



Public-Private Partnerships in Urban Solid Waste Management: Assessing the 'Enabling' and 'Constraining Factors' in Developing Countries

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ARTICLE INFO

Article history:

Received: 27 June 2019;

Received in revised form:
17 July 2019;

Accepted: 29 July 2019;

Keywords

Public-Private Partnership,
Solid Waste Management,
Cities,
Sanitation,
Developing Countries,
Effectiveness.

ABSTRACT

This study discusses the rationale for public-private partnerships (PPP) in the management of urban solid waste (SWM) as well as the conditioning factors (both enhancers and impediments) to the success of PPPs in developing countries. The study adopted the desk review approach largely depending on published and unpublished journal articles and other relevant policy documents on PPP and SWM. The paper argues that three key phases of PPP processes should be seen as closely interlinked and public officials need to demonstrate tactfulness in the processes. The study noted that constraining or limiting factors that affect PPPs in sanitation services of developing countries include *secrecy in contracts, inexperienced technical staff and bad faith of local policy elites, poor engagement and inadequate consultation*. The study concludes that while PPPs could provide opportunities for harnessing the comparative advantages of both the private sector, PPP should not be regarded as the panacea if adequate measures are not instituted. The paper argues that city authorities need to adopt a prudent approach in their dealings with the private sector towards PPP in solid waste management. Whilst transparency and fair competition in the *pre-contract phase*, tactfulness and good faith in the *contract phase* are critical, the regulatory role of the public agency is very crucial in all three phases, especially the *post contract phase* to check the potential excesses and inertia that could engulf the private partner upon given the contract. The study posits that the efficacy of PPP in solid waste management revolves around competitive procurement process; well-organized private sector; availability of competent and loyal personnel to facilitate or champion fair PPP brokerage and good governance devoid of bad faith on the part of public officials and private actors.

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1. Introduction

For almost four decades, the idea of networks in the provision of public services has become more widespread in both developed and developing countries (Mohan et al., 2016; Marconsin & dos Santos, 2013). Such paradigm shift has led to a concomitant institutional reforms in governance activities, especially how it collaborates and executes with the non-state sector (Selsky & Parker, 2005; Alter & Hage, 1993). A classical aspect of collaboration involves partnerships among three key societal sectors – state, private sector, and civil society (Ahmed & Ali, 2006). An overarching rationale underpinning such engagements has been to address social issues and better the lot of citizens (Selsky & Parker, 2005; Stone, 2000). According to Selsky & Parker (2005), such cross-sector partnerships vary in a great shape, form, scope, size and objectives all in the umbrella name of 'public-private partnership'.

Public-private partnership involves an established form of collaboration between public and private actors who agree to operate together towards the realization of set targets upon their own terms collectively agreed on (Nijkamp et al., 2002). The idea of PPP does hinge on collaboration, joint efforts and leveraging the strengths of both public and private entities towards the realization of public goods and services to achieve societal welfare (Pongsiri, 2002; Nijkamp et al., 2002).

Especially in the African context, public-private partnership has become the most preferred module following the experiences with exclusive public sector service provision in the immediate post-independence era. The idea of collaboration between public and private partners is more preferable in situations where (1) the traditional approach of operating independently may pose a limited impact on the issue or situation; (2) the specific desired goals can be agreed on by potential collaborators; (3) there is relevant complementary expertise in both sectors; (4) the long-term interests of each sector could be realized; and the (5) contributions of expertise of the different sectors are reasonably balanced (Linder, 2000). This makes urban solid waste management a good candidate for public-private partnerships.

The idea of PPP has become a stock in trade for managing solid waste management in developing countries. In other words, many local governments have entered into various PPP agreements with the private sector. Although theoretically, PPP promises to come with major breakthrough in waste management and effective sanitation service delivery, the actual practice and experiences in developing countries provide mixed and mostly gloomy results in the developing African countries context. The main objective of this paper is to discuss the theoretical overview of PPPs with

emphasis on 'enabling' and 'constraining' factors that underlie PPP in solid waste management.

The paper is divided into five key sections. Section 1 presents the introduction and background; section 2 discusses the methodology for the study; section 3 discusses the rationale and factors that enable successful PPP frameworks; section 4 discusses major debacles or challenges that constrain PPPs in SWM. The final section of the paper provides useful conclusions and implications for public policy and research.

