

Motivational Factors Influencing Littering In Harare's Central Business District (CBD), Zimbabwe

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Abstract: This paper focuses on the problem of increasing littering in the Harare's central business district (CBD). The research investigated the reasons for the litter problem, the sources and components of litter, the effects of litter on people and the environment. The research used an exploratory research methodology. Both quantitative and qualitative research was employed during the data collection process. The results showed that there are many sources of litter and a variety of litter types. Litter has been linked to several health concerns including cholera and air pollution. The research also revealed the need for environmental education. City of Harare (CoH) is encouraged to work to work with NGOs, International Agencies, the business world and other institutions to provide sufficient facilities for proper disposal of waste by providing waste bins at strategic intervals and convenient places for effective and routine waste collection mechanisms. Environmental education through public awareness raising campaigns with the idea of promoting civic responsibility will go a long way in ensuring a litter and disease free environment. In order to make the results of this research as useful as possible, the researcher submitted this paper to the mayor's office for possible inclusion in council's proceedings.

Keywords: central business district, litter, littering, street trading, urban public space.

I. Introduction

Harare is nicknamed the "The Sunshine City" due to its moderate and conducive climatic conditions (average annual temperature is 18 °C) and its former glory as one of the cleanest cities in Southern Africa and Africa in general. With poor governance, , lack of autonomy in recruiting senior council administration, lack of legal certainty on powers and functions of urban councils, urban growth, unfettered powers of the minister of local government, limited revenue generating powers Harare's luster has deteriorated with evident problems such infrastructure decay and littering. Littering means to throw (often man-made) objects onto the ground and leave them unremoved, as opposed to disposing of them properly (EMA, 2011). Litter can refer to anything from a small sweet wrapper to large bags of rubbish or even an area with many items of rubbish. Small items such as gum and cigarette butts not usually considered as litter but these small pieces of rubbish are often some of the most littered items on Zimbabwe's streets. Litter consists of waste products such as containers, papers, and wrappers which have been disposed of without permission.

Littering is one of the most problematic environmental issues in Zimbabwe (especially but not limited to urban areas). It is astounding that 94% of Zimbabweans identify litter as a major environmental problem and yet they still litter. Globally, the plastic convenience culture has affected people, they eat and drink from approximately 34 billion newly manufactured bottles and containers consuming 7 billion kilogrammes of plastic (EMA). The litter situation in the Harare's CBD has worsened since 2000 and this coincided with the socio-economic and political problems that the country has been facing to date. Some of the problems associated with littering include poor governance and corruption as well as shortage of equipment and manpower at City of Harare (CoH).

1.1 Statement of the Problem

Cleanliness is next to Godliness so the saying goes, however this cannot be said of Zimbabwe's cities, Harare in particular. Harare's residents agree that litter does not belong to any part of the environment. But what is worrying is that the problem of litter goes on unabated. What could the motivational factors that influence littering and with what results? Is it not possible for Harare to regain it yesteryear luster; what is needed to realise this endeavour? Both central and local governments are concerned about the image of Harare as a tourist destination and the health of its residents. The damage to tourism could be visible in the long run with the erosion of the city as a clean, green and sunshine city. The extent to which litter has influenced the health of residents and tourism is not very clear but the country should pride itself as one of the most preferred tourist destination for 2015 hence the need to match its environmental reality with its image. Arguably, Harare is without doubt one of the worst litter problem city in Southern Africa.

1.2 Research objectives

Aim and objectives of the study:

To assess the perceptions on littering in Harare

The research objectives were to:

1. Document littering patterns in Harare's CBD;
2. Map stakeholders involved littering, their role and influence;
3. Analyse the effectiveness of strategies that could control / eradicate littering.

II. Theoretical Framework

It seems understandable that people do things in order to get stuff they want and to shun stuff they don't want; why they want what they do, and don't want what they don't is a mystery hence the theories of motivation. Maslow's Theory of Needs (1943) was chosen because it is arguably the most commonly known theory of motivation.

