

Indonesian Journal of Urban and Environmental Technology

<http://www.trijurnal.lemlit.trisakti.ac.id/index.php/urbanenvirotech>



PRIVATIZATION OF SOLID WASTE MANAGEMENT: OPPORTUNITIES AND CHALLENGES

Yahya Muhammed Bah¹, Myrtati Dyah Artaria^{2*}

¹Department of Sociology, Faculty of Social and Political Sciences, University of Airlangga, Surabaya, Indonesia

²Department of Anthropology, Faculty of Social and Political Sciences, University of Airlangga, Surabaya, Indonesia

*Corresponding author: myrtati.artaria@fisip.unair.ac.id

ABSTRACT

Aim: The fundamental rationale for a systematic literature review is to examine opportunities and challenges in the privatization of solid waste management, and share knowledge to spark and inspire a process that will usher in public private partnership to ensure cities are kept clean for habitability. **Methodology and Results:** A systematic review of the literature using information obtained from different sources was performed. The Google Search Engine was used to search for these articles. During the search numerous combinations of words and phrases were used to ensure articles reflect the most recent knowledge and scholarly works. Only peer-reviewed articles published after 2000 were selected, except extracts perceived to be of fundamental mileage to the study. However, articles published by staunch international organizations working in privatization of solid waste management for years which had produced indefatigable knowledge in the field were stealthily appraised. The privatization of solid waste management has resulted in some successes which include, but not restricted to: effectiveness, cost saving, timely service delivery, access to funding and expansion, quality services, partnership and community participation, cleanliness and healthy environment, jobs creation and better income, elimination of public monopoly and promotion of competition, new technologies and innovative techniques, public sector concentration on supervision, resources conservation and protection from risks; less bureaucracy and prompt action regarding concerns and complaints. **Conclusion, significance and impact of study:** With a well-thought model and proper public supervision, the privatization of solid of waste management can deliver habitable cities, though not without negative impacts and obstacles.

MANUSCRIPT HISTORY

- Received
September 2020
- Revised
December 2020
- Accepted
February 2021
- Available online
April 2021

KEYWORDS

- Challenges
- Management
- Opportunities
- Privatization
- Solid waste

1. INTRODUCTION

Cities in developing countries are focal points of economic development. It is estimated that 80% of GDP growth from developing countries is expected from cities (Harris, 1990). Cities like Abidjan, Bangkok and Lagos, although accommodating less than 20% of their country's population, they account for more than 70% of all economic activities (Kasarda and Parnell, 1993: xi; UNCHS, 1985). Industries, social and financial services and most other economic activities are concentrated within cities, hence attracting people and capital, which in turn results into cities' expansion. The growth of cities, however, generates a plethora of social and ecological problems such as excessive consumption of resources, social and cultural deprivation as well as structural and infrastructures deficits resulting in unfavourable living conditions. These problems are, to a greater extent, brought about by the cities inability to cope with the increasing demand for public services and infrastructures due to increased concentration of people in cities. The deterioration of quality of life is threatening urban productivity as well as liveability of cities. The economic future and prosperity of cities will, to a greater extent, be defined by the quality of environment. Cities are, therefore, facing challenges to preserve and efficiently manage the urban environment if they are to maintain their status as centres of economic, cultural and civic activity.

The management and development of environmentally sound approaches for waste management is one such challenge facing city managers in developing countries. This emanates from the problems posed by poor solid waste management resulting in health hazards, greenhouse gas emissions, and contamination of land, air and water. These problems pose a threat to urban dwellers; hence they are likely to limit their contribution to the economic development of their cities. As such, the need for adoption of efficient and effective approaches to solve environmental problems associated with the urban crisis, particularly that of solid waste management which is of paramount importance in a bid to have liveable, productive and environmentally friendly cities. The need is more urgent in developing countries where government financial capacity is highly constrained while population is increasing rapidly causing an institutional vacuum in service provision (UNCHS, 1998).

In response to this situation, new approaches have evolved ranging from approaches that involve collaboration among stakeholders (Bennett, 1998); community initiative (McGee and Yeung, 1986) to private sector involvement as providers of services (Mehta and Mehta, 1994).

All these approaches are general referred to as Public - Private Partnerships (PPP), as both sectors work hand in hand in providing urban services. This research is interested in the opportunities and challenges of the privatization of solid waste management.

The fundamental rationale for the literature review is to examine the opportunities and challenges in the privatization of solid waste management, share knowledge to spark and inspire a process that will usher in public- private partnership to ensure cities are kept clean for habitability.

2. RESEARCH METHODOLOGY

A systematic review of the literatures using information collected from different sources was actuated. Google Search Engine was used to search for these articles. During the search numeration combinations of words and phrases were used to ensure articles reflect the most recent knowledge and scholarly works. The systematic searches beget varied and voluminous articles which had to be sieved not only to meet the inclusion and exclusion criteria but to ensure the fundamental objectives of the study are wrangled.

Therefore, only peer-reviewed scholarly publications published after 2000 were selected except extracts perceived to be of basal mileage to the study. However, articles published by staunch international organizations known to have been working in solid waste management and privatization for years and has produced indefatigable knowledge in the area were stealthily appraised.

2.1 Inclusion and Exclusion Procedures

The underneath procedures were followed in articles inclusion. That is only:

1. Peer-reviewed scholarly articles.
2. Peer-reviewed scholarly articles on privatization of solid management.
3. Peer-reviewed scholarly articles published from 2000 to 2020.
4. Articles on international or regional perspectives on privatization of solid management.
5. Articles on privatization of solid management published by international organizations with years of meritorious experience.

