

National Workshop on Solid Waste Management

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“Access to Improved Waste Services: Clearer and Collective Responsibility, Innovation and Value Addition”

Theme Issues Paper: Presented by Lukman Y. Salifu, CEO, WasteCare Associates, Ghana

Preamble:

Firstly, I wish to commend the organisers, the Ministry of Local Government and Rural Development (MLGRD) and the Community Housing Foundation International – Ghana (CHF-Ghana), of this national workshop on SWM. Coming after the 2010 National Environmental Sanitation Conference (NESCON 2010) held in Kumasi in December last year it gives us the opportunity to revisit some of the challenges and issues raised at NESCON with a focus on solid waste management.

Secondly, let me state that the theme “access to improved waste services: clearer and collective responsibility, innovation and value-addition” is very loaded. Perhaps it reflects the urgency to tackle the many challenges confronting us today. Therefore, I will not attempt to cover all the segments of the topic and the issues that come to mind that one would have wished to discuss thoroughly because time will not permit us and indeed I may not be that competent to deal with each of the segments satisfactorily.

However, from the programme for the 2-days workshop, the planned presentations and panel discussions, as well as inputs from the invited participants, (MMDAs responsible for delivery of services at the local level and their direct agents i.e. private solid waste management contractors and operators; regulators and enforcement agencies and units – the EPA and Environmental Health Units of MMDAs as well as private sector innovators, entrepreneurs and manufacturing entities; including very importantly the media and civil society organizations) am hopeful that issues of the workshop theme will be adequately covered.

I would therefore selectively present issues that will hopefully help us achieve the intended outcome of this workshop, focusing on the concept note provided by the organisers as well as on a number of the barriers hindering the provision of sustainable services.

The presentation is along the following sub-headings: an introduction and background of how provision of services by local governments have evolved, roles and responsibilities of stakeholders – how clear are they, challenges and bottlenecks of provision of sustainable services, and a brief discussion of our experiences of public-private-partnerships and conclude on options for innovating and value-addition in the face of emerging challenges.

Introduction and background

What can we learn from the past and present, and thereby institute sustainable services that render VFM (economy, effectiveness and efficiency) to all stakeholders? It is useful to touch on a few historical milestones as part of a brief of a background on how far we have come in our quest for sustainable waste management.



A lot of Reforms...!!

1985 GTZ-AMA Waste Management /89 Project/The Kumasi Sanitation Project, based on the Strategic Sanitation Planning concept and solid waste management studies initiated	1991 Franchise Management of Public Toilets initiated and cesspit emptying privatised
1985 AMA-Waste Management Department officially inaugurated	1993 Local Government Act, 1993 (Act 462) passed – spelt out functions of local governments (Metropolitan, Municipal and District Assemblies)
1992 KMA – Waste Management Department started operations	1994 National Development Planning (System) Act, 1994 (Act 480)
	1994 National Community Water and Sanitation Programme launched
	1994 Community Water and Sanitation Project (CWSP-1) commenced
	1994 Urban Sector Review carried out with recommendations for urgent focus on urban environmental sanitation



Have services improved because of the reforms...?

1994 Environmental Protection Agency (EPA) established by Act 490.	1998 Strategic Investment Plan of NCWSP initiated by CWSA
1995 Privatised Operations for waste collection and transport initiated by Tema Municipal Assembly	1999 Environmental Sanitation Policy published by MLGRD
1994 - Local Government Urban Development Programs (Urban II, III, V) and Environmental Sanitation Project (UESP) series commenced	1999 GWSC converted into a 100% state owned limited liability, GWCL, to cater for urban water supply per Statutory Corporations (Conversion to Companies) Act 461 of 1993 as amended by LI 1648
1998 CWSA established by Act of Parliament, Act 564	2003 Financial Administration Act, 2003 (Act 654)
1998 Environmental Health and Sanitation Unit of Ministry of Health transferred to Ministry of Local Government and Rural Development	2003 The Local Government Service Act, 2003 (Act 656)



Recent reforms for improve planning and management of resources ...?