2.1 Maslow's Hierarchy of Needs

People generally make decisions at the extensive margin (what to wear or eat) and at the intensive margin (how to produce at a site) in order to maximize economic returns. New perspectives in research on littering posit that socio-cognitive factors may be important in motivating individuals to take certain actions such as throwing litter. Mitchell (1982) defines motivation as the degree to which, an individual wants and chooses to engage in certain specified behaviour. Motivation theory explains the cognitive and psychological processes that drive certain actions in order to predict behaviour (Mitchell, 1982). Maslow's hierarchy of needs posits that the underlying needs for all human motivation are on five general levels starting from lowest to highest; these needs are physiological, safety, belongingness, esteem and self-actualisation (Maslow, 1943) as shown in Fig 1 below.

Motivation cannot be observed or measured directly, but can manifest itself through attitudinal and behavioural measures (Ambrose and Kulik, 1999). Behavioural manifestations may include active pursuit and/or use of information and implementation of certain behaviours. However, identifying both the generic and littering specific elements of people's behaviour is vital in order to facilitate a societal response to the changes that city authorities predict. Tailoring anti-litter practises to specific societies may make it possible to offset the adverse impacts of littering.

Nevertheless, the availability of information alone remains unlikely to motivate behaviour change. Individuals seek or receive, manage, and interpret information in different ways and then use or reject it. People's knowledge is largely a synthesis derived from personal experience, local sources of knowledge, and external sources of techno-scientific information. How litter bugs perceive CoH and their knowledge is likely to affect people's use of scientific information in making decisions. (Cash et al., 2002) argue that at the core of any decision making process involving the creation of knowledge, individuals assess the salience, credibility, and legitimacy of available information. (Cash et al., 2003) propose that effective management of these three components of information is central to successful knowledge production and the ability to mobilize knowledge for desired actions. Individuals are not only motivated by information about risk but also by their direct experience with loss and harm brought about by living with hazards (this could be litter in this case) [Kasperson et al., 1988]. The process of changing attitudes is affected by perception of risk and evaluation of information, and also by perception of one's own capacity to change, or self-efficacy.

Motivation theory posits that much of human action can be explained through the concept of perceived self efficacy, defined by Bandura (1977) as concerned with judgments of how well one can execute courses of action required to deal with prospective situations. Perceived self efficacy is positively associated with any behaviour from which a desired outcome is anticipated (Bandura, 1977). This could mean that litter bugs are highly perceptive of litter and its impact on their environment. When confronting environmental change, however, local knowledge is not always sufficient in building the capacity to change. To adapt to change, new information is often needed in this case, information about the potential harm caused by littering.

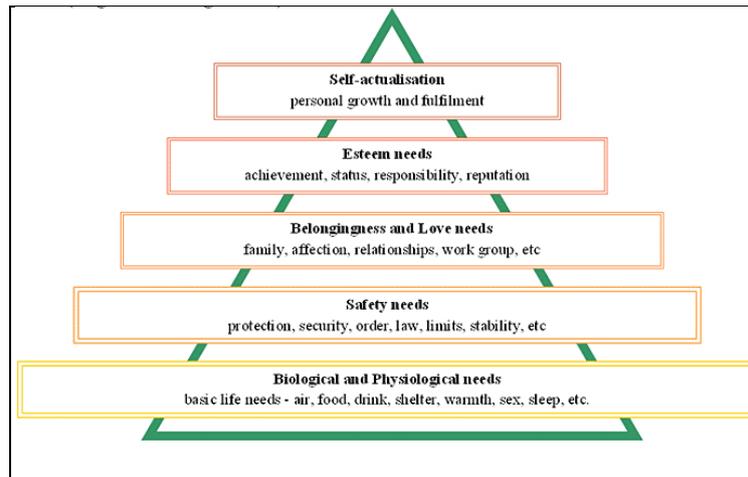


Fig.1: Maslow Hierarchy of Needs: Maslow (1943).

