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Perceptions of Social Responsibility in Determining Household Waste Management in Kondele Location, Western Kenya

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Abstract

Globally, the volume of solid waste generated daily is growing at an unprecedented yet many countries lack the systems and resources to manage these wastes effectively. Everyday household activities generate large volumes of solid waste, which up to 90% remains uncollected exposing communities to numerous health hazards yet proper management of solid waste is integral in creating a habitable environment for everyone. In order for waste management initiatives to succeed, social responsibility in managing waste that they generate is critical. Despite its centrality, it is not known how households perceive social responsibility, and how it determines management of household solid waste in Kondele location. The main objective of the study was to examine the perception of social responsibility in determining household solid waste management in Kondele location. The study was guided by Social Practice Theory as advanced by Bourdieu (1977) which posits that practices are social constructs shaped by perception, experience and interaction in the environment. The study aligns with the global trend on Integrated Solid Waste Management approaches which emphasize on multifaceted approaches in managing solid waste issues. It may also contribute to the field of Environmental Sociology which explains waste management from a sociological viewpoint rather than the traditional public health perspective. Cross-sectional design was used in the study. The study population was the 24,630 households in Kondele Location from which a sample of 394 households was drawn using Taro Yamane (1967) formula. A total of 394 questionnaires, 3 focus group discussions as well, five key informant interviews were used to collect primary data. Secondary data was obtained from Kisumu Information Centre, The Kenya Demographic and Health Surveys and the internet. Descriptive statistics was used in analysis of quantitative data which is presented in form of tables. Qualitative data was analyzed using thematic analysis and presented verbatim. The study findings show that respondents perceived waste management favorably even though majority reported having disposed waste inappropriately implying that knowledge does not necessarily translate into practice. The study recommends to the Kisumu Directorate of Environment as well as National Environmental Management Authority that there is need to create awareness on social responsibility in waste management as this will help to change perception. Further there is need for inclusion of community in waste interventions so that the solutions to waste management problems are tailored to their specific needs.

Keywords: Perceptions. Social Responsibility, Waste Management, Household

Introduction

Globally, the volume of solid waste generated daily is growing at an unprecedented rate (Huertas-Delgado et al 2017; World Health Organization, 2025), yet many countries lack the systems and resources to manage these wastes effectively (Afolabi et al, 2018; Kaza et al., 2018). The World Health Organization (2025) further reports that everyday household activities generate large volumes of solid waste, which up to 90% remains uncollected exposing communities to numerous health hazards yet proper management of solid waste is integral in creating a habitable environment for everyone. (Kattoua et al, 2019)

Integrated Solid Waste Management (ISWM) has been touted as an effective approach in dealing with waste management challenges. The Asian Development Bank (2017) observes that central to the ISWM approach is the involvement of all stakeholders in management of solid waste .The aim of involvement of stakeholders is that there is a shared sense of responsibility amongst all stakeholders with the local authorities playing their roles in collection and disposal of waste while waste generators take responsibility for the manner in which their waste is handled before disposal. Huertas-Delgado et al (2017) report that households contribute significantly to the municipal solid waste stream, therefore it is important to understand the role of households in the social responsibility matrix.

Nyati (2023) observes that in the context of waste management, social responsibility is a facet of community participation and has been inferred to have positive influence in waste management efforts (Okoji et al, 2017; Onukogu et al, 2022; Widyatmika et al, 2023.) It has also been referred to as environmental citizenship (Manomaivibool, 2018), duty of citizens, (Busu et al, 2017) moral obligation (Xu et al., 2017) and Eco Citizenship (Frey et al, 2023) .According to Biswas et al, (2020) this concept emphasizes on 'changing people's attitudes, providing access to knowledge and developing skills which combine to influence behavior', inculcate concern for the surrounding environment and responsible waste management behavior.

Healey (2017) defines perception as the process by which human beings interpret the world around them which then enables the formation of mental picture of the environment. Shoddo (2024) postulates that perception can be created by knowledge or lack of it, as Al Manun et al. (2022) opine that values and norms equally influence perception of solid waste management. Starovoytova et al, (2018) state that in waste management the concept is understood as the interrelationship between humans and the environment which influences their attitudes in favor of or against the environment. Haider et al. 2015; Kurisu, 2015; and Mukherji et al. 2016 suggest that perceptions toward waste management is a major factor in making a transition from 'discarding waste improperly' to 'managing waste sustainably'. Thus, perception is important in waste management as it facilitates achievement of safe, clean and healthy environment.

