

The Role of Private Sector Participation in Municipal Solid Waste in Kano Metropolis

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ABSTRACT : *The paper assesses the role of private sector participation in solid waste management in Kano Metropolis, Nigeria. The method used include: direct field measurement, Focus Group Discussion, Inventory, Individual Interviews, Questionnaire Administration, and Case Study. The result shows that the total number of 50 inventoried companies operating under franchise agreement in Kano metropolis are contributing greatly in terms of efficiency and effectiveness of refuse collection and disposal, creation of employment opportunities, economic development of Kano Metropolis through real capital investment, among others. It was concluded that the scope of operation of private companies should be extended to cover the whole metropolis not only the current delineated planned areas. Key words are: Private Sector Participation; Solid waste; Franchise*

I. INTRODUCTION

Waste disposal, traffic flow and transportation, social security, and supply of basic utilities are top priorities in urban management. The efficiency of all these services determine the quality or otherwise of the entire urban set-up, be it in the developed or developing nations. In deed, they are the threshold of measuring the performance of urban environmental management. In spite of this creedal stand, the effectiveness or efficiency of these services are in most cases undermine in the developing nations in general and in most urban areas of Africa South of the Sahara in particular. To that effect, many urban centres in Africa South of the Sahara are sustaining serious problems of varying magnitudes. In Nigeria, for example, improper waste disposal has become a cancer in many of its urban centres. Kano metropolis is among the urban centres in Nigeria bedevil with the problem of improper waste disposal. This has been attributed to poor waste management systems. Thus, in order to improve the efficiency of waste management system in Kano metropolis, private sectors are involved in municipal solid waste management. The aim of this paper, therefore, is to assess the role of private sector participation in municipal solid waste in Kano Metropolis in relation to efficiency of the services they are rendering and other fringe benefits.

II. CONCEPTUALIZATION

Conceptually, there are four methods of private sector participation common to solid waste management. These are: contracting, concession, franchise, and open competition. Prior to the formal involvement of private companies in waste management system in Kano metropolis, dated back to the 1990s, some few enterprises informally operated under open competition but with inadequate organization and varying degree of successes. Thus their effects were mostly felt by the individual persons who patronize them rather than the entire refuse management system. In order to address this week development, the state government in the mid 2000 contracted out solid waste collection and disposal in Kano Metropolis to a single private company at the cost of about two hundred million Naira (=N=200,000,000.00); about \$1.17 million (US) per annum. In less than two years, the company failed to deliver the needed and expected result which led to the termination of its contract with government. Consequently, government changes its policy from contracting to in-house boosting of the agency concerned with solid waste management: the REMASAB (Refuse Management and Sanitation Board) in order to handle the hitherto anomalies in waste and sanitation services. In spite of this, the concomitant increase in government expenditure, huge volume of waste produced daily; about 325,319Kg from residential area and 28,357.42Kg from commercial area (Maigari, 2014), and gross inefficiency in the public sector, necessitated the state government to formally involved private companies to participate in the municipal solid waste management under franchise agreement.

In principle Franchise connotes that government awards a finite-term zonal monopoly (a franchise) to private firms for the delivery of solid waste collection service. The franchise award is usually made after a competitive qualification process. After which, the successful private firm deposits a performance bond with the government and pays a license fee to cover the government's costs of monitoring. On the other hand, the franchisees (private firms) recover their cost and profit through direct charges to the households and establishments that are served. However, government provides control over the tariff charged to the consumers through either development of adequate competition and control of price collusion, or price regulation (See Sandra, 1994).

III. THE FRANCHISE SYSTEM

The franchise system of Kano metropolis is not totally divorce from the conventional principle, but it has been modify to suite its local circumstances. In deed, it is a modified version of that of Lagos State which after successful execution, Kano State government barrow. The franchise system of Kano metropolis covers only planned areas in the metropolis. The traditional Kano Old City and other high density areas in and around the metropolis are not included; instead, they are taken care of by the Kano State Refuse Management and Sanitation Board (REMASAB). Based on that, a total of fifty (50) planned residential areas were delineated with a minimum capacity of five hundred houses/households and maximum of three thousand. All these were awarded to individual companies based on operational capacity. Table 1, shows the allocation pattern.

