

Urban Centres Noise Pollution: Case Study of Akure, Nigeria.

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Abstract

Excessive noise in an environment is identified to constitute the most disturbing among the city pollutants and is a serious urban crisis in Akure. This paper identifies and examines the various sources of noise in an urban area, classifying noise generating activities mainly into commercial, religions, industrial, social, domestic and cultural sources. It highlights the implications of noise on the life and health of inhabitant in urban areas. It also attempts a rationalisation of these activities towards an acceptable level of city noise and liveable environment. The paper suggests legislative and policy recommendations to the various tiers and agencies of governments towards a more tolerable urban noise level and the enhancement of healthy and productive urban environment.

Keywords: Inhabitants, Noise, Pollution, Urban, health.

1.0 Introduction

As the pace of urbanization and urban growth increases, the capacities of developing urban centres and governments to manage the consequences of urban noise level trends decreasing according to Henderson (2002). Literarily, pollution is been described as to make unhealthily impure as well as a substance that makes air, water, soil among others; dangerously, dirty and thus unsuitable for people to use (Webster's 2004). It is a substance that adulterates, infects, perverts and vitiates the safety of another substance. Noise appears in all areas of science and technology, and involves all everything in life according to Rosenhouse (2012). Air-borne noise fouls the air medium making it less suitable for the use of man. Noise is a major agent of air, atmospheric and environmental pollution. Atolagbe and Tanimowo (2006) confirmed that a major factor of environmental hazard in an urban area is traceable to pollution. The pollution of an environment occurs in three major ecological components of the environment: air, water and land. And it ranges from solid to sewage wastes, chemical, industrial and nuclear discharges and pollution of water, aquifer and air. Effective management of these and other environmental pollutants is akin to the maintenance of orderly, clean, healthy crisis-free and sustainable environment.

Despite the campaign by government even at local and international levels and concerted efforts made by individuals and governments globally towards enhancing pollution-free environment; air pollution has been relatively neglected. The stance is disturbing for many reasons; one, air is one of the most intimate to man's survival; its intake is continuous through a lifetime. Two, it is a volatile medium that spreads quickly to inhabitants of relatively distant places. Three, living creatures are exposed to ever increasing levels of intruding noise due to technological advancements. Water and land polluted can be easily avoided than polluted air. Adesanya (2004) asserted that polluted water can be naturally purified again as it moves further away from the source of pollution or through the purification of the quantity needed at an instance. In case of polluted air which is not possible because, within a relatively short time diffuse into space and thus capable of spreading to and infesting people in remarkable distances from the immediate source of the air pollution.

In urban centres, agents of air pollution includes: carbon monoxide generated from the smoke of automobiles {cars, generators; stove, etc}, emissions and rays, particles, and toxic waste (abiotic and biotic substances). In Nigeria urban centres, one type of air pollution attracting little awareness and perpetrated with wanton recklessness is noise. It is a type of air pollution that is only heard but not seen. Noise is a basic entity in the essence of life. It exists everywhere in nature. Noise has been defined as sound, especially a loud, unpleasant type and sound as a sensation, something that can be heard (Webster, 2004).

The paper wants to create awareness in governments and people on the evil effects of noise and solicits the roles of all stakeholders towards especially in urban areas towards enhancing relatively noiseless and healthy cities. Whereas a huge financial outlay and technological discipline are required to ameliorate atmospheric pollution due to emission of poisonous gasses, particles and rays, sheer attitudinal discipline, neighbourhood responsiveness and moderate restraint are the major requirement for the maintenance of a noise-free air.

In Akure, noise is an urban plaque for which views are not only sentimental, but also as diverse as there are interests, like religion groups, trade affiliation, dancing troupes and individuals. Religions and commercial sources of noise have assumed a serious factor of decay in the country's urban settlements. This call for an urban renewal strategy, specifically directed at ameliorating urban noise for dwellers' comfort.

2.0 The Study Area

Akure, the study area is the capital of Ondo State, Nigeria. Is a medium-size, but rapidly growing urban centre located on latitude $7^{\circ} 15'$ North of the Equator and $5^{\circ} 15'$ East of the Greenwich Meridian. It is located within the tropical rain forest region of Nigeria. It became the capital city of Ondo State and a Local Government headquarters in 1976. Akure has three residential settlement patterns – the core area, the peripheral neighbourhoods to the core and the suburbs. The city has witnessed immense growth in the size of built-up areas, number of immigrants, transportation, and commercial activities and has attracted both major investors and private developers into the city. The total area is approximately 41.2km² and it lies on a relative plain of about 250m above the sea level. The population of the city grew from 38, 852 (Thirty two thousand, eight hundred and fifty two) in 1952 to 71,106 (Seventy one thousand, one hundred and six) in 1963. Its population was estimated to be 112,850 (One hundred and two thousand, eight hundred and fifty) in 1980; and 157,947 (One hundred and fifty seven thousand, nine hundred and forty seven) in 1990 (Ondo State of Nigeria, 1990). The last census conducted in 2006 put the city's population at 353,211 i.e. Three hundred and fifty three thousand, two hundred and eleven (NPC, 2006).