To exclude some articles from the review, the below captioned criteria were applied:

1. Non-peer reviewed articles.
2. Articles published before 2000 unless critical and impactful.
3. Media generated articles including newspapers.
4. Articles not published in English language.

In spite of the fact that both qualitative and quantitative articles were trawled, only forty (40) articles out of sixty seven (67) were qualified for reviewed.

In essence, only peer-reviewed articles and publications by international organizations considered being trustworthy because they occasioned standard, ethical and robust studies were reviewed.

3. RESULTS AND DISCUSSION

The literature review has divulged a wide range of benefits and challenges of privatization of solid waste management. To discuss these benefits and challenges, they are codified into: effectiveness, cost saving, timely service delivery, access to funding and expansion, quality services, partnership and community participation, cleanliness and healthy environment, jobs creation and better income, elimination of public monopoly and promotion of competition, new technologies and innovative techniques, public sector concentration on supervision; resources conservation and protection from risks; and less bureaucracy and prompt acting on concerns and complaints.

3.1 Effectiveness

The public sector far too long has been alleged for not effectively delivering essential social and financial services to tax payers. Thus, one of the fundamental objectives of privatizing some of the services offered by the public sector including solid waste management especially in the urban areas is to ensure effective services delivery. Some nascent studies found solid waste management privatization to be more effective in comparison with state managed one as authenticated by: customers are willing to pay for private waste management services on the principle of value-for-money or efficiency in support and promotion of business approach to waste management (Post, 1999). Though in some cases the public sector functions moderately

well, it would have been more impactful or effective and efficient if they have started commercializing their services and working with the private sector in the form of PPP (Katusiimeh *et al.*, 2011). Privatization in some instances are more effective in densely populated communities, private firms are equally known to be good at exploiting less densely populated areas including rural communities (Juri *et al.*, 2018). In Dar Es Salaam, the privatization of the waste management has resulted in efficiency compare to the cash constrained city services, collection of waste improved from 20 to 40%, the city became more clean; and 1000 new jobs created 60% of which went to the women and unemployed youths (Basha, 2007).

Similarly, the informal group waste collection is sometimes more effective, however, to maximize its effectiveness, among other things, it needs to be merged with the formal system to ensure wider coverage and proper waste disposal (Lartey *et al.*, 2018). Privatization yields optimum efficiency, effectiveness, and high economic returns (Lartey *et al.*, 2018). Public Private Partnership (PPP) approaches have proved more effective in facilitating solid waste management in the city than the conventional approach (Bituromajani, 1999). PPP is effective in many respects including the avoidance of the familiar inefficiencies of state supply, social exclusion and fragmentation commonly associated with market-led supply of social goods and services; and also improving performance and creating social safety nets are not the only concerns of such a model (Johnson *et al.*, 2000).

3.2 Cost Saving

Effective and efficient service delivery is one of the principal contracts citizens have signed with their respective governments being central or local government authorities. However, due to budget constraints, some authorities, without compromising qualities would always want to implement strategies that save cost and urban services privatization including that of solid waste management has demonstrated being viable concurring with: in the USA, there are two key reasons why private waste management has reduced the cost on municipalities namely; a widespread competition and reduction in huge and mostly unaccounted for administration expenditures as a result of dealing with the private companies (Campanella, 2015). Due to privatization of waste management in developed countries waste management is costing less to the state because with privatization it is not only cheap but efficient since they come with highly

skilled personnel's and good vehicles that boost productivity and effectiveness (Murugan *et al.*, 2017). Privatization though is claimed to usher cost reduction, cost savings in other services, it is not applicable in water delivery despite being found in waste management though not quite systematic (Germa *et al.*, 2008). The benefits of PPP in solid waste management include cost savings, risk sharing, improved levels of service, efficient implementation, enhancement of revenues; and increase employment (Kwan, 1999) as quoted in Lalchuanawma (2019).

Contracting out sanitation is highly promising especially in lowering down the associated costs (Cointreau-Levine, 1994) as cited in Yeboah-Assiamah (2015). The benefits of privatization include cost saving, protection from risks, safety record, faster adoption of new, efficient technologies, less debts, etc. (NSWMA, no date). In spite of the fact that many studies found that privatization of solid waste management has increased financial efficiency, brought some financial savings for governments, the public in general, etc. it is very difficult to calculate the financial savings (Rosana *et al.*, 2013).

3.3 Timely Service Delivery

In service provision, time is a critical factor as it can influence the price that customers and even potential customers are willing to pay. In the public sector, timely service delivery has always being a concern to a number of citizens bearing in mind that any delay can have proud negative impacts on both their social and economic wellbeing. To minimize delay while safeguarding quality, privatization has become a trustworthy option as validated: the private companies do not only provide containers, timely and fixed collection time tables, charge moderate fees compare to the public sector that sometimes charged fee when it is supposed to be free, their customers are more satisfied (Katusiimeh *et al.*, 2011). People are willing to cooperate and pay huge amount for waste collection including primary collection, transport; and disposal especially where there are private benefits namely; efficiency and timely service delivery reinforcing privatization (Anand, 1999). In Ghana, residents are willing to pay for waste management services for quality and timely services delivery more especially, those with high income and married with families (Boateng *et al.*, 2019).

