

Assessing Public Willingness to Pay Higher Rent for a Quiet Environment

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**Abstract** – The study assessed the general public willing to pay higher rent for a quiet environment. A quiet environment is the one devoid of noise pollution. The study designed a questionnaire to solicit the willing to pay from the general public. The questionnaires were distributed to the respondents through emails and phone numbers. Sixty one questionnaires were retrieved and analysis was based on the retrieved questionnaires. The study revealed that 78.7% of the respondents were willing to pay a higher rent to reside in a quiet environment. The study concludes that properties located in quiet environment command higher rental values than properties located in noisy environment. The author recommends the development of serene and noise proof neighborhoods in order to improve quality of the urban environment in Nigeria.

**Keywords:** Noisy Environment, Quiet Environment, Willingness to Pay, Willingness to Accept, Public. Higher Rent

1. Introduction

Quiet environments are associated with little or absence of noise. It is generally accepted that quiet environments improve quality of life while noise polluted environment reduce quality of life and negatively impacts on real estate investments. The dictionary defined quiet as absence of noise, calm, and silence, making little or no noise.

Shepherd, Welch, Dirks, and McBride (2013) stated that people choose to live in quiet areas in order to safeguard their health and wellbeing. Andringa, T. C., Jolie, J. and Lanser, L. (2013) quiet and in general pleasurable sounds promote and annoying sounds impede health. Shepherd, Welch, Dirks, and McBride (2013) stated that the benefits of living in quiet areas are relatively understudied compared to the burdens associated with living in noisy areas.

Market Business News, (MBN) (nd) stated that: “Willingness to pay, or WTP, is the most a consumer will spend on one unit of a good or service. Some economic researchers see willingness to pay as the *reservation price* – the limit on the price of a product or service. Others conceptualize WTP as a range – a product’s price may range from a specific amount up to the willingness to pay level.”

Market Business News (MBN), (nd) stated that: “**willingness to accept**, or **WTA**, is the minimum price that an individual is willing to accept to abandon a product or put up with something undesirable, such as noise or traffic pollution.” In the world of commerce, willingness to accept is the lowest price a seller will sell something for. (MBN, nd)

Organization for Economic Co-operation and Development (OECD), (2001) defined willingness to pay as:” the price that an individual would accept to **pay** for avoiding the loss or the diminution of an environmental service.” Organization for Economic Co-operation and Development (OECD), (2005) defined willingness to accept as:” the stated price that an individual would accept in **compensation** for the loss or the diminution of an environmental service”

According to McMahon (2020) “willingness to pay is a reflection of the maximum amount a consumer thinks a product or service is worth. It is considered when developing an asking price for products and services, although it is important to note that it is not the final arbiter of pricing. In addition to being involved in the pricing process, it is also considered when conducting larger studies about how consumers interact with products and services.”

Belyh, A.(2016) stated that “willingness to pay is a term for the highest price a consumer will pay for one unit of a good or service. Willingness to pay (WTP) is a key component of consumer demand, and is critical knowledge for a business in the process of pricing their product. Demand is factored into determining the “best” price, which will satisfy both producer and consumer when the good or service goes to market”

According to Belyh (2016) there are two strategies to estimate WTP, namely: direct approach and indirect approach. Direct approach involves directly asking consumers what they would be willing to pay for a certain product using open ended questions and indirect approach provide a set of options for consumers to choose which option they are willing to pay for. Willingness to Pay is therefore the highest price an individual will pay for an improved environmental good and condition and willingness to accept is the lowest price an individual is willing to accept to put up with an undesirable and unwanted environmental condition. This study was undertaken to assess the general public willingness to pay a higher rent for a quiet environment.

### 2. Literature Review

Jariwala, Syed, Pandya and Gajera (2017) stated that noise pollution can impair one's enjoyment of property, leisure time, increases antisocial behaviour, degrades residential, social, learning environments and resulting in economic losses.

Shepherd, Welch, Dirks, and McBride (2013) found that quiet areas have higher mean Health Related Quality of Life (HRQOL) domain scores than noisy areas. Their study supports the protection of quiet areas and on-going noise abatement in noisy areas.

Oviasogie and Ikudayisi (2019) investigated the implication of noise pollution on residents' wellbeing in Benin, Nigeria and found that major effect of urban neighbourhood noise pollution are sleep disturbance, stress, hindrances to communication and annoyance.

