

National Noise Pollution Guideline

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1. Definition

Noise pollution is the level of disturbance or excessive noise that may harm the activity or balance of human or animal life. A low sound is pleasant whereas a loud sound is unpleasant and is commonly referred to as 'noise'. Noise can be defined as an unpleasant and unwanted sound.

Whether a given sound is as pleasant as music or as unpleasant as noise depends on its loudness, duration, rhythm and the mood of the person. But loudness is definitely the most significant criterion which converts sound into noise. Exposure to loud noise is indeed annoying and harmful too.

According to the Rwanda Environment Management Authority (REMA), noise pollution in the country is determined when sound goes beyond 80 decibel (db). Bell is the unit through which noise is measured. 80 db is the level at which sound is physically painful. And can be termed as noise.

1.1 Source of noise pollution

The source of most noise worldwide is mainly caused by machines and transportation systems, motor vehicles, aircraft, trains and any other indoor or outdoor events using heavy sound equipment.

Poor urban planning may give rise to noise pollution, since side-by-side industrial and residential buildings can result in noise pollution in the residential areas. Major causes / sources of noise pollution are:

(i) Industrial Sources

Progress in industrialization has resulted in creating noise pollution. Textile mills, printing presses, engineering establishments and metal works etc. contribute heavily towards noise pollution. In some industrial areas (in our case Gikondo zone industriel, Gakinjira – Udukiriro, Special Economic Zones, etc.) often the industrial zones are not separated from the residential zones of the city especially in the case of small scale industries.

(ii) Transportation means

Automobile revolution in urban centers has proved to be a big source of noise pollution. Increasing traffic has given rise to traffic jams in congested areas where the repeated hooting of horns by impatient drivers pierce the ears of all road users.

Noise from airplanes constitutes an increasing serious problem in areas such as Kanombe and Kamembe. Airport situated in the vicinity of population centres and the air planes pass over residential areas. Heavy trucks, buses, trains, jet-planes, motor-cycles, scooters, mopeds, jeeps—the list of vehicles is endless but the outcome is same — noise pollution.

(iii) Household

The household is an industry in itself and is a source of many indoor noises such as the banging of doors, noise of playing children, crying of infants, moving of furniture, loud conversation of the inhabitants etc. Besides these are the entertainment equipment in the

house, namely the radio, record-players and television sets. Domestic gadgets like the mixer-grinders, pressure cookers, desert coolers, air- conditioners, exhaust fans, vacuum cleaners, sewing and washing machines are all indoor sources of noise pollution.

(iv) Public Address System

The reason may be a church or religious function, birth, death, marriage, elections, demonstration, or just commercial advertising. Public system, therefore, contributes in its own way towards noise pollution.

(v) Miscellaneous Sources

The automobile repair shops, construction-works, blasting, bulldozing, stone crushing etc. are other sources of noise pollution.

1.2 Effects of the noise pollution

Noise is a physical form of pollution and is not directly harmful to the life supporting systems namely air, soil and water. Its effects are more directly on the receiver i.e. man. Noise pollution is the result of modern industrialized urban life and congestion due to over population.

Even though noise pollution is not fatal to human life, yet its importance cannot be overlooked because repeated exposure to noise reduces the sleeping hours and productivity or efficiency of a human being. It affects the peace of mind and invades the privacy of a human being. The importance of noise pollution as environmental problem is being recognized as the ill effects of noise on human health and environment are becoming evident with each passing day.

Noise is generally harmful and a serious health hazard. It has far reaching consequences and has many physical, physiological as well as psychological effects on human beings.

(i) Physical effects

The physical manifestation of noise pollution is the effect on hearing ability. Repeated exposure to noise may result in temporary or permanent shifting of the hearing threshold of a person depending upon the level and duration of exposure. The immediate and acute effect of noise pollution is impairment of hearing (i.e. total deafness.). Human ears have sensory cells for hearing, if these cells are subjected to repeated sounds of high intensity before they have an opportunity to recover fully, they can become permanently damaged leading to impairment of hearing.

(ii) Physiological effects

The physiological manifestations of noise pollution are several: Headache by dilating blood vessels of the brain, increase in the rate of heart-beat, narrowing of arteries, and fluctuations in the arterial blood pressure by increasing the level of cholesterol in the blood, pain in the heart, lowering of concentration and effect on memory, muscular strain and nervous breakdown, psychological effect, depression and fatigue which considerably reduces the efficiency of a person, insomnia as a result of lack of undisturbed and refreshing sleep, etc.