3.4 Access to Funding and Expansion

Quality and relevant service delivery and expansion by the public sector have most times being constrained by many factors including finance. Thus, the dare needs to mobilize funds either nationally and/or internationally. However, because states are highly indebted, this has become an uphill battle. However, the private sector is poised to have some strength in resource mobilization and expansion of services concurring with: privatization in waste management is critical because private sectors have easy access to loans to purchase quality equipment minimizing operational costs and lost, they have more experiences and expertise; and they are free from state interference, can usher in new innovation, techniques to access finance, cutting-edge knowledge, managerial skills, entrepreneurial spirit combined with social responsibility, environmental awareness, local knowledge of the public sector and above all, they are profit oriented (Plummer, 2000) as cited in Is-haque (2013). Privatization pays dividends due to many factors such as source-separation issues, government enforcement, market segmentation, financial issues and waste disposal (Adam *et al.*, 2014). Privatization benefits encompasses greater efficiency and enhance performance, competition, better management and accountability, faster responses, raising capital, fast decision making, higher services ethics, greater flexibility in purchasing land and facilities, greater access to experts and technology, partnerships, risk reduction because of transferring unpredictable costs or unreliable revenue (Basha, 2007).

Similarly, to improve solid waste management which is precipitated by compounded poverty, rapid population growth, demising standard of living, poor governance, and low level of environmental awareness, is feasible via public awareness raising, funding, expertise, equipment and facilities as well as the provision of other fundamental facilities that are presently lacking or inadequate supplies (McAllister, 2015).

Privatization does not only reduce operating costs but also the possibilities for recycling, building new facilities including landfill, buying and operating new sites, engaging educated and skillful personnels, staff training, best practices, environmental education; and expanding the services to reach even the least fortunate ones (Murugan *et al.*, 2017).

3.5 Quality Services

Accessing quality services have always being the desire of vast majority of the customers including the state. The public sector has had some difficulties in keeping it promises to deliver timely and uninterrupted quality services due to many factors including rapid population growth in the urban areas more especially when it comes to the provision of some fundamental social service including solid waste management. To ensure citizens especially those with the purchasing power access quality services at moderate cost, states have decided either alone or with the support of some international financial institutions like the World Bank, Africa Development bank, etc. to privatize some essential social services including solid waste management and it is paying dividend as ratified by: PPP contribute to service users' getting more trust, increasing social capital, leads to special social arrangements; and enhanced not only service delivery, but to some extent, translated into service quality (Owusu-Sekyere, 2019). Privatization is beneficiary to customers in many ways including being introduced to the market forces, demonstrated in the profit motive, rivalry, more choice, greater efficiency and innovation (Hartley and Parker, 1991) as captured in Yeboah-Assiamah (2015). Privatization is a critical tool in facilitating quality and effective sanitation service provision if there are adequate mechanisms in avoiding any latent barriers.

Additionally, privatization in most cases if not in all cases happened when the public sector is unable to perform effectively, however, it does not always mean that with privatization, there can always be a significant improvement in service quality (Zafra-Gomez *et al.*, 2015).

3.6 Partnership and Community Participation

The delivery of quality and relevant social and financial services within reasonable period of time has never been an easy task for most institutions including the states especially underdeveloped ones. In view of the fact that the delivery of certain services cannot be delayed too long including solid waste management because of its negative health impacts among others, government partnering with communities and the private sectors can no longer be ignored vis-à-vis the accruing benefits as vindicated: PPP especially with the participation of the informal groups enhances livelihoods and reduces the marginalization of the poor including the dustmen while opening economic, social opportunities, climate resilience, better health; and greater political voice (Oates *et al.*, 2018). Privatization of waste management pays in many

respects namely; it result in capacity building, community participation especially via informal groups, access to finance; and needed public institution reforms (Is-haque, 2013). For any success in waste management, it is critical that public participation, integration, complex but new technologies application is embraced (McAllister, 2015).

Similarly, in certain cities where the municipal cleansing service could reach a PPP agreement, the informal groups have greatly complimented the city services by reaching even the poor communities. Thus, PPP recognition especially the informal institutions can be very effective in keeping cities sanitized and above all, can provide the platform for collective engagement with the local authority and other stakeholders (Boampong *et al.*, no date).

3.7 Health and Clean Environment

Life and health is one of the best gifts to the human race. For long, governments world over have been occupied with the provision of accessible and affordable healthcare services to its citizens. Health and clean environment are intertwined. However, with population bonanza and exponential urbanization among other things most municipalities especially in developing nations are finding it extremely difficult to live up to expectations. To make cities, towns and growth centers more habitable at reasonable cost, privatization has become inevitable and is yielding dividends as substantiated: privatization of waste management has the potentials of not only addressing the current problems facing cities such as public sector management strategies that are unsustainable, shapeless, inefficient, uncoordinated, unrepresentative, etc. but facilitates the making of cities healthy, productive and fitting place for its present inhabitants including the coming generations (Basha, 2007). Informal groups of waste pickers contribute to public health; reduce costs linked to municipal solid waste management; and heavily reduces greenhouse gas emission to the environment (Dias, 2012; Siami *et al.*, 2019). PPP in waste management is critical in numerous forms for example, it has social, environmental and fiscal benefits, improvement in the life and living conditions of waste pickers that further translate into better health, greater social inclusion while the municipal authorities and residents acquiring more efficient and cost effective services (Oates *et al.*, 2018).