Eshete et al., 2023) opine that perception is significant in the solid waste management at the household level as it influences how a person views himself and the world around him, it governs behavior and sets limits on what can be done and achieved in solid waste management and is positively correlated with solid waste management practices Yeenee et al. (2024) further observe that if individuals have perceptions that do not support good waste management values they tend to behave in a way that is hostile to the environment. In the same vein, Getaneh (2024) states that perception is of utmost significance in influencing household waste disposal practices and determines involvement in waste management initiatives. Okoji,et al, (2017) in the same breadth states that the role of perception in waste management cannot be underscored as it represents the worldview shared by the members of a

community about what constitutes proper waste management practice and what is not. This essentially means that perceptions that favor or are consistent with the adoption of safe solid waste management practices can motivate individuals to act. Cognizance of the importance of waste management may encourage appropriate waste disposal while negative behavior behaviors such as apathy or disregard for waste management hinder efforts in waste management. In this regard it is essential to understand household perception so as to create effective awareness campaigns that promote responsible waste management practices.

Ross & Law (2023) observe that the level of responsibility in managing solid waste in the United states is a byproduct of a tradition that has been part of the school and continuous education system since 1872.This came about as a result of the perception that poorly managed waste was not only a threat to public health but to homes as well. This realization motivated citizens to mobilize themselves and the government to act on the waste management problems. Lila et al, (2017) observe that in Wyoming state high levels of public education as well as enforcement of regulations has played a pivotal role in fostering favorable perception towards social responsibility. These examples indicate the power of collective citizen action, public education and political goodwill in creating social responsibility in solid waste management. Nevertheless, Ross and Law (2023) observe that the major impediment to responsible solid waste management in the United States of America is that too much time is required for at source separation of household waste. Most householders find it inconveniencing to separate the different types of trash before placing them for curbside collection. In spite of the inconvenience caused by at source separation, households are compelled to perform the practice. This is explained by SPT in that households have had to align their practice with the conditions that have been created in their environment (field). Consequently, the attitude of finding at source separation to be an inconvenience pales in significance in light of the expectation placed on them.

Di Maria et al, (2017) observe that in Europe perception that lead to responsible waste management behavior has been shaped by intense public education. Avfall Sverige (2022) postulates that in Sweden people who perceived themselves to be particularly responsible for the environmental impacts of waste disposal and believed that their efforts can mitigate negative impacts on the environment, were more likely to participate in responsible waste management. The practice of household waste separation is also mandatory in the European countries of Germany, Denmark, France, United Kingdom, Poland and Greece (Bassi, et al, 2017). Di Maria, et al, (2017) observe that in Italy, households are expected to sort and separate their wastes before it is delivered to curbside collection or to the door to door collectors. As advanced by the SPT, competence is mandatory for a practice to thrive and be reproduced. This means for waste sorting practice to thrive there has to be some level of knowledge inculcated in households meant to perpetuate the practice and this been done by educating the public. From the experience of the developed economies, it can be deduced that enforcement of regulations and public education play a significant role in influencing practice.

Awareness campaigns are important in promoting and fostering responsible solid waste management behavior (Biswas et al., 2020). Evidence from Japan shows that integration of environmental education in the formal education system bears fruit in reinforcing positive attitudes towards waste management. By incorporating environmental principles from the onset of the educational journey, Japan has laid a strong foundation for life-long environmental consciousness and responsibility (Kodama, 2017). Similarly, Avfall Sverige (2022) postulates that in Sweden people who perceived that their waste

management efforts had positive impact on the environment, were more likely to engage in responsible waste management.

Contrarily, in a study conducted by Baltazar et al, (2020) in Calamba City of the Philippines noted that knowledge of what needs to be done in responsible management does not count for much when it comes to improper practices. The study revealed that 84 percent of those who reported that they were aware of regulations that govern household waste management were also unwilling to report how they managed their waste and therefore the study deduced that the waste was most probably not responsibly managed (Baltazar et al, 2020). This points to the awareness-practice gap as sometimes awareness may not necessarily lead to change of practice. Additionally, this shows that change of practice goes beyond mere awareness creation. However, the experiences of some of the economies from which the aforementioned studies were conducted may not be similar to those of developing countries and more so in Africa.