Table 1: Category of Franchised Areas in Kano Metropolis

Category		No. Comp.	%	H/H Estimate
500 – 1000	C	32	64	24,000
Above 1000	B	15	30	14,500
2000 - 3000	A	03	06	7,500
Total	-	50	100	46,000

Source: Fieldwork, 2013

Based on the franchise agreement, the service providers are to charge only one thousand Naira (=N=1,000.00) monthly per household and to pay 10% of the overall charges to government through REMASAB monthly as tipping fees. The customers are either to provide receptacles themselves or obtain it from the service providers at a negotiable amount and the minimum waste collection frequency is once in a week. While government after giving a monopoly right to individual franchisees, also, provides enforcement, adequate supervision and maintenance of disposal sites.

IV. SPATIAL DISTRIBUTION

The areas delineated for franchise waste management system are planned developed layouts in all sectors of the metropolis; mostly occupied by elites and some high income business men. There are over 80 kinds of such places in and around Kano metropolis covering a total area of about 84 million square metres (84km²). Their frequency increases as one move out from the traditional old city of Kano from all the four cardinal directions, but there are more in the eastwards and southwards compared to west and north respectively (See Figure 1). The places under current franchise waste management system cover about 46.2km² while the remaining 37.7km² have been earmark as potential areas for future consideration. The spatial distribution pattern of the franchise areas in Kano metropolis has not only showcased the existence of dualism in urban waste management but also demonstrates variability in the quality of human health as well as community hygiene. This is because in the high density areas where government takes the responsibility of waste collection and disposal, Maigari (2014) reported that both collection and disposal indexes are grossly inadequate and in another study Maigari (2012) reported that households in high density areas of the metropolis; especially the Old Kano City are not willing to take responsibility of their waste as such they indiscriminately dump waste at any available place such as open gutters, ponds, and along streets. Thus, this to a large extent made them vulnerable to infectious and contamination diseases related to poor environmental sanitation. On the other hand, in the franchised areas, it has been observed that the waste collection index has been very efficient (See 6: Efficiency) and thus presumably the quality of human health as it relates to environmental hygiene may be guaranteed. But on the contrary the distribution pattern has made it clear that such could only be sustained in the short run but not very certain in the long run. This is because most of the franchise areas are attached or adjoined to one or more high density areas, thus the poor sanitary condition of the latter would radiates into the former through either rain water or wind.

