Performance of Community Based Organizations (CBOs) in Improving Quality of Urban Environment

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ABSTRACT

The aim of the paper was to assess performance of CBOs in improving Quality of urban environment in Mabwepande neighbourhood in Dar es Salaam. The paper utilizes data of the study which was carried out in Mabwepande neighbourhood. The study gathered data on socio-economic characteristics of respondents, collection of solid wastes from houses to the transfer collection point, quantity of solid wastes generated and disposed per day, quality of environment, Community Based Organisation's operation costs, revenue collection, and constraints hindering effective collection of solid wastes. The paper discusses the performance of CBOs in improving quality of urban environment in Mabwepande neighbourhood in Dar es Salaam following floods occurred in 2011 along Msimbazi valley. The floods led to loss of life, property and destruction of the environment. People were shifted from Msimbazi valley to Mabwepande neighbourhood as a voluntary and humanitarian action aimed at protecting the residents from floods. In Mabwepande 272 respondents were selected. Ten 10 respondents were key informants who were selected purposively and 262 were respondents picked randomly. Descriptive analysis was used to analyse the data. Computer Software, IBM Statistics Software (SPSS Version 20) was used to analyze data. The paper ascertains that performance of CBOs in improving quality of the urban environment was not satisfactory. Residents pointed out that collection of solid wastes has been outweighed by rate of generation of the waste.

Concerning Community Based Organisation's operation costs, it was found that operation costs was almost equate to revenue collected thus a possibility of not been able to sustain the CBOs activities. Lastly, it was learnt that the environment was characterized by bad ordour, unpleasant vista, and breeding of flies, mosquitoes, rats and cockroaches. The paper recommends to actors to join efforts in improving quality of the environment in Mabwepande.

Keywords: Community based organisations, urban, environment

1.0 INTRODUCTION

Currently, particularly in the cities of developing countries, the urbanization process is occurring briskly. Simultaneously to rapid urbanization, shortage of affordable housing, and housing construction on flat areas vulnerable to emerge apace. Today, floods have led to resettlement as a strategy to reduce negative effects of floods (URT, 1997; Neghabi *et. al*., 2016). Currently, the cities of the developing countries are overwhelmed by over abundance of high generation of solid wastes that outweigh the capacity of the public institutions (Kaseva and Mbuligwe, 2005; Bel and Costas, 2006; Coffey and Coad, 2010). From 1990s, Local Governments Authorities in Tanzania decided to involve Community Based Organizations (CBOs) in solid wastes. Through Public - Private Partnership, CBOs effectively participate in solid wastes (Ngonyani, 2005; Simon, 2008; Uwadiegwu and Chukwu, 2013). However, since their involvement in collection of solid wastes in the country, little is known on their effectiveness, information important for informed decision regarding management of the waste. Therefore, this study was carried out to reveal this information by taking a case of Mabwepande area in Dar-es-salaam city, a place where flood victims of 2011 were relocated.

2.0 METHODOLOGY

This study was conducted in Mabwepande resettlement area in Kinondoni District, in Dar es Salaam region. Both primary and secondary data were collected. A systematic random sampling was assigned to get representative households. The sample population was 278 households. Purposive sampling was used to select informants such as the community leaders, Executive Officers and the District Water Engineer. However, only 262 respondents were interviewed. Before in depth data collection, pilot survey was done to test the data collection tools. Interviews, physical observations, documentary review, and focus group discussions were the data collection methods used. Checklists and questionnaires were used as data collection tools.

3.1 RESULTS AND DISCUSSIONS

3.1 Socio-demographic Characteristics of Respondents

The respondents' characteristics were discussed because they influence participation of respondents in solid wastes management. Most respondents 32.8% had age between 39 and 48 years, 53.1% were females while 46.9% were

males, and most of them 61.1% had primary education. Furthermore, majority of respondents 69.8% participate in informal employment, 63.0% were low income people, and 55.0% were married (Table 1). It is therefore apparent that the sample provides a fairly good representation of true population.

