

Noise Pollution Management Issues in Tirana, the Capital of Albania

Dorina Pojani

(Assist. Prof. Dr. Dorina Pojani, Epoka University, Rr. Tirane-Rinas, Km 12, Tirana, Albania, dpojani@epoka.edu.al)

1 ABSTRACT

On average, Tirana's population is exposed to daytime noise levels higher than 70 dB and nighttime noise levels higher than 55 dB. These levels are relatively high for Europe. This paper relates the results of a research project conducted in 2011 on the impact of noise on residents' comfort in two mixed-use neighborhoods in the city, and on public measures to abate the negative impacts of noise. This research found that, although noise presents a problem for exposed residents, to date public measures to abate noise levels have been very limited. Some of the negative noise impacts are due to Tirana's high density physical development pattern and laissez-faire zoning regulations, which permit noise-generating uses in residential neighborhoods. However, the author argues that the main factor is the institutional context for addressing problems related to noise, which is highly adverse to the generation of solutions, and the political culture, which dominates the government structures and the institutional forms. The weak "soundscape" management reflects larger issues of urban governance in Tirana.

2 INTRODUCTION

This paper sets forth the results of a research project conducted in the spring of 2011 on the impact of noise on residents' comfort in two neighborhoods in Tirana, the capital of Albania. In addition, the paper addresses the institutional context and public measures to abate the negative impacts of noise.

To place the noise problem in perspective, during communism Albanian cities were generally quiet, due to the absence of private cars, the dearth of entertainment and commercial services, and the peripheral location of industrial activities. However, by the mid-1990s noise levels in Tirana were already at the threshold ceilings recommended by the World Health Organization. This increase was particularly shocking in a country that had no private cars and few buses until 1990. Now, on average, Tirana's population is exposed to daytime noise levels higher than 70 dB and nighttime noise levels higher than 55 dB. Noise levels in Tirana are shown in Table 1. Overall, almost two-thirds of the Albanian population is exposed to noise levels higher than 65 dB. These levels are relatively high for Europe.

Research indicates that the majority of Tirana's daytime noise is due to motorized traffic. The noise emitted by vehicles is intensified due to: idling at malfunctioning traffic lights; drivers who impatiently honk horns while stuck in traffic or to greet acquaintances; truck traffic within the urban area; traffic generated by youth looking to pass the time; severe shortage of parking places which increases "hunting" traffic; and the poor condition of vehicles. Other factors contributing to high noise levels, unrelated to transport, are the high volume of construction and individual diesel power generators (that many shops and restaurants use in case of power cuts) during the day, and bar and club music at night (Ministry of Environment, Forestry, and Water 2007; Institute of Public Health 2006; Cicolli 2008).

The desire to meet requirements for European Union membership is forcing legislative and administrative action in favor of environmental protection. In 2007, Albania passed a law on noise pollution management, which is based on similar legislation in Europe (*Law on the Assessment and Management of Noise Pollution*, No. 9774, 12 July 2007). The law requires the establishment of noise limits in urban areas, including noise limits for various activities and transport vehicles. The responsibility for the enforcement of this law is shared among national ministries - the Ministry of Environment, Forestry, and Water, and the Ministry of Public Health - and local governments.

However, to date public measures to abate noise levels have been very limited. Interventions to protect against noise pollution have been sporadic. They have mainly resulted from the will of key public officials rather than being produced by an accountable administrative system, which ensures continuous monitoring and enforcement.

Part of the noise pollution is due to Tirana's high density development pattern and laissez-faire zoning regulations, which permit noise-generating uses in residential neighborhoods. However, the main factor is the institutional context for addressing problems related to noise.

dB*	Day	Night
2002	73	38
2003	76	42
2004	71	62
2005	71	59
2006	71	58
2007	72	57
	range 68-74	range 54-65
<u>WHO recommended limits</u>		
Residential area (outdoors)	50-55	45
Public space	70	

Table 1: Noise levels in Tirana. *Average of measurements in 15 locations in Tirana. Source: Albanian Institute of Public Health 2006, World Health Organization 1999.