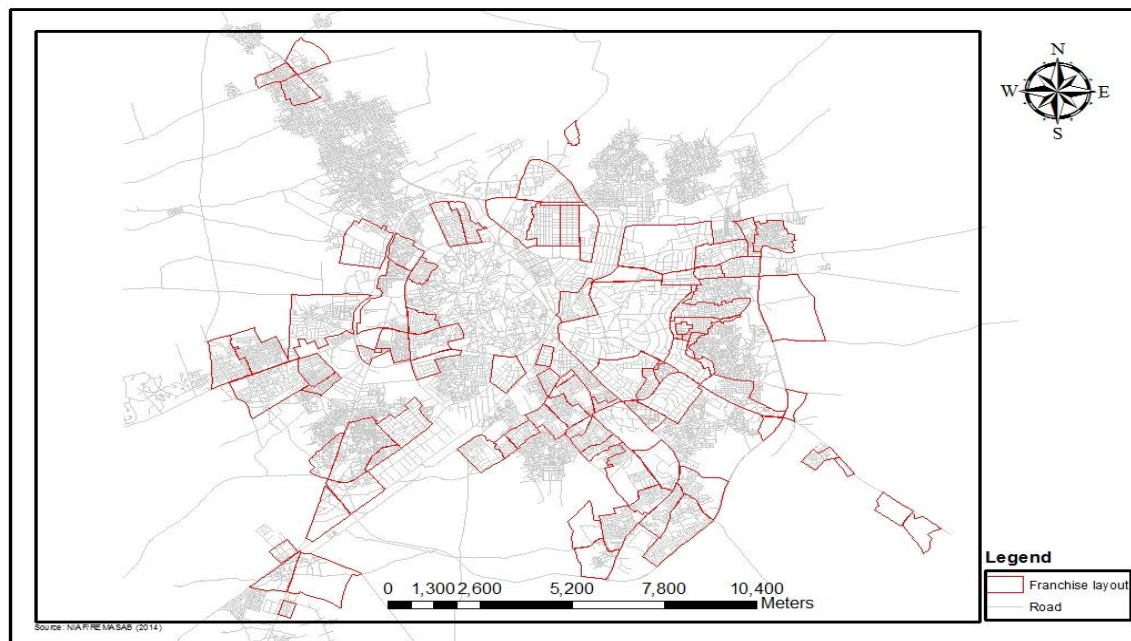


FIGURE 1: SPATIAL DISTRIBUTION OF FRANCHISE AREAS

V. STRENGTH

A survey of the 50 franchisees companies shows that they have an overall capital investment of about =N=259.9 million (about \$1.51 million) and a total workforce of 343 persons. Out of this category ‘A’ companies carry 21.1% and 14.0% of the overall capital investment and labour force respectively. While category ‘B’ & ‘C’ each takes 35.8% and 39.4% of capital investment; 39.0% and 46.6% of labour force respectively (See Table 2).

Table 2: Capital Investment and Workforce of Franchisee Companies

Category	Capital Invest. =N=	%	Workforce	%
A	54,900,000.00	21.1	48	14.0
B	93,000,000.00	35.8	135	39.4
C	112,000,000.00	43.1	160	46.6
Total	259,900,000.00	100	343	100
Mean (N=50)	5,198,000.00	-	6.86	-

Source: Fieldwork, 2014

The level of capital investment has not only explains the strength of private waste collectors but also showcase the level of their contribution to the real capital development in the economy of Kano metropolis. Moreover, the employment opportunity created to 343people generates a total income of about =N=83.03 million per annum which may in turns generates further savings and investment and as well improves the living standard of at least the employed persons. Table 3 shows the income levels of the employed persons.

Table 3: Number of Employees and Monthly Salary

Personnel	Category			Total (n=50)	Salary (=N=)*	
	A (n=3)	B (n=15)	C (n=32)		P/Person	Total
Drivers	12	30	32	74	20,000	1,480,000
Field Staff	9	30	32	71	25,000	1,775,000
Labourers	24	60	64	148	18,000	2,664,000
Clerks	3	15	32	50	20,000	1,000,000
Total	48	135	160	343	-	6,919,000
Mean	16	9	5	6.86	-	138,380

Source: Fieldwork, 2014 * = Nigerian Currency; Naira

However, apart from salaries, the recurrent expenditure also include that of consumables and maintenance which has been estimated based on monthly average spending of all the franchisee companies to be

about =N=23.2 million per annum (See Table 4). This when combine together with salaries (=N=83.02 million) and capital expenditure (=N=259.9 million) amount to about =N=365.15 million as the total contribution (investment) per annum of private waste collectors to waste management system of Kano metropolis and in deed its entire economy.

Table 4: Monthly Additional Recurrent Expenditure

Items	Average Monthly Cost (=N=)			Total (n=50)	%
	A (n=3)	B (n=15)	C (n=32)		
Fuel	135,000	375,000	480,000	990,000	51.2
Lubrication	75,000	150,000	160,000	385,000	19.9
S. Kits	60,000	75,000	160,000	295,000	15.2
Offi. Maint.	30,000	75,000	160,000	265,000	13.7
Total	300,000	675,000	960,000	1,935,000	100
Mean	100,000	45,000	30,000	38,700	-

Source: Fieldwork, 2014

5.1 Cost Recovery

Based on the estimated total of about 46,000 houses/households under the franchise scheme (See Table 1), it is expected that about =N=46 million would be generated monthly as service charges fees and sequentially about =N=552 million per annum. Out of this sum, 10% (=N=55.2 million) would go to REMASAB as tipping fees making a balance of =N=496.8 million. Deductively, when the total expenditure of =N=365.15 million is subtracted from the net income of =N=496.8 million it will yield a net balance of =N=131.65 million as net profit. The depreciated value of investment capital is also additional profit, which going by the current market price may be at least one-fourth of the initial value (i.e. =N=365.15 million x ¼); about =N=91.3 million. As a whole, a gross profit of =N=222.93 million would be generated by the franchisee companies in a single year. Although the profit margin may vary between companies due to variation in the amount of capital investment and management skills, but it has demonstrated three vital issues: i) the efficacy of franchising in wealth creation (about 61%); ii) the viability of the enterprise as a prosperous venture; and iii) the role of government in creating a conducive investment ground.

