

THE STIGMATIZATION OF RESIDENTIAL PROPERTIES DUE TO PROXIMITY TO WASTE DUMP

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ABSTRACT

The environmental condition that brings about reduction in the value and marketability of property and sometimes those adjacent it is known as stigmatization. It could also be considered as diminution of value associated with increased environmental risk and Residential properties located in close proximity to dump sites are mostly affected. This paper studies the impact of stigma on the value of residential properties located adjacent to a waste dump by reviewing relevant literature and surveying Estate Surveyors and Valuers and property occupants near the Rumuolumeni dump site in Obio/Akpor local Government area of River state. Data were obtained from the respondents and were analyzed using descriptive statistics, the results showed that properties in close proximity to waste dump site suffer a diminution in value due to the impact of the dump and recommend amongst other things the need for government to construct a well engineered sanitary landfill to reduce or possibly eliminate health and environmental risk associated with waste dumps.

KEYWORDS: Residential Property, Stigma, Waste Dump, Value, Environment

INTRODUCTION

The location of a property has a great influence on its value especially in urban areas and refers to the position of one site relative to that of another. The physical location of a property is sometimes referred to as accessibility and proximity (Fanning, 1994). Location influence on the value of residential property may arise from any number of sources, such as accessibility to shopping centre, educational and leisure facilities. In Port Harcourt Nigeria, residential developments are characterized by a proliferation of squatter settlements, a breakdown of waste disposal, pollution (air and water), insufficient power and water supply etc. Arimah (1996) posited that because of continuous increase in city development and greater use of disposable product over the years has resulted to high demand of space for land fill. Most often, people feel that landfill and other solid waste facilities do have adverse impact on surrounding properties. Studies by different researchers have proven otherwise. For instance, a study by Nelson *et al.* (1992) confirmed that the value of property decreases within the distance of 3.2km from landfill. Whereas Parker (2003) study revealed that, there is no statistical relationship between landfill proximity and the price of houses stating with evidence that landfills need not have negative impacts on nearby property values. The outcome of this study generated controversy between property owners and solid waste industry representatives.

From appraiser's perspective, a property that has been polluted by contamination from hazardous substances is not different from uncontaminated property. The fact that the property is contaminated requires a valuer to have a thorough understanding of land contamination issues including regulations under relevant environmental laws, the nature of contamination on land, the type of remediation required, and the market condition, etc. It is established that stigma is an

environmental condition that affect the value of contaminated property. If the property is not affected by stigma, the method of valuing such property is uncomplicated and do not require any value adjustment. Where there is evidence to show the existence of stigma (waste dump site), valuers need to take the stigma impact into account. Dybvig (1992) defines it as “a market imposed penalty that can affect a property that is known or suspected to be contaminated, property that was once contaminated but is now considered clean, or a never contaminated property located in proximity to a contaminated property.” In Australia, the Australian Property Institute (API 1999) as cited in Chan 1999 defines it as “an intangible factor that may not be measurable in terms of cost to cure but may have real impact on market value. It arises from the effect of present or past contamination upon the market’s perception of the property and represents a discount, beyond the direct and indirect costs likely to be incurred, required to compensate for the risks associated with contaminated or previously contaminated property”. For the purpose of this paper, stigma is defined as “the detrimental impact on property value due to the presence of a risk perception driven market resistance”. Several property researchers, such as Patchin (1991), Mundy (1995), Roddewig (1996), Sanders (1996), (Neustein and Bell, 1998) and (Bond, 2000) have studied and confirmed the impact of stigma on the value of contaminated property. Stigma may have an Impact on contaminated land value before, during or after the cleanup process (Roddewig 1996). Moreover, it is well accepted that stigma may also affect properties within close proximity to the contaminated land or waste dump sites. Stigma has many definitions.

This study would concentrate on stigmatization with respect to residential properties based on proximity to waste dump site though there are other factors which may cause a property to be stigmatized such as murder or suicide in the home, or the home was subject to a drive-by shooting or used as part of an illegal operation such as a brothel and what have you. In real estate, stigmatized property is property which buyers or tenants may shun for reasons that are unrelated to its physical condition or features, in this case, nearness of the property to waste dump site. When selecting a property to buy, most often the physical appearance of a property and the location will be obvious. If a buyer has concerns about the less obvious structural and mechanical aspects of a property, the buyer can have a property inspection done. However, consumers may have other areas of concern that would cause them to avoid a property. Certain events may cause a property to be described as a “stigmatized property”, or a “psychologically impacted property”. These terms are sometimes applied to a property that has had some circumstance occur in or near it of such could be proximity to waste dump site which does not in any way affect the appearance or function of the property itself. The significance of this or any other occurrence can be affected by a person’s beliefs, values and perceptions, ethnic background, religion, gender, age, and other individual concerns. Therefore, to determine with any certainty all the possible circumstances that might cause a property to be considered “stigmatized” is daunting, if not impossible.