3 CONSIDERATION OF NOISE POLLUTION IMPACTS IN WESTERN COUNTRIES: A BRIEF LITERATURE REVIEW

The levels of environmental noise vary for a substantial part of the world population, especially in areas with a dense population and dense transportation networks. It is estimated that in the European Union during daytime approximately 77 million people (22% of the total EU population in 1994) are exposed to transportation noise levels exceeding 65 dB, a level that many countries consider to be unacceptable (Miedema 2007).

Environmental noise, like other forms of pollution, has wide-ranging adverse health, social, and economic effects. Numerous studies on the adverse health effects of noise, many of recent vintage, have been published - for a comprehensive overview, see Miedema (2007) and Goines and Hagles (2007). It has been found that noise interferes with behavior, including communication and concentrated activity, or desired states, such as relaxation and sleep. Noise exposure can lead to acute stress responses and/or chronic stress, and can even lead to cardio-vascular and mental health disturbances.

In terms of urban planning, noise has been found to interfere with home values and the cost of building and operating new construction. In US-based post-occupancy surveys, the acoustic environment, specifically the lack of adequate speech privacy and control of noise levels, has been a major complaint with respect to the ability to carry out work tasks (Jenson et al. 2005). A study conducted in Holland (Nijland et al. 2007) suggested that noise-sensitive people are less satisfied with their living environment and are more willing to move than others. Another study investigating the combined effects of noise and temperature on human thermal comfort and task performance found that thermal comfort was affected by noise levels, while ratings of building or office noise were not affected by the ambient temperature (Tiller et al. 2010).

Being able to cope with daily noise is important for human well-being and health. The effects of environmental noise depend on acoustical characteristics of the noise (e.g., loudness, time pattern), and on aspects of the noise situation that may involve cognitive processing, such as expectations regarding the future development of the noise exposure (whether will it get better or worse), lack of short-term predictability, and a feeling of lack of control over the source of the noise. People differ in their appraisal of noise situations and in their coping style (Cohen and Weinstein 1981).

However, environmental noise is not only a personal matter, but also a societal problem that is beyond the control of most individuals. Unfortunately, noise is still considered a relatively minor form of pollution and public awareness on its negative effects is lower than for air pollution.

4 RESEARCH CONTEXT AND APPROACH

This research project included door-to-door surveys of 100 households, conducted in the spring of 2011. Female, middle-aged, and well-educated individuals were slightly overrepresented in the surveys. Most respondents were long-term Tirana residents, and had lived in their present dwelling for over a decade.

Surveys were taken in two mixed-use neighborhoods: Bllok and Selvia (50 surveys in each), selected due to their contrasting settings. Bllok is a vibrant city center neighborhood, in which most high-end shopping and entertainment activities are concentrated, in addition to housing. Most housing in the Bllok is in 10-12 story condominium buildings which is relatively new. Typically, current residents belong in the upper-income strata. All surveyed individuals lived in apartments facing both on main streets and back alleys. More than one third of surveyed households included children under 10), and almost one fourth included seniors (above 70).

The Bllok's plentiful cafés, restaurants, and music venues, which generate pedestrian and car traffic until late at night, have been known to present a disturbance for residents. In the fall of 2009, one of the major newspapers in the country, "Shekulli", prompted by residents living in the center of Tirana, who were disturbed by the loud music and car traffic generated by nightclubs, led a campaign against noise pollution in the capital. This campaign drew the attention of several politicians, foreign environmental organizations, and the ombudsman. Several residents informed reporters that they were planning to change residence as the noise levels in the center were unbearable, especially at night. While almost daily press coverage of noise impact issues and complaints, over several weeks, prompted the City to issue high fines to several bars and clubs in the area, which played loud music at night, traffic-generated noise pollution was not addressed. In addition, enforcement was not consistent, and after a brief period of tranquility, club owners ignored the law. A new Mayor was recently elected in Tirana. One of his first actions after taking office was to enforce nighttime noise monitoring in the Bllok. For a few months, night clubs were forced to shut down any music at midnight. Eventually, the rules became relaxed. As of this writing, the press reports that nighttime noise levels in the Bllok are 80-90 dB, based on monitoring data from the Institute of Public Health (*Shekulli*, 23 March 2012).