Webb (2018) points out that Wales in the United Kingdom is one of the countries with the highest recycling rates in the world at 64%. This is attributed to awareness creation and involvement of households in waste campaigns so that they know what society expects of them. Households that are compliant are rewarded so that other households get to know that there is benefit in recycling. Further, the United Kingdom ran a successful campaign dubbed “Are you doing your bit?” in order to encourage citizens to take appropriate responsibility in managing their household waste. The campaign aimed at doing this by disseminating pro environmental information on waste management and encouraging the citizenry to increase their own awareness on means through which they could be able to make savings through proper waste management behavior (Webb, 2018). Similar efforts have been replicated in the developing world in Rwanda (Uwimbabazi, 2016), and in Kenya (County Government of Nairobi, 2019; County Government of Kisumu, 2015). The Rwandan example has registered much success as it is a mandatory exercise supervised by the government and is embedded in the traditional cultural practice of “Umuganda” which espouses the values of community participation. The fruits of the exercises in Kenya are yet to be witnessed as they are voluntary exercises which are inconsistently conducted (Ntasiginimana et al., 2021).

Studies from the developing world paint a grim picture of the perception held on solid waste management. A study conducted in Lilongwe Malawi (Rusca et al., 2017) found out that households were keen to keep their houses free from waste and ensured that garbage was removed from the house but they did not mind much where the refuse ended up in. It was evident from the study that keeping the house free from refuse was perceived as a key to self-esteem as those whose houses were dirty faced the risk of social exclusion and stigmatization. Respondents in the study reported that they did not want refuse in their houses as others would label them as” not able to take of themselves”. Apake et al, (2024) observe that in Nigeria the major factor responsible for reckless waste disposal is the poor perception of residents towards waste management. Adekola et al. (2021) conducted a study in which they categorized the Nigerian populace into two categories based on their perception- the unconcerned elite who had an out of sight out of mind attitude towards waste which they drove past en-route their offices and the poor who were resigned to helplessness and were used to living with waste. In the same vein, Grobler et al, (2022) observe that residents in many urban areas dispose of the waste without regard to the environment since it is regarded as common property. In addition, Salvia, et al, (2021) postulates that this lack of sense of ownership towards waste management and public spaces contributes to reckless dumping as public knowledge of responsibilities has traditionally portrayed waste as government

responsibility. Further, Salvia, et al, (2021) observes that current policies and regulations world over are geared towards changing such narratives towards the understanding that waste management is both a government and citizen responsibility.

A study conducted in Tamale, Ghana (Issah, 2018) revealed that poor perception of some city residents was the major cause of poor waste disposal practices. Majority of city residents interviewed admitted that they had engaged in acts of indiscriminate disposal of wastes. The study further revealed that indiscriminate disposal of wastes had become a common practice in Tamale. Although some of respondents argued that the indiscriminate disposal was due to lack of proper collection and management systems the findings of the study revealed that majority of those who engaged in the poor practices did so on purpose. In their view they were "giving work" to those who are employed to collect garbage.

In conclusion, the reviewed literature shows that public education plays a central role in shaping perception and inculcating social responsibility in management of household solid waste. Evidence from the developing world has shown that poor perception contributes to and exacerbates solid waste management problems in the community. Literature further revealed that reckless acts of dumping garbage in open places and in unauthorized places makes management of waste a problem.

Problem Statement

In the last ten years, Kenya has put concerted efforts towards adoption of better waste management practices. In this regard the National Integrated Waste Management Strategy was rolled out. It was envisaged that political goodwill and local action would enable the strategy to succeed. Central to local action was the idea that waste generators act responsibly in managing the waste that they generate. The strategy envisioned that households being the largest contributors to municipal waste streams would be actively involved in responsible management of waste that they generate. However, studies have shown that this has not always been the case as waste generated by households end up in the environment. Kondele location in which the study was conducted has been flagged as one of the areas that generate a lot of solid waste within Kisumu. Despite several programmatic interventions that have been done in the area acts of reckless dumping and mishandling of waste still persist in the area showing that there may be lack of the sense of responsibility and understanding of how perceived small actions fit into the larger scheme of things. Despite the centrality that perception holds in waste management, how households perceive social responsibility and how this perception determines practice, arguably remains an understudied phenomenon.. When perception is not well understood, approaches that are advanced in tackling waste problems may fail to succeed because they do not take into account the perspective of those from responsibility is expected. Further, lack of social responsibility negates the achievements that have been made in solid waste management.

