

## Enhancing awareness and participation of municipal solid waste management in Kano Metropolis, Nigeria

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### ABSTRACT

This paper examines the current management of municipal solid waste in Kano metropolis and highlights the problems that impede efficient management. Focus group discussion was employed to ascertain people's perception of the existing municipal solid waste management services, expectations, and the extent to which residents are willing to support and participate in the process. The results of the study indicated many issues combined to impede efficient management such as the negative externalities namely: the service is free; the incoherent association of poor management of municipal solid waste with diseases occurrences; religious and cultural beliefs; a pervasive lack of trust of all government institution and initiatives related to municipal waste management services. The results also revealed that although public awareness and participation has been shown to be critical in the success of municipal solid waste management endeavour all over the world, it is absent in Kano metropolis. The study recommends use of focus group discussion and other similar mechanisms such as town meetings to create awareness as a means to enunciate citizens charter that will enhance public support and participation in municipal solid waste management in Kano metropolis.

**Keywords:** Stakeholders, communities, local authorities, environment, donor agencies

### 1. INTRODUCTION

Proper municipal solid waste management has become a very important issue for governments, the general public and international donor agencies in Nigerian cities such as Kano metropolis, as its direct and indirect harmful consequences on public health and the environment are becoming apparent and acute. Addressing the issue of municipal solid waste management is an important policy objective because on the one hand, while the awareness of the external effects of municipal solid waste is increasing, on the other hand, municipal solid waste generation has grown significantly beyond the management capacity of governments over the last decades (Dhahya, 2003).

There are three major lacunae that arise in the management of solid waste. First, when individuals decide on how much to consume and what to consume, they do not take into account how much waste they produce. Because the external costs of waste generation such as air and water pollution are ignored by individuals, more waste is produced and disposed off (Ferrara, 2003, Hong, 1999, Jenkins et. al., 2003). Secondly, in Kano metropolis and indeed most cities in Nigeria, individuals pay nothing for waste disposal, therefore, waste disposal costs are not reflected in the prices households pay for day to day activities and would thus tend to produce more waste than if they were to pay for the additional waste generated according to its social, health or environmental marginal cost (Zurbrugg and Ahmed, 1999, Linderhof, 2001). The third serious problem is due to the association of poor waste management with negatives including disease, lack of aesthetic, pollution of air, water and other consequences. In Kano metropolis, religious and other cultural beliefs as to occurrence of disease and death are issues of fate and destiny and are believed to be caused by God - consequently this connection appear blurred. These issues are fundamental to public participation and awareness in municipal waste management in Kano and indeed cities in developing countries that face serious challenges in this regard. This is due in part to the fact that public awareness and participation requires that individuals and communities not only participate in the day to day decisions about the type of waste management service but take responsibility not only in decision making but in paying and giving some of their time to the endeavour (Common wealth secretariat, 2004).

However, whilst there has been considerable attention on the need for community participation and involvement in wider processes of public decision making (Zurbrugg and Ahmed 1999) to date there has been little evidence of such participation outside the impressive but still limited arena of academics, NGOs, government, and business despite the acknowledged fact that a major decision taken at the Rio conference was to ensure that a new language of 'empowerment', 'citizen participation', and 'multi-stakeholder partnership' became integrated into Agenda 21 of the action plan for sustainable development adopted by world governments ( Barstein, 2000, UNEP-IETC, 2003).

Kano metropolitan is the largest city in the Sudan Region of West Africa with a population of more than 2, 163, 225 (NPC, 2006) and has for centuries been the most important commercial and industrial nerve centre attracting millions from all parts of the region and beyond. Unprecedented urban growth of 40%, natural growth rate of 3% and rapid economic growth of 8% nationally in Nigeria since 2005 is expected to continue to increase the population and waste stream in the years to come. Today Kano metropolis generates about 1, 080, 5000 tons of solid waste per year or approximately 3050 metric tons per day (Nabegu, 2009). By 2025, this figure is expected to increase to 1,825,000 tons per year, or 5000 metric tons per day. These are estimates and the real values are probably more than these quantities.

The waste composition is made up of 61% and the organic content of waste is an important component in Kano metropolis, not only because it constitutes a sizable fraction of the solid waste stream as is the case in other developing countries, but because of its potential adverse impact upon public health and environmental quality. Waste disposal by residents of Kano metropolis indicated that 79.25% of the population do not use authorized dump site and residents blame the lack of adequate dump site close to their residence for disposal of waste in paths, riversides and road walkways. Waste collection service does not cover the entire population of Kano metropolis with a collection ratio of 32%. Transport systems include a great variety of vehicles that are not fit to negotiate the narrow roads and alleys which hamper the overall efficiency of the collection process as most of the trucks are held up in traffic. The

accumulation of garbage due to infrequent and non collection leads to blockage of major drains and rivers in the city that results in severe flooding and loss of life and properties. Current management of waste in Kano metropolis is predominantly in unsanitary landfills where anaerobic degradation of organic material occur causing CH<sub>4</sub> emissions. The general assessment by the public of the services offered by REMASAB indicates that 68% of the residents of Kano metropolis consider the service as very poor, with respect to the provision of dump site 51.25% say it is unsatisfactory, for frequency of collection 55% say it is unsatisfactory and for coverage 92.4% consider it very poor (Nabegu 2008ab, 2010).