The other area surveyed, Selvia, is an older, mixed use and mixed-income, neighborhood, located at a distance from the city center. It is flanked by a large open air market. Auto traffic levels are perceived as high in Selvia as well, due to its narrow and windy traditional road system inherited from earlier eras. One third of the respondents in Selvia live in single-family homes with gardens while the rest live in (mostly new) condominium buildings. About 30% of surveyed households included children under 10 and/or seniors over 70.

In the framework of the project interviews were conducted with nine representatives of public institutions, which are involved in environmental protection issues, regarding their efforts in noise abatement and prevention. Interviews were also conducted with (1) a night club employee in the Bllok on club owners' responses to resident complaints, (2) a real estate agency on the impact of noise on condominium prices, and (3) a construction firm on the use of noise insulation in new construction.

The interview with a real estate representative indicated that families are moving away from the Bllok. The area is slowly undergoing a process of transformation into an office and entertainment center. The percentage of tenants (mostly students and young adults) is increasing relative to homeowners. Selvia on the other hand is becoming a favorite neighborhood for families.

5 NOISE IMPACTS ON URBAN NEIGHBORHOODS

Resident surveys indicated that perceived noise levels are very high in the Bllok (4.2 out of a maximum of 5). Also, residents reported a high level of discomfort from noise (an average of 4.2 out of 5). Almost half of the respondents reported thinking daily about noise disturbance. In fact, Bllok's residents were more preoccupied with noise levels than other major concerns such as air pollution, car traffic, lack of parking spaces and green areas, illegal construction, and the quality of road infrastructure in their neighborhood.

Most residents said that noise levels have been on the rise in the last 5 to 10 years, a perception confirmed by public research. They pointed to car traffic as the main source of daytime noise, and the loud music from bars and night clubs as the main source of nighttime noise. The latter was considered more bothersome by the majority. Weekend evenings and nights were reported to be the noisiest and most stressful times. Respondents in households that included young children or older adults were well aware of the detrimental health impacts of noise. They cited sleep disturbance, irritation, inability to concentrate, high blood pressure, headaches, hearing problems, and stress as observed effects of noise exposure on children and seniors.

Some Bllok residents had been forced to sound proof their apartments. While a few had attempted to directly negotiate with night club owners, more than half had been active in appealing to the public authorities on noise management issues. They had repeatedly contacted the City, the Borough Council, and the police. Respondents reported that authorities had attempted interventions in many, though not in the majority of, cases, but the noise problem had typically remained unsolved as of the time survey answers were collected. This outcome had led to a profound distrust of the public sector. Extreme frustration about the inability to solve a common problem that affects many was combined with a passive attitude of many residents, who were unaware of the existence of a noise management law in Albania and did not know who to contact for noise-related complaints. The principal desire of the Bllok residents surveyed was a strong regulation of the evening and night activity schedule for entertainment establishments.

In Selvia, perceived noise levels were much lower than in the Bllok (2.7 out of 5), though still above average. Although they reported a higher than average noise-related discomfort (2.9 out of 5), Selvia residents were more preoccupied with issues such as air pollution and urban amenities than noise. Residents said that they worried about noise disturbance infrequently, although they felt that noise levels had been slightly increasing in recent years. Morning car traffic was reported to be the main source of noise in this neighborhood, followed by construction-related noise. Few residents had taken any action to deal with noise pollution. A handful of residents who had contacted the police with noise-related complaints reported that the problem had remained unsolved. Selvia's residents expressed the same level of distrust in the public authorities and feeling of helplessness as the Bllok's residents.