Scope and Limitations of the Study

The study was conducted in Kondele Location, Kisumu Central Sub County in Western Kenya and sought to find out Perception of Social Responsibility in Determining Household Waste Management. This was done by assessing the following aspects; awareness of social responsibility, concern for proper management of solid waste, effects of household solid waste management practices on community cleanliness as well as responsibility of the community in ensuring cleanliness. The study focused on the household as the primary producers of solid waste leaving out other institutions that exist in the study

area. Further the study focused on solid waste generated by households excluding other forms of waste such as grey water and sludge. This might have therefore limited the representation of the real waste management situation in the area.

Theoretical Framework

Social Practice Theory as propounded by Bourdieu (1977) and latter day Practice Theorists such as Schatzki et al, (2005) and Røpke (2009) was used in the study. Edgerton et al, (2014) observe that central to Social Practice Theory is Bourdieu's concept of habitus which Bourdieu (1977) refers to as" the learned set of preferences by which a person orients to the social world". Barnes, (2001) explains that habitus is important in understanding how structures are unconsciously reproduced by actors, through practices The habitus is embedded in practice, where 'practice' refers to 'socially recognized forms of activity, done on the basis of what members learn from others, and can be done well or badly, correctly or incorrectly' Walker and Shove (2010) opines that habits are not only linked to our recent past but as well as the practices of those who came before us because through them we formed a basis for future action thus habitus has influence on perception and behavior in the social environment .Matton (2012) elucidates that practice refers to actions and behavior, which results from the relations between one's dispositions (habitus) and one's position in a field (capital), thus practice is shaped by social context.

Study Area

The study was conducted in Kondele Location of Kisumu Central Sub County in Western Kenya. The location has three sub-locations namely; Manyatta A, Nyawita and Migosi. The location borders East Kolwa Location to the east, Central Kolwa to the west, West Kajulu Location to the north and West Kolwa Location to the south. The area has a general population of 152,570 with a household population of 24,630 (KNBS, 2019).The study area was purposively sampled because the location has also been a site of waste management interventions by organizations such as Practical Action, CORDAID, SANA International, SIDA, Municipal Council of Kisumu, UN-HABITAT (slum upgrading programme) among others (Kain et al.,2017). Comparatively, Kondele has had more interventions than other locations. Despite the interventions, the area still has waste management problems. In relation to other locations in Winam division, Kondele is the smallest location with an area of 4.8 sq. km and a population of 152,570 (KNBS.2019). This makes the location the most densely populated area within the division. Due to the slum upgrading programme, two sub locations within the location were chosen for upgrading which are Manyatta and Nyawita. Additionally, Nyawita was one of the sites where the National Youth Service staff was involved in community cleanup exercises. Due to these interventions Manyatta has attracted the middle class and not just the original inhabitants. Migosi location on the other hand, is considered a middle-class residential area (Dianati, et al, 2021). Further, the socio-dynamics of the area made it an interesting site for study.

Materials and Methods

The study used Cross Sectional Research design with Mixed Methods. The mixing of methods helped to validate the research study as data that could not be gathered through quantitative methods were effectively obtained through qualitative methods. Primary data was collected through the use of semi-structured questionnaires, Key Informant Interviews (KII), Focus Group Discussions (FGDs) and

photographs. Secondary data was obtained from the Kisumu Information Center (KIC), the Kenya Health and Demographic Surveys as well as the Kenya Housing and Population Census reports. Data cleaning was done through verification of the questionnaires. The Statistical Package for Social Sciences (SPSS version 23) software aided in analysis of quantitative data. Descriptive statistics was used in analyzing quantitative data which is presented in the form of tables. Qualitative data from the Focus Group Discussions and Key Informant Interviews was analyzed thematically and presented in the form of direct quotations

Study Population

The study population was the 24,630 households in Kondele Location according to Kenya National Bureau of Statistics (2019).From this figure, a sample size of 394 was drawn using Taro Yamane's (1967) formula as shown below:

n= the required sample size

N- Population size

e- The precision level. At a precision level of 95 % with a ±5 margin of error the set precision level is 0.05

Using the above formula, the required sample size was calculated as follows:

$$n = \frac{24630}{1+22630(0.05)^2} = 394$$

The study adopted a proportionate stratified random sampling which is a method in which the population is divided into sub groups and the sample drawn proportionate to the sub groups (Ahuja, 2007).