3.8 Jobs Creation and Better Income

Creation of opportunities for better life is one of the cardinal responsibilities of government. However, unemployment is one of the biggest social problems in the world, the developing countries being one of the hardest smacked. Local government through municipal services including waste management has been providing some jobs especially to youths and unlettered adults. However, due to many constraints, this sector is profoundly failing calling for its privatization to ensure habitable cities while providing jobs and better income for the ordinary people and is profitable as authenticated: the participation of the private sector including informal groups in waste management pays dividend in many respects including delivering competitive recycling rates at lower costs, while increasing access to income, secured jobs, inclusion of marginalized groups, decreasing urban poverty; and enhancing climate resilience (Oates *et al.*, 2018). PPP sector pays better income and other additional incentives which is not only motivating but also keeps them in the business, etc. (Owusu-Sekyere, 2019). Private participation in the form of PPP in waste management has some additional benefits beyond its sustenance as a business venture as it contributes to the fight against joblessness, social exclusion, urban discontent, and spatial fragmentation associated with rigid labor arrangements under the neoliberal economic restructuring (Owusu-Sekyere, 2019). PPP is profitable in many ways including employment creation, income generation through waste collection, disposal and recycling contributing to poverty alleviation; and urban environmental upkeep (Bituromajani, 1999).

3.9 Elimination of Public Monopoly and Promotion of Competition

States for years have monopolized most of the social and financial services. With monopoly, options are limited if ever they exist. Thus, sometimes depriving citizens their fundamental human rights to enjoy quality and affordable social services including solid waste management even if they can provided by other institutions and they can pay for them. In the modern world, healthy competition is a key requirement both to satisfy people needs through verity of options and even to invigorate economic growth. The privatization of some services encompassing solid waste management has proven competitive while eliminating state monopoly as corroborated: PPP is viable for numerous reasons such as promoting healthy competition, reaching the poor communities with efficient and affordable services; and furthermore eliminating marginalization

and discrimination (Katusiimeh *et al.*, 2011). In addition to cost saving privatization is advantageous because it encourages competition among suppliers (Juri *et al.*, 2018). The benefits of PPP entails improved productivity, competition resulting in efficient and quality services, flexibility of management, better control, responding more effectively to consumers' needs, adoption of new technologies and management practices; and reduces pressure on municipal budget (Savas, 2000), as cited in Lalchuanawma (2019). Privatization strongly indicates elimination of public monopoly to allow non-state actors to intervene in the collection, disposal, and general management of urban waste (Lartey *et al.*, 2018).

3.10 New Technologies and Innovative Techniques

To effectively and efficiently provide relevant, accessible and affordable services, cutting-edge technologies and innovation is a must. To attain this, the public sector has been constrained a lot due to many factors such as finance and brain drain. Solid waste management like all other sectors deserves such to cope with ever increasing challenges. In view of the above, solid waste management privatization is a reasonable alternative as confirmed: privatization in waste management is critical for efficient services provision, ensuring democratic governance via decentralization of services, making the services accessible to low and middle income communities, ability to work with limited resources, access to new and modern technologies including vehicles (Basha, 2007). PPP is more adoptive to innovative ways and technologies than the municipal services (Bituromajani, 1999). For any success in waste management, it is critical that public participation, integration, complex but new technologies' applications are embraced (McAllister, 2015). Privatization does not only increase monthly earnings of employees but also their occupational safety and the recycling of waste (Oates *et al.*, 2018). Privatization equally benefits municipal council in many ways including the creation of a more robust commercial sector in the country, generation of sustainable employment; and the recovery of valuable materials from recycling activities, which can be locally used without loss of hard currency or foreign exchange (Basha, 2007). Privatization of waste management is favored for many rationales namely; political independence, economic rationality, efficiency, dynamism; and innovation (Post, 1999).

3.11 Less Bureaucracy and Prompt Acting on Concerns and Complaints

In state operation, following bureaucratic procedures is fundamental especially in making decisions to address issues including the delivery of a given service and attending to grievances. Sometimes, depending on the issues, bureaucracy can be a burden in getting things done without much delay. Solid waste in many cities is not only an eyesore but a health time bomb requiring immediate action. To minimize bureaucratic hurdles in accessing quality social services including solid waste management, privatization has made successes as sanctioned: the benefits of PPP entails improve productivity, competition resulting in efficient and quality services, flexibility of management, better control, responding more effectively to consumer needs, adoption of new technologies and management practices; and reduces pressure on municipal budget (Savas, 2000) as quoted in Lalchuanawma (2019). The private sector is not only more efficient, reliable and effective in waste management but they take complaints from customers seriously and act on them promptly (Murugan *et al.*, 2017). Privatization fails if there is poor complaint mechanism, performance measurement systems; and equally if no appropriate actions is taken against those contractors who failed to live up to expectation (Is-haque, 2013).

Public Sector Concentration on Supervision, Resources Conservation; and Protection from Risks. If government is to deliver quality and affordable services to the citizenry, it must among others, execute its supervisory roles hence it cannot do everything alone without partnership and collaboration. However, when governments especially the local government authorities are inundated with lot of things, anticipated quality services can be delayed or compromised. To give government space to execute its supervisory roles and furthermore develop the mechanisms to ensure tax payers satisfaction and money-for-value, safety at work place, environmental conservation including proper solid waste management, privatization is gaining ground as certified: the effectiveness of the privatization is largely due to being monitored by the local government authorities through appropriate institutional arrangements so that they don't temper with their promised effective and efficient services (Lartey *et al.*, 2018). For privatization to pay dividends governments must pay special attention to planning and project identification, procurement and contract management, performance monitoring, health pollution control, information services, collection and disposal, sanitary bylaws, methods of charging fees; and financial management and accounting (Post, 1999). If the private sector is

not well managed, it is likely to be affected by the problems existing in the public sector such administrative laxities, inadequate supervision, capital requirements and other associated challenges (Sujauddin *et al.*, 2008) as quoted in Yeboah-Assiamah (2015). Though some governments are heavily involved in environmental services, it is gradually shifting toward privatization as governments and associates are increasingly becoming procurers and regulators (World Trade Organization, 1998). Waste management is cumbersome in developing nations because it is not integrated, more institutions do not have clear tasks, there is no umbrella organization for supervision, coordination, etc. (McAllister, 2015).

