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Consequences of Garbage Dump Sites on Amusement Centers in Aba Urban, Abia State, Nigeria

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ABSTRACT

The irresponsible disposal of solid waste, particularly at city rubbish dumps, has emerged as a huge challenge for recreational facilities in many developing countries, with Aba City, Nigeria, standing out as a notable example. Open dumping sites pose considerable ecological threats, leading to environmental degradation, disruption of recreational activities and a number of harmful ecological repercussions within metropolitan parks. The purpose of this research is to investigate the influence of solid waste on city amusement centers, using Aba City as a case study. The study seeks to monitor solid waste disposal patterns and propose strategies for reducing ecological disturbance. Data were obtained from 60 respondents dwelling in the research region. The data were secured using a standardized self-administered questionnaire. Interviews and personal observations were also employed to get sensitive information. The study presented and analyzed the data using descriptive statistics, which included tables and percentages. The results revealed a noticeable decline in amusement activities over time in locations situated close to the waste dump site. This conclusion was drawn by comparing multiple amusement centers located within a 200-meter radius of the selected rubbish dump. Proximity to the waste site was found to negatively influence patronage and the overall functionality of these recreational spaces. Consequently, the study recommends that amusement centers be situated at least 250 meters away from active waste dumps to protect their viability and prevent further environmental degradation. Furthermore, it is advised that waste disposal sites be strategically located and effectively managed to minimize their adverse impact on the amenity value and ecological integrity of urban recreational areas.

Key Words: garbage dump, amenities, amusement centers, solid waste disposal, indiscriminate waste disposal.

INTRODUCTION

In many parts of the world, open garbage dump remains a common method of solid waste disposal. In poor nations, it is considered an antiquated approach to waste management, as it lacks scientific basis and poses significant environmental and health risks. Solid waste disposal sites are often located both within and on the outskirts of growing urban areas. The quantity of garbage generated per person daily has increased in tandem with the world's population growth. Due to poor and ineffective management practices, these garbage dumps frequently become sources of ecological degradation and health hazards for nearby residents.

The primary ecological concern is the contamination of the land, atmosphere, and water, as well as the role that these landfills play in devaluing amusement centers, especially those that are adjacent to or close to waste garbage dumps and/or dumpsters. According to Nigutu (2016), many city areas in developing countries face serious ecological degradation and environmental risks due to a weakly developed city solid waste management system. Numerous studies have been conducted to examine the amusement and ecological effects arising from waste dumps, and these studies have demonstrated a connection between the two (Zenda, 2016; Borty and Kurten,2017; Gusto, 2017; Taegu, 2017; Frisch, 2016; Altamira, 2015)

Regular resource use leads to massive volumes of solid waste from home and industrial operations, which poses serious health risks to people and reduces their interest in regular outdoor recreation (Frowstier, 2018).

Table 1 analyzes the solid waste elements that affect entertainment activities in the tested amusement centers. However, the adverse effects of improper municipal solid waste disposal are numerous and extend beyond what can be fully captured.

Among the detrimental impacts are ecological pressures, floods, accidents, and deteriorating amenities (Umunakwe and Kalu, 2019). Solid garbage disposal sites are frequently found outside of cities in many developing nations. These sites end up becoming sources of contamination for kids due to the incubation and growth of flies, mosquitoes, and rats. They are also carriers of diseases that impact populations whose natural defenses are still developing, particularly in recreational environments. These conditions can lead to respiratory, gastrointestinal, dermatological, respiratory, genetic, and other communicable diseases (Borty and Kurten, 2017).

Table 1: Factors influencing public amusement activities from the sampled waste sites.

Variables	A	B	C	D	E
Obnoxious Smell	-	13	22	13	12
Ecological condition	4	9	13	24	10
Disagreeable sights	3	5	19	16	17
Reduced convenience	5	8	32	15	-
Depressions and shattered exteriors	5	7	12	36	-
Blazing sounds from autos	1	9	11	8	31

Key: A-Not effective; B-Inadequately effective; C-Effective; D-Strongly effective; E-Exceptionally effective.

Table 2: Level of patronage by resident population to the public amusement ensemble.

Variables	Constitution Crescent Relaxation centre (<60m)	Georges Park Relaxation centre (>60m)
No patronage	10	N/A
Frequent patronage	N/A	15
Patronizing once-in-a month	05	9
Patronizing Once-in-6 months	11	4
Patronizing once-in-a year	04	2

Household, commercial, recreational, and industrial wastes are carelessly disposed of along streets, roads, water bodies, drainage channels, and open dump sites in developing city areas. Very few people place their waste materials in accessible dumpsters. Aba's solid waste disposal is frequently done in an unmanaged way, which presents serious risks to the city's landscape (Gouveir and Prado, 2016). According to Gusto (2017), improperly managed waste, particularly solid waste from community members and relaxation center employees, poses a major risk to amusement centers, mostly due to patronage (Table 2). This can lead to entertainment risks through the transmission of infectious diseases.