2003 Internal Audit Agency Act, 2003 (Act 658)	2008 Environmental Health and Sanitation Unit upgraded to Directorate
2003 Public Procurement Act, 2003 (Act, 663)	2009 Local Government (Departments of District Assemblies) (Commencement) Instrument, 2009 (L.I. 1961)
2004 Assessment of effectiveness of existing environmental sanitation policies	2009 Environmental Sanitation Policy revised, approved by cabinet in March 2010
2006 Strategic Environmental Assessment (SEA) of water, and environmental sanitation polices implemented	2010 National Environmental Sanitation Strategy and Action Plan (NESSAP) and Strategic Investment Plan (SESIP) initiated
2007 National Water Policy approved by cabinet and published by MWRWH	
2008 Strategic Investment Plan for NCWSP revised to cater for MDG targets	

That the bulk of waste management services is provided by the public (i.e. MMDAs) has its antecedents in how local governance of our towns and cities have evolved.

The Municipal Ordinance of 1859 established municipalities in the coastal towns of the Gold Coast. In 1943, a new Ordinance established elected town councils for Accra, Kumasi, Sekondi-Takoradi and Cape Coast. In 1953, the Municipal Councils Ordinance was passed.

Many of our municipalities started as Public Health Boards with the establishment of the first one in Cape Coast, followed by Accra and then Kumasi. The mandates of the Public Health Boards were mainly to ensure salubrious living conditions within settlements. The main operational tool was enforcement management with diligent premises inspections and sanctions. The public health boards provided all the services and paid for these from taxes and central government transfers.

After independence, this was followed by the Local Government Act 54 of 1961. In all of these pieces of legislation, the distinction between central and local government institutions was maintained. The local government bodies were required to provide municipal services and amenities in their localities without regard to whether or not they had the resources to deliver. These bodies also lacked personnel with the requisite skills and professional expertise.

We should also note that during the immediate post-independence era Government had sought to provide all public services for the benefit of all whether of public good or private good nature. These include education, health, water, environmental sanitation, energy, telecommunication, roads, transport, railways, markets, lorry parks, public toilets and bathhouses, stadia and other recreational infrastructure managed by one entity – the Public Works Department. This state of affairs continued into the 1960s and early 1970s with the creation of City Councils and up to the establishment of the District Assemblies by Local Government Law, 1988 (PNDCL 207).

During the decline in economic prospects of the country from mid-seventies to eighties services deteriorated, the enforcement-led maintenance of environmental sanitation services collapsed with districts suffering from lack of central-government transfer of funds and provision of machinery and equipment. With lack of funds for managing prosecution and with continued employment not guaranteed corruptible enforcement-agents imposed spot-fine tactics which still continues up till today.

Within this period rapid urbanization also reared its head and so hitherto communal disposal sites (including communal containers at sanitary sites) became engulfed with refuse. The resort to masonry brick-furnaces for burning refuse (in our local parlance referred to as “boiling” from which we got the derivate “bola” from “boiler”) could no longer work.

The first major push to re-sanitize our cities started with the implementation of the Accra Wastes Management Project from 1985 to 1994 with support from the German Technical Cooperation, GTZ (now GiZ). This project saw the injection of refuse loading trucks with the introduction of compaction trucks to replace the ubiquitous side-loading trucks (side-loader) that was in use in many of our towns and managed then by the environmental health units. Around this same time micro- and small-scale enterprises participated in filling the gap, especially in difficult to reach areas relying mainly on non-motorised refuse collection systems (mainly donkeys and push-trucks).