2. Research approach

The study is largely a desk review of country studies on PPP that are relevant to solid waste management. The researcher relied heavily on both theoretical and empirical literature on PPP and SWM in the developing world. However, lessons were drawn from the advanced country context. The desk review began with searching for relevant literature on PPP and SWM. Key search phrases were keyed into search engines available to the researcher. In this pursuit, several search phrases were keyed to generate a greater pool of research articles which were sorted out for relevance. The research initially glanced through the titles, their abstracts to select those that will be read thoroughly. Those selected were later read thoroughly to ascertain the enabling and constraining factors affecting PPP and SWM.

3. Discussion: Rationale for PPP

Countries in Africa mostly hailed nationalization as equivalent to independence and so the state manifested itself in all sectors of the economy in the early years of independence especially in the 1960s (Kayizzi-Mugerwa, 2013). Many governments embarked on state owned enterprise and state provision of services including sanitation. It however occurred that state provision of goods and services appeared unsustainable owing to the burgeoning rates of corruption and debt accumulations from public enterprises. The alternate was privatization; however, the literature intimates that privatization neither brought about any significant cutbacks in national debts, nor did the private sector exhibit any monumental prowess in management and service provision (Broadbent & Laughlin, 2003; Leitch & Motion, 2003).

More so, the private sector which had been perceived to come on board to revamp public service provision and to serve the citizenry better rather used that avenue as profit reaping venture (Williamson, 1979). Williamson (1979:234) explains that the private sector's involvement in public services delivery brings out several concerns related to unscrupulousness; "self-interest seeking with guile", corruption and exploitative tendencies. Experiences with the two extremes (both exclusive public provision and private provision) reveal that either of them could not provide effective and efficient services, but could be more productive by harnessing the strengths of each other through partnerships.

It is within such context that scholars maintain that PPPs have become pervasive in developing countries because of (1) the need to develop the performance of the public sector through innovation and injection of maintenance approach; (2) decreasing and stabilizing costs of service provision; (3) improving environmental protection by ensuring compliance with environmental requirements; (4) reinforcing competition; and (5) reducing government budgetary constraints by accessing private capital for infrastructure investments (Miller, 2000; Savas, 2000). The idea is that the

two come together in a collaborative manner where an institutionalized framework binds both parties together towards execution of a shared interest, task or project (Geddes & Wagner, 2013). For instance, as Spiller (2008:21) puts it, PPP arrangements result in an "individualized regulatory framework for the investments at hand" which confines both governmental and private sector desires for opportunistic tendencies.

4. Critical success factors

From the above conceptualization, PPP promises to advance a solid waste management model that reduces the excesses associated with exclusive public or private sector sanitation service provisioning. However, advancing this course greatly hinges on key enabling factors or critical success factors without which there will be no take-off (Geddes & Wagner, 2013) to produce appreciable sanitation outcomes. In this paper, PPP critical success is conceptualized to hinge on three important project phases; the *pre-contract phase*; *contract phase* and *post-contract phase*.

Pre-contract phase

Openness and transparency

In the pre-contract phase, the government entity or local authority needs to open up the negotiation space as transparent as possible and to inject much competition by opening up and communicating enough for more bidders to apply. Information is important and needs to be communicated using legitimate public outlets to reach to broader potential bidders. The idea of rampant sole sourcing which appears to have become 'a ritual' in the Ghanaian context leaves much to be desired. Activities that occur at the pre-contract phase largely determine the extent of transparency or public interest the entire PPP contract seeks to execute. The quality of PPP contract process is determined by perusing the terms of the contract with the private partners; the openness of the bidding process and the contract procedure; the extent to which civil society organizations were given fair hearing on the issue; what necessitated the process; among others (OECD, 2010).

This is against a backdrop that without such openness the public interest and support becomes damaged because without competitive pressure, prices become detached from the production costs and the final users are implicitly or explicitly going to bear the cost (Bajari et al., 2006). A basic principle is to make the entire process as open as possible; provide adequate information and also allow reasonably qualified bidders to participate in a competitive manner. It is based on this approach that the right private partner with requisite resources and cost effectiveness could be selected to execute the task to benefit the greater majority of the citizenry.

Contract phase

Structural conditions

First and foremost, it should be reckoned that PPP involves legalities as the framework imposes responsibilities, tasks and benefits on both public and private partners. This is stated in the partnership deed and an overall policy framework stating the terms and conditions. The literature posits that such partnerships are accomplished through various forms of agreements, contracts and legal processes that tend to structure the relationships and mutual benefits in clear terms (Pongsiri, 2002; Milliman & Grosskopf, 2004).

From the point above, the institutional framework provides the initial springboard upon which the actors know what to do at what time and how to act within the parameters

of allowable space (Da Zhu et al., 2008). This should be carried out very well with all the tactfulness and effectiveness it deserves. The selection of a particular private actor over competitors should largely be based on cost-benefit analysis and value-for-money basis as well as other reasonably stated criteria and not on personal or patronage consideration (Obirih-Opareh & Post, 2002).