The survey findings were in line with the finding of a larger-scale survey conducted by the Public Health Institute. It found that, citywide, 44% of the population is "very annoyed" by noises while another 28% is "annoyed". The principal reported noise source was car traffic. (Half of the survey respondents lived in flats facing traffic streets.)

6 INSTITUTIONAL CONTEXT FOR NOISE POLLUTION MANAGEMENT

The author conducted interviews with staff members of the following public institutions:

- Borough Council, Selvia
- City of Tirana, Department of Environment
- City Police
- Institute of Public Health
- Ministry of Environment, Forestry, and Water
- National Environmental Agency
- Prefecture of Tirana
- Regional Environmental Agency
- State Police

These institutions are connected to each other according to the scheme shown in Fig. 1.

In addition, the author interviewed:

- An employee of a night club in the Bllok
- A real estate representative
- An employee of a construction firm

The interviewed public officials indicated that noise-related complaints received by public institutions are numerous. Bllok's residents lead in terms of number of complaints; however, other central areas of Tirana are considerably affected by noise. Residents most affected by noise are those who live near main traffic streets, bars and clubs, schools (especially music schools), and areas with large construction activity. It must be noted that, in the last two decades, Tirana has experienced a construction boom, which turned the city into a permanent building site. However, the construction wave has recently significantly abated.

The interviews revealed that, if the noise is generated by a single source, such as a night club, the noise complaint procedure is rather complex; in some cases, public officials appeared uncertain of the steps a

complaint has to go through. Also, the procedure is relatively lenient towards businesses, granting them multiple “second chances” in case of non-compliance with the law.

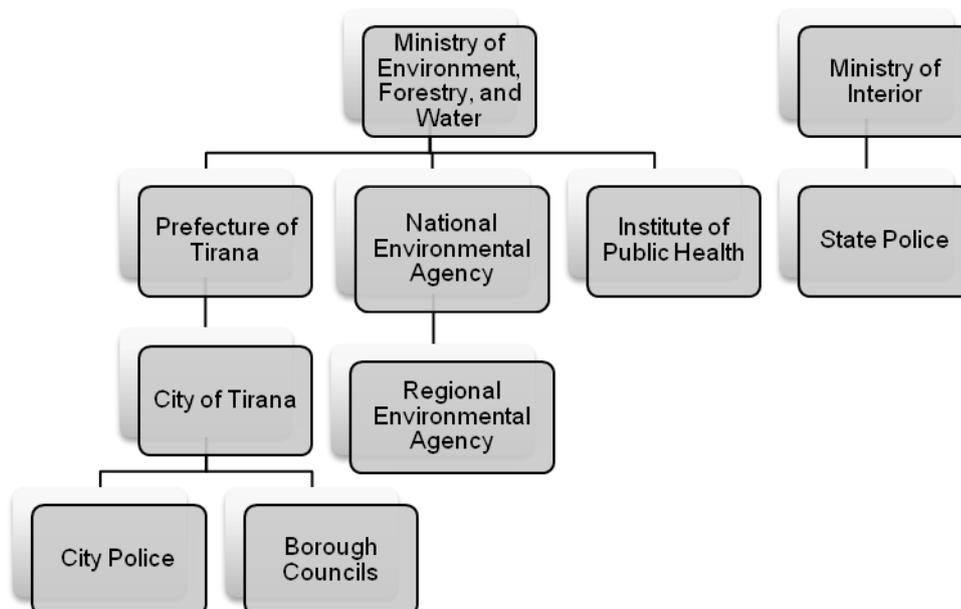


Fig. 1: Public institutions involved in noise management in Tirana.

Residents must file a complaint with the nearest local government unit (the Borrow Council). The Borrow Council passes on the complaint to the Regional Environmental Agency, and in special cases, to the City Police. The City Police indicated that they are overwhelmed with filed complaints. Occasionally, the City Police collaborate with the State Police on noise management issues, if a major conflict has occurred among the parties involved. The City Police are not empowered to issue fines if a business generates noises higher than the limit; however, it can require a business to stop its activity temporarily (i.e. shut down a nightclub for one night if a neighbor has called in with a complaint).

