



A REVIEW OF RATIONALE OF COMMUNITY PARTICIPATION IN URBAN SOLID WASTE MANAGEMENT IN NIGERIA

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ARTICLE INFO	ABSTRACT
<p><i>Article history:</i> Received 12 January 2018 Received in revised form 16 July 2018 Accepted 20 July 2018 Available online 23 July 2018</p> <p><i>Keywords:</i> Developing nations; Public awareness; Active community participation; Waste handling; waste collection cost; waste transportation; Trash management.</p>	<p>This paper undertakes a comprehensive review of the growing international literature on the community participation, regarding solid waste management. It examines a range of approaches and identifies the key attributes associated with effects of community involvement in urban solid waste management. The authors critically evaluate worsening condition of urban solid waste management in developing nations particularly, Nigeria and suggest directions for future research attention. The discussion provides valuable information and insights on the emergence of waste management and the need for community participation in developing nations including Nigeria.</p> <p>© 2018 INT TRANS J ENG MANAG SCI TECH.</p>

1. INTRODUCTION

Developing countries are confronted with issues of solid waste management because of its attendant negative impacts on the general wellbeing and environmental safety in urban territories (Shukor *et al.*, 2011). Hence, solid waste needs to be appropriately managed to rid the general wellbeing and environmental safety of its menace (Ogwueleka, 2009). Consequently, the management of solid waste keeps on being a noteworthy task and issues in urban territories all over the world, especially in the fast-developing urban communities and towns of the developing nations (Statistics, 1997). For instance, cities in North Central Region, Nigeria, increase rapidly in population and expansion of towns leading to a proportionate volume of solid waste generated, with its' related human and environmental problems. On the whole, it will require initiative and necessary inputs in place to effectively koshers the effects of which Nigerian Government is still on the road test (Alhassan, 2012).

Therefore, the required initiative will be not only a huge amount of money and skills, but also appropriate organizational capacity and cooperation between numerous stakeholders in the private

and public sectors and the community to be properly managed (Schübeler *et al.*, 1996). Thus, the purpose of this paper is to look at the emergence of solid waste management and review the effects of community participation in solid waste management to have background information of the problems and the need for intervention, as indicated by various past researches.

2. THEORY OF UNDERPINNING

Clifford Defee *et al.* (2010) found that any ideal research ought to be grounded in theory. Likewise, Scott (2008) added that any study needs a preliminary approach. Therefore, this study is heavily informed by social capital theory and bottom-up approach. The social capital theory and the bottom up approach championed by Chambers (Field & Morse, 1985).

2.1 SOCIAL CAPITAL THEORETICAL APPROACH

This refers to the institutions, relationships, and norms that shape the quality and level of society's social interactions, which make societies or communities work (Woolcock & Narayan, 2000). It is the just the sum of social institutions which underpin a society; it is the glue that holds them together. Social capital is more about the connections among individuals, social networks and the norms of mutuality and trustworthiness that arise from them (Ecclestone & Field, 2003). In the quest for solid waste management effectiveness, the whole discourse cannot be analyzed in isolation of community participation. Primacy should therefore not be given to the modern approaches, but also to what the community know, think and feel about the whole process. Knowledge, practices, and attitudes form part of their social worlds. Thomas-Hope (1998) postulates that community members are a social capital. Therefore, where a community has accumulated strong levels of social capital, it is possible with regards to environmental issue to reorganize the existing solid waste management system. This approach will bring about a transformation whereby there is a transfer from sole reliance on the public sector for solid waste management to a situation where the household also plays a crucial role.

2.2 BOTTOM UP THEORETICAL APPROACH

This refers to the inclusion of the least regarded of the Society (Smith, 2008). This study adopts the same ideology and contextualizes it in the Solid Waste Management process in Nigeria. The author added that, instead of imposing Waste Management on the community, there is a need to make them part of the program. Solid waste management, therefore, should not be left to the administrators alone, but a community issue.