A sample size of 394 was required from the population of N=24, 630 which was divided into three strata namely ManyattaA-N_1=14,086 Nyawita-N_2=3,767 and Migosi. -N_3=6,777. Using proportionate stratified sampling, the sample sizes for the different strata was calculated using the formula:

$n_i = n.\ p_i$

n_i=sample size of the stratum

p_i- Proportion of population to be included in the strata

n- Total sample size

Using the above formula, the sample sizes for the different strata were calculated as follows:

Strata N_1=12,525; p_1=12,525/24,630 and hence n_i=n. p_i=394(12,525/21,419) =232

Strata N_2=4,009; p_2=4,009/24,630 and hence n_2=n.p_2=394(4,009/21,419) =75

Strata N_3=4,795; p_3=4,795/24,630 and hence n_3=n.p_3=394(4,795/21,419) =87

Results and Discussion

Table 1: Awareness of Social Responsibility in Waste Management

Statement	Frequency	Percent
Have you ever heard of the term social responsibility in managing household waste?		
Yes	116	29
No	278	71
Total	394	100

Majority (71%) of the respondents stated they had never heard of the term social responsibility in managing household waste while 29% indicated that they had heard of the term. This means that households cannot act favorably on something they do not know or heard of. Those who engage in socially responsible practices do so out of their own sense of responsibility and probably from knowledge acquired through other means. Research indicates (Lila et al., 2017 and Webb, 2018) that public education plays a key role in inculcating responsible practice in management of household waste. Further, this points to the need to actively sensitize the public on social responsibility in waste management, what it entails and its impact on the environment. The sentiments of focus group discussants point to the need for awareness:

> "It is true that responsibility in management of waste may be required of us. But how do we become responsible if we do not what exactly is required of us?"
> (Female Focus Group Discussant Manyatta)
>
> I have ever heard of the term social responsibility in other fields but not in management of household waste.
> (Male Focus Group Discussant, Migosi)

An Admission by an Officer from the Kisumu County Directorate of Environment shows that more can be done to create awareness on social responsibility in household solid waste management

> When it comes to inculcating social responsibility in household waste management, I would say that we are not there yet. There has been ongoing community engagement to encourage waste reduction, re-use and recycling. It is true that more awareness ought to be done so that households and communities in general become more responsible.

SPT describes cultural capital as knowledge, skills, taste, aesthetic and cultural preferences, which may be objectified via material resources or institutionalized qualifications. Cultural capital in the form of awareness of social responsibility is requisite in proper management of household solid waste. In the event that there is lack of knowledge or it is not factual, responsibility in the household solid waste management continuum is not guaranteed.

Table 2: Concern about Proper Management of Household Solid Waste

I am concerned about proper solid waste management by my household	**Frequency**	**Percent**
Yes	382	96.9
No	12	3.1
Total	394	100

The data further revealed that 96.9% (380) respondents reported that they were concerned about proper waste management in their households while 3.1% (12) households were not concerned about proper household waste management. This may be an indicator that these households may be prone to see to it that they dispose of waste that they generate responsibly. Nevertheless the cleanliness of the environment will depend on the minority who reported not being concerned about how they manage the waste that they generate. Yeenee et al. (2024) and Getaneh (2024) observe that if individuals have perceptions that support good waste management values they are more prone to engage in responsible waste management practice. As much as the majority reported being concerned about proper

management of solid waste generated by their households, the cleanliness of the environment will depend on the minority who report that they do not care about proper waste management as they might be more prone to littering.

Table 3: Inappropriate Disposal of Solid Waste Generated by Household.