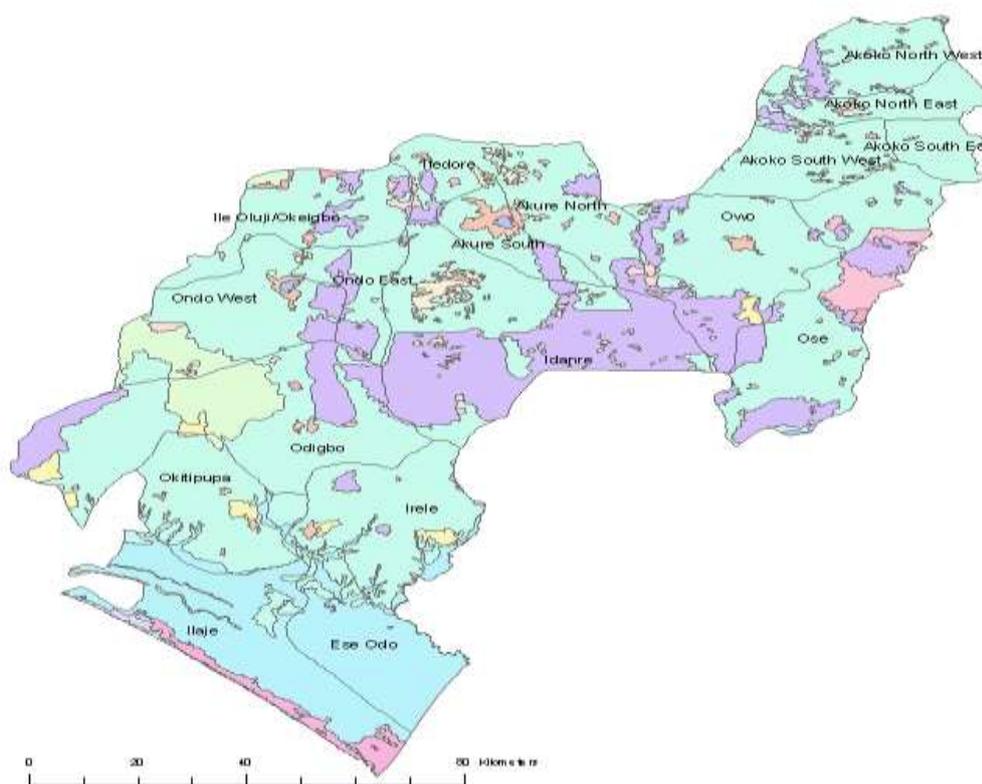


Figure 1: Map of Ondo State showing Akure.

3.0 Research Methodology

In this research, the method of field survey and interview were adopted to assess the urban dwellers comfort level with the different sources of urban noise in Akure.

4.0 Sources of Urban Noise

Sources of urban noise identified in the paper are: commercial, socio-cultural, religion, industrial, automobiles, political and domestic sources. Each of these sources is examined with some details, together with the method of generation, the nature, intensity and relative frequency of propagation. Discussion process is initiated as an attempt to rationalizing each noise generating activity from the view point of the rights and freedom of individuals and groups generating the noise on one hand and that of the receiving individuals, public and orderly environment on the other. The purpose is to draw attention to this aspect of urban sickness and flag up a scholarly discursion process towards its abatement. It also establishes a clear and concise premise for the recommendations proffered in the paper.

4.1 Commercial Sources: Commercial sources of noise are often concentrated and spread along the urban streets for instance. along Oba-Adesida Road, Arakale Road, Idanre Road, Ondo Road, Okejebu Road, among others. Noise from these sources includes street (electric power) generators, grinding mills, commuter, taxis and motorbikes (popularly called Okada) with their company engine and blaring horns. Traders, especially record sellers, barbing saloon owners, etc. Blare out sound from high wattage loudspeakers often stationed by the street with each trader trying to outdo the others in the advertisement of their goods and services. Drug verdures with high-decibel speakers at the roof of their vehicles ply the streets-including secondary ad tertiary streets in an attempt to score advantage over those operating in stores along the main streets. The cacophony of noise from these various sources hangs disturbingly over the air in the street to the ultimate discomfort of residents who have to virtually shout (additional noise) to communicate effectively close-by neighbours.