Additionally, the social and environmental benefits of waste management privatization entails conservation of resources when materials are recovered, reduction in environmental damage from exploiting primary resources, including mining and deforestation; and the insulating of waste management activities from political patronage of civil services systems (Basha, 2007). The private sector is more efficient in waste management due to many reasons such as commercial incentives that would compel managers to look for highest possible efficiency to maximize profit while reducing possible losses from inefficiency and non-paying customers (Peters, 2008) as quoted in Yeboah-Assiamah (2015). Effective management of waste requires multidimensional approach in which issues like political or institutional, social, environmental, financial, coordination of workforce and collaboration with all relevant stakeholders are seriously considered (McAllister, 2015).

3.12 Negative Impacts of Privatization

In spite of the above discussed benefits, it has some negative impacts such as loss of jobs and/or job insecurity, inequality and discriminatory practices, monopolization, corrupt practices in public sector, public sector loss of experts, indiscriminate dumping, delay in waste collection, environmental degradation; and undermining public sector as authenticated by some stanch findings as encapsulated underneath.

Loss of Jobs and/or Job Insecurity: the privatization of waste management impacts include displacement of waste pickers from their work, elimination of junk dealing business in town since dealers purchase waste from pickers and resale it to either specialized dealers or reprocessing factories directly, reducing the opportunities of reprocessors to get waste at a cheaper rate since a number of junk dealers are out of business, reduction in waste picking and

recycling, etc. (Wihresourcegroup, 2010). With privatization of waste management, many waste pickers are left jobless especially those without needed skills and experiences (Oates *et al.*, 2018). Privatization of waste management affects the lives and living conditions of dustmen and people living around the dump sites since a number of them depend on selling plastic bags, paper; and handicrafts from the sites, pigs feeding on waste food and organic garbage that are slaughterhouses, etc. (Fahmi *et al.*, 2010). People opposed the privatization of waste management because they believed that with such, the waste pickers and those living around dumping sites are likely to be driven away, although they agreed it can help keep cities clean (Fahmi *et al.*, 2010).

Inequality and Discriminatory Practices: with privatization, the principle of the ability-to-pay is likely to exclude those who cannot pay, get rid of unprofitable ventures; and those that compromised services for profit making (Post, 1999). The private companies only serve the rich communities excluding the poor ones that are mostly served by the public sector despite offering inadequate qualities (Katusiimeh *et al.*, 2011). Waste privatization has come to mean the right to exclude others from working and as such privatization needs to be revisited to avoid conceptualizing it as coming to make cities clean a formula strongly held in the private sector rather than developing and improving disposal facilities (Wihresourcegroup, 2010).

Privatization of waste management increases social inequality as companies are only willing to offer services to those communities that can afford to pay for the service while those who cannot are left in poor sanitary conditions and associated problems as it is the case in Dar Es Salaam, Tanzania (Niekerk *et al.*, 2019). The negative impacts of the privatization include weakening the public sector and its inability to ensure social equality, it subordinates broader public goods resulting in long term ecological and cultural values, to commercial imperatives, high cost due to private firms wanting to make commercial returns in the nature of profits, dividends, rents and/or interest (Dorvil, 2007) as cited in Lalchuanawma (2019). With charging fee privatization may not be appropriate for all communities especially those with low income and high illiteracy rate hence, the classification of the communities into first, second; and third class for effective implementation of the pay scheme (Lartey *et al.*, 2018).

The private sector provides better services; their customers are more please but are mainly for the rich communities (Katusiimeh *et al.*, 2011). Privatization of waste management is mostly

appropriate for communities where literacy rate is high as they can be easily sensitized to the importance of public health and sanitation (Lartey *et al.*, 2018).

Monopolization: with privatization, it is likely that only the big companies will be contracted, gradually weakening the smaller ones and furthermore forcing their employees to go and look for new jobs (Fahmi *et al.*, 2010).

Corrupt Practices in Public Sector: privatization can result in government losing some of their experts, service monopolization to the point that some inhabitants may not have any other reasonable alternatives; and corrupt practices especially by paying bribes to public servants who eventually failed in their supervisory, monitoring and evaluation functions (Is-haque, 2013). Patronage in the term of selecting contractor is a danger of private participation in contractual duties more especially in waste management (Basha, 2007).

Public Sector Loss of Experts: privatization can negatively affect local government authorities in many forms including communities via undermining municipalities abilities to take back services after the expiration of contracts because they would have taken all the experts, poor and ordinary people as they are hardly empowered to take up community jobs as they were often regarded as beneficiaries instead of being participants or stakeholders (Green, 2003; Is-haque, 2013).

Indiscriminate Dumping: in Kampala, Uganda, where waste management is mainly dominated by the municipalities that are financially constrained, most communities are not served resulting in the engagement of the informal waste collectors who sometimes indiscriminately dump the waste because the dumping sites are too far especially when no authority is watching (Katusiimeh *et al.*, 2011). **Delay in Waste Collection:** sometimes private waste collectors do not collect waste leaving filled up waste containers in the communities leading to poor state sanitation which sometimes is due to dumping sites being far, etc. (Lartey *et al.*, 2018).