Maslow's hierarchy of needs has been criticised because it fails to differentiate between social and intellectual needs (ethnocentric). The hierarchical nature of needs as exposed by Maslow may not be necessarily follow such a simple path, needs are not universal as they are depended on individual differences, culture, availability of resources and geopolitical entity and whether one is living in a self centred or collective society. It is also questioned whether self actualisation is a fundamental and whether the theory really reflect the order in which needs are satisfied (Cianci and Gambrel, 2003).

III. Harare, A Brief Overview

Harare, a colonial city, officially called Salisbury until 1982 is located at coordinates: 17°51'50"S 31°1'47"E. It is situated in the north-east of the country in the heart of Mashonaland East, Mashonaland West and Mashonaland Central Provinces. Harare is located at 1500 m above sea level (parkland topography) with a subtropical highland climate. The coverage area is 872km² and the total population for greater Harare is 2.1million (Zimstats, 2012). Harare was founded in 1890 by the Pioneer Column, a small military force in the service of the British South Africa Company (BSAC), and named Fort Salisbury after the British Prime Minister, Lord Salisbury. Until 1923, with the formation of responsible government Harare was run by the BSAC. CoH was proclaimed a municipality in 1897 and a city in 1935. Harare is the capital and therefore the nerve centre of Zimbabwe. Harare is a metropolitan province that incorporates Chitungwiza and Epworth.

IV. Materials and Methods

This paper presents a case study of Harare's CBD i.e. areas surrounded by Fourth Street, Chinhoyi Street, Robert Mugabe Road and Samora Machel Avenue (Fig 2). The exploratory research design method was used for this study thus field work study and desk research was been used to collect secondary data on the CoH. Archival research for information and official documents on the approach of CoH towards littering were sought. Harare is a primate city, hence the business, political, cultural and administrative centre of Zimbabwe. Data collection strategies included observation, key informant interviews with 2 CoH officials, 4 urban institutions and executives of 3 (three) street traders' associations'. For collection of the primary data a structured questionnaire was used with questions such as what litter is, whether it was a problem in Harare, types of litter and who was responsible for littering. The target population was residents of Harare who work in the Harare's CBD and street traders. Interviews were conducted with both males and females with no quota being set for a specific gender. It was not possible to ask these questions to all the people working in the Harare's CBD.



Fig. 2: Harare's CBD (Source: HTS Maps, 1998)

V. Results and Discussion

5.1 Causes of Littering

In Harare generally people litter because they do not have a sense of ownership, even though areas such as parks are public property (60%), believe someone else – a municipal worker – will clean up after them (70), tolerate litter (10), believe littering is convenient due to shortage of bins (5) and some see litter that has already accumulated and therefore there is no need not to (10). Street vendors are largely blamed for the littering in the CBD .Street kids the streets are their home and they throw rubbish around and empty bins. In addition pedestrians are to blame for littering the CBD, their contribution is mainly via empty food packaging. Increased urbanization rate over the last decade this has increased the demand for refuse collection in the CBD and residential areas. The Environmental Management Agency EMA identifies primary sources of litter in Zimbabwe as:

- ❖ The public dropping garbage in the street
- ❖ Motorists who throw away garbage wily nilly
- ❖ Uncovered loads which have the potential to be blown out of trailers and cause roadside littering.

- ❖ Household refuse disposal and collection. Animal scavengers and the wind can dislodge unsecured items placed out on the corner for collections. Litter can also result from overloading containers.
- ❖ Incorrectly secured commercial refuse can easily become litter through poor methods of disposal.
- ❖ Construction projects have the potential to generate waste if these are not sustainably done
- ❖ People at leisure e.g. at a picnic site may drop litter
- ❖ Entertainment events can produce litter; these are common in Harare's CBD. These events create a large amount of litter, which can overflow onto neighbouring areas when control measures are not cautiously planned.
- ❖ Illegal dumping of waste on undesignated sites.