Further, in the event of a lawsuit resulting from an undisclosed stigma, the buyer would have to prove what harmful effect the stigma had because these issues are often personal ones that do not affect the appearance, function or use of the property — the usual tests for determining a material latent defect. Even though the “stigmatizing event” does not directly affect the appearance or use of the property, it has such a negative psychological effect on the potential buyer that they decide not to purchase the property. The property becomes known as a “stigmatized property” or a “psychologically impacted property”, potentially making it much more difficult to sell and ultimately adversely affecting its market value. Clearly, the significance of the stigmatizing event will vary with a buyer’s values, perceptions, beliefs, age, religion, ethnic background, gender and other concerns personal to that buyer. Several factors have generally been identified as predictors of properties stigmatization. Apart from death of an occupant, murder, suicide, serious illness such as AIDS, murder or

suicide in the home, or the home was subject to a drive-by shooting or used as part of an illegal operation such as a brothel and belief that a house is haunted, variable (like proximity of the property to waste dump sites) exist which also affects the market value of the property. However, research particularly in the Nigeria context is being silent about them. It is against this background that this study critically examined the stigmatization of residential properties due to proximity to waste dump. The study will focus on the stigmatization of waste dump on the value of the residential property near dump site.

LITERATURE REVIEW

In recent years a number of researches have sought to establish the various forms of stigmatization witnessed by Estate Valuers when trying to dispose a property (ies). Many internal and external factors influence property value. Despite varying methodologies, a majority of the previous literature found that property value was significantly influenced by nearby waste dump site.

Waste is any solid or liquid substance which have been thrown away by its original owner, which may be or may not be found useful by any other person but constitute nuisance to people's health and the environment when left untreated. Waste could be explained to mean leftovers, used products whether liquid or solid having no economic value or demand and which must be disposed or thrown away (Isirimah, 2002). The issue of waste disposal and management were not problems to early humans, due to the fact that there were no population explosion and technological advancement at that time. However with the growing population at an alarming rate coupled with technological advancement, overtime waste disposal and management began to constitute a serious problem. Open waste dumps refer to the uncovered areas of the earth surface that are used to dump waste of all kinds. According to Mundy (1995) a clean (uncontaminated) property has a value equal to full market value and a dirty (contaminated) property which poses health or financial risk (which might be either real or perceived to have significantly impacted on the value. He further posited that requirement for disclosure by sellers and his agents, lender and valuer may also have a noticeable impact on the marketability of the property. He added that when a property loses its marketability, it also loses its value. He opined that "income effect is the present value of the difference between the property value as if uncontaminated and the property value as if contaminated."

Adeniran et al (2014) examined the impact of solid waste management on Ado Ekiti property values. The study seeks to assess the implication of the dangers posed by haphazard disposal of solid wastes on the built environment and property values. Findings show that improper management of solid waste leads to a reduction in rents of residential properties. Wokekoro and Uruesheyi (2014) also conducted study on the impact of waste dump on the value of residential properties, their study revealed diminution in rent of residential property using dump site at Timothy Lane in Rumuola and Rumuolumeni Road but failed to show the regression coefficients for the distance to the landfill and location. Akinjare et al (2011) focused on the price effects of landfills on residential Housing in Lagos, Nigeria. The study examines four Landfill sites in Lagos which differ in size, operating status and history. The relationship between each Landfill and property values were measured based on distances of 1.2Km radii away from the Landfill Locations and the measurements were based on the interval of 300meters up to 1200 meters in concentric rings. The result of the study indicated that across four Landfill sites, increase in property values were evident as distance away from the Landfill increased indicating that residential houses in close proximity to the Landfills suffered value loss. Property appreciates relative to distance averaged 5.75% within the concentric rings for all four landfills. Bello and Bello (2008) conducted a research on the willingness to pay for environmental amenities in Akure, Nigeria. The study included environmental amenities such as refuse, waste water