Environmental Degradation: privatization of waste management needs supervision to prevent monopoly, corruption, inequity, environmental degradation; and political creed manipulation (Burgess *et al.*, 1997) as cited in Post (1999). Private sector companies are feared for exploiting their workers due to low pay, unacceptable working conditions, low or decline in working standards, environmental degradation; and the possibility of monopoly since only big

companies will bid for the service resulting in high prices (Cointreau-Levine & Coad, 2000) as lamented in Lalchuanawma (2019).

Undermining Public Sector: privatization result in undermining the objectives of minimizing waste, taking government powers of controlling the pricing of services, government and local government authorities to rescue poor performing companies hindering their efforts in delivering other needed services, escalating fees to a point that after the contract they cannot be lowered down, and in certain instances the services provided by private companies are sometimes worse (Anderson, 2011).

3.13 Challenges of Solid Waste Management Privatization

Privatization of solid waste management like any other adventure is confronted with lot of obstacles namely: inadequate public sector support, sustainability, inadequate popularity, unsafe environment and inadequate political support, boosting recycling rates, trade union opposition, poor public infrastructures, lack of transparency, market imperfection, delayed or nonpayment of fee, public sector inadequate comprehension of privatization models, limited access to critical public services; and urban poverty.

Inadequate Public Sector Support: privatization pays dividends if the fees are realistic and affordable, the public is sensitized, universal tax rate and tax rebate is introduce and maintain, timely prosecution of defaulters without political interference, establishment of functioning performance and complaint structures, capacity building of municipal units charge with monitoring and evaluating companies (Is-haque, 2013;).

Sustainability: though privatization has resulted in substantial cleanliness of the city, its financial sustainability is not clear as it remains unclear whether the private companies will be able to generate required profits to offset the cost (Riujilohri, 2014). Privatization becomes unsustainable especially when the operational and maintenance costs are very high particularly when a state or municipality does not provide subsidies to support struggling companies (Is-haque, 2013). Privatization of waste management can become unsustainable or even failed if the waste collection fee is not fixed with the active participation of all relevant stakeholders, (Is-haque, 2013). Though privatization has resulted in substantial cleanliness of the city, its financial sustainability is not clear as it remains unclear whether the private companies will be able to generate required profits to offset the cost (Riujilohri, 2014).

Inadequate Popularity: privatization challenges includes being a new concepts in many developing countries, women participation as contractors is very low, companies can ease to functions because of some difficulties. However, those who had stopped because of problems are coming back (Basha, 2007). People are still skeptical over privatization as a solution (Johnson *et al.*, 2000). Some respondents are not pleased with privatization because of the associated high tariff and profit motive (Murugan *et al.*, 2017).

Unsafe Environment and Inadequate Political Support: some of the challenges of privatization include lack of political support, workers sometimes working in unfriendly environment, without protective clothing, disease organisms, sharp objects, lack of protective equipment, dangerous hospital waste, liquid waste from baby diapers, increased risk of infection, lack of respect, job being heavy and difficult, it can make one older than his or her real age, etc. (Owusu-Sekyere, 2019). Full privatization does not necessarily means achieving full efficiency and sometimes leads to environmental pollution and promotes inequality simply due to low monitoring quality of operators, monopolistic nature of the operation; and low level of payment by the low income communities (Basha, 2007). Boosting Recycling Rates: challenges include low recycling rates, loss of jobs, companies are profit-driven; and penalizing small companies (NSWMA, no date).

Trade Unions Opposition: other challenges includes excessive profits for companies, trade union opposition due to political belief, fear of losing certain benefits, high work discipline in the private sector which limits their opportunities to be engaged in other small jobs in the informal sectors that supplement their income (Coad, 2005) as quoted in Lalchuanawma (2019).

Corruption: privatization is challenged by corruption, political patronage, inadequate political commitments, lack of bylaws to enforce fee payment, lack of adequate state coordination (Basha, 2007). Poor Public Infrastructures: private companies are highly challenged by bad infrastructures that are not within their power such as roads that cause series of damages to their vehicles (Riujilohri, 2014).

Lack of Transparency: the private sector like the public sector is highly hampered by corrupt practices and lack of transparency especially when it comes to awarding contracts (Katusiimeh *et al.*, 2011). Like the public sector, the private sector is equally a victim of corruption and lack transparency (Katusiimeh *et al.*, 2011). Transparency is sometimes a challenge in private waste

management especially when a company has taken many loans and lacks adequate records to indicate for which each loan is used for (Riujilohri, 2014).

Inadequate planning: privatization is challenge by many factors namely, unforeseen problems at the start of work due to lack of experience, inefficiency, job insecurity, lower quality operation, monopoly, corruption, profit driven services, being unsuitable for low income earning communities, etc. (Basha, 2007).

Market Imperfection: the challenges of waste management privatization include the economics of market imperfection, politics of cooperation, cumbersome nature of the processes of organizational decision, principal-agent relationship, etc. (Domfeh, 2002) as quoted in Yeboah-Assiamah (2015).

Delayed or Nonpayment of Fee: private companies sometimes do not want to work with the public sector via contract because they fear the risks of nonpayment or delays in payments and as such they would prefer to work independently collecting their charges (Post, 1999). The success of PPP can be threaten by many factors such as one stakeholder failing to deliver, lack of capacities to honor one's obligations, contractors failing to regularly deliver quality services; and nonpayment of fees (Oteng-Ababio *et al.*, 2010).

Public Sector Inadequate Comprehension of Privatization Models: privatization of waste management though good in some cases especially in the third world it is hurried, ill thought-out, mostly based on advanced countries models requiring completely different technical, financial; and organizational framework (Africa Development Bank, 2002).

