisance.

44

Then you also see the Code of Criminal Procedure. So, you have section 133 of the Code of Criminal Procedure, which empowers the executive magistrate, district magistrate, or sub-divisional magistrate to conditionally remove something that, is causing a nuisance. So, that is there.

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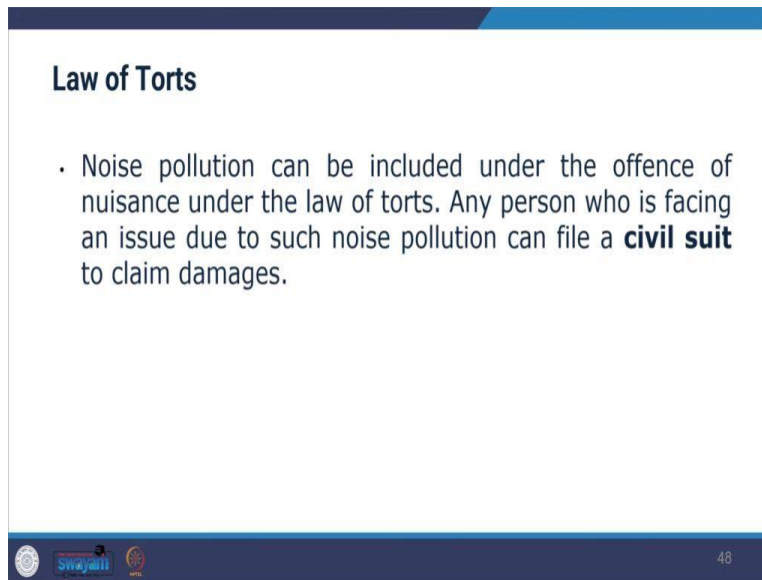
**Indian Penal Code**

- **Chapter 14** of the Indian Penal Code deals with certain offences.
  - **Section 268, Section 287, Section 288, Section 290, Section 291** and **Section 294** deals with noise pollution.

46

Then, you also see Indian Penal Code chapter 14 deals with certain offenses, such offenses can be any action that, affects public health and safety. We will see that, numerous sections 268, 287, 288, 290, and 294 deal with noise pollution.

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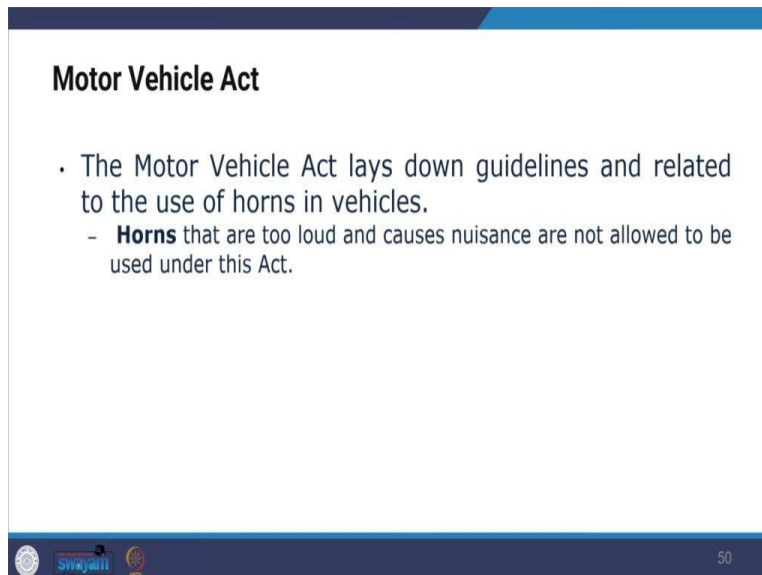
**Law of Torts**

- Noise pollution can be included under the offence of nuisance under the law of torts. Any person who is facing an issue due to such noise pollution can file a **civil suit** to claim damages.

48

So, there is also the law of torts. Noise pollution can be included under the offense of nuisance under the law of torts. Any person who is facing any issue due to such noise pollution can file a civil suit to claim damages. So, you need to see, how these things can impact your assessment procedure, the legal status of your assessment, or the running of your project.