The first Waste Management Department (WMD), Accra Metropolitan Authority’s – WMD, was inaugurated in 1985 with the conversion of the then Mechanical Engineers Department which was solely responsible for managing the workshop for vehicle/equipment repair and maintenance to include solid waste collection and disposal services. The Kumasi Metropolitan Authority’s WMD (KMA-WMD) followed in 1992 with the assistance of the UNDP-Kumasi Sanitation Project. The Overseas Development Association, ODA (now DFID) of the UK also provided vehicles, machinery and equipment under the Kumasi Solid Waste Disposal project (1992 – 1995).

Around this period, the Priority Works Project (PWP) and Programme of Actions to Mitigate the Social Costs of Adjustment and Development (PAMSCAD) started as part of the Economic Recovery Programme (ERP) of the government in the early and mid-1980s. The Government of Ghana (GoG) with support from external-support agencies (ESAs, now collectively referred to as Development

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partners to including NGOs and CSOs), particularly the World Bank, implemented a number of projects to remedy the situation which was alarming in many of our large cities and secondary towns; these efforts culminated in the implementation of the Urban Development Projects series, including Urban II, III, IV and V which were carried out between (1992 – 2001); the second phase of the Urban Environmental Sanitation Project (UESP II) is continuing to date.

It is important to note that that the move initiated by the Accra Metropolitan Authority under the Accra Wastes Management Project by separating oversight for solid waste services from other aspects of enforcement management represented one of the significant reforms of the sector during that period. For we should not gloss over the heightened insecurity of staff of the then Environmental Health units who were in charge at the time and thus the inertia to change – sadly this insecurity has continued to today (*the Environmental Health Units are being offered a home but only as a unit of the District Departments of Health as specified in LI 1961*).

It is useful to recall also that the resort to private-sector delivery of waste haulage services has been with us for quite some time. For instance private operators (mainly construction enterprises that owned tipper trucks) were engaged for the cartage of the huge mountains of refuse in our cities as part of the World Bank sponsored interventions under the Priority Works Project (PWP), managed then by the Technical Services Centre (TSC) of the then Ministry of Works and Housing (MWH) now Ministry of Water Resources, Works and Housing (MWRWH).

The formal engagement of private sector in routine services, commenced seriously with the privatization of cesspit emptying services in Kumasi. It was a logical next-step to formalize private-sector involvement in solid waste management as well.

And so in carrying out the Urban Environment Review, in 1994, with support from the World Bank, the issue of addressing institutional roles was given much importance. The urban review which led to the preparation of the first-phase of the Urban Environmental Sanitation Project (UESPI) which is in its second phase (UESPII) influenced the piloting of franchise zones for solid waste services in Accra, Sekondi-Takoradi, Kumasi and Tamale. The intention was for an incremental expansion of zones to eventually cover the whole of each city – which is largely the arrangement we see today.

Significantly, Tema was already carrying out 40% percent of service delivery through contracting out of services to a number of contractors to cover a number of planned areas of the port-city excluding Ashaiman because of obvious lack of planned, well demarcated neighbourhoods. The implementation of the pilot franchise management of solid waste services in Accra was also varied with the contracting out of services to City and Country Waste Ltd.

All the above happenings as well as our historical past in local government administration and decentralization influenced the enactment of the legislations that seek to specify the roles of agencies and entities responsible for planning and delivery of services including solid waste management. Key legislations in this regard include:

The Local Government Act, 1993 (Act 462), The Civil Service Law, 1993, (PNDCL 327), the Local Government Service Act, 2003 (Act 656), the National Development Planning Commission Act, 1994 (Act 479) and the National Development Planning (System) Act, 1994 (Act 480).

These acts collectively placed decentralised planning authority and mandate with districts to be exercised for district level development through their district medium-term development plans. The promulgation of Local Government Service Act, 2003 (Act 656), the establishment of the Local Government Service Council (LGSC) and its secretariat, and the enactment of LI 1961 - Local Government (Departments of District Assemblies (Commencement) Instrument, 2009, to operationalise the Service, all lend to clarifying roles and responsibilities within the framework of decentralized governance and management of services by MMDAs and their agents¹.