Limited Access to Critical Public Services: a critical concern with privatization is, it can limit public access to certain services because they are not provided for due to the fact that they are not profitable (Zafra-Gomez *et al.*, 2015). Urban Poverty: the fact that there are many communities living below the poverty line within big cities, it poses great challenges for privatization (Rosana *et al.*, 2013).

4. CONCLUSION

The privatization of solid waste management in conjunction with proper public sector supervision has ushered in whopping benefits which include but not restricted to: effectiveness, cost saving, timely service delivery, access to funding and expansion, quality services, partnership and community participation, clean and healthy environment, jobs creation and

better income, elimination of public monopoly and promotion of competition, new technologies and innovative techniques, public sector concentration on supervision; resources conservation and protection from risks; and less bureaucracy and prompt acting on concerns and complaints.

However, it must be noted that the partnership is not without negative impacts and challenges immune. While the negative impacts include loss of jobs and/or job insecurity, inequality and discriminatory practices, monopolization, corrupt practices in public sector, public sector loss of experts, indiscriminate dumping, delay in waste collection, environmental degradation; and undermining public sector, the challenges encompasses: inadequate public sector support, sustainability, inadequate popularity, unsafe environment and inadequate political support, boosting recycling rates, trade union opposition, poor public infrastructures, lack of transparency, market imperfection, delay or nonpayment of fee, public sector inadequate comprehension of privatization models, limited access to critical public services; and urban poverty.

REFERENCES

- Adam, S.U. *et al.* 2014. Determinants of Privatized Solid Waste Management Service Provision in Lagos. <https://www.tandfonline.com/doi/abs/10.1080/09640568.2014.962126>.
- Africa Development Bank. 2002. Study on Solid Waste Management Options for Africa. https://sswm.info/sites/default/files/reference_attachments/AFRICAN%20DEVELOPMENT%20BANK%202002%20Study%20on%20Solid%20Waste%20Management%20Options%20for%20Africa.pdf.
- Anand, P.B. 1999. Waste Management in Madras Revisited. <https://journals.sagepub.com/doi/pdf/10.1177/095624789901100214>.
- Anderson, B. 2011. Privatization A Formula for Provision or Perversion of Municipal Solid Waste Management? https://www.indiawaterportal.org/sites/indiawaterportal.org/files/PrivatisationMunicipal%20Solid%20Waste%20Management_Brooks_Anderson_2011.pdf.
- Basha, T. 2007. 2Is Privatization an Option for a Better Municipal Solid Waste Management of Addis Ababa? https://Www.Academia.Edu/3789428/Is_Privatization_An_Option_For_A_Better_Municipal_Solid_Waste_Management_Of_Addis_Ababa.
- Bennett, E. 1998. Public-Private Cooperation in the Delivery of Urban Infrastructure Services. Yale/UNDP Public Private Partnership Program.

- Bituromajani, F. 1999. Innovative Ways for Solid Waste Management in Dar-Es-Salaam: Toward Stakeholder Partnerships. <https://www.sciencedirect.com/science/article/abs/pii/S0197397598000575?via%3Dihub>.
- Boampong, O. *et al.* no date. Informal Operators in Waste Management in Accra, Ghana: From Neglect to Recognition? https://www.academia.edu/39211419/Informal_Operators_in_Waste_Management_in_Accra_Ghana_From_Neglect_to_Recognition
- Boateng, K.S. *et al.* 2019. Household Willingness-to-Pay for Improved Solid Waste Management Services in Four Major Metropolitan Cities in Ghana. <http://downloads.hindawi.com/journals/jep/2019/5468381.pdf>.
- Campanella, D. 2015. More Headaches than It's Worth Assessing Privatized and Semi-Privatized Waste Collection. <https://www.policyalternatives.ca/sites/default/files/uploads/publications/Ontario%20Office/2015/06/CCPA-ON%20More%20Headaches%20than%20it%27s%20Worth.pdf>.
- Dias S. 2012. Waste and Development-Perspectives from the Ground. <https://journals.openedition.org/factsreports/1615>.
- Fahmi, W. *et al* 2010. Cairo's Contested Garbage: Sustainable Solid Waste Management and the Zabaleen's Right to the City. <https://www.mdpi.com/2071-1050/2/6/1765>.
- Germa, B. *et al.* 2008. Does privatization of solid waste and water services reduce costs? A review of empirical studies. http://www.ub.edu/gim/articles%20web_/2008/4_belwarner_RCR.pdf.
- Harris, N. 1990. Environmental Issues in the Cities of the Developing World. Working Paper No. 20. Development Planning Unit, University College London.
- Is-haque, I. 2013. Sustainable private sector solid waste collection & transportation. The case of Kwesimintsim, STMA, Ghana. https://www.academia.edu/41044484/MSc_Programme_in_Urban_Management_and_Development_Title_Sustainable_private_sector_solid_waste_collection_and_transportation_The_case_of_Kwesimintsim_STMA_Ghana_Name_Ismaila_Ibn_Is_haque.
- Johnson, H. *et al.* 2000. Institutional sustainability: 'community' and waste management in Zimbabwe. <https://www.sciencedirect.com/science/article/abs/pii/S0016328799000993?via%3Dihub>.
- Juri, D. *et al.* 2018. Reverse Privatization as a Reaction to the Competitive Environment: Evidence from Solid Waste Collection in Germany ESMT. Working Paper No. 18-02. Available at SSRN. <https://ssrn.com/abstract=3168551> or https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3168551 [23 April 2018].
- Kasarda J.D and Parnell A.M. (eds). Third World Cities: Problems, Policies and Prospects, Sage Publications, London, 1993.