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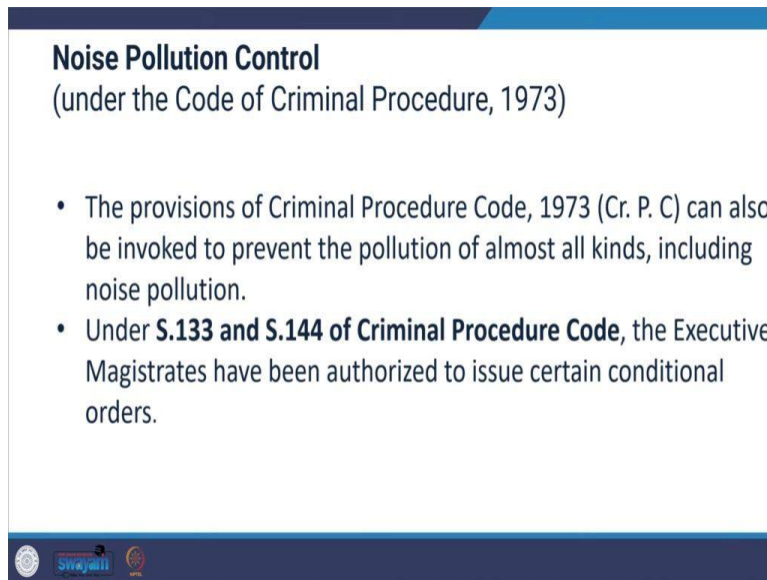
**Motor Vehicle Act**

- The Motor Vehicle Act lays down guidelines and related to the use of horns in vehicles.
  - **Horns** that are too loud and causes nuisance are not allowed to be used under this Act.

50

As well as you see, there is also the Motor Vehicle Act, which puts the guidelines related to the vehicles, honking, and all those things.

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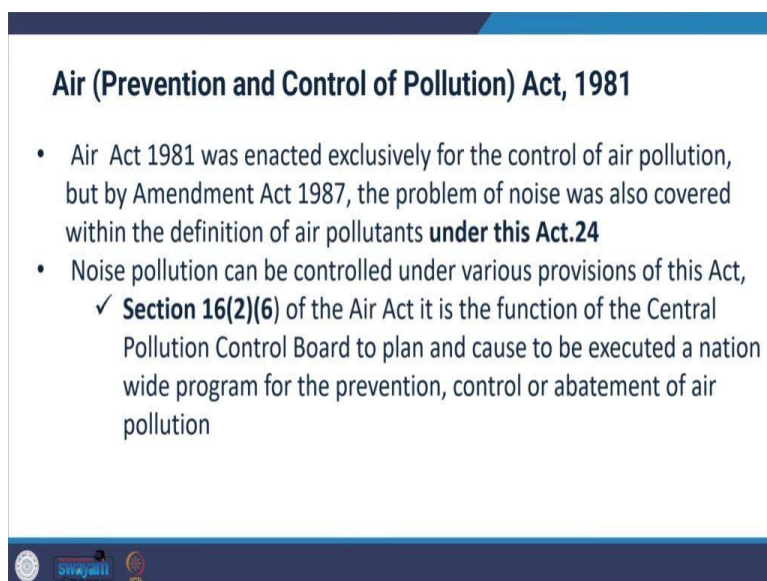
**Noise Pollution Control**  
(under the Code of Criminal Procedure, 1973)

- The provisions of Criminal Procedure Code, 1973 (Cr. P. C) can also be invoked to prevent the pollution of almost all kinds, including noise pollution.
- Under **S.133 and S.144 of Criminal Procedure Code**, the Executive Magistrates have been authorized to issue certain conditional orders.

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So, you will also find noise pollution control under the Code of Criminal Procedure 1973. So, this provision of the Criminal Procedure Code can also be invoked to prevent pollution of almost all kinds including noise pollution.