3.2 Collection of Solid Wastes from Houses to the Transfer Collection Point

Solid wastes are collected from the residential areas, commercial areas, and institutions. The study examined frequency of collection of solid wastes per week. The findings on collection of solid wastes indicate that 76%, 27.1%, and 22.5% of the respondents acknowledged that collection of solid wastes is done once a week, twice a week, and more than twice a week respectively. From the findings, it can be concluded that the CBOs collect solid wastes once a week probably as daily collection of solid wastes increases operational costs (Table 2).

Table 1: Socio-demographic characteristics of respondents (n = 262)

Age(years)	Percentage	Gender	Percentage
18-28	7.3	Females	53.1
29-38	18.7	Males	46.9
39-48	32.8	**Total**	**100.0**
49-58	26.7	**Level of education**	**Percentage**
59-68	11.8	No formal education	6.1
69+	2.7	Primary education	61.1
Total	**100.0**	Secondary education	14.9
Marital Status	**Percentage**	Certificate	11.8
Single	14.1	Diploma	5.0
Married	55.0	Degree	1.2
Separated	1.1	**Total**	**100.0**
Widowed	9.2	**Type of employment***	**Percentage**
Living together	20.6	Formal public employment	9.2
Total	**100.0**	Formal private employment	21.0
Income level	**Percentage**	Informal employment	69.8
Below 1,499,999	63.0	Multiple sectors	33.2
1,500,000- 2,499,999	30.2		
Above 2,500,000	6.8		
Total	**100.0**		

*Multiple response

Table 2: Collection of solid wastes

Duration	Frequency	Percentage
Once a week	199	76.0
Twice a week	71	27.1
More than twice a week	59	22.5

Regarding negative effects of the solid wastes collection schedule, during interviews the respondents exposed that the CBOs scheduled to collect solid wastes once a week. Collecting solid wastes once in a week implies that time between the first collection and the second collection is 6 days. Findings disclosed that heaps of solid wastes stay in the neighbourhod long as a result they emit hazardous gases such as methane, toluene and methylene chloride. Methane contributes largely to greenhouse gas. Likewise, according to secondary data sources, presence of hazardous materials such as motor oil, paint, chemicals, and incinerator ashes contaminate the urban environment. The studies carried elsewhere indicated emerging low quality of the urban environment (Dora and Phillips, 2000; Scheinberg *et al.*, 2010; WHO, 2017).

3.3 Quantity of Solid Wastes Generated and Disposed per Day

Comparison between the quantity of solid wastes generated per day and quantity of solid wastes disposed per day is inevitable in understanding the performance of the CBOs in solid wastes management. The findings revealed that total solid wastes generated per day in Mabwepande neighbourhood is about 200 tons. Furthermore, it was revealed that the community based organizations collect 40 tons (40,000 kg) per day. The remained uncollected 160 tons decay without any special treatment. Accumulation and decay of solid wastes give out bad smell which is detrimental to air quality. The finding on accumulation and decay of solid wastes in Dar Es Salaam was also demonstrated by another study carried out in the city (Bubegwa, 2012).

3.4 Quality of Environment

Serious practices in urban areas reduce quality of environment. During the interviews in Mabwepande satellite town 76.7%, 14.9%, and 47.0% of the respondents, respectively reported that the urban environment is characterized by

bad ordour, unpleasant vista, and heaps of solid wastes favour breeding of flies, mosquitoes, rats and cockroaches. The respondents acrimoniously pointed out that the bad ordour generated from rotting of garbage along streets and bad aesthetic of the environment caused by haphazard disposal of solid wastes spoils the beauty of the neighbourhood, causing health problems. The garbage becomes breeding grounds for disease-carrying vectors such as flies, mosquitoes, rats and cockroaches (Table 3). The findings support the finding of the Health Effects Institute (HEI, 2004) and WHO (2002).