Tactfulness in the PPP process

In waste management there has been over sensationalism on the prowess of the private sector to bring about effective improvement in waste management (Zhang et al., 2010). Although true, private sector engagement in waste management will only yield appreciable results if the public agencies apply sound technical, ethical and managerial competencies in their dealings or engagement with the private sector. For instance, using a Lebanese PPP case, Zhang et al. (2010:428) intimate "lessons learned...suggest that PPPs must begin with careful groundwork and preparation, including a comprehensive feasibility study and economic evaluation for each potential partnership project.

Capacity of the human resources at the local government level need to be trained and developed or engage a trustworthy consultant to broker the deal otherwise the private sector which is more sophisticated with technical men and women would use technical details to make the contract zero-sum gain in their favour. This is because most local government staff in many developing countries does not have the appropriate expertise and experience with regards to executing and negotiating public-private partnership agreements.

The idea of collaboration and partnership is premised on the expectations of interdependence and individual excellence (that is, complementarity of assets and skills-based). In that regard, imbalanced skill-sets and unequal appreciation of issues due to poor expertise are recipes for failing PPPs in the developing world (Hagen, 2002)

Roles and responsibilities

When all actors or stakeholders in sanitation management carry out their role effectively, PPP in SWM would be more effective and wastes would no longer be regarded as 'wastes' but seen as resources (UNEP, 2001). It is against such backdrop that UNEP (2001) intimates that promoting effectiveness in SWM PPP requires each actor carrying out their own roles and responsibilities as effective as possible. In other words, the public agency should continue to provide the necessary enabling and regulatory environment giving full support to the private actors when the need arises.

The private actors, on the other hand, need to put in place the mechanisms and procedures for effectively collecting, transporting and managing waste, especially, recycling them in a more environmentally friendly manner. According to Reddy & Srinivas (2009), understanding the role of actors is critical to devising and adopting the best solution in quality service provision.

Resources

The idea of PPP requires adequate resources such as finance, human resources, equipment, vehicles and technology in order to step up the process of effective SWM. Accordingly, it is only reasonable to select private partners who have the requisite resources to execute the task. For instance, they should have the necessary technical people and experience, requisite technology, and financial resources to provide appreciable sanitation service when given the opportunity (Awortwi, 2004).

The public partners on the other hand require adequate and qualified managerial and technical competencies to be able to negotiate a good PPP deal (Plummer, 2013) and to avoid partnership or negotiation errors which mostly characterize bureaucrats of developing countries.

Risk arrangements

Investments which would involve infrastructure and large capital expenditure necessarily come with various potential risks to the stakeholders or partners involved (Marques & Berg, 2011). For example, in the sanitation and waste management sector, the risks largely hinge on production risks (environmental, operational and technological risks), commercial risks (demand and capacity risks) and context risks (regulation and public contestation risks). In the PPP contracting process, the public agency (city authority) needs to ascertain such potential risks and factor these because private partners will not be prepared to accept risks which appear insurmountable or unmanageable (Acerete et al., 2009). The public sector should not be in haste to absorb all the risks because it is largely risk transfer underlying the economics of 'value for money' and clearly the appropriation of risks to the private sector which makes PPP more pragmatic for the public sector.

It is very crucial for city authorities to develop a risk matrix to ascertain how the different tender documents seek to apportion various potential risks inherent in the PPP project. Such 'risks allocation' perusal is very crucial for comparing which bidder is more eligible as well as to prevent any ambiguity and misinterpretations in the future when contract had already been entered into. In their assessment of risks allocation of PPP in solid waste management in Portugal, da Cruz et al. (2013) observed that the tender documents never significantly allotted risks to the private partners but to the public sector and citizenry at large. The authors also noted that the partnership provisions or deeds appeared over protected the private actors mostly pushing all potential risks and liabilities to the public.

Post-contract phase

Monitoring and supervision

A major requirement for realizing the objectives of SWM partnerships yet largely glossed over is a final phase of regulating the private actor engaged in service provision. People mostly tend to view the private sector as largely noble which have the public or citizens interest at heart; but this has proven to be a fallacy as poor monitoring and supervision leads to corruption and abuse of customers (Domfeh, 2002). In order to make sure appreciable standards at the pre-contract stage as well as targets set at the contract phase of the partnership deed are adhered to, a framework of incentives and sanctions needs to be devised. More importantly, the targets pertaining to quality standards and effectiveness need to be adequately monitored by the public authority that must determine the degree of achievement and apply sanctions whenever needed.