2.3 TOP DOWN THEORETICAL APPROACH

An in-depth understanding of the complex realities is a key factor to empowerment and collective action (Ndum, 2013). Therefore, getting the right resources to where they are needed most and ensuring those resources are embedded in a viable manner is a crucial issue with international development. An absence of comprehensive knowledge of the realities on the ground results to wasting of resources. Hence, the greatest failure of international development to this day (Ndum, 2013). It is worth noting that, while a lot of money allocated to developing countries

projects, but there is nothing significant to show for it. This may be, because, of bureaucratic interventions by governments, foreign agencies or transnational conglomerates impose “top-down” solutions and fail to consider both needs and wishes of the bottom. Thus, Frankham (2009) opined that success and viability are much feasible if solutions to community issues are identified and rectified by community development remedies.

2.4 EMERGENCE OF URBAN SOLID WASTE MANAGEMENT

Louis (2004); Morrissey and Browne (2004) lamented that, waste has been produced by people all through history. When human settlements were sparse with a sufficient number of land waste management was not an issue. However, with the rise of towns and cities, large number people began to come together in a relatively small area to make a living waste became a threat to human health and environmental safety (Ahmed & Ali, 2004). In other words, when the population densities in urbanized cities and per head waste generation increased, the space available for waste disposal decreased proportionately. Thus, solid waste management turned to be an issue of concern, dedicated sector for keeping cities clean, healthy and livable environment was established (Saeed *et al.*, 2009).

Besides, the issue of waste management as a fundamental part of environmental control has plainly advanced because of the fast growing nature of urban environmental problems. This was apparently evident by narrations of following studies: (Bulkeley and Betsill, 2005; Cozens, 2002; Falkenmark *et al.*, 2004; Neale, 1997; Palmer, 2002; Pierzynski *et al.*, 2005; Simon, 2008), just to mention a few. It has also been stressed in Agenda 21, as a significant output of the UNCED Earth Summit (Weiss, 1992).

The author lamented, that poor management of waste has short and long term implications to the environment and human health.

Despite the growing awareness of the potential threat that poor handling of solid waste poses to both human health and the environmental safety, urban solid waste management has not been given proper attention in developing nations, e.g., North Central Region of Nigeria. In contrast to the developed world, cities in developing countries are still at the cross road towards planning and provision of a satisfactory urban solid waste management services for numbers of decades now. According to (Schübeler *et al.*, 1996) that, these may be as result of inability of the local authority failure in their responsibility, who are traditionally known to be sole responsible for waste collection and disposal once is put for collection. However, the author further blamed this on the numbers of factors prominent among them include Issue of identifying appropriate technique, poor governance, policy and implementation and lack of political will, leading inappropriate collection and disposal system, absence of community involvement, technical abilities, planning, awareness, willingness, positive attitude, and rural-urban migration. Also natural growth because of the quality of urban’s health care facility as identified by different studies(Ahmad *et al.*, 2003), (Okot-Okumu, 2012), (Liman and Ngah, 2015). In fact, this is apparently evident in Nigeria,

considering what the country is experiencing as the world's highest population growth rate which positioned her as the giant of Africa given its population size. The urban population growth is becoming speedier (3.5% than the usual National rate of (2.5%) particularly, North Central Region of Nigeria (Jha & Bawa, 2006).

Tukahirwa *et al.* (2010) argued that solid waste management is given low priority in developing countries because they are confronting other challenges termed to be more pressing such as high infant mortality, staggering rates of HIV/AIDS cases as well as difficulties in providing basic amenities such as potable water and reliable energy sources. Where solid waste management is a priority, transportation equipment is out of service or in need of serious repair or maintenance as well poor accessibility. If the waste is collected and transported, it usually ends up at improper waste disposal sites where it poses a hazard to the environment and human health (Katusiimeh, Mol, & Burger, 2012). Not only that, but also point to the relationship between governance and solid waste management. Jerie and Tevera (2014) see urban solid waste disposal problems as indicative of economic policy failures at either local government level or national governments. Likewise, attributing the presence of inefficient solid waste management systems to poor revenue base, thereby, impeding significant investment in solid waste infrastructure and hampers maintenance of equipment. Masocha (2012) identified administrative incapacity and institutional weaknesses as one of the major factors accounting for poor solid waste management systems in most developing nation including, Nigeria.