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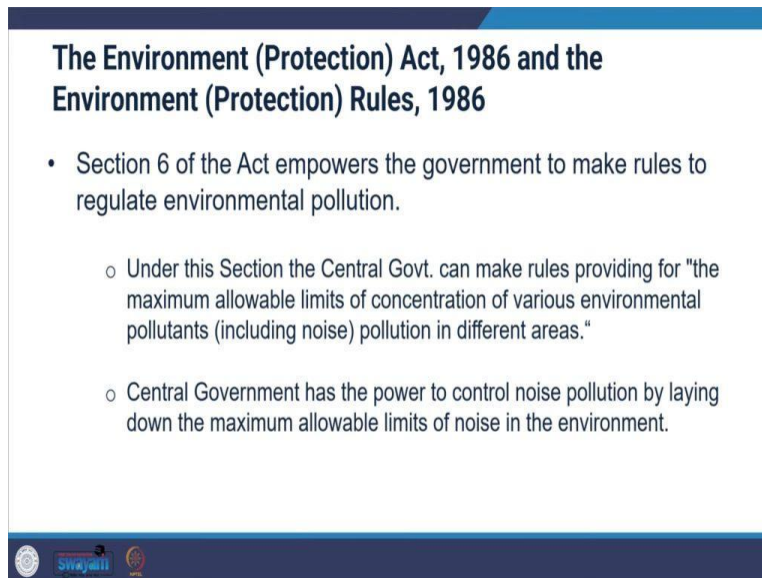
**Air (Prevention and Control of Pollution) Act, 1981**

- Air Act 1981 was enacted exclusively for the control of air pollution, but by Amendment Act 1987, the problem of noise was also covered within the definition of air pollutants **under this Act.24**
- Noise pollution can be controlled under various provisions of this Act,
  - ✓ **Section 16(2)(6)** of the Air Act it is the function of the Central Pollution Control Board to plan and cause to be executed a nation wide program for the prevention, control or abatement of air pollution

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So, we see the Air Prevention and Control of Pollution Act 1981. So, this Air Prevention and Control of Pollution Act originally had air as a main concern, air pollution as a main concern, but it was in 1987. The problem was noise was also covered within the definition of air pollution. So, noise pollution can be controlled under various provisions of this act, there are several provisions which are made. And CPCB takes care of and develops these standards in this regard to how to prevent it, and how to manage it.

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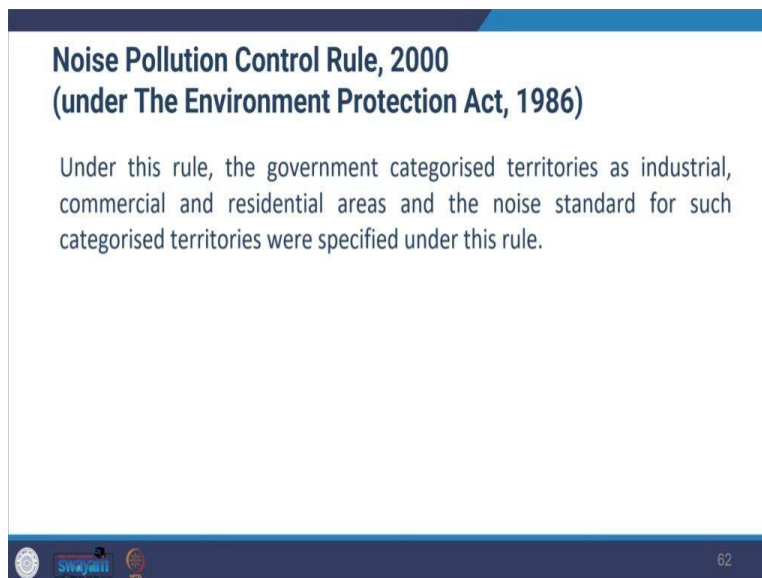
**The Environment (Protection) Act, 1986 and the Environment (Protection) Rules, 1986**

- Section 6 of the Act empowers the government to make rules to regulate environmental pollution.
  - Under this Section the Central Govt. can make rules providing for "the maximum allowable limits of concentration of various environmental pollutants (including noise) pollution in different areas."
  - Central Government has the power to control noise pollution by laying down the maximum allowable limits of noise in the environment.

SWAYAM

We see that, the Environmental Protection Act 1986 and the Environmental Protection Rules of 1986. Within this also, Section 6 of the Act empowers the government to make rules to regulate environmental pollution. So, under this section, the central government makes rules providing the maximum allowable limits of concentration of various environmental pollutants, including noise pollution in different areas. So, according to that, the central government has enacted an environmental protection rule, which provides maximum allowable limits of various environmental pollutants, including noise.