Government parastatals and agencies as well as corporate bodies also contributed to urban noise in Akure. For example Power Holding Company of Nigeria (PHCN) ply major streets with vans mounted with loudspeakers and recorded messages, to plead for payment of electricity bills; same thing applicable to Waste Management Authority in Akure.

4.2 Socio-Cultural Sources: This source of urban noise includes ceremonial and cultural activities such as birthdays, burials, marriages, naming, house warming and outing. Singing, drumming and dancing of some sort often accompany all of these. Noise from social activities is more common in Akure and is mostly concentrated at the weekends. They do not hold constantly in the same venues as the same family does not hold such celebrations regularly. Popular venues for these include religions premises, celebrant houses or on popular streets (Primary and Secondary School ground) where substantial level of environmental noise is generated. In fact, the growing trends in Akure are the blockage of streets for burial outings. In all, high sounding musical instruments-guitars, drums, trumpets and saxophones with high- wattage loudspeakers, are deployed to ensure maximum coverage of the environment, as the more environmental impact of the music, the better the boost or enhancement of the celebrants' ego. Complaint from any quarters in the community is regarded as a mark of envy and such complainants is seen in Akure culture as the antagonistic to the celebrants' joy.

4.3 Religions Sources: noise from religious activities constitutes a substantial proportion of urban pollution. The most substantial portion of religions related noise emanated from the activities of two dominant religions in Nigerian urban centres (Christianity

and Islam). The two religions faiths whose proliferated denomination and or worship buildings pervaded all Akure urban land uses- residential, industrial and commercial. Noise generation activities by two dominant religions dotted the landscape of Akure at different locations (Table 1) like: Deeper life camp ground along Ilesha/Owo Express Road, opposite Federal University of Technology, Akure (FUTA; campus along Ilesha Road; Prayer centre, along Idanre Road, Central Mosque, Adesida Road, Catholic Cathedral, Adesida Road, Anglican Cathedral, Ijomu, Akure; Redeem Church, Okejebu, Akure; just to mention a few. Religious noise constitutes a serious discomfort in domestic life. Family and prayers in the mornings and at bedtimes are often accompanied with loud choruses sometimes accompanied with longing of hand bells and unintelligible speeches and interpretations. Noise blaring from speakers mounted on the roofs of Churches and Mosques dotting city residential areas and arousing neighbourhood residents untimely from their beds at these hours.

4.4 Industrial Sources: industrial activities especially the production plants constitutes substantially to noise pollution in Nigeria urban centres particularly in Akure. For instance, at the abattoir situated along Ilesha/Owo Express Road at Ultra Modern Market, immediately you pass thru this venue, you will perceive an offensive odour and even see vultures around this areas pitching on the effluent waste. So also the truck and articulators that convey materials (raw and finished) to these factories especially industrial layout along Ilesha road. Industrial noise ie restricted more to factories and related workers in Akure where production factories are effectively zoned to industrial area. The factory workers here accept the impact of noise as one hazard to endure; and are expectedly remunerated for job hazards (as noise), as required in industrial law. However, residents occupying residential land uses, contiguous to industrial layouts are adversely affected by, and are not compensated for industrial noise from machineries and working machines. In addition, urban residential precincts in Nigeria are interspersed with light and medium industries and workshops like grinding mills, block making, automobile workshops, construction plants, etc. that generates noise to disturbing levels.

4.5 Domestic Sources: Domestic sources of urban noise consist of a range of individual households and family activities that generate noise that are audible further than and beyond the confines of the household. These includes leisure music ad news from radios and televisions, the use of private and commercial grinding mills, electrical generating sets, etc. other sources include backing and howling of poorly trained dogs, bleating of goats, and mewing of cats especially in silent nights.

Table 1: Major Sources of Religion Noise in Akure

S/No	MAIN IONS ACTIVITIES	NOISE GENERATION BY CHRISTIANITY	NOISE GENERATION BY ISLAM
1.	Marriage	Introduction in brides place. Wedding in church with singing and drumming. Reception at hall with singing/praying.	Nicai Prayer Preaching and recitation from Holy Quran loudspeakers.
2.	Naming	Prayer at parents house. Social entertainment for wellwishers.	Preyer and recitation in venues . Home of the new baby's parent.
3.	Graduatio	Ceremonious gathering at workshop with prayer and Thanksgiving service in churches with singing.	Wolimat - Graduation eg from Arabic school done by the of Imams, with prayers recitation from Holy
4.	Burial	Wake keep on nights preceeding burial. Prayer at burial grounds/ entertainment.	Jamaz- prayers to the corps. Prayers to the burial ground.