However, this standpoint was refuted by Nunan and Satterthwaite (2001) who defensively argues that prolonged underinvestment is the primary factor that leads to deterioration of the quality of solid waste management systems. The repercussion of the above scenario is contamination issues of high scale, alongside the problem of meeting up with the acceptable levels of sanitation coverage, will require serious attention (Alhassan, 2012). As Nigeria's urban areas particularly, the north central region keep on increasing in population size and of course one should expect proportionate solid waste generation and its' attendant human health and environmental safety issues.

Therefore, the management of these large volumes of waste been generated cannot be simply and cheaply managed. It will require not only a substantial amount of money and skills but also requires cooperation among numerous stakeholders in the private and public sectors including community to be adequately managed. Goulbourne (1998) also identified that citizen participation in the management of solid waste could have numerous benefits for municipal authorities regarding saving on collection and disposal costs.

2.5 CONCEPT OF COMMUNITY PARTICIPATION

Community participation is defined differently by different people; it has no precise connotation. The assertion was premised on the fact that; every scholar describes community participation based on his perception. The community participation concept has different implications for various individuals.

Hence, to understand community participation this paper will begin by exploring the notion and different classification of “community and participation” to trace their conceptual development so that, community participation can be right perceived and located. (Plummer, 1999; D. H. Smith & Zhao, 2016) Refer to the community as the whole population of a city; a section of the city; or an ethnic or social group within the city. It can also mean a group of people living in a particular geographical or administrative area, such as a neighborhood and who have access to and uses the same service (Mutungwa, 2016). Smith and Zhao (2016) view community in three different dimensions one, as a physical area, with its geographical boundaries, whose residents share common concerns such as traffic congestion, flooding or uncollected garbage. Two, as an institutional unit which refers to the lowest administrative unit which is part of the system of government, with legally defined jurisdiction, government departments, and representatives. This may be a ‘ward’ (India), a ‘barangay’ (the Philippines), a ‘quartier’ or ‘barrio’ (Honduras) or ‘angwan’ (hausa) or ‘agirika’ (afo) ‘masyarakat’ (Malay). Three, as a social group which refers to the set of individuals of residents who identify themselves as a community, because of the social or cultural relationships among them. These social relationships form the basis for organization and leadership in that community. Gotame (2012) added that community comprises of people living together in some social organization and cohesion. Its member share in varying degrees of political, economic, social and cultural characteristic as well as interest.

The authors also see participation as a beautiful concept that varies with its application and definition. For some it is a matter of principle; for others, practice; but for others, is an end itself (Van de Klundert & Lardinois, 1995). Christens *et al.* (2016) stated that participation is a stereotype word like children use a Lego pieces. Like Lego pieces, the words fit arbitrarily together and support the most fanciful constructions. They have no content but do serve a function. As these words are spate from any context, they are ideal for the manipulative purpose. ‘Participation’ belongs to this category of the word. Usually, the term participation is modified with adjectives, resulting in terms such as community participation, citizen participation, people’s participation, public participation, popular participation, etc. As such this study refers to participation as ‘to have a share in’ or ‘take part in,’ thereby emphasizing the rights of individuals and the choices that they make to part-take.

Therefore, community participation can be defined as a process in which community members are involved at different stages and degrees of intensity in the project cycle with the objective to build the capacity of the community to maintain services created during the project after the facilitating organizations have left (Baud & Post, 2002). Kumar and Kumar (2002) added that Community participation could simply be some contribution or involvement by the community, for example, it can even be the separation of waste at the household level before public collection.

Tukahirwa *et al.* (2010) see community participation as an active process by which the community influences or plays a role in a development project to enhance their wellbeing or other values that they hold dear such as sanitary living conditions as the case may be regarding waste management. However, this study takes on the definition of Armitage and Hyma (1997) which

refer to community participation as a process by which communities act in reaction to public concerns, join voice to air out their views about decisions that affect them and assume liability for changes to their community. This definition was found prudent to be adopted for this study because its meaning is in the context of this study.

A better appreciation of this definition was demonstrated in Figure 1. The following are challenges and perceptions whistled by past research:

1. A joint practice that comprises: reaching out, listening, counseling and teamwork with the public. Considering her has one among equals as a stakeholder that will participate and concur with the decision-making procedure (Chukwuemeka, Osisoma, Onwuka, & Ugwu, 2012; Nabegu & Mustapha, 2014; Okello, Beevers, Douven, & Leentvaar, 2009) just to mention a few.