Andringa, Jolie and Lanser (2013) examined how pleasant sounds promote and annoying sounds impede health using a cognitive approach and found that louder sounds contribute to distal situational awareness while subtle environmental sounds provide proximal situational awareness.

Thorne and Shepherd (2013) examined the concept of quiet as an environmental value in terms of amenity and wellbeing from Australia and New Zealand environmental legislation they deployed Queensland's Environmental Protection Act as the Australian legislation and the Nation's Resource Management Act as the New Zealand legislation. Their study found that quiet possesses intrinsic value in terms of overall sound within the environment (soundscape) to individuals and communities. They further stated that "Quiet has been defined as an environmental value and a determinant of good health and wellbeing in Queensland's environmental noise legislation. Wellbeing can be related to degrees of quietness and the absence of intrusive noise, the character of sound within an environment ("soundscape"), as well as the overall level of sound."

Feitelson, Hurd and Mudge (1996) examined the impact of airport noise on willingness to pay for residences and found that beyond a certain noise disturbance threshold, households are not willing to pay anything for the residence; yet, different households have different thresholds.

Han, Zeng, Li, Cheng, Shi, and Mou (2018) investigated public willingness to pay (WTP) and willingness to participate (WTIPP) in domestic waste management in rural areas of China and found that men and wealthy subjects were more WTP than women and poor subjects.

Han, Yang, Wang and Xu (2010) examined public willingness to pay (WTP) for environment conservation of Kanas Nature Reserve, Xinjiang, China and analyze factors influencing WTP using a questionnaire survey based on the contingent valuation method (CVM) found that seventy-three percent of the 412 respondents were willing to pay at different levels, and the mean WTP value was RMB 54.60 (\$8.03). The study concludes that the public were willing to contribute to improve environmental quality.

Amponin, Bennagen, Hess and Cruz (nd) investigated domestic water user's willingness to pay for watershed protection in Tuguegarao City, Philippines using the Contingent Valuation Method (CVM) and found that domestic water users in Tuguegarao City were willingness to pay for watershed protection. Payments would contribute to a fund that would provide for the watershed protection of the Penablanca Protected Landscape and Seascape (PPLS).

Science for Environmental Policy (2007) stated that Spanish researchers studied the relationship between road traffic noise level and disturbance, and the social and economic valuation of noise in a medium-sized city in Spain and found that up to 50% of the population would be willing to pay money in order to reduce noise pollution. The results may be useful when deciding what solutions should be adopted to reduce noise levels.

Collins and Curtis (2018) examined Irish rental tenants' willingness-to-pay in their monthly rent for improved energy efficiency measured through energy performance certificates in Ireland and found that Irish tenants are willing to pay an average of AC38 for a one-grade improvement along a 15-point energy performance certificate scale.

Department for Environment, Food & Rural Affairs (2013) stated that noise affect health, wellbeing, productivity and the natural environment and that noise impacts can be incorporated into a cost benefit analysis.

Ganiyu and Adedeji (2011) investigated major sources of noise pollution and its impact on the built environment of Oba – Ile housing estate in Akure, Ondo State, Nigeria and found that noise pollution impacts residents and the built environment negatively. Their study recommends good design and building orientation, adequate set back and reduction of noise from sources as some of the ways to minimize the problems of noise pollution in built environment.

Nikolaos, Dimitra and Agapi (2011) The study further revealed that properties in close proximity to highways have 8-10 % reduction in value than those in a quiet area, real estates close or next to railways is 6.7 % decrease in market value and an increase in the noise of 1 decibel (db) decreases the value up to 0.3 % of suburban properties close to airports.

Perfect Pollucon Services (nd) stated that Noise Impact Assessment (NIA) is part of Environmental Impact Assessment (EIA) and NIA is to measure current noise quality assessment of a study area, assess impacts of new projects on local noise, its impact and acceptability.

According to Parris, K. and McCauley, R. (nd) "Some of the ways noise pollution from traffic can be reduced are by developing quieter roads and cars; installing noise-reduction barriers around major traffic areas; lowering speed limits; educating drivers; and implementing relevant legislation to progressively reduce noise. Other strategies include the use of better materials; improved site planning; and the undertaking of detailed environmental assessments before construction of houses and industrial sites is permitted, with follow-up assessments after construction is completed."

According to Shield (2017) "studies have shown even moderate levels of noise, such as street noise, on a continuous basis may have long term effects on hearing loss. This "hidden hearing loss" can easily be prevented with the right soundproofing solution in place."