I have at some point inappropriately disposed waste generated by my household.	**Frequency**	**Percent**
Yes	256	65.6
No	138	34.4
Total	394	100

It emerged that 64.9% (256) households reported having inappropriately disposed waste produced in their homes while 35.1 % (138) households reported having never inappropriately disposed waste. This finding and the foregoing one contradict each other as respondents reported that they were concerned about proper solid waste management and at the same time reported having inappropriately disposed waste. This is indicative of a discrepancy between what is known and what is practiced. This indicates that knowledge is important but sometimes knowledge alone does not necessarily translate into practice. Research (Debrah et al, 2021 and Eshete et al, 2023) has shown that knowledge, while critical, is not sufficient to generate behavior change. Eshete et al. (2023) accounts for the lack of knowledge translating into practice by stating that the difference between awareness/knowledge and consciousness has not been brought to the fore. Awareness can be considered as merely the level of knowledge regarding waste management issues possessed by an individual, but a person can be conscious only if he or she possesses and thus modifies his or her daily life in view of the knowledge attained. It is this act of being conscious that brings about responsibility. It is therefore imperative that public education on responsible waste management emphasizes on creating consciousness and not just awareness. SPT posits that people are prone to engage in the practices they have always engaged in without thinking of other alternatives especially if they find new practices to be inconveniencing. This finding is evidence that households will inappropriately dispose waste when they find it inconveniencing to dispose it properly. It also points to the issue of cultures surrounding waste management. Respondents found it convenient to dispose waste inappropriately in some instances because it is something that is prevalent within their surroundings.

Table 4: Responsibility to Clean Public Spaces around Homes

It is the responsibility of the government to clean public spaces around my home	**Frequency**	**Percent**
Yes	166	42.1
No	228	57.9
Total	394	100

When asked whether it was the responsibility of the government to maintain cleanliness of public spaces around their homes, 42.1% (166) households felt that that was the government's job while 57.9% (228) households did not think so. This brings to the fore the debate on public space versus private space. It is not uncommon to find garbage dumped by the roadsides, in open drains and unoccupied plots in all the

three sub locations in Kondele. This might mean that those who dump garbage in those areas do so because it is nobody's space. The words of a Community Health Promoter in Migosi provide an apt picture of this situation:

> I have a problem in this area especially when it comes to illegal dumping of waste around corners, in undeveloped plots in the estate and in drains. I appreciate that most households are trying and have signed up for waste collection services but still the problem persists. I do not know who does this and whether they do it during the day or at night. In the morning when you look at everyone, they are so smartly dressed you cannot be able to tell who cannot be sensible enough [use his/her head] to go throwing litter anywhere.
>
> (Community Health Promoter, Migosi)

This finding might also be a pointer as to why perceived "nobody's spaces "are almost always full of litter. When 41.2 % of the households do not make any effort to keep the areas around them clean because that is the responsibility of the government to keep those areas clean, the problem of reckless dumping will persist. This reinforces the findings of a study conducted by Rusca et al. (2017) in Lilongwe, Malawi that found out that that people are so willing to push rubbish out of their homes (private space) and when they landed outside (public spaces) they did not care what happened after that. Ntakamulenga (2018) observes that in many instances, households feel responsible for the cleanliness of their homes and the surrounding areas. The obligation to clean the streets and the drains are then left to the government which lacks the capacity to clean every public space therefore leaving neighborhoods teeming in filth. Moreover, the lack of a sense of responsibility evidenced by the accumulation of solid waste in public places finds explanation in the aspect of ownership. Aristotle (undated) cited by Mukena et al. (2024): "What is common to many is taken least care of, for all men have greater regard for what is their own than for what they possess in common with others".

Table 5: Effect of Household Solid Waste Management Practices on Community Cleanliness

The way I manage waste in my household affects environmental cleanliness of the community	**Frequency**	**Percent**
Yes	236	59.9
No	158	40.1
Total	394	100

It further emerged that 59.9% of the households interviewed (236) agreed that manner in which they managed solid waste in their households affected cleanliness of the community while 40.1% (158) households felt what they did in their housed had no effect on the community's cleanliness. The households that reported that the manner in which they manage waste has no impact on community cleanliness do understand the household community link. This implies that they have no knowledge that communities are formed by households that come together and therefore what households do will impact negatively or positively on the cleanliness of the community. This finding when viewed in light of the earlier finding where respondents reported being concerned about proper management of solid waste generated by their households may mean that the primary concern is to push waste out of individual houses but what happens to the waste after that is not the concern of the respondents. This is asserted by Rusca et al. (2017) who found out that households are keen to keep their households free from waste but not mindful of what happens once it is pushed out of their houses. SPT posits that social networks are

important in influencing practice and therefore individuals may observe the activities and material artifacts used by others and adapt their own material based on their observations (Ropke, 2009). That is to say households may observe the waste management practices of others in their neighborhood and adapt theirs accordingly. Wadehra et al, (2017) in their study in India found out that the sense of responsibility for one's waste was found to be the major factor determining littering and recommended that public campaigns should emphasize residents' responsibility for their waste and the importance of each and every citizen's cooperation in order to create a sense of a shared social goal around solving the waste problem.