2. Dissemination of information, incorporating communities in decision-making procedure, considering the view of the community and enable the community concerning the power to influence the decision process (Minn, Srisontisuk, & Laohasiriwong, 2010; O'Faircheallaigh, 2010).

Summarily, community participation explains any proceedings that begin with the provision of information, gathering, contributing or uniting the community concerning decision-making processes, illustrated in Figure 1.

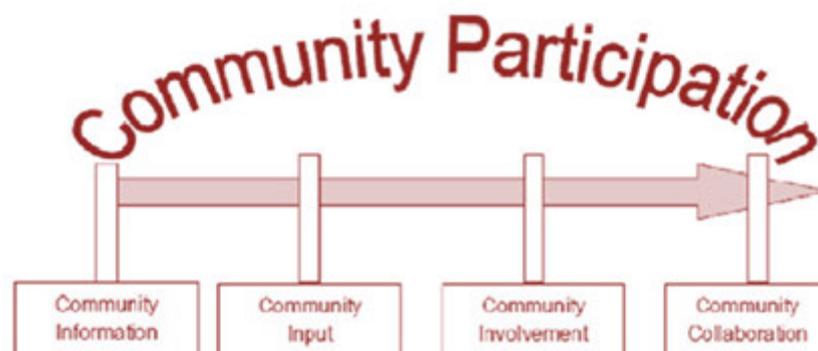


Figure1: Concept of community participation (after Shukor *et al.*, 2011).

2.6 THE NEED FOR COMMUNITY PARTICIPATION IN URBAN SOLID WASTE MANAGEMENT IN NIGERIA

Community participation is perceived as a component that provides favored condition for effective urban solid waste management. There have been many case studies in developing nations in which community participation in urban solid waste management has been proven to assume an indispensable, in the accomplishment of the better services deliverance as identified by various studies viz:

McKay, Mbanda, and Lawton (2015) in the study “Exploring the challenges facing the solid waste sector in Douala, Cameroon” found that community participation has been an effective means of addressing solid waste management in most developing nations. The United Nations likewise expressed that "community involvement have substantial potential to handle local solid waste

collection (Schübeler, 1996). Thomas-Hope (1998) also identified that citizen participation in the management of solid waste could have numerous benefits for municipal authorities regarding saving the cost of collection and disposal. It was quite evident in the study carried out by Rathi (2006) that demonstrated the need for community participation using the developed mathematical model to determine the net costs of each approach as follows: (a), Net cost with community participation is Rs. 1518(US\$35). (b), Net cost with private-public; Rs. 1797 (US\$41). (c), Net cost with only local authorities Rs. 1908(US\$44). Thus, community participation in waste management is the cheapest among all based on the following: in Community participation approach, the expense is borne by waste generators while Public-Private Partnership (PPP) there is no provision to recoup the cost from waste generators. The cost of collection and transportation of waste management is much lower with community participation than with PPP since community participation waste is separated at the source, and only non-biodegradable and non-recyclable materials are transported to dumpsites. It lessens the number of containers to be provided for the waste storage and transportation trips. From the above, it was obviously evident that community participation approach to waste management seems to be a better option in the north central region of Nigeria like many cities in developing nations considering their various challenges whistled by numbers of studies above.

To crowd it, all community participation is entirely necessary because in any community everybody is a potential generator of waste and hence a donor to the problem. Thus, this usually turned out that the rate at which solid waste is generated is far greater than the capability to responsibly deal with by individual sector. Waste is produced by, and from various segments; residential, commercial, industry and others and in numerous cases the task of managing it is left to the government authorities to handle alone. Consequently, this circumstance requires all the stakeholders to join hands with the authorities in urban solid waste management service delivery in a bit to improves its environmental and human wellbeing potential adverse effects. The said stakeholders include; businesspeople, politicians, religious associations, government employees, men, ladies, learned,' ignorant, skilled, unskilled, the rich, poor people and a host of large and small gatherings. This is a situation where the community, all of the institution's voluntary organizations and corporate bodies incorporating NGOs and CBOs together with the local government participate in the SWM (Baud & Post, 2002).