If the issue remains unsolved, the complaint is passed on to the City of Tirana. The City is only empowered to fine a business (up to \$300) should it find that it is not equipped with a proper license (i.e. to play music). If the City fails to solve the issue as well, the Prefecture of Tirana intervenes, firstly notifying the noise-generating business to reduce noise, secondly sending a written order including a compliance deadline, thirdly fining the non-complying business, and finally requesting the Regional Environment Agency to revoke its business license. The City is also empowered to request the same from the Regional Environment Agency. The Ministry of Environment, Forestry, and Water is not directly involved in noise issues; its main task is to draft action plans on noise pollution management.

The interviewed public officials admitted that often residents must file multiple complaints before any action is taken in their favor. Also, they indicated that many business owners believe that they are above the law and ignore notices to reduce noises sent by public institutions. Many residents file anonymous complaints due to fear of violent retaliation by affected businesses. Even police officials are not immune to this fear. In addition, the police are prone to corruption, as indicated by an interview with a nightclub employee. In terms of traffic or construction related noise, it is almost impossible for residents to take any steps.

In terms of noise monitoring, the institution in charge is the Institute of Public Health, which depends on the Ministry of Environment, Forestry, and Water for its funding. The collected data is owned and utilized exclusively by the Ministry. This financing arrangement limits the scope of work of the Institute. For example, the Ministry issued no funding for urban noise monitoring in 2010. The Institute does receive noise-related complaints but it is not empowered to act directly. However, it can recommend the business license revocation of activities that are found to generate noise above allowed levels.

In contrast with public perceptions collected through surveys and public research, some public officials are under the impression that noise pollution has decreased in the last few years due to stronger monitoring activities. Public officials generally agreed that, in order to reduce noise pollution, institutional capacities must be strengthened. City employees felt that they should have more legal authority to intervene in case of noise complaints. Other proposed measures included traffic calming in residential neighborhoods, use of

noise barriers (such as trees or green walls), ban of heavy and/or old vehicles within the urban area, building permit requirements to soundproof new housing construction, and zoning regulations that require wide building setbacks from traffic streets and do not allow noise sources (night clubs, bakeries, wood workshops, gas stations) in neighborhoods that are mostly residential.

Due to increasing resident complaints on nighttime noise, some clubs in the Bllok and other central locations have partially soundproofed their spaces. However, soundproofing of new housing is minimal. One construction firm has started using inexpensive soundproofing materials, such as polysterol on the internal walls. However, firm representatives say that this method blocks out only 20-30% of noises. The use of double pane glass windows (with vacuum between panes) blocks out an additional 5%. The use of triple/quadruple glass pane windows or the use of special fluid between glass panes would provide much higher sound insulation but this window technology is too expensive for widespread use in Albania. Another firm has built a pilot residential building in the Bllok, which is fully soundproof, with exceptionally high prices by Albanian standards (2000 Euro/sq.m.).

7 CONCLUSION

This research found that noise is a growing concern for residents in Tirana. While it is well known that central area residents experience serious distress due to noise pollution, even more peripheral neighborhoods are affected. However, until recently noise pollution has remained mostly untackled because the overall institutional scheme that deals with noise management issues is beset with redundancies and gaps and a lack of clear functional division among competing authorities and levels. Furthermore, corruption and favoritism are rampant at all government levels.

Within this framework, a portion of business owners, who belong to the upper income groups, resist restrictions on activities that generate nighttime noise and are able to bend the law in their favor. Any past interventions to protect residents from nighttime noise pollution have been the result of the will of individual politicians, which makes long-term rule enforcement uncertain. No clear institutional system has been set to permanently and consistently deal with noise management. In addition, Tirana's public has no belief that the citizenry can bring about public action for its benefit or much belief in the legitimacy of the law. The author speculates that this attitude is due to the legacy of the communist regime, which ended in 1990.