So what are the roles and responsibilities?

Roles and responsibilities are they clear? Provisions of Legislation and Policies

The aforementioned legislations generally provide roles and responsibility for provision of services including environmental sanitation, and in particular Solid Waste Management (SWM). The establishment instruments of the MMDAs further define the 87 functions and areas of responsibility for services, including “ownership” of wastes.

On the national level the roles and responsibility for environmental sanitation level are also fairly clear. The Ministry of Local Government and Rural Development (MLGRD) is the lead ministry with oversight responsibility of MMDAs, and by extension provide direction to local authorities in the delivery of services.

The Ministry of Environment, Science and Technology (MEST), through the Environmental Protection Agency (EPA) provides the general regulation of environment services as well as environmental sanitation.

Roles of stakeholders

The Environmental Sanitation Policy (Revised, 2010), and the previous version published in 1999, as part of provisions for policy implementation clearly specified the roles and responsibilities of all stakeholders including those of individuals, households and communities, as well as principal and allied sector institutions.

The following is a brief recap of some the roles and responsibilities of selected stakeholders provided for in the Environmental Sanitation Policy (Revised, 2010):

Private Sector:

Regardless of the policy’s position on the “public good” nature of environmental sanitation services it provides for various aspects of “services to be provided by the private sector” including the following, specific to SWM:

¹ Local Government and Decentralisation in Ghana by Kwamena Ahwoi (Professor), Publishers Unimax Macmillan Ltd. 2010 provides an elaborate discussion of the roles and responsibilities enshrined in various legislation and the challenges thereof.

- Solid waste collection from individual institutional or domestic customers, subject to the supervision and setting of maximum tariffs by the Assemblies;
- Solid waste collection from communal containers under contract to the Assemblies, Unit Committees or community groups or as part of a franchise covering both high and low income areas;
- Cleansing of designated areas and facilities (streets, drains, markets, lorry parks, etc.) and maintenance of drains, under the agreements covering solid waste collection;
- Provision and management of waste treatment, recycling and disposal facilities, transfer stations and bulk waste transfer to disposal under contract, franchise, concession, BOT, BOO, BOOT or other arrangements;
- Pest control for public areas, under contract with the Assemblies, or for individual customers, subject to licensing by the Assemblies;
- Equipment leasing and maintenance/workshop services;