Unattended garbage attracts flies, rodents, and other vectors that spread diseases, as noted in the research. Usually, the foul odor emitted from decomposing organic matter often deters amusement center users and affects nearby residents. This unpleasant smell highlights the negative impact of open dumps on surrounding communities. Individuals living in areas without proper solid waste disposal systems—particularly preschool children, waste workers, and facility staff—are especially vulnerable to the health risks posed by this unscientific disposal method, which generates hazardous and infectious substances.

Amusement parks located near trash dumps and dumpsters are another high-risk group (Salaam, 2018). Organic household waste is especially dangerous because it ferments, which makes it easier for microbial infections to survive and proliferate. Trash workers and rag pickers are particularly susceptible to infections and chronic diseases that might arise from the direct handling of solid trash (Taegu, 2017). According to research by Sodrix (2013), children are particularly susceptible to the negative health effects of exposure to hazardous trash in landfills.

Chemical exposure can result in illnesses because chemical poisoning is caused by the discharge of chemical waste into the environment. In his research, Xion (2018) found a link between hazardous waste and entertainment, demonstrating that trash from businesses and agriculture might also pose a significant risk to entertainment. Besides, people may be exposed to chemical and radioactive risks when industrial and municipal garbage are disposed of together. The disposal of medical and amusement care trash in landfills, where it is combined with household waste, raises the danger of contracting HIV and Hepatitis B, among other diseases (Yogis, 2014). Open landfills pose a serious threat to the environment, particularly to the air we breathe. People who live near garbage dumps get sick from the smoke and offensive odors they release (Altamira, 2015).

Manta and Zenda (2016) discovered that, except for dust and direct contact with hazardous items, contamination, a significant ecological impact of landfills, does not spread directly from land to humans. Typically, polluted crops, animals, food items, or water are the entry points for pollutants that are deposited on land into the human body. In addition, the garbage dump is untidy and smells. Extreme temperatures during the summer exacerbate these conditions by accelerating the rate at which bacteria operate on biodegradable organic matter. Additionally, disposal sites may pose entertainment risks to the community (Borty and Kurten, 2017). In several amusement-related surveys, Gouveir and Prado (2016) reported a range of health and psychological concerns associated with exposure to poorly managed waste sites. These included respiratory problems, irritation of the nose, skin, and eyes, gastrointestinal disorders, and various psychological disturbances and reactions.

Furthermore, waste dumps close to recreation areas are frequent feeding grounds for dogs and cats. These pets, along with rats, spread infections to surrounding dwellings.

To achieve the study's goal, the researchers aimed to satisfy the following objectives: 1. Investigate the factors influencing public amusement activities at the sampled garbage dumps; 2. Determine the level of patronage by the resident population at public amusement centers; and 3. Calculate the Income Generated Revenue (IGR) from the sampled amusement ensemble.

MATERIALS AND METHODS

This research focused on the Port Harcourt-Enugu expressway

Table 3: Income Generated Revenue (IGR) from the sampled amusement ensemble.

Year	Constitution Crescent Relaxation Centre ₦ (0.00) million	Gorges Park Relaxation Centre ₦ (0.00) million
2014	2.8	15.5
2015	2.7	19.3
2016	23.4	29.6
2017	3.1	52.8
2018	3.9	59.4

waste dump in Aba, Abia State, as well as the Old Umuahia Road rubbish dumps. The study's goal is to identify the ecological and recreational implications of solid waste disposal on the human communities surrounding the garbage dump. We collected data for this study from both primary and secondary sources to report the findings on the ecological and recreational implications of solid waste dumping at the Old Umuahia Road rubbish dump and the Port Harcourt-Enugu garbage dump in Aba, Abia State. First, we involved a desk study of secondary data, wherein documents and records linked to acceptable data sources, including books, journals, newspapers, and activities both published and unpublished, were reviewed to gain background information (Manta and Zenda, 2016).