disposal, water and electricity supplies, neighbourhood roads and other locational services. The study used a two-staged hedonic model to examine the willingness to pay for better environmental services by residents of two neighbourhoods in Akure, Nigeria. They combined multiple regressions and predictive model to determine property values as a function of housing attributes and logistic model as willingness to pay. The study revealed that households' income, distance from landfill and regularity of electricity supply are prime factors that influenced household's willingness to pay for better environmental services. The study recommended economic empowerment of the people, diligent consideration in the location of dumpsites and adoption of public-private initiative in the provision of public infrastructure. The study established that real estate values are readily influenced by resident's willingness to pay for both structural as well as neighbourhood characteristics where the real estate is located but failed to relate property values with distance from the waste dump site as an environmental disamenity. Bello (2009) conducted another research on the impact of waste dump on the nearby residential properties and found that there was a weak linear relationship between rental value and satisfaction of residents in the neighbourhood where the waste dumps is sited.

Adewusi and Onifade (2006) carried out study on the impact of municipal solid waste on physical environment. The study revealed that rents paid on properties in close proximity to landfill were lower compared to similar properties further away. It also established that property transaction rates were quite slow and unattractive compared to those in close proximity to waste dump. Ogedengbe and Oyedele (2006) carried out a study on the effects of waste management on property values in Ibadan, the study found out a relationship between the closeness of dump sites and the value of rental properties in the area. The study reveals that the rental values placed on such properties were reduced as a result of presence of waste dumps. Richard (2005) carried out a study on the impact of landfill on value of nearby property value. His study conclusively demonstrated small or nonexistent property value impacts from a landfill. The results showed that the three landfills studied differ in their impact on nearby property values. While two of the three landfills have statistically significant negative impacts on nearby property values, the smallest, least prominent landfill does not. With all the aforementioned studies and case, it can be said that property value impacts vary from landfill to landfill, and are in some cases small or nonexistent. Bouvier et al. (2000) also conducted a study on the impact of landfill on homes near landfill using hedonic regression for houses located near six landfills in Central and Western Massachussetts, two of which were open and active as at the time of the research work. The six landfills were differed in size, operating status and history of accumulation. The effect of each landfill was estimated by the use of multiple regressions. In five of the landfills, no statistically significant evidence of an effect was found, while the remaining one landfill revealed that homes near the landfills suffered an average loss of approximately 6% in value.

Reichert et al. (1991) focused on the impact of proximity to five municipal landfills in Cleveland, Ohio in the United States. The extrapolated results showed that a typical house located half a mile from the landfill experienced a 6% rise in property value, while the same increased in value by one percent when located two miles away. This six percent differential for a house valued at \$120,000 (the average value for the study) was \$7,200. Reichert et al (1992) carried out study still on the impact of landfill on houses in close proximity to Cleveland landfill in Ohio, the study revealed that the estimated marginal implicit Price (MIP) for distance was negative, implying that homes had higher prices near the landfill. Further study using small and more homogeneous study area, revealed that residential properties in close proximity to landfill were sold for lesser than those away from the landfill. Cartee (1989) while investigating effect of landfills on residential property values and community development in selected areas of Pennsylvania. The study adopted multiple

regression technique to measure the impact of landfills on value of residential properties. The study revealed that proximity to waste dump (landfill) can be useful in explaining property values since real estate property markets are dynamic in nature; the heterogeneous and varying size, visibility appearance as well as accessibility of waste dump (landfill) are likely to affect study conclusion. Gamble et al. (1982) cited in Akinjare et al (2011) in their study to determine the impact of landfill on nearby properties using hedonic pricing regression for house sales and distance split concluded that estimated coefficient for distance to landfills were not significant at the 5% level of confidence implying property close to landfills have higher prices. This study however contradicted several other studies. For example, Havlicek et al (1985) cited in Akinjare et al (2011) investigated sales of single family houses in four landfills in Indiana between 1962 and 1970. The study considered the linear distance of residential properties from proximate landfill and deviation from prevailing downwind direction from the landfill. Results showed that the value of the house for distances away from the land fill was increased by about \$10.30 and by about \$0.61 in a linear distance. Zeiss and Atwater (1989) estimate hedonic price regressions for three neighbourhoods located near a landfill in Tacoma, Washington. Though they do not report the estimated MIP values, they do report that for two of the neighbourhoods, a statistically significantly relationship between house price and landfill proximity did not exist. For the third, they find that houses located nearer the landfill have higher prices, but attribute the result to new homes built near the landfill, and not to the landfill itself.