Principal Sector Institutions

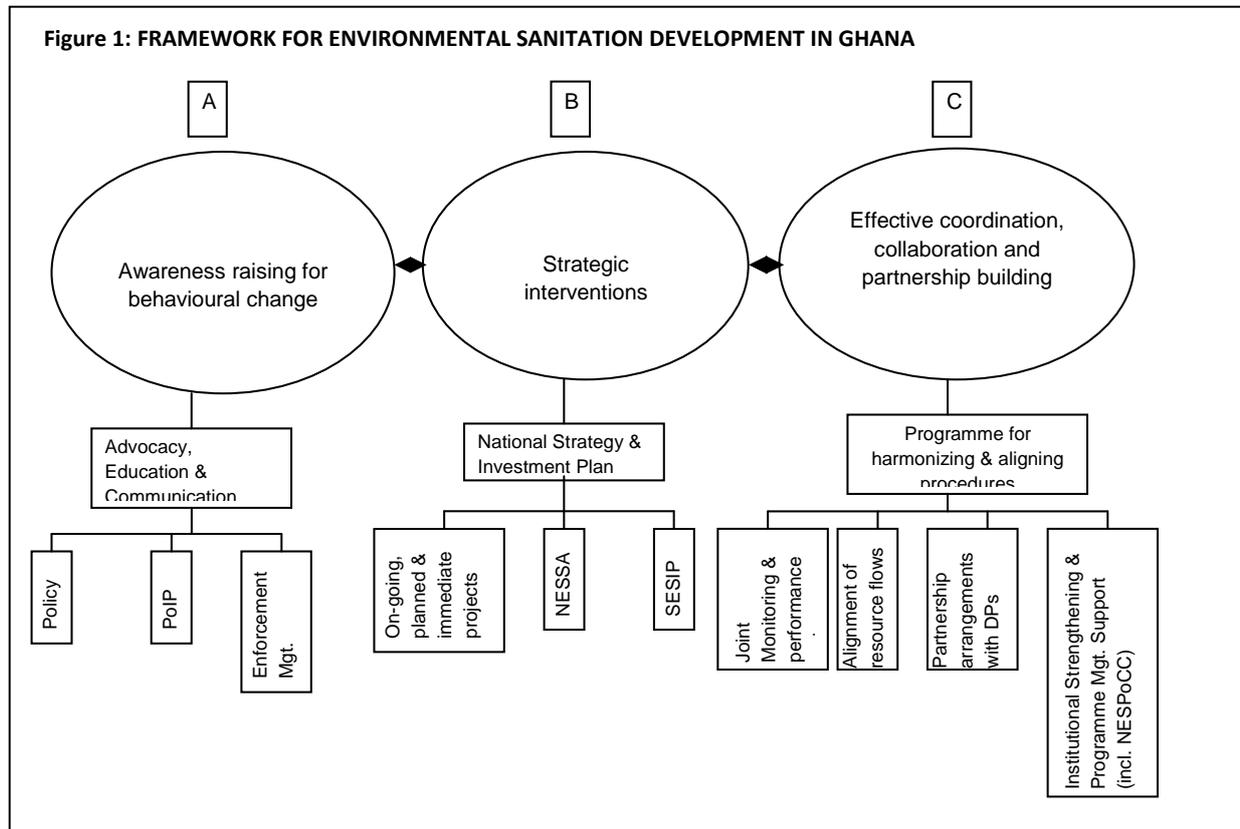
The MLGRD is specified as the lead institution with the Environmental Health and Sanitation Directorate providing guidance on environmental sanitation planning, policy and legislation. MMDAs and the lower-tier structures including sub-divisions such as Sub-Metropolitan District Councils, Zonal/Urban/Town/Area Councils play designated roles in the delivery of services either directly or through agents.

Allied Sector Institutions

Among others it is provided that:

- The Ministry of Environment, Science and Technology (MEST) is the principal environment ministry responsible for the formulation and coordination of policies covering the environment, and supporting environmental sanitation in regulation and provision of technical standards and manuals;
- The Ministry of Energy is responsible for regulating all energy sources including renewables and waste-to-energy and its distribution;
- The Environmental Protection Agency (EPA) is the regulatory agency for the protection of the environment. The functions of EPA are set out in the Environmental Protection Agency (EPA) Act, 1994 (Act 490).
- The Town and Country Planning Department is responsible for all land-use planning in the country. It supports DAs in physical planning of towns and provides layouts of towns that give land-use and directs development of services like roads, drainage and sewerage networks, disposal sites and water supply distribution lines;
- The Ghana Standards Board is responsible for developing and setting quality standards for machinery and equipment;
- The Food and Drugs Board regulates quality of food and drugs including food hygiene.

The above listing provides just an example of the institutions covered in the policy. It seems that the various roles and responsibilities are quite clear BUT what is required is effective coordination of these roles and responsibilities. This need and others required for making incremental progress influenced the development of the framework for environmental sanitation presented in the National Environmental Sanitation Strategy and Action Plan (NESSAP), (see Figure 1).



Challenges of waste management - bottlenecks of the waste management service chain

There are various bottlenecks in the waste management service chain. Perhaps it is sufficient to present a number of these by briefly looking at the various stages of the service chain

- Primary storage and collection: lack of source-separated storage and poor access roads to carry out house-to-house services that can encourage payment by households;
- Secondary storage and Collection, transport and haulage: the difficulty of implementing pay-as-you-dump services and ensuring routine collection that avoid spillage around containers and then the resort to expensive pay-loading for refuse evacuation. The issue of meeting the haulage cost at communal container transfer stations (currently pegged at GH¢150 per lift)
- treatment and disposal: the lack of engineered treatment and disposal facilities and the difficulty of operating them according to specified operation and maintenance management guidelines where they are provided.