Second, the researchers paid visits to the rubbish dump and amusement parks, where they conducted random interviews with people involved in scavenging and management. Workers at leisure centres near the rubbish dump were also interviewed. The survey questions were designed to gather information on the ecological and recreational impacts of solid waste disposal at the Old Umuahia Road and Port Harcourt–Enugu Expressway garbage dumps. Specifically, the study focused on how these waste sites affect amusement activities at Constitution Crescent Amusement Ensemble and Georges Park Amusement Centre in Aba. Additionally, the survey aimed to identify strategies for mitigating these impacts without compromising the recreational value of public spaces. The data collected were used to complement and update findings from the preliminary desk study.

The study employed structured questionnaires, comprising both closed- and open-ended questions, which were distributed to 50 personnel working at relaxation centers. This approach facilitated the collection of reliable data. The first section of the questionnaire collected data on socioeconomic characteristics such as educational level and employment status, while the second section collected information on relaxation centers' perspectives on the location of the garbage dump and its surroundings, disposal methods used by relaxation centers, and the implications of the garbage dump to the amusement centers' amusement in terms of securing users' interest.

To explain the sample size, the questionnaires were distributed to two groups of respondents: entertainment center workers who lived close to the rubbish dump (50 metres or less) and those who lived far away from amusement parks and the garbage dump (60 metres or more). The study region comprises 60 relaxation center personnel, from which 32 leisure centers were recruited using a stratified random sampling procedure, with 20 nearby relaxation centers and 12 faraway relaxation centers chosen to participate in the study.

This procedure allowed us to ensure that there was no bias in selecting the population that made up the sample. This was the case because, in order to assess the effects of the rubbish dump, two strata (layers) of relaxation centres were required: nearby relaxation centres and far-away relaxation centres. In addition, stratified-simple random sampling ensured that every member of the study region had an equal chance of being chosen to participate in the study. The authors used a questionnaire as a main data-gathering tool in this study because they wanted to collect data for analysis that would help them achieve the study's aims.

RESULTS AND DISCUSSION

Table 1 presents the effects of solid waste on existing amusement centers located near the sampled landfill sites. Table 1 shows that unpleasant odors are a major factor negatively influencing entertainment activities in these centers. Likewise, the overall ecological condition of the area is rated as extremely poor. Several unsightly scenes were identified as significant factors affecting amusement activities in the neighborhood. Additional issues such as limited accessibility, ground depressions, and damaged surfaces were also assessed as impactful and highly detrimental to leisure activities in the area. Furthermore, the persistent noise from passing vehicles was noted as an additional disturbance.

Table 2 reveals that Georges Park receives a high level of regular patronage. However, none were recorded for the Constitution Crescent amusement ensemble, as the record was not available at the time of conducting this research, due to the impact of waste rubbish dumps surrounding the entertainment center. Similarly, while higher patronage was recorded at the Constitution Crescent Entertainment Ensemble—particularly with visits occurring at least once every six months—Georges Park experienced lower levels of patronage. This disparity is largely attributed to the nature of activities and the location of the facility, which limits opportunities for adequate recreational engagement. Furthermore, only about four individuals reported visiting the Constitution Crescent Amusement Ensemble once a year. In contrast, Georges Park recorded even lower figures, raising concerns and highlighting a clear pattern: amusement facilities situated closer to garbage dumps receive significantly less patronage than those located farther away.

Respondents' socioeconomic variables were examined: their employment position and educational level. This is most likely because employment as a source of income (Table 3) may vary depending on educational level. The majority of the respondents (48%) were not full-time employees, which made their lives challenging. As a result, many of them have turned to small-scale horticulture in the swampy areas surrounding the Old Umuahia Road waste dump and the Port-Harcourt–Enugu Expressway garbage dumps to supplement their income and livelihood. Additionally, the nearby creek is frequently used for washing clothes and bathing children. These practices expose

the surrounding leisure centers to solid waste contamination—particularly hazardous waste—which poses serious health risks due to potential chemical exposure. (Salaam, 2018).

Table 3 presents the annual income of the sampled public amusement centers over a five-year period. In 2014, the Constitution Crescent Amusement Center (CCAC) recorded an annual revenue of ₦2.8 million, while Georges Park generated a significantly higher amount of ₦15.5 million. In 2015, Georges Park's revenue increased to ₦19.3 million, whereas CCAC experienced a slight decline to ₦2.7 million. However, in 2016, CCAC recorded a substantial increase in revenue, reaching ₦23.4 million, while Georges Park earned ₦29.6 million. By 2017, CCAC generated ₦3.1 million in Internally Generated Revenue (IGR), whereas Georges Park reported a remarkable ₦52.8 million, indicating a significant disparity in revenue performance between the two amusement centers. Finally, in 2018, Georges Park created a total of N59.4 million in IGR, while the Constitution Crescent Amusement ensemble generated N3.9 million. The Constitution Crescent relaxation center's low IGR is likely due to its proximity to a waste rubbish dump (<60m), as evidenced by the variables listed in Table 1. On the divergent, Georges Park exhibited a stable and progressive IGR due to its remote location (>60m) from the sampled solid waste rubbish dumps.