		Prayer / thanksgiving after entertainment.	Fidau- 8 th day prayer, 1 st -8 th day.
5.	Worship/Prayer Sunday &Friday	Sunday and Saturday worship. Preaching and Sermons. Dancing with musical instruments. Daily morning and evening prayers sometimes with g and bells.	Jumat prayer on Friday, Call for prayer hours by the Muadhin. Real prayer (congrgational) in the Mosque. Imam leads the latter prayer in the Mosque.
6.	Preaching	Crusades, revivals etc, in open spaces and popular	Wasai- during morning prayer, Naming, graduation (Wolimat), Burial on Fridays.
7.	Crusades &	Night vigils' singing and drumming. Gatherings for crusades and revivals.	Outside (mostly) cities in camps outside cities.
8.	Processing	During Easter (on Palm Sunday). Slow in nature and obstruct traffic. Accompanied by noise.	In the form of mass movement to and from services, and ceremonious praying grounds.
9.	Place of Worship	Noise generated in buildings, including leted, abandoned structures.	Noise generated anywhere in building s in cities.
10.	Night Vigils	Often held between 12midnight to 5a.m. with ng and speaking in tongues.	An upcoming event in Islam.

Source: Authors' Field Study, 2013.

5.0 Noise Activities and Citizens Rights

Nearly all the noise sources identify earlier in the study ranging from commercial sources to domestic sources, constitute legitimate human activities. The right to associate, to freedom of worship, to earn a living, among others; in respect of individuals is guaranteed, not only in the country's constitution; but also in international charters. All these activities are also carried out or performed by citizens of other nations including the more developed countries of the world where noise pollution is minimal. It is very difficult to proscribed or legislated against any of these activities. Corrective efforts should be put in place to moderate these activities in a way that minimum noise is generated. Actually, the problem is not so much with the activities that generated the noise, but rather with the ways these activities are carried out. For instance, the more loudly the speakers mounted on the roof of church during worshipping does not invited more worshipers during service or indicates the effectiveness or sincerity of worship, since religions centres carry enough identity for worshipers to recognise without being concerned with noise. Even in the Bible, (Mathew 8; 5-8); Jesus Christ taught his followers how to pray:

...enter into thy closet, and when thou hast shut thy door, pray to thy father which is in secret...

6.0 Planning Issues

The Noise Control Act of 1972 was the first federal law to regulate noise pollution. It acknowledged the harms of noise and established the Office of Noise Abatement and Control (ONAC) within the Environmental Protection Agency (EPA). The preamble for the Noise Control Act of 1972 states:

(1) that inadequately controlled noise presents a growing danger to the health and welfare of the Nation's population, particularly in urban areas;

(2) that the major sources of noise include transportation vehicles and equipment, machinery, appliances, and other products in commerce; and

(3) that, while primary responsibility for control of noise rests with State and local governments, Federal action is essential to deal with major noise sources in commerce control of which require national uniformity of treatment. The Federal government is called upon to declare noise a dangerous form of pollution, a serious threat to health and safety, and a public menace..

7.0 Way Of Controlling Urban Noise

Pubic needs to be sensitized on the evil of noise and the need to curtail it. The three tiers of government need to cooperate in educating the masses in this area.

All noise level need to be identified in order to determine acceptable level of noise from it. And government should promulgate law forbidden either public or religion bodies or individual from installing external speakers on any building or automobile.

Government should set up monitoring and enforcement agencies from its different tiers designated to monitor and enforce sanctions.

Residents should mindful of their obligations to their neighbour for peaceful co-existence in the community.

Urban designers should adhere strictly to master plan, they should monitor and control development to follow the already approved land use for any sector of the urban land.

8.0 Conclusion

A pollutant is a substance that impinges on the quality of other substances rendering the latter less suitable for man's use. Noise fouls air and atmospheric quality making it less suitable for use. It thus constitutes pollution to air and atmospheric, a composite medium through which noise travels. Noise constitutes the most discomforting pollutant in akure, the capital of Ondo state.

Efforts of governments and their agencies towards a pollution free environment have been directed mainly at ridding the government of solid, water and other tangible wastes and pollutants. Urban noise and its environmental hazards can effectively curtailed through the above suggested approaches.

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