Up-hill view-Kpone Disposal Site-TMA



In-view: Proposed Incinerator for Bio-medical Waste buried in waste heap.



- Information and guidelines on emerging technologies and financing options: there is no consistent upgrade of knowledge on new technology and trends in financing for PPP arrangements such as output-based-aid (OBA) and from carbon offset markets such as the Carbon Development Mechanism (CDM) and voluntary off-set markets as well as from initiatives such as the Global Methane Initiative (GMI).

The concept note and the background papers provide more on the challenges and issues facing the delivery of sustainable services. For example, there is mention of public monopoly in the delivery of services but it is worthy of note that the Environmental Sanitation Policy (1999 and the Revised version of 2010) provide space for private sector involvement at all stages of the service chain from collection to disposal. It recognizes the role of private operators and demands compliance to EPA's Environmental Impact Assessment Regulations (LI 1964). While there are challenges of design and construction standards to be followed the major problem is the adherence to continued operation and maintenance management standards.

The current operation practices of the engineered landfills in Kumasi and Tamale are not different from what pertains for controlled open-dumping at un-engineered sites. The situation is not very different from privately developed and managed sites, although the control of refuse placement at a number of privately-owned sites shows some improvement due partly to improved availability of landfill machinery and equipment.



Aerial View of the KMA Septage Treatment Facility



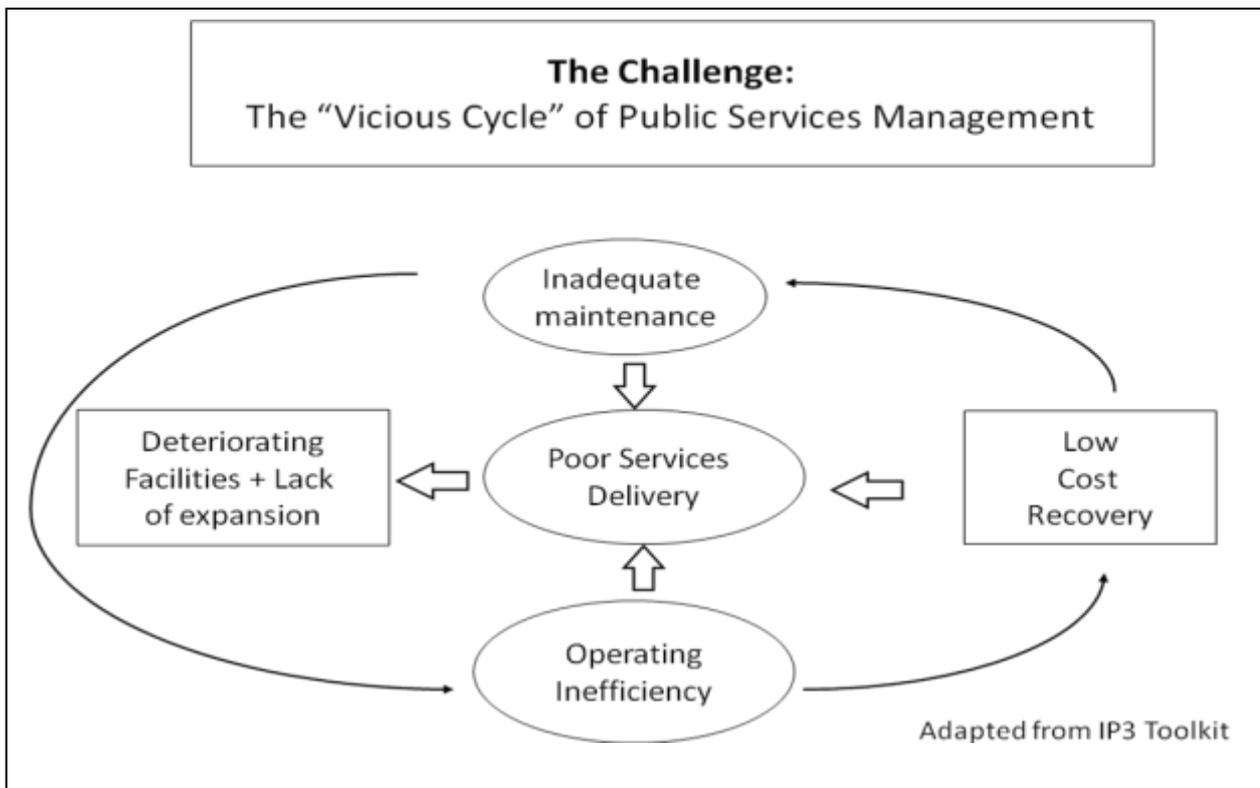
Chocked-up Initial Anaerobic Ponds



Public-Private-Partnerships

MMDAs face operational challenges that can somewhat be remedied when public-private partnership arrangements are resorted to. Typically MMDAs face inadequate annual budgetary allocations; poor organisational structures and management practices; inability to recapitalise to expand and meet demands of growing population; restricted borrowing powers; political interference and poor adherence to performance and productivity indicators. All these lead to poor services delivery which in turn escalates the burden of overcoming these challenges.