1.3. Noise Pollution Level and its Harmful Effects

The decibel (dB) is the magnitude of the fluctuations in air pressure caused by sound waves. The decibel scale is logarithmic, not arithmetic. This means that a doubling of sound intensity is not represented as a doubling of the decibel level. In fact, an increase of just 3 dB means twice as much sound, and an increase of 10 dB means ten times as much sound.

A sound pressure level of 0 dB represents the threshold of hearing in the most sensitive frequency range of a young, healthy ear, while the thresholds of tickling or painful sensations in the ear occur at about 120 to 130 dB.

2. General Principles

The following are general principles that will guide the implementation of these guidelines to manage the noise pollution in Rwanda:

- a) It is the full right for the citizens and visitors to be entertained and have party when needed in harmony with neighbors environment;
- b) 10pm to 6.00am from Sunday to Friday and midnight to 8.00am for weekends are the night time and should be respected for resting;
- c) Conduct entertainment and religious devotions activities without creating disturbance and excessive noise;
- e) Collective accountability and self-regulatory in managing the noise pollution at all levels;
- f) Enforcement of these guidelines remain in the jurisdiction of the law enforcers

3. Entertainment zoned areas

For appropriate noise pollution management, a zoning concept and applicable measures have been proposed as follow:

3.1. Accommodation Facilities and Restaurants

Following the nature of hotel and related businesses, entertainment is one of the preferred products expected and all the time requested by clients, not only in Rwanda but worldwide. To sustain the businesses in tourism and ensure customer satisfaction as well as maintaining the branding of the destination Rwanda, the following are proposed:

- a) Light entertainment at hotels is acceptable in circumstances that it doesn't harm the enjoyment of clients staying within the facility and neighborhood.
- b) Light entertainment should be in the limit of acceptable noise and should not go beyond of 10pm for Sunday to Thursday of the week while for Friday and Saturday should be allowed to host live bands and karaoke up to midnight.
- c) In case of special events, the leadership of the business should apply for a special request to the competent authority. Under this circumstances, the approval should be subject to the readiness and capability of the facility with the support of the competent authority.
- e) Business management should appoint the duty manager for regular control and auto regulation for managing the noise pollution.
- f) The Hospitality Association to establish a committee in charge of noise pollution management and should be the one to take measures and sanctions against the culprits before escalating the issue to the law enforcers.

g) In the event that the issue has been escalated to the Law enforcers, the intervention should be as diplomatic as possible to avoid tarnishing the image of the business and the destination.

h) In case of Hotels that wish to expand the business by including fully fledged entertainment should ensure a full-fledged night clubs as required by the established standards

i) It is suggested that assessment of the surrounding environment should be considered and incorporated at the planning stage in order to avoid the noise impact to the surrounding places (such as residential buildings, sanatoriums, nursing homes, hospitals and schools etc.) and avoid complaints in the future.

j) In case the installation of glass window is involved, effective sound isolation effect glass (such as vacuum glass, double-paned glass, etc.) should be considered in the design to ultimately reduce the noise transmission (especially low-frequency rhythm noise), or take other effective measures to ensure a better achievement and conform with the requirements. This also helps to reduce the adverse effect caused by noise to the surrounding sound sensitive receptors (such as residential buildings, nursing homes and schools etc.).

3.2. Night clubs and Bars

a) Existing night clubs should be given a period of one year to abide by the night clubs standards.

b) Local and law enforcers should be involved in the demarcation and management of required parking to avoid any disturbance after the enjoyment. This parking could include one side of the road (avoid double parking) more especially during hours when the traffic is minimum.

c) Upcoming night clubs should abide by the night clubs standards before applying for the occupation permit.

d) Doors of night clubs should not be opened outward the buildings. If these doors have to be opened towards the street, appropriate entrance design should be adopted (for example, using two automatic doors with a space in between). Notices or posters should be displayed prominently at entrances and passageways to advise that customers should not shout, speak loudly or make irritative noise when they leave the places at night.

e) Ensure the availability of appropriate equipment for security check and safety of the clients.

3.3. Events and Concerts

For any event, a number of different types of approvals may be required. Information on the requirements for each approval is contained in the following guidelines.

3.3.1. Permanent approved facilities

Permanents facilities are those who have secured the occupation permits, this include convention centers, full equipped hotels, churches, religious facilities and any other facility fulfilling the requirements. The following are the guidelines for consideration:

a) If the event is within a facility that has a permanent approval for events then formal approval may not be required. However, risk management and other matters outlined within these guidelines still need to be addressed.

b) Where the facility or church has installed proper sound proof, limitations of hours and days of operation should not apply.

c) A public building or church approval is intended to address public health and safety issues and it is the only approval applicable to every event. The certificate of approval links facility suitability with capacity.

d) Local authorities and law enforcers should get involved in the demarcation and management of required parking to avoid any disturbance during and after the enjoyment. This parking could include one side of the road (avoid double parking) more especially during hours when the traffic is minimum.