Table 3: Indicators of quality of the urban environment

Indicator	Frequency	Percentage
Bad ordour	201	76.7
Unpleasant vista	39	14.9
Breeding of flies, mosquitoes, rats and cockroaches	123	47.0

3.5 Community Based Organisation's Operation Costs

Management of solid wastes involves collection, transportation, and devastation of solid wastes. The Community Based Organizations pay organization's capital, labour, rehabilitation of carts and revenue to the city municipal council.

Likewise, studies elsewhere unveil that the private waste company's main costs are split into two different kinds of cost categories: capital expenditures and operational expenditures. Detailed costs include: collection costs such as salaries of waste collectors, clothing, phone bills, maintenance of push carts, and depreciation of carts. The transportation costs take in salaries of truck drivers, fuel, oil and lubricants, car wash and greasing, phone, stationary, repair and maintenance of motor vehicles, tires, depreciation of motor vehicles. Collection costs are mainly salaries of fee collectors and general administration and support services include costs such as salaries of administration staff, office electricity, water, office supplies, depreciation of offices equipment, computer, and accessories (Lohri *et al.,* 2013).

The study in Mabwepande designated that in order to meet costs involved in paying salaries, repair of carts, and revenue to the City Municipal Council the CBOs collect revenue. It was found that revenue collection is Tshs 5,000 x 12

months x 262 households. The revenue is TZS 15,720,000. The total expenditure is TZS 15,107,000 and the difference is TZS 613,000. The difference cannot comprehensively indicate profit because the CBOs do not constantly purchase physical assets (Table 4).

Table 4: Community Based Organisation's operation costs

Item	Price / Piece (TZS)	Annual Cost (TZS)	Item	Price/ Piece (TZS)	Annual Cost (TZS)
5 Wheel Barrows	170,000	850,000	5 Carts	350,000	1,750,000
5 Pull Carts	340,000	1,700,000	Maintenance/repair	15,000	180,000
10 Gumboots	34,000	340,000	15Gloves	10,200	153,000
5 Forks	12,000	60,000	6 Labourers @ 60000	360,000	4,320,000
1 Panga	5,500	5,500	**INDIRECT COSTS**		
3 Hoes	8,500	25,500	Office Rent	200,000	2,400,000
120 Waste Bags	900	108,000	Stationery	8,000	96,000
3 Rakes	8,000	24,000	Transport	4,000	48,000
4 Local Brooms	1,500	6,000	Furniture		3,000,000
3 Spades	7,000	21,000	Tax		20,000
TOTAL					**15,107,000**

3.6 Revenue Collection

The CBOs generate funds from two sources namely recycling the waste and revenue from the residents. According to the respondents, recycling the waste generates revenue which compensates the expenditure on collection and transportation of solid wastes. It was found that revenue collection is Tshs 15,720,000 and total expenditure which is Tshs 15,107,000. In the first year the annual profit is Tshs 613,000. According to the CBOs, the profit increases in the following years because the CBOs do not invest constantly.

Generally, comparison between collection and expenditure indicated that the CBOs do not make profits. Investing more cash in physical assets and collecting small amount of cash portrays inefficiency of the CBOs. Simply, the profit does not promise prosperous future of the CBOs as well as the community. Inefficiency in revenue collection has been noted by other studies elsewhere (Klundert and Muller, 1998; UN HABITAT, 2010; Lohri et al., 2013; Membe, 2015).

3.7 Constraints to Effective Collection of Solid Wastes

Using of landfills is always more preferred in Mabwepande than other waste disposal methods because it allows most waste to decay safely and naturally thus regarded as economical method. Concerning constraints hindering effective collection of solid wastes, 38.9%, 98.1%, and 27.1% of the respondents reported that insufficient capital, high operation costs, and lack of knowledge on environmentally friendly technologies hinder effective collection of solid wastes, respectively.