What has been some of the experiences in public-private-partnerships this far ?



Contracting and Franchising

As part of the solid waste management improvement services of the five largest cities, UESP1 implemented an elaborate scheme for private sector involvement. Tema has then since 1985 operated contract services covering the main areas of Communities 1 – 12. The challenge of implementing the same model for Ashaiman township was not easily achieved because of the lack of access roads to implement a pay-for-collection house-to-house scheme.

As observed by an operator quipped ‘if the city cannot collect fees from residents how much more the private operator’?

Around the same time, the AMA was operating the pay-as-you dump strategy which was later on scrapped as residents complained and failed to pay. The Micro Enterprise Refuse Collection (MERC) scheme employing donkeys was also experimented in low-income areas (Atonsu) of Kumasi.

The adoption of franchise management for the collection of solid waste (see L.Y. Salifu, SWANA 1998) meant to start on pilot basis was replaced with the introduction of the City and Country Waste Limited city-wide contracting initiative in Accra by AMA.

The bottlenecks of the both the franchise system and contract mode of service delivery has included:

- The laws declaring such franchise or contract zones were merely announced without the corresponding gazzeted bye-laws backing these declarations;
- The capacity of private operators to collect the fees (under franchise) ;

- Where pockets of communal-storage containers at public places like markets and lorry parks are within the franchise zones, costs of these were still to be borne by MMDAs through their IGFs with high default rates of payment of contractors – in some instances up to 6 months (*currently there are areas of up to 6 months up to the tune of GH¢16m passed on to Central Government by the 5 largest Metropolitan Assemblies and newly created municipalities from previous sub-metropolitan districts of AMA and TMA*). This has been the bane also for areas operating under contracting.

Are there security issues that warrant the collection of refuse from the Police and Army Barracks by –in-house arrangements or is it because of poor servicing by MMDAs?