According to Stiglitz & Wallsten (1999), the degree of appreciable performance could be measured through an output-oriented model using indicators such as coverage, percentage of waste recycled, number of complaints and addressal systems, among others. The authors maintain that it is important for local authorities or public actors to protect consumers or citizens' interest by adequately monitoring and bringing the private provider to order. The above notwithstanding, as part of best practice, the public agency should not be seen to be rowing in the contract management

but needs to act as informed owners without interfering in the day-to-day management (OECD, 2010).

Standards and accountability

The private sector, when left without checks, may lower standards to reap off more profits (Miller, 2000). In that regard, city authorities or public agency need to maintain standards and monitor environmental or product safety, efficacy and quality in a manner where customers obtain reasonable access to services they so desire. Put differently, the idea of PPP does not suggest 'no government' but government or public entity assumes a new role. It emphasizes the establishment of transparency, accountability and sound regulatory framework as a necessary precursor to private sector participation in a PPP (Pongsiri, 2002; Diaz, 2016).

5. Challenges/constraining factors

This section discusses the key constraints that serve as impediments to effective execution of solid waste using public-private partnership. The PPP process has been fraught with numerous challenges including: the long-term planning horizon; the complexity of major projects; the hold-up problem caused by a change in the position of partners; a technocratic implementation and cultural differences between private and public partners (Nijkamp et al., 2002; Scharle, 2002).

The idea is that, by discussing these challenges, lessons could be learnt to adopt appropriate local and contextually relevant measures.

Secrecy in contracts

There have been several calls on public agencies or local governments to demonstrate adequate openness and transparency in the PPP contracting process. However, most PPP in SWM are shrouded in secrecy and the opportunity mostly tends to be given to a favoured private partner at the expense of fair competition. For instance, Awortwi (2004) observes that most of the PPP contract processes carried out in Ghana appeared to have been done through sole sourcing with processes micro-managed by politicians. As and when society develops and more companies' spring up, one would expect more open and competitive tendering and bidding processes.

However, the trend of sole sourcing appears to still take center stage in the award of PPP contracts in SWM at the local level of developing countries. What appears worse of it all is that, there is mostly the lack of transparency in contracting the solid waste management services as well as poor initial viability and feasibility work for any of the PPP agreements which in most cases end up not bringing any new development to the sanitation situation (Fobil et al., 2008).

Inexperienced technical staff

The expertise and experience of large private companies put them far ahead when it comes to contracting processes, the legalities and the technicalities. This should have required a correspondingly vibrant public sector staff to transact in the public interest. However, most local government officials in developing countries such as Ghana are inexperienced in PPP contracting which renders many contracts between local governments and private actors often inadequate in technical specifications, performance monitoring and penalties for poor performance. It is within such context that Jefferies et al. (2002) argue that a well-organized public sector with a functional technical staff and system is very crucial in PPP brokerage and processes.

Poor preparation

The extent to which a PPP contract will be effective largely depends on terms of the contract, sanctions and liabilities that are enshrined. It therefore requires technical know-how and competence to forecast any possible liability and the appropriate clauses to put in place or to read bidding/tender documents and make sense out of them. However, this is also the stage where those who negotiate on behalf of the public sector (local government staff) mostly go into these processes without adequate information and knowledge to understand the technical details (Plummer, 2013). The private sector, on the hand, is very sophisticated in terms of expertise and experience.

This point has been underscored by da Cruz et al. (2013) who use PPP cases from Portugal to argue that in most cases, when it comes to PPP in the sanitation sector, construction companies or their specialized sub-holdings often are the private entities in PPP arrangements and are powerful with various degrees of skill-set and personnel. These brokers often seem to be far more prepared to enter into PPP agreements than the local policy elites (Massoud et al., 2003). This foregoing point has been intimated by Zougari (2003) that PPPs often become mired in challenges because of hurriedly prepared tender documents and the negotiations seem to take place between asymmetrically qualified and experienced professionals, largely to the benefit of the brokers/side from the public sector.

Furthermore, some of these powerful private companies wield a strong political influence upon local governments and could easily bulldoze their way around. It is therefore not quite surprising that most PPP for SWM contracts mostly end up pushing all the risks to the public partner and people.