This paper examines the need as well as the relevant modalities necessary for a good understanding of the existing situation, public perception, and expectations as a basis strategic decision relating to solid waste management in Kano metropolis.

## **2. METHODOLOGY**

To generate data for this study a basic knowledge of the urban area of Kano was helpful guided by the assertion of Gordon (1983) that an urban area is usually defined to comprise of three levels within which data could be collected: - The city proper (in this study the old walled city): - Old city predates urban planning as we know it today. It is essentially a very high density area characterised by inaccessibility especially to vehicular movement. Residents are mixed consisting of middleclass; very high income business people but majority are low income earners. Metropolitan area (in this study the G.R.A.): This area started with the coming of the colonial administration. It is a very low density area with well laid out plans and accessible to vehicular and other means. The residents are mostly middle class, senior civil servants to very high income business men and foreigners.

Urban agglomeration (in this study suburban area): the sub-urban areas are high density areas of sub standard housing and services springing upon an empty land near the G.R.A. or established settlement. Such areas around the town has been described as the “urban shadow” in the sense that they fore-shadow or predetermine the pattern of growth of the city. Sub-urban areas have poor vehicular accessibility, no adequate provision for the collection of domestic waste. Residents are mostly very low income immigrants in to the city. Consequently, residential zones were subdivided into equal grids using Kano metropolis as base map and Table of Random Numbers was used to choose study areas as follows from the three identified residential zones : -

- i - Old Walled City - Yan Awaki Quarters
- ii - G.R.A. – Sokoto Road
- iii - Suburban - Kwana

After identifying study areas in the city data collection followed in three stages as follows:

**Stage 1:** The initial step is to identify the stakeholders. Stakeholders are all the people, groups, and institutions that are affected by the solid waste management system- include households, businesses, industries, rag pickers, and the local government.

**Stage 2:** Twenty stakeholders from each zone were selected for focus group discussion in which the issues discussed were to identify problems and perceptions through a consultative process; Finding alternatives and the optimal solutions; the options available and building consensus;

the strategy for implementation; ability and willingness of stakeholders to cooperate in the operation and management of the service; willingness to work with different sections of society, such as rag pickers, municipal workers, and entrepreneurs; willingness to participate and make decisions regarding not only collection and transport in their localities but also larger issues such as treatment and disposal;

**Stage 3:** Consultation processes followed which ensured clarifications, definitions of all issues discussed and the emergence of an agreed citizen charter that captures the voice of the citizens.

### **3. RESULT AND DISCUSSIONS**

The result of focus group discussions was aggregated to arrive at the following:

1. Extend the scheme of door-to-door collection to all households
2. Segregation of waste by all household before disposal
3. Make streets and roads free of waste of any type
4. Each household to be responsible for the cleaning of its entire premises
5. Prevent the roadside traders, truck repair shops, and other businesses from dirtying Road
6. Ensure all households pay the agreed waste collection fees
7. Levy service charges on commercial complexes, and garbage-generating industries.
8. Form community self help groups to undertake routine waste service at special occasion to be paid for by the community
9. Form stakeholder association that will be all inclusive to evaluate adherence to the charter and with mandate to sanction defaulters within the community.

#### **Stakeholder Committees**

The focus group agreed to form a stakeholder committee in each community to consist of the following:

- Commercial establishments
- Representative of the youth organisation
- Representative of the traditional authority
- The chief Imam of the area
- Councillor representing the area in the local council
- Representatives of the media
- Representatives from schools and colleges
- The main criteria agreed upon in the selection of stakeholders include:
  - There must be perception of equality and justice
  - Government authority should be low
  - Partisan and political interests should be minimized.
  - Maximum representation needs to be ensured from stakeholders such as lower economic groups and disadvantaged groups, especially women, students, children, and senior citizen
- Regular meetings, minutes, implementation of decisions, and follow-up should be ensured.
- Facilitating delegation of responsibilities such as project management, fundraising, and monitoring is essential.

Because one level stakeholder committee may not be able to reach an entire area, subcommittees should be formed which should help in promoting a customized, decentralized neighbourhood oriented approach, looking at specific requirements and conditions as the basis for providing service and guidance to the various neighbourhood committees.