Solutions proposed include the creation of a single office in charge of noise management, preferably included within the city police, which can also collect and respond to complaints at night. This office must guarantee the anonymity of complaints and take immediate action, with prompt enforcement against continuing violations. Another solution would be to group night clubs in areas far from the center, in which they do not disturb residents. However, the presence of entertainment establishments gives the Bllok district its character and constitutes its major attraction. In view of this consideration, a solution would be to require club owners to sound-proof their buildings at the time of licencing, with periodic reviews afterwards. Awareness-raising is important, too. Public authorities must send notices to residents informing them that they have a right to object in case of excessive noise levels in their neighborhood.

While it might be technically easier to deal with nighttime noise, it will be more difficult to substantially improve the daytime noise situation given the growth of motorized transportation in Tirana. Given strong political will, traffic calming measures could be introduced in neighborhoods that are mostly residential or centrally located with heavy pedestrian traffic. Other effective measures would be stringent noise emission criteria for road vehicles, measures at the source (e.g., porous asphalt, speed limitation, high fines for drivers honking horns in non-emergency situations), with respect to the transmission (e.g., noise barriers, including trees), or at the receiver (e.g., dwelling insulation, dwelling layouts).

8 REFERENCES

2006. Urban noise monitoring in eight cities. Bulletin of the Public Health Institute, 3. Institute of Public Health.
2007. Urban noise monitoring in eight cities during March-December 2007. Ministry of Environment, Forestry, and Water, report. BOROUGH COUNCIL, Selvia, personal interview with staff, 14 March, 2011.
- CICOLLI, A. 2008. Ndotja Akustike Urbane. Shëndeti në Shqipëri. Raporti i Institutit të Shëndetit Publik mbi Indikatorët Kryesorë të Shëndetit, 249-253. Institute of Public Health, report.
- CITY OF TIRANA, Department of Environment, personal interview with staff, 31 May, 2011.
- CITY POLICE, personal interview with staff, 25 April, 2011.
- COHEN, S., and Weinstein, N. 1981. Nonauditory Effects of Noise on Behavior and Health. *Journal of Social Issues*. 37: 36-70.
- CONSTRUCTION FIRM, personal interview with staff, 9 May, 2011.

- GOINES, L., and Hagler, L. 2007. Noise Pollution: A Modern Plague. *Southern Medical Journal*, 100 (3): 287-294.
- INSTITUTE OF PUBLIC HEALTH, personal interview with staff, 22 April, 2011.
- JENSON, K.L., E. Arcns and L. Zagreus. 2005. Acoustical quality in office workstations, as assessed by occupant surveys. *Proceedings of Indoor Air Conference*, 2401-2405.
- MIEDEMA, H. 2007. Annoyance Caused by Environmental Noise: Elements for Evidence-Based Noise Policies. *Journal of Social Issues*, 63 (1): 41-57.
- MINISTRY OF ENVIRONMENT, Forestry, and Water, personal interview with staff, 3 May, 2011.
- NATIONAL ENVIRONMENTAL AGENCY, personal interview with staff, 7 May, 2011.
- NIGHT CLUB, Bllok, personal interview with staff, 2 June, 2011.
- NIJLAND, H., Hartemink, S., van Kamp I., and van Wee, B. 2007. The Influence of Sensitivity for Road Traffic Noise on Residential Location: Does it trigger a Process of Spatial Selection? *Journal of Acoustical Society of America*, 122 (3): 1595-1601.
- PREFECTURE OF TIRANA, personal interview with staff, 30 March, 2011.
- REAL ESTATE AGENCY, personal interview with staff, May 19, 2011.
- REGIONAL ENVIRONMENTAL AGENCY, personal interview with staff, 2 April, 2011.
- STATE POLICE, personal interview with staff, 26 April, 2011.
- TILLER, D., Wang, L., Musser, A., and Radik, M. 2010. Combined Effects of Noise and Temperature on Human Comfort and Performance. *ASHRAE Transactions*, 116 (2): 522-540.

9 ACKNOWLEDGEMENT

The author would like to thank the urban planning students of Epoka University, who helped conduct surveys and interviews.