A focus group discussant had this to say on the issue of household waste management practices affecting the level of cleanliness in the community:

> The way a household disposes waste will affect cleanliness in the neighborhood. For example, if I take waste generated by my household and throw it into the street, my house will be free from the waste but the surrounding will be dirty. Now imagine if several households do the same, what will our neighborhood look like?

(Female Focus Group Discussant, Migosi)

Given that majority of the respondents (59.9%) reported that their action as households impacted the cleanliness of the community, indicates the potential for leveraging on that knowledge to create social action for responsible solid waste management at both the communal and household level. In the same vein, Jinkyung et al, (2020) postulate that the success of waste management is hinged upon the voluntary efforts of individual citizens in their private spheres. They further observe that in instances of high level of responsible waste management, personal factors such as moral intentions, pro-environmental attitudes and knowledge have been cited as of utmost importance. Nillsson et al, (2017) in the same vein observe that societies face challenges in working towards responsible waste management and that aggravating factors though not in entirety are domiciled at the individual household level. Consequently, as much as local authorities take measures to expand waste service provision, the outcome of their efforts will still be affected by individual household decisions.

Table 6: Role of collective Community Action in Curbing Poor Waste Management Practices in Neighborhood

Collective community action has a role to stop poor waste management practices in their neighborhood	**Frequency**	**Percent**
Yes	68	93.4
No	26	6.6
Total	394	100

The findings revealed that 93.4% of the households felt that it was the responsibility of the community to stop poor waste management practices while 6.6% (26) felt that it is not the responsibility of the community to stop poor waste management practices. This finding is quite paradoxical with the one above in that while a majority of the households interviewed in the study 93.9% felt that it was communities to stop poor practices, 40.1% felt that their practices did not impact on the cleanliness in the community. This meant that even those who thought their actions had no impact on the community felt that it was the community to intervene in order to stop poor practices. The implication of this finding

is that households would like to pass the responsibility of adopting poor waste management practices to others and not to themselves. The community to which they would want to pass responsibility to may be an amorphous entity in which no one would be held responsible for the waste in the environment .This is in line with the findings of Grobler et al, (2022) who stated that people litter the environment since it is viewed as nobody's property.

Conversely, it could also mean that households realize the power that is there in collective community action. They realize that in order to change the waste management situation in their community they have to come together and create a common solution. Iyawe et al, (2020) postulate that the sense of community in waste management is important since the community as an entity endures while individual households enter and exit the community at will. This implies that it is important to inculcate sustainable waste management norms and values into the community so that households that come in and go buy into the norms and take them with them wherever they will go. SPT describes the power of social networks and affiliations in influencing practice. Owing to the fact that respondents realized the power of coming together as a community, social capital can be used to exert pressure on non-conforming community members so that they can adjust their waste management behavior accordingly. Further, SPT posits that social networks are important in influencing practice and therefore individuals may observe the activities and material artifacts used by others and adapt their own material based on their observations (Ropke, 2009). That is to say households take cognizance of the power the influence that they can have over each other when they come together in order to find common solutions to the waste management problem.