VI. EFFICIENCY

The rationale behind involvement of private companies in the municipal solid waste management under franchise agreement in Kano metropolis can not be separated from effective collection and disposal of refuse in the delineated planned franchised areas. Thus in order to measure that a purposive survey involving 200 individual households from 20 areas out of the 50 franchised areas was conducted. The result shows that about 87% of the respondents are fully satisfied with the mode and manner by which refuse in their respective areas is collected (weekly; no failure), the vehicles used in transporting the waste (no street littering) and the response of the service providers on emergency call by the respective clients. While on the service charges of =N=1,000.00 monthly, 73% of the respondents were okay and the remaining 27% needs the charges to be reduced to =N=600.00 per month (See Table 5). Moreover, a follow up ground-trusting (observation) revealed that, streets and the surrounding neighborhoods are clean; most of the receptacles (drums; about 94%) are not overfilled and the available drainages are free from rubbish (cellophane material). This to a large extent signifies that the collection index is very effective. Although, there is a general satisfaction on the service delivery, the efficiency index shows there exists a variation between the three categories of the sample areas. Category ‘A’ areas which are mainly covered by big companies with capital investment above =N=18 million recorded highest percentage (90.8%) of efficiency index followed by category ‘B’ and ‘C’ respectively. This among others, could be attributed to the high standard vehicles they are using (compactors) compared to the lesser once of category B and C companies; mostly open vans.

Table 5: Respondents Level of Satisfaction on Service Delivery

Indices	Categories			Total	%
	A (n=30)	B (n=70)	C (n=100)		
Charges	23	55	68	146	73.0
Collection	27	62	85	174	87.0
Emergency Call	29	63	81	173	86.5
Transportation	30	65	83	178	89.0
Efficiency Index*	90.8%	87.5%	79.2%	83.9%	

Source: Fieldwork, 2014 * = Mean of I / n x 100

VII. REVENUE TO THE GOVERNMENT

Based on the franchise agreement, the franchisee companies are obliged to pay 10% of the total amount they charged monthly to the government of Kano state through REMASAB. This going by the estimated total of 46,000 houses/households of the 50 delineated franchised areas, would amount to about =N=4.6 million monthly and about =N=55.2 million annually as revenue. This amount if realised would go along in raising the financial capability of REMASAB, as its annual budgetary allocation for recurrent expenditure (overhead cost) is less than =N=2 million monthly. An in-depth interview with key staff of REMASAB revealed that some companies have been remitting the 10% charges but could not disclosed how many. Equally a questionnaire administered to 20 of the franchisee companies revealed that 75% (15) have been remitting the agreed 10% amount on monthly basis. On the reason for not abiding to the term of the franchise agreement, some of the respondents affirmed that they have options to either remits on monthly basis, quarterly, or lump sum. This entails that with sound and appropriate enforcement and prudent measure such amount would be realised and could serves as a sustainable revenue generation source to government.

VIII. AUXILIARY BENEFITS

Habitually, residential waste is composed with different kinds of reusable and recycling products such as plastic materials, bottles, and metallic materials. These kinds of products are being sorted by the employees of service providers; normally labourers in all the franchise areas and sale them to either full term scavengers or scraps vendors. Although the benefits from such sales doesn't go to the franchise companies directly but their workers greatly benefit from it. An in-depth study of one category 'C' company shows its employees (labourers) sorted an average of 35.1Kg of reuse and recycle materials daily from the refuse they collected in the franchised area allocated to them before disposal. From sales of such materials they generates about =N=19,440 monthly and =N=233,280 per annum. Table 6 shows the kinds of material being sorted and their respective unit prices.