5.2

| Who litters in the CBD | % Response |
|------------------------------|------------|
| ○ Weather (windy conditions) | 0,1 |
| ○ School children | 5 |
| ○ Drivers | 60 |
| ○ Pedestrians | 73 |
| ○ Shoppers | 71 |
| ○ Vendors | 90 |
| ○ Street kids | 59 |
| ○ Working people | 61 |

Table 1

From Table 1 it is clear that vendors are responsible for most of the litter followed by pedestrians hence environmental education should be targeted on this group. School children do not normally litter because littering is not allowed in all schools in Zimbabwe therefore they could be taken on board to educate their older counterparts especially at the home

5.3 Components of Litter

From Table 2 it is evident that most of the litter is used airtime vouchers, paper and food packaging. Some of this waste could be avoided through online method of crediting airtime. Wood waste, paper, cardboard, plastics, cans, textiles, leather, wood, glass, used office paper, wood shavings, hazardous waste, electronic-waste, aluminum cans and bottles are common in the CBD. Dust / sand, leaves, Used air-time vouchers disposed of all around cigarette butts that have been thrown on the ground stepped on and discarded with some of these waste seen flying around town. The major problem is that the litter is not sorted before it is disposed of hence it may be difficult to recycle some of the materials.

| Visible Litter | % Response |
|--|------------|
| ○ Paper | 93 |
| ○ Organic waste e.g. fruit skin /seed | 59 |
| ○ Plastic bags, plastic drink, bottles etc | 94 |
| ○ Metal, drinks ,cans | 72 |
| ○ Cigarette butts | 60 |
| ○ Fast food packaging | 93,2 |
| ○ Used airtime recharge vouchers' | 97 |

Table 2

5.4 What Does the Law Say on Littering?

The mandate of the Environmental Management Agency is to guarantee every citizen a right to a clean and safe environment which is pro health. EMA encourages every Local Authority to implement effective waste management practices. Section 83 of the Environmental Management Act [Cap 20:27] makes it an offence to discard, dump or leave any litter on any land, street or road except in a container provided for such purposes or at a place which has specifically been designated for such purpose. Public transporters must put in place sufficient waste bins within their vehicles for use by the passengers as stipulated in section 23 subsection (2) and (3) of Statutory Instrument 6 of 2007. Section 83 of the Environmental Management Act and section 23 of S.I. 6 of 2007 seek to prevent the nuisances associated with the distribution or casting of flyers, pamphlets, advertisements or waste paper upon undesignated places. It is also an offence for recipients of such materials on the streets, public places or on public transport to throw litter on the street or road. Section 23 subsection (3) of Statutory Instrument 6 of 2007 authorises the imposition penalties and fines against offenders who dump litter in violation of its provisions. CoH is flouting its by-laws. These by-laws are formulated to control activities and manage modes of behaviour in an urban setup. Where by-laws are enforced, there is normally an orderly mode of operating the city does not follow the Public Health Act Ch 15: 09 Section 83 which states that "it is the duty

of every local authority to take lawful, necessary and reasonably practical measures to maintain its district at all times in a clean and sanitary condition, and for preventing the occurrence therein of, or for remedying or causing to be remedied, any nuisance or condition liable to be injurious or dangerous to health and to take proceeding to law against any person causing or responsible for the continuance of any such nuisance or condition”.

5.5 What are the effects of littering?

5.6.1 Effects of Litter on Humans

Littering can be contagious, it may appear that people do not care for the environment and that it is acceptable to litter. Some of the emissions from burning waste include dioxins, ash and hydrocarbons like carbon monoxide. The health effects of that are caused by hydrocarbons is various forms of cancers; carbon monoxide causes headaches, fatigue, nausea and vomiting. Organic matter such as leaves pollutes waterways and reduction in aesthetic beauty of the environment. The cholera and typhoid outbreak which was predominantly in Harare (2011- 2012) is an example of what uncontrolled littering can do. Litter removal and disposal from the environment costs money which could be used for other purposes, COH may increase rates in order to employ more workers to clean up the streets. Litter attracts vermin and is a breeding ground for bacteria which can lead to the outbreak of disease (Fuggle and Rabie, 2009). Items such as, aluminium cans, broken glass and syringes can be a health hazard in public places. Accumulated litter such as cigarette butts are potential fire hazard and produce a pungent smell especially during the rainy season.