### **Public Awareness Methods**

The focus group discussion agreed on the following modes of creating public awareness of issues relating to municipal waste management in Kano metropolis

### **Door-to-Door Awareness and Motivation Programs**

To ensure that the right messages reach all members of the community, a door-to-door awareness campaign is envisaged. It was agreed that this method will also ensure continuing contact with the members, provides feedback, and builds a bond in the community. A door-to-door visit builds the confidence of the people and also gives an opportunity to ask people to segregate waste. Door-to-door motivation gives each household a chance to clear doubts and ask questions.

Materials relating to solid waste may include posters, leaflets, and handouts that can be distributed among the householders, shop owners, or office workers and can be displayed in prominent positions.

The materials should use catchy words and slogans to convey their message. Posters must be attractive, with good photographs and short messages that are readable from a distance, and they should be displayed in various parts of the community.

Pamphlets and handouts can give instructions in very simple, understandable language, showing actions through photographs and requesting public participation. Printed educational materials such as posters, brochures, and pamphlets are given to each house or commercial establishment, and the entire concept of segregation of waste is explained through the materials.

### **Celebration of the Major Occasions**

On all major occasions and festivals such as the Eid's and such other festivals, waste management can be a prominent activity along with the celebrations. Waste management activities should be conducted by the community to build a sense of responsibility and the importance of the issue.

### **Rallies**

Organizing rallies always builds excitement among the onlookers and propels the people who attend the rallies to motivate other members of society.

### **Cleanup Drives**

Organizing regular cleanup drives that involve the local community is very useful for ensuring community participation and building a sense of responsibility. Cleanup drives have always made the community realize the advantages of cleanliness. The current end of the month clean up in Kano metropolis should be domiciled within communities as the current practice is done without the involvement of the community hence its limited success.

### **School Programs**

Because schoolchildren are the beneficiaries of a better tomorrow, emphasis on educating them to make them aware of the importance a clean and green environment and of waste segregation is very significant. This education can be done by organizing activities such as painting competitions, slogan writing, and cleanup drives. Students should also be trained to use recycled products (reuse paper and plastic carry-bags, use recycled paper, and so forth).

The message can be reinforced by holding essay, debate, or drawing and painting competitions on the subject and publicizing the winning contestants. Parents generally do take note when their children win contests. Social clubs can be encouraged to sponsor such events and to keep the topic alive. The leading schools could be persuaded to work as role models for other schools in taking up awareness campaigns in the city through their students. Such campaigns should be highly publicized, and other schools should be persuaded to follow suit.

### **Involvement of Religious Leaders**

Religious leaders play a significant role in changing people's minds in Kano metropolis as indeed most Nigerian cities. Recommendation from a well-respected religious leader to keep surroundings clean, avoid littering, and manage waste will go a long way toward improving the situation.

### **Mass Communication Methods**

Mass communication methods include print media; television, radio, and the Internet; and cinema theatres.

**Print Media:** Advertisements may be distributed in a planned manner to educate the masses, and local newspapers can also be asked to insert messages on solid waste management at regular intervals as part of their corporate social responsibility. Newspapers should also be encouraged to start a regular suggestion box from which the various stakeholder committees can pick up good ideas. Newspapers can be encouraged to cover successful initiatives that have resolved solid waste management problems.

**Television and Radio:** Television and radio are very powerful media and can be used to inform citizens of new waste collection arrangements and to ask citizens to participate effectively in the prescribed manner.

Contact numbers of officials to call for problem solving or for reporting solid waste management grievances may also be publicized. These media may be used to publicize successful efforts in some localities to motivate other citizens to perform likewise and get similar recognition for their efforts.

### **Issues that emerged from the study**

A recurring issue throughout this study is the pronounced degree of fatalism and even cynicism towards public institutions, including Federal, State and Local government. This is reflected in the pervasive lack of trust in the goodwill and integrity of anything government, and in doubts about the ability or willingness of particularly the local governments to achieve positive improvements in the quality of people's lives not least because local authorities' powers are seen as diminishing. There is therefore a danger that, because of people negative attitude, proposals by governments for specific measures will be interpreted as self-interested and even as likely to marginalise people further particularly those in lower income groups.

Despite the above observation, there is the need to develop new mechanisms for 'listening' to the public, and for rebuilding trust and public identification with local government as well as initiatives to extend genuine and continuing dialogue between the wider public and local authorities in the area with the use of focus groups, and other similar mechanisms such as 'town meetings' and consultation seminars.

#### 4. CONCLUSIONS

The role and participation of the public is important to the success of any endeavour, especially municipal solid waste management that affects the environment, economy and human health. Public perception of the risks and resource potential can change attitude very quickly and make the waste management process not only successful but also sustainable.

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( Received 14 October 2014; accepted 10 November 2014 )