In addition, 48.9%, 20.2%, and 26.3% of the respondents disclosed that lack of clear definition of responsibilities, long distance to solid waste transfer points, and poor networks are among the factors constraining effective collection of solid wastes respectively. Lastly, 95.0% of the respondents acknowledged that a poor network is responsible for ineffective collection of solid wastes in the area (Table 5).

The findings portrayed that transfer stations and landfills are located far-off from densely populated areas as a result requiring collection carts to drive long distance to either transfer stations or dumpsites. The complexity of collection routes in the settlement consumes body calories and increases trip duration. This frequent and lengthy travel reduces trips made per day, as a result there is accumulation of solid wastes which gives out bad smell which is detrimental to air quality.

Table 5: Constraints to effective collection of solid wastes

Factor	Frequency	Percentage
Insufficient capital	102	38.9
High operation costs	257	98.1
Lack of knowledge on environmentally friendly technologies	71	27.1
Lack of clear definition of responsibilities	128	48.9
Long distance to solid waste transfer points	53	20.2
Poor networks	69	26.3
Reluctance of service users in paying for service	249	95.0

4.0 CONCLUSION AND RECOMMENDATIONS

4.1 Conclusion

The paper examined performance of the CBOs in improving Quality of the urban environment. It was found that performance of the CBOs in improving Quality of urban environment is not satisfactory. The results unveiled that the CBOs collect solid wastes once a week. The total solid waste generated per day in Mabwepande neighbourhood is 200 tons. Practically, the CBOs collect 40 tons (40,000 kg) per day. The uncollected 160 tons decay without any special treatment.

Unsatisfactory performance of the CBOs in solid wastes has led to poor quality of the environment. Bad ordour generated from rotting of garbage along streets, bad aesthetic of the environment caused by haphazard disposal of solid wastes, breed of disease-carrying vectors such as flies, mosquitoes, rats and cockroaches indicate poor quality of the environment. Pertaining to location of landfill, hauling waste to distant areas makes it unprofitable to operators as well as to residents who have to pay for collection. Concerning profit, comparison between collection and expenditure indicated that the CBOs do not make reasonable profit. Basing on the findings it is obvious that CBOs are not efficient in solid waste management.

4.2 Recommendations
Basing on the findings and discussions above, the following recommendations are made:

a. Actors should enhance collaboration between actors: There is a need to educate actors on their role in solid waste management. The Local Government Authority, for instance, has a big role of creating conducive environment to enable the CBOs to actively participate in solid wastes. In addition, regular public awareness campaigns are inevitable to motivate community, for instance, to pay for solid waste management, to participate in cleanliness of compounds and open and public areas. Currently, members of households clean their own premises leaving open and public areas not cleaned.

b. Actors should give priority to solid waste management: It is obvious that if solid waste management gets urgent attention and more budgets for investment in waste management infrastructures, human resource, and related solid waste management systems, the CBOs will effectively perform their role of collecting solid wastes.

c. Actors should formalize the informal waste management practices: Recognition of all actors will assist in creating a functional network between all actors such as waste collectors, recycling agents and recycling investors and redefining roles and benefits and jointly assisting each actor in performing its role.

d. Municipal Councils should review rules and regulations and strengthen them. The action will to create attractive incentives to actors. Creation of tax subsidies, for instance, will attract investments in solid waste management.

e. (e) Actors, particularly actors operating commercial businesses should accept the idea of sharing corporate social responsibility. These actors can pay a certain percentage of their profits to CBOs as a strategy to ensure sustainability of activities of CBOs. The current system of paying revenue through flat rates systems jeopardizes efforts of the CBOs in solid waste collection.

f. Actors should increase the number of transfer stations at accessible sites.

g. Actors should introduce environmentally friendly technologies. For instance, the CBOs can also participate in compost production from organic waste. The actors who are financially able can introduce plants that use solid wastes in production of energy.

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