5.6.2 Effects of litter on the environment

Litter harms both wildlife and aquatic life and causes land and water pollution i.e. contamination by toxic or noxious substances (Fuggle and Rabie, 2009). A major cause of this is the increased urbanisation together with the increased disposal of non-biodegradable substances and improper treatment of sewage. Litter negatively affects the aesthetic appeal of the environment e.g. on tourist locations such as Harare's popular First Street, the commercial hub of Zimbabwe. In Harare's CBD street kids and some residents have resorted to burning accumulated waste (discolouring and disfiguring the city in the process) thereby contravening the bylaws of the city.

5.7 Motivation and sustainable anti litter behaviours

Some of the most effective ways of promoting sustainable behaviour include attracting attention through the use of persuasive messages through effective strategies that are well delivered and targeted to the right audience. Highlighting financial gain from recycling can lead to behaviour change, research indicate that there is no direct link between values and action? Ninety eight percent of the respondents claimed that it was their duty to pick up litter and only 2% indicated that they usually pick up litter therefore anti litter messages should change both attitudes and behaviors.

A person can be made better off by motivation and inspiration i.e. it is often easier to just deposit ones trash out the window of a car / house; the motivation to dispose of trash in a more appropriate bin comes down to the “D Drive” (i.e. The Drive to Define and Defend approach) which is about how an individual defend those things that are important to themselves when they are in danger e.g. family and neighborhood (Futerra Sustainability Communication, 2011)). It is also about how people define themselves (i.e., what type of person am I); the motivation to do certain behaviors that are consistent with one's personal view of him / herself or that match the tribe / suburb / village / community or organisation that one lives in.

Sustainable behaviour can be promoted by attracting attention e.g. the use of posters which have persuasive messages such as *Thank you!* labelled on litter bins or a bin with the picture of the Mayor or Minister of Local Government, Public Works and Urban Development picking up litter with the words *No trash, only recyclables!* Strategies that could be used to foster behaviour change include pictures of recycling projects, simulations, demonstrations and storytelling. People generally conform to social norms through the by stander effect i.e. seeing and doing nothing. On the other hand the boomerang effect is when people underestimate the prevalence of undesirable behaviours. There is need for people to associate with likeminded professionals through commitment to a noble cause. Commitments work better if they are personal, meaningful, written and made public of which all this requires great effort. Commitment could be encouraged through incentives although this could be counterproductive when they are withdrawn. Generally people apply social proof daily; when somebody sees someone doing something they may think this is the norm hence positive behaviour change can be encouraged through videos and prompts. Research shows that people approve speeches when they are eating hence the luncheon technique could be used to promote anti littering. Effective delivery of communication to the targeted audience is important. Generally change occurs in transition periods such as pay days, summer holidays, weddings etc. Chances are that people are likely to be persuaded by someone whom they like through the word of mouth (which has more impact) than emails, videos, posters and books.

The target for anti litter campaigns is equally important, there is need to preach to the congregation (the majority) than the choir because these could change behaviour if approached courteously. This could be achieved through social diffusion, the use of community leaders such as Councillors, Members of Parliament (MPs), mavens i.e. people who get people's attention, in Zimbabwe this could include people such as the renowned musician Oliver Mtukudzi, connectors; people who have the skill of making powerful acquaintances. These could include business moguls such as Strive Masiyiwa. Salesmen are people who have the skill of spreading ideas since they have enthusiasm and likability and finally by experts, scientists and celebrities. The long and short of this is to know ones audience i.e. how much do they know about littering and how much do they care?