Bad faith of local policy elites

At other times, these laxities in contract process may not be borne out of poor knowledge or preparation for the process but emanates from bad-faith and purely calculated attempts to reap off the public sector for private gains. This could be an orchestrated collusion between public officials and private entities to create conditions for further or future mutual benefit at the detriment of the state. For instance, a study of SWM PPPs in Accra and Kumasi by Awortwi (2004) points out that a closer assessment of contract documents brings to the fore that the city authorities transferred to the private partners little or no financial risk and these partners at times additionally benefitted from assets of the local governments without necessarily bringing any new thing on board.

The result is that, public sector monopolies get replaced by private sector monopolies with no gain in efficiency (Ahmed & Ali, 2006). Local politics and problems from local policy elites in most cases tend to frustrate the PPP processes. According to Wagner & Llerena (2011), policymakers at times even intentionally require non-feasible demands from the companies which may become more challenging to develop specific knowledge if it is not linked to the core competencies of the firm.

Poor engagement and inadequate consultation

Public private partnerships for sanitation management at the local level at times become more challenging because of poor engagement with all relevant stakeholders. In most cases, the public agency tends to negotiate with only formal sector or private agencies and tend to neglect the informal sector and the socio-economic wellbeing of the people. Chaturvedi et al. (2015) provide how poor planning and stakeholder involvement in PPP process could degenerate

into more problems between the actors. Chaturvedi et al. (2015) intimated that Delhi city authorities tended to ignore the role of the informal sector but only resorted to and provided enough support to the giant private waste management companies in India.

In other words, city authorities largely ignored the role and socio-economic lives of scavengers (informal sector) who mostly help in reducing total wastes to landfills through their recycling and re-use activities (Rockson et al., 2013). Failing to address the plight of this relevant informal sector has brought about a contest between coalition of informal private waste management providers and formal companies. Such heated contests could stall the process and largely make it illegitimate (at least from public opinion) and may not win the support of people.

Guerrero et al. (2013) have explained that an effective system depends on various other factors and not just technological solutions or capital from the private sector but also largely depends on appropriate socio-cultural, environmental, institutional and economic linkages to retain a smooth process and appreciable outcomes. From the above, it suggests that achieving effective PPP in SWM depends largely on a joint effort between policy makers, formal and informal private actors, communities and other stakeholders.

6. Conclusion

This paper has discussed the rationale for public-private partnerships as a preferred model for solid waste management in developing countries. The study noted that the poor experiences of exclusive private provision and that of public sector provision have led to a more appropriate system that seeks to tap the competence and strengths of both sectors to enhance the public good through public-private partnership towards desirable urban sanitation.

The study further discussed the key measures that facilitate the effectiveness of public private partnerships in solid waste management. The discussions centered on key elements to consider both at the pre-contract phase, contract phase and post-contract phase. From the three key phases, the study identifies the key factors relevant to PPP effectiveness to include: well-organized public agency; competitive bidding and procurement process; project financial feasibility; commitment of all the parties and a strong monitoring and evaluation system to enable the PPP project success.

All the elements at the various phases of the process are critical and closely interlinked in a chain-like model. If any of these are left out or carried out poorly, it will have impact on the services rendered or the outcomes of the PPP. The paper finally discusses factors that have accounted for the challenges major SWM PPPs in developing countries have faced. In other words, the study has discussed the constraining or limiting factors that affect PPPs in sanitation services of developing countries. The key challenges discussed centered on these key themes: *secrecy in contracts, inexperienced technical staff and bad faith of local policy elites, poor engagement and inadequate consultation.*

The study concludes that while PPPs could provide opportunities for harnessing the comparative advantages of both the private sector – dynamism, access to finance, knowledge of technologies, managerial efficiency, and entrepreneurial spirit, with the social responsibility, environmental awareness and job generation concerns of the public sector – PPP should not be regarded as the “cure-all” without adequate mechanisms put in place to safeguard its success. PPP in solid waste management projects should be

evaluated on their merits, using a case-by-case approach to ascertain how the tenets of collaboration which include *commitment, consultations, interdependence, knowledge & information, communication and integrity* fostered such public-private partnerships.

The paper concludes that city authorities need to adopt a prudent approach in their dealings with the private sector towards PPP in solid waste management. Every detail matters, every step counts and should be extra vigilant in what goes into the partnership deed especially with regards to allocation of risks and standards of service delivery. This could be more enhanced if the pre-contract phase is made as open as possible to allow more stakeholders to participate in the bidding process to engender public discussion. The regulatory role of the public agency is very crucial to check the potential excesses and inertia that could engulf the private partner upon given the contract.

From the summary and conclusions, the study posits that the efficacy of PPP in solid waste management revolves around competitive procurement process; well-organized private sector; availability of competent personnel on PPP project implementation and good governance devoid of bad faith.

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