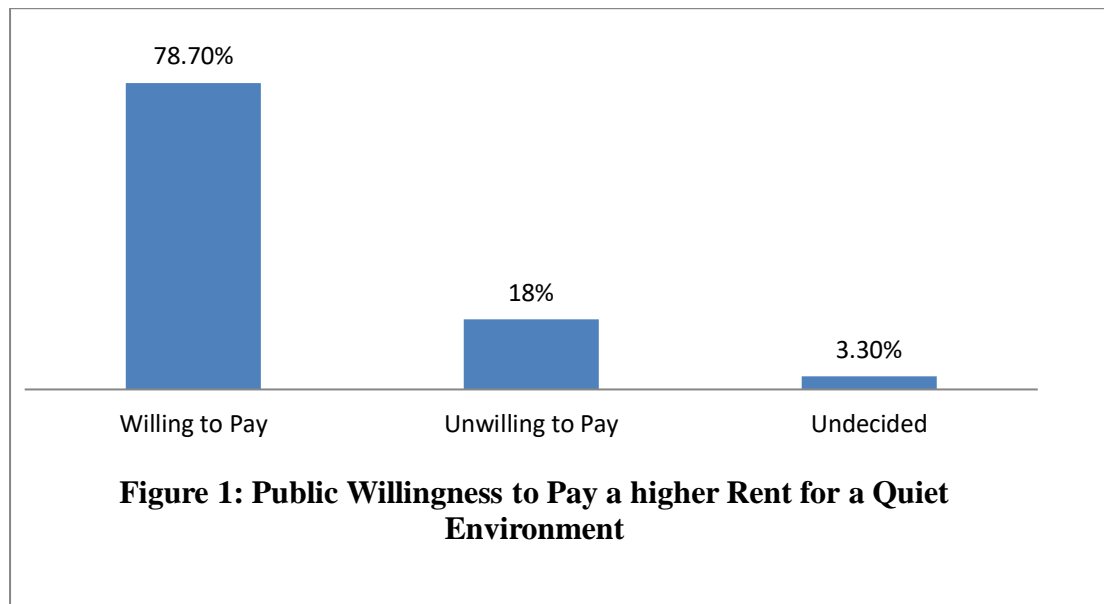
### 3. Research Methods

This study was conducted in Nigeria in Sub-Saharan Africa. Nigeria is the largest country in Africa in terms of population. The study adopted a survey research design. The population of the study is the adult urban population in Nigeria. The study adopted a purposive and convenient sampling technique. The sample was drawn from residents of Abuja, Lagos, Port Harcourt and Yenegoa. The questionnaire was designed and distributed to respondents through their emails and WhatsApp phone numbers. Sixty one questionnaires were retrieved and the analysis was based on the responses in the retrieved questionnaires. The data was analysed with descriptive statistics including frequencies, percentages and bar chart.

### 4. Results and Discussion

The results of the study are presented below. The study revealed that forty eight respondents representing 78.7% of the sixty one respondents were willing to pay a higher rent for a quiet environment while eleven respondents indicating 18% were unwilling to pay a higher rent for a quiet environment. This implies that 18% of the respondents are willing to accept a noisy environment to pay lower rent. The study further revealed that two respondents representing 3.3% were undecided that is they were neither willing to pay a higher rent for a quiet environment nor willing to accept a noisy environment for a lower rent. These results are presented in Figure 1. The results of this study imply that quiet neighbourhoods will command higher rents than noise polluted neighbourhoods. The results will also provide a guide for developers and investors to develop properties in serene environments to quickly recoup their capitals and make high returns. The results of this study are similar to findings

of earlier studies on willingness to pay for an environmental good such as quiet and improved environment quality, security, energy efficiency, air quality and water quality (Feitelson, Hurd and Mudge,1996;Science for Environmental Policy,2007; Nikolaos, Dimitra and Agapi,2011;Han, *et al*,2010;; Collins and Curtis,2018; Han, *et al* 2018)



## 5. Conclusion

The study assessed general public willingness to pay a higher rent for a quiet environment in Nigeria. The study found that a majority of the respondents were willing to pay a higher rent for a quiet environment. This implies that properties in quiet environment command higher rents than the properties in noise infested environment. The study concludes that the general public is eager and willing to pay for a quiet and peaceful lifestyle. The study recommends the development of serene and noise free neighbourhoods in Nigeria in order to improve quality of the urban environment.

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