Table 6: Daily Average Sorted Reusable Materials and their Value

Type	Amount in Kg	Price/Kg (=N=)	Total =N=	Per Month	Per Annum
Bottles	6.3	60	378	11,340	136,080
Metals	11.2	5	56	1,680	20,160
Plastic	13.8	10	138	4,140	49,680
Polythene (HD)	3.8	20	76	2,280	27,360
Total	35.1	-	648	19,440	233,280

Source: Fieldwork, 2014

Apart from money being generated from sorting of reusable and recycle materials from the waste stream, refuse sorting has as well been very effective in waste recovery index. Based on the analysis of the above case study area, it has been observed that a household unit with an average of seven people generates a mean of 0.2618Kg (24.5 pound); about 3.5 ponds per person daily. This entails that, the case study area of 683 households and a population of 4,781 people, generates about 183.1123Kg of solid waste daily; 1,281.7861Kg weekly and 5,127.1444Kg monthly. From this amount about 19.2% (See Table 6 column 2) of the non biodegradable material composition of refuse generated in the case study area is recovered for further use. Previous studies in Kano metropolis in general such as Olofin (2004), Ahmad (2007), and Maigari (2014) revealed that about 75% of the residential waste is composed with biodegradable materials and 25% non biodegradable. On this ground therefore it can be asserted that only 5.8% of the non biodegradable composition of waste in the case study area is not recovered, thus the waste recovery index is to a large extent efficient.

IX. CHALLENGES

In spite of the of the on going successful journey on a franchise plat form, private sector participation in municipal waste in Kano metropolis is having some operational challenges which if adequately taken care of, the full benefits identify above would be fully realised. A questionnaire survey involving 20 franchise companies revealed that there are five major challenges surrounding their operation as service providers. These are: i) illegal service providers; ii) non prompt payment of service fees; iii) inadequate enforcement; iv) restricted operational license; and v) poor condition of disposal sites. Respondents revealed that some un-license companies whom prior to the formal involvement of franchisee companies are rendering the service of waste collection in some of the delineated franchise areas are still operating in dualism with the license franchise companies. Moreover, some households employ the services of children, usually *Almajirai*, whom they pay them a token fee of =N=20 or less to dispose their waste instead of patronizing the license companies. Among the 20 license companies interviewed, none of them indicated prompt payment of service fee. However, they have indicated that their monthly turn over ranges from 60% to 85%. All these according to some respondents are as a result of inadequate enforcement from the side of government,

whom based on the franchise agreement, is to provide adequate supervision and enforcement. Another issue which all the interviewed franchise companies complained about, is that, the scope of their operation is only residential areas, commercial areas even if are within their delineated franchise premises are strictly not under their operation. The poor condition of some of the disposal sites in terms vehicular movement, especially during wet season has been described by 55% of the respondents as not only a challenge but a great constraint that negates their full operations.

X. CONCLUSION

From the forgoing analysis on private waste collectors under franchise agreement in Kano metropolis it is evidently clear that they have a stake in urban solid waste management. Thus it can be concluded that their role is not only on waste management in terms of effective collection and disposal and reduction of government activities, but also on micro economic and sector development. It is therefore recommended that the high density areas of Kano metropolis should be as well be manage by private companies based on contract agreement since franchising is not feasible. While on the franchised areas, government should come to its task of providing adequate supervision and enforcement in particular to deal with illegal operators and fees defaulters. The situation of disposal sites should also be improve to allow smooth vehicular movement in and out.

REFERENCES:

- [1] Ahmad Garba Sale (2007) Analysis of Scavenging Activities and Reuse of Solid Wastes in Kano Metropolis, Nigeria. Unpublished Ph.D. Thesis, Geography Department, Bayero University, Kano, Nigeria.
- [2] Maigari Ahmed Ibrahim (2012) Household Survey on Ability and Willingness to Patronise the Services of Private Waste Collection Firm in Kano Metropolis. A Technical Report.
- [3] Maigari Ahmed Ibrahim (2014) Environmental Education and Sanitation in Kano Region. Education and Social Science Journal. International Institute for Science, Technology and Education. ISSN (Paper) 2224-5766, ISSN (Online) 2225-0484.
- [4] Olofin E. A. (2004) From Waste to Wealth: Towards a Sustainable Urban Management in Nigeria. A Paper Presented at the Monthly Forum, Organised by the British Council and Centre for Research and Development, Kano, January, 2004.
- [5] Sandra Cointreau - Levine (1994) Private Sector Participation in Municipal Solid Waste Services in Developing Countries (WB, 1994, 64 p.)