(Refer Slide Time: 22:12)



**Noise Pollution Control Rule, 2000  
(under The Environment Protection Act, 1986)**

Under this rule, the government categorised territories as industrial, commercial and residential areas and the noise standard for such categorised territories were specified under this rule.

62

So, looking at Noise Pollution Control Rule 2000. So, this is under the Environmental Protection Act 1986. So, the Noise Pollution Control Rule was amended in the year 2000 by the Indian Government, to tackle and restrain noise pollution, and it was made part of the Environmental Protection Act 1986.

So under this rule, the government categorized territories or industries, commercial, and residential areas, and noise standards for such categories and it was specified. There were also buffer areas that were demarcated around like hospitals, schools, universities, and the court premises which needed to be taken care of.

So, looking at the Noise Pollution Regulation and Control Rules of 2000, we see that, the noise pollution Regulation Control Rules of 2000 have been enacted to regulate the level of noise pollution in urban areas, including the metropolitan cities from various sources of noise pollution.

So, looking at the objective of this, the purpose of this is that, it makes rules to safeguard the, to reduce the increasing ambient noise level in public spaces. Because of the industries, construction activities, generator sets, loudspeakers, public address systems, music systems, vehicular horns, and other mechanical devices.

So, to curtail those noise levels, it makes provisions, and it finds it necessary to regulate and control noise-producing and generating sources. The purpose is to maintain the ambient air quality standard concerning noise.

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**Noise limits for vehicles at manufacturing stage**  
(The Noise Limits for vehicles were notified by Environment (Protection) Amendment Rules, 2000 vide G.S.R. 542 (2); dated 27<sup>th</sup> September, 2000 and inserted as serial no. 83 of Schedule I of the Environment (Protection) Rules, 1986. Subsequently these Rules were amended by Environment (Protection) Amendment Rules, 2002, vide G.S.R. 849 (E), dated 30<sup>th</sup> December, 2002 and the Environment (Protection) Amendment Rules, 2005, vide G.S.R. 173 (E), dated 7<sup>th</sup> May, 2005, under the Environment (Protection) Act, 1986)

The test method to be followed shall be IS 3029:1996.

**(1) Noise limits for vehicles applicable at manufacturing stage from year 2001**

S. No.	Type of vehicle	Noise Limits from 1 <sup>st</sup> January, 2001, dB(A)	Date of implementation
1.	Two wheeler Displacement upto 80 cm <sup>3</sup> Displacement more than 80 cm <sup>3</sup> but upto 175 cm <sup>3</sup> Displacement more than 175 cm <sup>3</sup>	75	1 <sup>st</sup> January, 2003
		77	
		80	
2.	Three wheeler Displacement upto 175 cm <sup>3</sup> Displacement more than 175 cm <sup>3</sup>	80	1 <sup>st</sup> January, 2003
		77	
3.	Passenger car Displacement upto 175 cm <sup>3</sup> Displacement more than 175 cm <sup>3</sup>	75 77	1 <sup>st</sup> January, 2003
4.	Passenger or commercial vehicle Gross vehicle weight upto 4 tonnes Gross vehicle weight more than 4 tonnes but upto 12 tonnes Gross vehicle weight more than 12 tonnes	80 83 85	1 <sup>st</sup> July, 2003