- Katusiimeh, M. W. *et al.* 2011. The operations and effectiveness of public and private provision of solid waste collection services in Kampala. https://www.academia.edu/13328535/The_operations_and_effectiveness_of_public_and_private_provision_of_solid_waste_collection_services_in_Kampala
- Lalchuanawma, H. C. 2019. Public Private Partnership and Solid Waste Management in Urban Aizawl. L. 14-24. https://www.researchgate.net/publication/330740706_Public_Private_Partnership_and_Solid_Waste_Management_in_Urban_Aizawl.
- Lartey, E. *et al.* 2018. Urban Sanitation: Optimizing Private Sector Involvement. 10.1007/978-3-319-31816-5_3552-1. https://www.researchgate.net/publication/322721001_Urban_Sanitation_Optimizing_Private_Sector_Involvement.
- McAllister, J. 2015. Factors Influencing Solid-Waste Management in the Developing World. <https://digitalcommons.usu.edu/gradreports/528>. <https://digitalcommons.usu.edu/cgi/viewcontent.cgi?article=1537&context=gradreports>.
- McGeeand T.G. and Yeung Y.M. 1986. Community Participation in Delivering Urban Services in Asia, Ottawa, ON: IDRC Press.
- Mehta, D. and M. Mehta.1994. Privatization of Municipal Services in India. *The Urban Age*. 2(4) October.
- Murugan *et al.* 2017. Investigation on The Perception towards Privatization of Solid Waste management and Preference of Financial Model Tha. <http://recentscientific.com/sites/default/files/6967.pdf>
- Niekerk, S.V. *et al.* 2019. Municipal Solid Waste Management Services in Africa. https://www.world-psi.org/sites/default/files/documents/research/waste_management_in_africa_2018_final_dc_without_highlights_2019.pdf
- NSWMA. no date. Privatization: Saving Money, Maximizing Efficiency & Achieving Other Benefits in Solid Waste Collection, Disposal, Recycling.
- Oates, L. *et al.* 2018. Reduced waste and improved livelihoods for all: Lessons on waste management from Ahmedabad, India. https://newclimateeconomy.report/workingpapers/wp-content/uploads/sites/5/2018/09/CUT18_Leeds_Waste_Final-1.pdf.
- Oteng-Ababio, *et al.* 2010. Private sector involvement in solid waste management in the Greater Accra Metropolitan Area in Ghana. <https://journals.sagepub.com/doi/abs/10.1177/0734242x09350247>.
- Owusu-Sekyere, E. 2019. Creative individuals, “Kaya Bola” Exceptionalism and Sustainable Development in Twenty-First Century Ghana. *J Glob Entrepr Res*. 9(54). doi:10.1186/s40497-019-0177-z. <https://journal-jger.springeropen.com/track/pdf/10.1186/s40497-019-0177-z>.

- Post, J. 1999. The Problems and Potentials of Privatizing Solid Waste Management in Kumasi, Ghana.
- Poluakan, L. C., Purwaningrum, P., Indrawati, D. 2018. Environmental Risk Considerations in the Development of Solid Waste Facility: Case Study Rawa Kucing Solid Waste Facility, Tangerang City. *Indonesian Journal of Urban and Environmental Technology* 1(2): 124-136 DOI : 10.25105/urbanenvirotech.v1i2.2822.
- Riujilohri, C. 2014. Financial sustainability in municipal solid waste management – Costs and revenues in Bahir Dar, Ethiopia. <https://www.sciencedirect.com/science/article/pii/S0956053X1300500X>.
- Rosana, D.D. *et al.* 2013. Privatization of Solid Waste Management Service: Practices in Developing Countries. <https://edepot.wur.nl/255815>.
- Siami, L., Sotiyorini, T., Janah, N. 2019. Municipal Solid Waste Quantification And Characterization In Banyuwangi, Indonesia. *Indonesian Journal of Urban and Environmental Technology* 2 (2): 189-200. DOI :10.25105/urbanenvirotech.v0i0.4359.
- UNCHS. 1985. The Role of Small and Intermediate Settlements in National Development, Nairobi,
- UNCHS. 1998. Infrastructure Privatization in East Africa. Research Report, Nairobi Kenya.
- Wihresourcegroup. 2010. The Impact of Privatization of Solid Waste Collection and Transportation in Delhi: The Impact on the informal Recycling Sector. <https://wihresourcegroup.wordpress.com/tag/the-impact-of-privatization-of-solid-waste-collection-and-transportation-in-delhi-the-impact-on-the-informal-recycling-sector/>.
- World Trade Organization. 1998. Environmental Services. https://docs.wto.org/dol2fe/Pages/FE_Search/FE_S_S009-DP.aspx?language=E&CatalogueIdList=108652,64978,66325,72342,39101,33912&CurrentCatalogueIdIndex=5&FullTextHash=&HasEnglishRecord=True&HasFrenchRecord=True&HasSpanishRecord=True.
- Yeboah-Assiamah, E. 2015. Involvement of Private Actors in The Provision of Urban Sanitation Services; Potential Challenges and Precautions. *Management of Environmental Quality: An International Journal*. 26: 270-287. 10.1108/MEQ-08-2014-0130. https://www.researchgate.net/publication/276377520_Involvement_of_private_actors_in_the_provision_of_urban_sanitation_services_potential_challenges_and_precautions.
- Zafra-Gomez, J.L. *et al.* 2015. Privatization of Waste Collection Services in Response to Fiscal Stress in Times of Crisis. <https://journals.sagepub.com/doi/10.1177/0042098015586697>.