In contrast to this finding, Zhao & Zhang, (2019) opine that the contribution of collective action cannot be guaranteed thus implying that collective contributions may not necessarily yield success in waste management initiatives. Faghani et al. (2023) states that one shortcoming of collective community action in waste management is that it is particularly vulnerable to the collective-action dilemma. Nillson et al, (2017, point out that a key element that hinders the success of collective action is lack of trust and reciprocity amongst community members. In this regard, a section of the community might be committed to managing waste responsibly while another section may remain non-committal to the cause. Thus observe that since trust and reciprocity cannot be forced, collective community action may not work in waste management (Nillson et al, 2017). Kona et al., (2023) in a study conducted in Bangalore, India established that communal waste management initiatives failed due to lack of cooperation from residents. Contrary to existent literature, the current study established that majority of the respondents (93.4 %) felt that collective community action could work in curbing poor waste management practices. This means that should collective community action be implemented in an organized manner, there might be transformation from poor to responsible waste management practice. The words of a Focus Group Discussant summarize the issue as follows:

> We all live in this neighborhood is that not true? We all know each other. I know my neighbors and you also know your neighbors. Let us not lie to each other. We know ourselves. Since we know each other why can't we call each other out? Why can't I just be told Mama so and so it is you who throws litter here and if I do not stop I be forced by the village administration to clean up the area. If one person is made to clean the neighborhood, One God I am not lying to you, the littering will stop.
>
> (Female Focus Group Discussant, Manyatta)

The above sentiment shows that there is potential in collective community action in stopping poor waste management practices. This can be tapped to exert social pressure on non-conforming community members to adopt responsible waste management practices.

Table 7: Paying Penalties as a way to Stop Poor Waste Management Practice

Statement	Response	Frequency	Percent
Paying a penalty is the only way to stop poor waste management practices in my community	Yes	341	86.5
	No	53	13.5
Total		394	100

It emerged from the findings that 86.5 % (341) of the households felt that paying a penalty was the best way to stop poor waste management practices while 13.5% (53) felt that it was not the best way to stop poor waste management practices. This shows that the majority of the households felt that something dire needs to be done in order to curb the problem. The sentiments are supported by a Focus Group Discussant from Nyawita:

> To say the truth who here does not know that solid waste is harmful? We all know that. That is why we will sweep it out of our houses. If we did not know that we would be keeping waste in our houses. The problem is once we sweep it out of our houses we will dump it anywhere. I personally cannot run away from that because it is something I see happening in my house every day. What should be done is to start arresting those of us doing that.
> [Laughter from other discussants]
> (Male Focus Group Discussant, Nyawita)

This finding is suggestive of a bigger problem in waste management- that of lack of consequences. People engage in poor waste management practices because they feel that no action will be taken against them. This is expressive of a culture that society has adopted that littering for households attracts little or no consequences and therefore it can be condoned. Despite the existence of regulations on handling of waste generated by households, these are not enforced nor followed through .SPT explains this by stating that when individuals do not experience strong cognitive dissonance which prompts the realization that their practices are wrong they will keep their current practice. This means that the lack of consequences for littering (which ideally would have curbed the problem) promotes the behavior. This is in line with the findings from studies in Nigeria (Olukanni, 2020; Amarachi et al., 2016) which found out that littering was rampant because of lack of consequences and enforcement of waste management by laws.

Ntakamulenga (2018) on the other hand observes that the problem of littering is not caused by lack of consequences per se but it is also an indicator for poor community involvement in matters of waste management. Agyei et al, (2017) and Bowan et al,, (2023) opine that carelessness is a major factor in indiscriminate disposal of waste as in some instances households ignore designated waste dumpsites in the community and instead dispose waste in drains and open spaces. Ntakamulenga (2018) further opines that in order to curb the problem, the community should be made aware of their responsibilities in managing the waste that they generate and in supplementing the efforts that waste managers make.

Nevertheless, it is important that laws and regulations take into account the needs of the waste generators to create ease of adherence.

Conclusion

Awareness of the term social responsibility in waste management was low (29%) which pointed to a need for awareness around the issue of responsibility in waste management. Despite a high number of respondents (92.6%) reporting that they were concerned about the environment, a significant percentage (65.6%) of the respondents reported that they had ever inappropriately disposed of the waste that they generate. This pointed to a discrepancy between what is known and what is practiced. Majority of the respondents reported that it was their responsibility to keep the public spaces around them clean. Collective action emerged strongly as a plausible method in stopping poor waste management practice pointing to the power of social pressure in curbing the waste menace. Further majority of the respondents in the study (85.1%) felt that paying of penalties by those who litter was one way of curbing irresponsible waste management behavior showing that something dire needs to be done in order to curb the menace. The results indicated that perception towards social responsibility in managing household waste was favorable though there was discrepancy between what was perceived and what was practiced. This calls for sustained public education and community involvement in order to create consciousness.

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