METHODOLOGY

This is a survey research design. The target populations of this study are residents in close proximity to Rumuolumeni dumpsite and some Estate surveying and valuation firms practicing within Obio/Akpor where the waste dump site is located, this constitute 60 respondents for the study. 10 properties within the dump site were selected using random sampling technique of residents in the study. Data collected from the field were analyzed and presented with the use of mean and standard deviation.

DATA ANALYSIS AND RESULTS

This section deals with the presentation of analyzed data from the research questions stated in this study. The data and result of each research questions were presented in tables.

Research Question 1

What are the possible effects of waste dump on a nearby residential property?

Table 1: Shows Mean and Standard Deviation of Research Question One

| S/N | ITEMS | Mean | SD | DECISION |
|-----|---|--------------|-------------|----------|
| 1 | Air pollution | 4.90 | 0.30 | Agreed |
| 2 | Odour nuisance | 3.95 | 0.65 | Agreed |
| 3 | Ground water contamination | 3.57 | 0.65 | Agreed |
| 4 | Proliferation of insects | 4.18 | 0.60 | Agreed |
| 5 | Environmental stigma | 3.47 | 1.74 | Agreed |
| | Weighted mean and standard deviation | 20.07 | 3.94 | |

Note: Criterion cut-off point=3

Table 1 show the mean and standard deviation on the possible effects of waste dump on a nearby residential property which indicates that the respondents were in agreement with all the items. However, Item 1: "Air pollution

($M=4.90$, $SD=0.30$)” was rated the highest, this was followed by item 4: “Proliferation of insects ($M=4.18$, $SD=0.60$) and the least was item 5: “Environmental stigma ($M=3.47$, $SD=1.74$). This implies that waste dump when sited close to landed properties will have a negative effect, not just on the property but also the health of the residents and the environment.

Research question 2

What are the stigmatizations on the value of residential property close to waste dump?

Table 2: Shows Mean and Standard Deviation of Research Question Two

| S/N | ITEMS | Mean | SD | DECISION |
|---|--|--------------|-------------|-----------|
| 1 | Stigmatization due to waste dump site does not affect the value of residential property | 1.58 | 1.21 | Disagreed |
| 2 | Stigmatization due to waste dump site have significant effect on the value of residential property | 4.80 | 0.40 | Agreed |
| 3 | Stigmatization due to waste dump site affects the marketability of residential property | 4.18 | 0.39 | Agreed |
| 4 | Stigmatization due to waste dump site affect the demand of residential property | 4.10 | 0.54 | Agreed |
| Weighted mean and standard deviation | | 14.66 | 2.54 | |

Note: Criterion cut-off point=3

Table 2 shows the mean and standard deviation on stigmatizations on the value of residential property close to waste dump which indicates that the respondents were in disagreement with item 1 “Stigmatization due to waste dump site does not affect the value of residential property ($M=1.58$, $SD=1.21$)”, however, they were in one accord with the rest of the items; item 2 “stigmatization due to waste dump site have significant effect on the value of residential property ($M=4.80$, $SD=0.40$)”, was rated the highest this was followed by item 3 “stigmatization due to waste dump site affects the marketability of residential property ($M=4.18$, $SD=0.39$) and lastly, item 4 “Stigmatization due to waste dump site affect the demand of residential property ($M=4.10$, $SD=0.54$)”. These implies that proximity of a residential property to a waste dump do have a negative effect on the value of the property.

FINDINGS

The survey revealed significant difference between the values of properties located in close proximity to waste dumpsite than those far away dumpsite. There was an indication that the highest property values were recorded for properties far away from the dump site while those in close proximity dumpsite have lower rent due to stigmatization.

The study examined the impact of stigma on to value of residential property due to its proximity to waste dump. The study revealed that open waste dump cause reduction on the value of surrounding properties. It further revealed that out o all the attribute associated with waste dump, environmental stigma is the least that affect the value of residential properties close to waste dump.

CONCLUSIONS / RECOMMENDATIONS

The result of this study revealed that establishing dump site is not enough but constant sanitary improvement on the dump site must be carried out by environmental and sanitary agencies, the study further revealed that properties in close proximity to dump site suffers diminution in value due to stigma. The researcher recommend that as a first step to siting waste dump sites in urban cities, all the stakeholder, must be involved in the process. He also recommended that

proper environmental impact assessment should be carried out before waste dump is sited in an area.

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