Lastly, the more derivable advantage is that the urban poor could recycle a significant amount of the waste to produce pay for themselves aside saving the environment. Hence, the need to create a collaboration of the community sectors and public sectors is to have the capacity to achieve arrangements that are more feasible.

From the background information described above, it worth mentioning that Nigeria like most of developing nations studies on various aspect of urban solid waste management has been done. However, up to date gaps still subsist in the documentation of the appropriate urban solid waste management, specifically, challenges of the absence of community participation in urban solid

waste management as a way out echoed by various studies above which this paper intends to establish the need.

2.7 SIGNIFICANT OF COMMUNITY PARTICIPATION

A substantial literature has highlighted the importance of community participation in any developmental projects which urban solid waste management cannot be an exception. The literature includes (Ahmed & Ali, 2004; Henry *et al.*, 2006; Joseph, 2006; Rathi, 2006; Subash & Tnudp-iii, 2002; Tukahirwa *et al.*, 2010; Visvanathan & Trankler, 2003). This is on account that; community participation is agreed to be an essential factor in community success. Community participation is seen beyond a requirement; rather it is a condition for success as identified by different studies, the communities that involved their citizens fully in the community developmental project generate more resources, grow more holistically and come out with a better result. Hence community participation is key to community success (Norman, 2000). It is a proven fact that community participation ensures success, once people are engaged in a project as partners it gives them a sense of ownership of the project leading to more sustained attention, effort, time on task and enhanced task mastery given rise to community success. Moreover, for anything to earn value it must be given a title of ownership. Hence, if any developmental project will be a title of ownership, it will earn it a value from the community and somewhat compels the community to do all needful to see to the success of the project, having the feeling that it is mine and for my good.

This makes them prompt to any change and afterward ready to maintain as well guarantee their supportability (Tacconi and Tisdell, 1992). Likewise, it proposed that participation can elevate the community by way of strengthening the as active local community, a feeling of worthiness and the endeavor of new activities (Oakley, 1991).

Lancaster (2002), in the study “importance of community participation in development project” see the following as importance of community participation: First, with the participation approach, any developmental project tend to be sustainable as communities themselves figure out how to adopt and rectify changes that come with it. Secondly, participation ensures the interest of the community concerned. Thirdly, it promotes self-respect and self-reliance among individuals, that is, they are enabled to acquire and do things independently. Fourthly, having known their local needs and nature of the project been accomplish, with the full participation, they can spread the new knowledge learned to different communities without stretch.

Fifth, participation enhances a feeling of possession among the community of equipment utilized in the project, aside, project itself. For instance, it will guarantee the security and up-keep of both the equipment and the project, like dispensary structures, water pumps and school structures, waste bins, dump sites, etc.

Sixth, this can permit two ways correspondence and subsequently, prompts participants to give new thoughts. Through two-way communication, the contentions and information can be conveyed successfully.

Therefore, community participation offers new reasoning and creative thoughts. Through the

chances provided, the community will join voice to ear out their view, which, in a roundabout way to prepare the community to think creatively and turn out to be more imaginative. With the community involvement in planning and decision-making, the community will have the duty and feeling of proprietorship, as they, will feel that, they are part and parcel of the project. Finally, it is a way of enabling individuals as well as an approach to sustainable planning and development.

3. CONCLUSION

Urban solid waste management is turning into a more vexing issue in developing nations. Conversely, the problem of urban solid waste management was further aggravated by several factors enumerated above. But the community assumed to be the largest donors of the problem should play a significant part in resolving the issue of urban solid waste management. Active community participation is central to success in urban solid waste management. Thus, community participation is much more than a requirement, but the condition for success. Studies have recorded that community that engrosses their citizens profoundly in the work of community development raise more resources, accomplish more outcomes, and develop in a more comprehensive and more valuable way.

Therefore, identification of effective factors of community participation can only be secondary to an extraordinary relationship. These factors may affect the effectiveness of different components. Community participation ought to be applied in attempts to integrate the community for the benefit and the purpose of accomplishment of the developmental project. Despite the challenges of urban solid waste management, it is visible, provided the best attempts can be made to encourage community participation in all planning, decision making and implementation of urban solid waste management.

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