3.3.2. Proposed free zones for mega events, concerts and public address

Some events due to their sizes and importance may require specific areas, spectator or marquees therefore regulated differently.

In the case of these guidelines, stadiums, free zones, expo grounds and any other similar areas should be allowed to facilitate and host mega events and concerts subject to the following guidelines and approvals:

a) The event organizer should apply for authorization to the competent authority within a period not less than five working days;

b) Local authorities should assess the readiness and be part of the organization as far as events are concerned. Local authorities in collaboration with event promoter should constitute a team deemed necessary to be involved in the organization of the event.

c) Primarily local government should be concerned at this stage with how the event will be handled by ensuring public health, the safety, environment, enjoyment of participants and economic benefits without affecting the neighboring community. Once the event organizer ensures what is required, refer to the local authority in whose jurisdiction the event will be held.

3.4. Churches and religious activities

Recognizing the importance of the Church and religious based organization as partners in the socio-economic development of the country, the following are proposed as guidelines:

a) Sound management at churches and religious centers is acceptable in circumstances that it doesn't harm the spiritual satisfaction of its members.

b) Church services and rehearsals should be in the limit of acceptable noise and should not go beyond of 10pm for week days from Monday to Thursday while special consideration should be given to Friday for overnights.

c) Every Saturday and Sunday are open for services during the day hours.

d) In case of evangelical crusades or special events, the leadership of the Church and Religious centers should apply for a special request to the competent authority. Under this circumstances, the approval should be subject to the readiness and capability of the facility with the support of the competent authority.

e) Every church and religious centers should appoint a leader for regular control and auto regulation for managing the noise pollution. This leader should act as liaison officer in case of communication with external stakeholders. f) Churches and religious leaders to establish a national and decentralized committee in charge of noise pollution management and should be the one to take measures and sanctions against the culprits before escalating the issue to the local authorities.

g) The Districts and Sector Church Committees should be in charge of noise pollution and ensure regular assessment with the local and law enforcers. The committee shall be composed

by the Social affairs officer, Security officer, Church leader representative and any person deemed necessary to be part of the committee.

h) The National Church and Religious committee should develop a noise pollution management procedures manuals for easy auto and joint regulation. The procedures manual should include sanctions and measures for indiscipline cases.

i) In the event that the issue has been escalated to the law enforcers, the intervention should be in dignity in collaboration with the local church and religious committee.j)

Collaborate with local authorities in the demarcation and management of required parking to avoid any disturbance after the spiritual devotion. This parking could include one side of the road (avoid double parking) more especially during hours when the traffic is minimum

4. Implementation modalities

3.1 Joint committee

a) Both the private sector and government will set a joint committee to oversee the implementation of these guidelines. The committee should be composed by law enforcers, representatives from local authority, churches and private sector.

b) The joint committee should inspect on weekly basis, report back and take immediate actions.

c)Business owners should ensure appropriate set up and have in place knowledgeable technicians.

d) In the spirit of auto regulation, joint committee should regularly conduct an acoustical assessment and recommend effective measures to ensure the communities in the nearest areas are not victims of the entertainment businesses.

3.2. Community education and sensitization

Public must be made aware and educated about noise nuisance through adequate channels such as news media, lectures and other programs. The awareness should be conducted by the local authorities from the day of the approval of these guidelines.

3.3. Law enforcement

Competent authority before issuing the operating license should conduct a prior site inspection and approve the proposed location for the business to avoid the noise nuisance and complaints to the surrounding sound sensitive areas (such as residential buildings).

a) Effective measures should be taken to ensure the residents in the nearest residential buildings could not hear the musical sound from the loudspeakers, especially the music from indoor performance, loudspeakers, and low frequency rhythm music.

b) In case of failure to respect the above guidelines, the local authorities should enforce the noise pollution guidelines.

5. Futures perspective and date of enforcement

5.1. Future perspective

Establish noise management policy and related legal instruments;

Include noise pollution control mechanism among requirement for issuance of construction permit and roadway as well as for development of urban master planning;

a) Enforce the Kigali Master Plan, Secondary Cities Master Plans and Districts Plans.

4.2. Date of enforcement

These guidelines shall come into force from 1st May 2016.

5. Other related documents

5.1. RSB Standard RS 236: Acoustics – Noise pollution – tolerance limits

5.2. Environment organic law

5.3. Guidelines for concerts, events and organized gatherings