**(2) Noise limits for vehicles applicable at manufacturing stage applicable from 1<sup>st</sup> April, 2002**

S. No.	Type of vehicle	Noise Limits from 1 <sup>st</sup> January, 2001, dB(A)
1.0	Two wheeler	
1.1	Displacement upto 80 cc	75
1.2	Displacement more than 80 cc but upto 175 cc	77
1.3	Displacement more than 175 cc	80
2.0	Three wheeler	
2.1	Displacement upto 175 cc	77
2.2	Displacement more than 175 cc	80
3.0	Vehicle used for carriage of passengers and capable of bearing not more than nine seats, including the driver's seat	74
4.0	Vehicle used for carriage of passengers having more than nine seats, including the driver's seat, and a maximum gross Vehicle Weight(GVW) of more than 3.5 tonnes	
4.1	With an engine power less than 50 kW	78
4.2	With an engine power of 50 kW or above	80
5.0	Vehicle used for carriage of passengers having more than nine seats, including the driver's seat	
<b>Vehicles used for carriage goods</b>		
5.1	With maximum GVW not exceeding 3.5 tonnes	78
5.2	With maximum GVW greater than 3.5 tonnes but not exceeding 10 tonnes	77
6.0	Vehicle used for transport of goods with a maximum GVW exceeding 3.5 tonnes	
6.1	With an engine power less than 75 kW	77
6.2	With an engine power of 75 kW or above but less than 150 kW	78
6.3	With an engine power of 150 kW or above	80

Provided that for vehicles mentioned at serial numbers 3.0 to 6.3, the noise limits for the following States shall be applicable on and from the date specified against that State:-

- (i) Haryana with effect from 1<sup>st</sup> October, 2005
- (ii) Jammu and Kashmir with effect from 1<sup>st</sup> October, 2005
- (iii) Madhya Pradesh with effect from 1<sup>st</sup> September, 2005
- (iv) Punjab with effect from 1<sup>st</sup> October, 2005
- (v) Rajasthan with effect from 1<sup>st</sup> June, 2005
- (vi) Other Provinces: Madhya Pradesh, Karnataka, Madhya Pradesh, Assam, Jharkhand, Bihar, Gujarat, Karnataka, Kerala, Madhya Pradesh, Haryana, Jharkhand, Punjab, Uttar Pradesh, J.P. Nagar, Manipal, Ludhiana, Haryana, Karnataka, Jharkhand, Bihar, Chandigarh, Chandigarh, Jammu and Kashmir, Andhra Pradesh, Gujarat, Karnataka, Kerala, Madhya Pradesh, Assam, Jharkhand, Bihar, West Bengal with effect from 1<sup>st</sup> June, 2005
- (vii) West Bengal with effect from 1<sup>st</sup> July, 2005

<https://cpcb.nic.in/displaypdf.php?id=bn9pc2VIZGF0YS90bz2t2ZzZlZWwY2xlbnBkZg==>

CPCB provides standards under the provision of the Environmental Protection Act 1986. You can see here, the Gazetteer notification, which shows the noise limits for vehicles, link is also provided for reference purposes, you can see. You see how those are for different types of vehicles, two-wheelers, three-wheelers, passengers, cars, and other things, and then the noise limit is provided here. And from when it is applicable is mentioned here.

(Refer Slide Time: 24:42)

**MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE**  
**NOTIFICATION**  
New Delhi, the 18th June, 2018

**G.S.R. 568(E)**—In exercise of the powers conferred by sections 6 and 25 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby makes the following rules further to amend the Environment (Protection) Rules, 1986, namely:

- (1) These Rules may be called the Environment (Protection) Amendment Rules, 2018.
- (2) They shall come into force on the date of their publication in the Official Gazette.

**शुद्ध वायु (सु) अधिनियम, 1986 (29) में संशोधन**

2. In the Environment (Protection) Rules, 1986, in Schedule-I after serial number 111 and the entries relating thereto, the following serial number and the entries shall be inserted, namely:-

Sl. No.	Industry	Parameters	Standards
1	2	3	4
*112	Airports	Ambient Air Quality Standards with respect to Noise in Airport Noise Zone	
		Type of Airports	Limits in dB (A) Leq*
			Day Time
Busy Airports	70	65	
All other Airports excluding proposed airports	65	60	

[https://cpcb.nic.in/uploads/Standards/Noise-Standards/Airport\\_Noise\\_Standards\\_06.07.2018.pdf](https://cpcb.nic.in/uploads/Standards/Noise-Standards/Airport_Noise_Standards_06.07.2018.pdf)

You can also see noise limits for airport daytime/nighttime limitations, definitions, and nodes for existing and proposed airport infrastructure. It has provision for airport noise mapping as well like you saw in the other country, and there is also protocol for measurement also provided, and guidance for development, and regional authorities also how to undertake, how to take care of all these concerns. So, you can see here for the airport and all the definitions involved here, and the link is also provided to you.