The bulk of the neighboring and distant relaxation centres' personnel are uneducated. Similarly, a tiny fraction (16.8%) of them reported that they had received higher education. The scenario here is that the majority of the respondents have become scavengers by collecting rubbish to make a living. They gather cans, metal objects, plastics, and other products to sell and make a living. Direct handling of solid garbage, particularly amusement park waste mixed with home waste, can raise the risk of infection for scavengers.

Workers at relaxation centres, particularly those nearest to the waste dump, are dissatisfied with the garbage dump's location in their community. They complained about the rubbish and trash.

They also complained that the waste dump is too close to their workplace, making them ill frequently. Furthermore, they claimed that their amusement parks are contaminated by offensive odour from the current waste dump, creating ecological damage.

The solid waste disposal methods used by recreation centers in the research area were quite inadequate. Educated persons may be more likely to select better trash disposal technologies than illiterate people. The majority of people who toss trash into open spaces and sewers are not educated. Those who put rubbish in containers or burn it are more likely to have a higher level of education. In general, the majority of the study participants either dump their waste on the ground, sewers, or streets. Similarly, only approximately 21% of them drop their waste in containers and bags, which can then be transferred to specified disposal places.

The waste dump in a nearby village has had a significant and negative impact on the amusement value of public places in the research area, according to the study respondents during the survey. The personnel of both the close and distant relaxation centers stated that the waste dump is a breeding ground for disease vectors, causes infections and makes the area unclean. However, the placement of the rubbish dump has significantly impacted the amusement centers, resulting in significant setbacks and impacting patronage.

Almost every respondent stated that no precautions are made to keep amusement parks safe from waste dumps. The lack of protection from the consequences of rubbish dumps was exacerbated by a lack of understanding about pollution. Many of the studied relaxation enters knew nothing about pollution. A minor percentage of them claimed that pollution causes illness. As a result, the personnel at the relaxation centers proposed, among other options, the relocation of the rubbish dump as an interim solution. This recommendation stems from the fact that their primary source of information on contamination is the media, which is limited by inherent challenges such as high subscription costs and frequent service interruptions.

CONCLUSION

The study looked at the environmental and recreational implications of recreation center workers in Aba, Abia State, who lived near (nearby) and far away from the Old Umuahia Road and Port-Harcourt-Enugu highway dumpsites. The data studied found that both adjacent and far away recreation centres suffered from linked ailments as a result of the dumpsite's proximity to the leisure centres, causing them to lose clientele. It was determined that the recreation complex, which is less than fifty metres from the dumpsite, is the most affected by it. As a result, workers at recreation centers suffer from malaria, chest pains, diarrhea, cholera, and skin, nose, and eye irritation.

This paper investigated the effects of garbage dump sites on amusement centers in Aba Urban, Abia State, Nigeria, with particular focus on the ecological and recreational implications for workers at relaxation centers located near the Old Umuahia Road and Port-Harcourt-Enugu highway rubbish dumps. The data analysis found that both adjacent and faraway relaxation centres were affected by linked ailments as a result of the waste dump's proximity to the relaxation centres, causing them to lose patronage.It was determined that the relaxation centre, which is less than 50 yards from the waste dump, is the most affected by it. As a result, the relaxation center staff suffer from malaria, chest pains, diarrhea, cholera, and skin, nose, and eye irritation. The state of relaxation centers in this study can be attributed to contamination from the landfill. It was also discovered that air and water contamination is high during the rainy season due to irritating and disease-carrying odours, as well as groundwater pollution. During the dry season, smoke from the burning of waste at the rubbish dump serves as a significant source of atmospheric contamination, affecting even individuals who reside far from the dump and contributing to cardiac-related health issues.

The study concludes that the rubbish dump should be properly positioned and managed in order to mitigate its effects on the amusement value and ecology in particular. The local government authority must relocate such entertainment centers if they are fewer than fifty metres away from the rubbish dump in order to improve their amusement status. In the long term, it is imperative that local government authorities prioritize the provision of amusement centers in clean and environmentally safe locations to ensure that the public can enjoy recreational activities in a healthy and comfortable setting. The public should be educated about the effects of waste dumps on the current urban amusement facilities and services in the Aba urban region.

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