5.8 Practical ways to reduce / eradicate littering in Harare's CBD

The City of Harare (COH) is trying by all means to restore cleanliness in the CBD but one of the major problems is lack of financial resources and the failure to change the littering habit by the public. Further research is needed on the real motivational factors of littering, could it be culture? Culture is dynamic and it could change, Zimbabweans travel to different countries such as Botswana, Namibia and South Africa among other countries yet when they are in these countries they don't litter, then why is it that they can't do the same for their city? This could be due to poor governance and lack of enforcement of by laws. Cheap politicking whereby vendors have been allowed to operate freely has also added to the problem of littering which started around 2000. The following are some measures that are taken on board to manage litter:

- CoH is now tracking all refuse vehicles electronically, the motive is to ensure route adherence. In the same vein in some residential suburbs such as Mbare, Sunningdale, Warren Park and Glen View 7 there has been an overwhelming uptake by anti litter monitors (volunteer environmental police). The mandate of these monitors is peer education so as to come up stainable cleaning programmes. This is being done with support from EMA, Environment Africa and Oxfam. This same concept of anti litter monitors could be copied to the CBD especially through taking vendors on board.
- Recycling items, rather than using resources additional materials to create new items and products can reduce litter. Purchasing products with less packaging and simple solutions like buying a 5litre or 20litre water container then use a cup than a 500ml water bottle will go a long way in reducing litter .
- All places should be neatly maintained by providing containers which are used for the discarding litter. Cameras could be used to monitor those who throw litter in the same they are used for those who violate traffic laws. This could however be very expensive for a city the size of Harare. USD 20 charged for littering is not deterrent enough though much in view of an average salary of USD200 in Zimbabwe
- Litter should not be thrown from the transport conveyance; bins should be placed in all public transport vehicles. This is very difficult to enforce in Harare because of the illegal pirate operators, as their vehicles are not registered.
- Litter should not be discarded or left any on any land; street or road except in a container provided for that purpose, arresting such offenders and environmental education right from kindergarten to tertiary education will go a long way in reducing littering. Litter-free streets are possible in Harare, in Windhoek , Namibia and Kigali in Rwanda people there simply do not litter, anyone dropping anything is assumed to be a foreigner and is politely reminded "*we don't do that here*" and is invited to pick up the offending article. Perhaps there is need by the CoH in conjunction with central government to make sure that Harare's residents are self actualized. People who reach self actualization show efficient perception of reality and respect themselves, others and nature.
- Bins must be emptied at places which have been especially designated, for such purpose. The few bins available should be emptied regularly to prevent overflowing.
- Volunteering to help organise a cleanup is equally important; schools, universities , clubs and residents trusts / associations and churches among others could initiate clean ups on a regular basis. A walk through Harare's CBD after work and early morning calls for paradigm shift as debris such as bottles and cans etc are strewn everywhere.

VI. Conclusion

Harare is under severe strain of litter with the consequent health problems. The problem of littering has been accepted by many as a way of life. There is need to provide more bins in Harare's CBD and daily collection of litter. There is need for a cultural revolution so that littering becomes everyone's concern. Generally , Zimbabweans are very house-proud; they do no dump garbage in their own yard and would be very disappointed if they saw somebody throwing littler into the street outside their gate; so it is difficult to understand why so many throw litter outside someone's shop or into the streets of the city centre. It will be interesting to further research on the main reasons that influence littering in the CBD and reasons why there is no ownership of the areas that people operate in.

VII. Recommendations

CoH should adopt "3Rs; Reducing - means choosing to use items with care to reduce the amount of waste generated. Reusing involves the repeated use of items or parts of items which still have usable aspects, the banning of plastic bags by EMA was meant to reduce coagulation of drainages through littering. CoH should have sustainable waste disposal, well serviced vehicle for this purpose, well trained manpower which should be retrained continuously. Politicians should not interfere in the day to day management of Harare e.g. the directive by the Ministry of Local Government; Public Works and Urban Development for residents not pay rates for a defined period resulted in numerous problems due to limited revenue flows. By laws should be enforced sternly. Recycling means the use of waste itself as a resource e.g. making shoes from old tyres. Harare should have a sustainable waste disposal system that follow the (G)eneration, (S)torage, (C)ollection, (T)ransportation and (D)isposal [GSCTD] model to reduce litter and finally clean up/environmental education campaigns should not be used as a campaign platform by politicians but should be genuine strategies that motivate people to clean up i.e. campaigns should be goal oriented and ongoing.

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