So, CPCB also provides noise levels for generator sets. It also provides an authorities list for implementation of noise rules, so that, all is also given here, so, the institutional setup also can be seen. And then in addition to that, the policy mechanism like how different areas are taken care of.

So in India, we see that CPCB in association with the state Pollution Control Board has established a national ambient noise monitoring network. So, in these seven metropolitan cities namely Bengaluru, Chennai, Delhi, Hyderabad, Kolkata, Lucknow, and Mumbai. In these cities, nearly 70 noise monitoring stations are made operational to regularly keep the data and the record. So, you can also use these data sources also for when you are undertaking EIA process.

CPCB has prepared a methodology for formulation of the noise mapping. Then, we also see like that, was that, was about a country. We also see that there has been intervention in linking noise policy, land use planning, and noise guidance. So, we see for example, from England here we see that, how national policy in England links to land use planning and related noise guidance. So, in this, they have taken a very unique approach to avoid having to prescribe specific quantities of things.

But then rather, they have worked out on like working out the toxicology to support the interpretation of significant adverse impacts. So, they have developed toxicology, where rather than recommending one particular number, they would look into how one particular noise, the noise which is created, what would be the adverse impact of that, particular noise. So, you can see there. And then they have also developed a framework guidance, the National Planning Policy Framework, which puts the government's land use planning policies for England, and how these are expected to be applied for decision-making.

So, all these frameworks are also provided here. This helps in making decisions regarding how to avoid noise, how to avoid the significant adverse impact of that noise, and how to mitigate, reduce, and minimize any other negative impact on health and quality of life. So, all these National Noise Policy and Guidance Frameworks provide this. So, while you assess this, you might note some of the terms like no observed effect level no L, where the level below, where you get the levels which are below, where there is no detectable effect on the health and quality of life due to the noise.

Then, you also see low L, which is the lowest observed adverse effect level. So, the level above which adverse effects on human health and quality of life can be detected. So, those are identified here and then you also have a term, L which is a significant observed adverse effect level. So, the level about which significant adverse effects on health and quality of life can occur, so that, you can take care of.

So here now, most of the guidance has started avoiding prescribing specific levels but, rather having an approach of assessment that guides what kind of interventions have to be taken and allows assessments of any particular development in the ambient environment.

And then, there is also planning practice guidance, which provides additional guidance on how planning can manage, potential noise impacts of new development. Indicating that planning authorities should consider, whether or not a significant, negative impact is occurring, and whether or not the adverse effect is occurring or likely to occur. Or, whether there is a good standard of amenities can be achieved or not so all those guidance are provided.

(Refer Slide Time: 29:56)

## Summary

- 1 International Level Legislation, Guidance and Standard.
- 2 Standards and Guidelines for measuring and assessing noise and vibration.
- 3 National Noise level policy and Guidance.

So, this is what we saw today. To summarize, we looked at the international level legislation, and guidance. And we looked at the standards and guidance for measuring and assessing noise and vibration. Then, we looked at the National noise level policy and guidance in this and then we also looked at certain changing scenarios, how people are addressing it, how countries are addressing this, their approaches are changing.

(Refer Slide Time: 30:22)

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<https://blog.ipleaders.in/prevention-and-control-of-noise-pollution-with-case-laws/>
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<https://www.ijrhss.org/pdf/v3-i4/5.pdf>



## Suggested Watch



<https://www.youtube.com/watch?v=VIFqAZtr80c>



[https://www.youtube.com/watch?v=y3bhJ5\\_C2w](https://www.youtube.com/watch?v=y3bhJ5_C2w)



<https://www.youtube.com/watch?v=ZmgdsQoUQXA>



88



Please feel free to ask Questions.



Let us know about any Concerns you have .



Do share your Opinions, Experiences

and Suggestions.

Looking forward to Interacting and  
Co-learning with you while exploring EIA



89

So, these were the references that we use for today. You can also look at the suggested watch and read, in addition to these what has been provided to you. So, please feel free to ask questions. Let us know about any concerns you have, and do share your opinions, experiences, and suggestions, looking forward to interacting and co-learning with you while exploring EAI. Thank you.