Table 7.7: Performance of Metropolitan Assemblies in IGF for 2006 – 2008


WASTECARE

No.	Metropolitan	2006 IGF (in Ghc)	Ranking in 2006	2007 IGF (in Ghc)	Ranking in 2007	2008 IGF (in Ghc)	Ranking in 2008
1	AMA	7,431,817.96	1 st	10,010,371.68	1 st	11,567,133.39	1 st
2	Sekondi-Takoradi	2,985,579.40	3 rd	9,817,727.80	2 nd	6,692,143.09	2 nd
3	TMA	3,683,524.87	2 nd	3,732,996.60	3 rd	4,124,569.57	3 rd
4	Tamale	88,706.27	5 th	178,639.70	5 th	265,073.49	5 th
5	Cape Coast	210,532.45	4 th	381,898.55	4 th	604,851.03	4 th

- poor collection routines by private operators that eroded confidence of residents;
- start-up pilot zones gave the impression of an experiment, particularly when collection by the city's own side-loading truck (in the case of Kumasi) was still going on in areas where fee-collection was left to drivers and operatives;
- other institutions like the Army, Prisons, Police, Civil Aviation and others operated parallel collection schemes for their barracks and from bungalows of senior personnel;
- To overcome these challenges the Accra Metropolitan Assembly (AMA) and the Kumasi Metropolitan Assembly (KMA) have re-introduced pay-as-you dump as part of efforts to improve revenue collection. The presentation by AMA on its new Waste Management Strategy will provide more operational details within the 12 designated zones managed by .9 private operators.

, KMA - Communal Refuse Transfer Station Management Scheme Cost Recovery of Pay-As-You Tip

		JAN- MAR(1ST QTR OF YEAR 2010[GHC]			YEAR 2009[GHC]			YEAR 2008 [GHC]
CONTRACTOR	SUB-METRO	COMMUNAL COLLECTION COST	COST RECOVERY	AMOUNT PAID BY GOG	COMMUNAL COLLECTION COST	COST RECOVERY	AMOUNT PAID BY GOG	AMOUNT PAID BY GOG
KWML	NHYAESO	34,416.40	9,432.00	24,984.40	452,495.20	10,330.00	442,165.20	572,313.50
ABC	OFORIKROM	40,397.70	16,002.00	24,395.70	534,916.90	81,720.00	453,196.90	110,479.83
WASTEGROUP	KWADASSO	22,381.00	3,675.00	18,706.00	212,792.60	11,010.00	201,782.60	52,883.46
MESKORLD	BANTAMA	145,380.70	51,552.00	93,828.70	965,834.50	75,140.00	890,694.50	585,081.97
	MANHYIA			-				
ZOOMLION	SUBIN	310,745.90	69,957.00	240,788.90	1,169,194.40	223,740.00	945,454.40	1,490,252.21
	TAFD			-				
	ASAWASE			-				
SARIM	ASOKWA	27,746.80	12,936.00	14,810.80	152,714.00	53,850.00	98,864.00	74,125.46
ANTHOCO	SUAME	44,099.20	14,208.00	29,891.20	287,889.60	74,300.00	213,529.60	56,220.55
TOTAL		625,167.70	177,762.00	447,405.70	3,776,837.20	530,150.00	3,246,687.20	2,941,350.98
%age cost recovery			47%			23%		NIL

We have therefore come full-cycle with the re-introduction of collection by various contractors with Zoomlion servicing a large proportion of the service areas, for example in Accra, until the recent rezoning by the AMA. The Kumasi Metropolitan Assembly has also introduced a new scheme for dealing with communal storage collection within the defined 10 franchise zones also along the areas of jurisdiction of the 10 Sub-Metropolitan District Councils.

Let us briefly revisit some a number of the issues identified by private operator(s), (J.S. Agyepong, 2011²), as barriers to private-sector-participation or public-private-partnerships. These include:

- **Proliferation of Legislation that entrenches public-monopoly of delivery of services:** while there are many legislation I believe there is gradual shift to privatized operations and emphasis on public-private-partnerships as witnessed by the recent course managed by the Local Government Service Secretariat on PPP. Indeed as indicated earlier the Environmental Sanitation Policy (Revised, 2010) does not preclude private ownership of treatment and disposal sites by the private sector. At the same time the advent of PPP requires more effective management of regulation and standards enforcement by the public sector which clearly calls for capacity building.

- **Wrong attitudes of the general public to solid waste disposal:** the issues of lack of exercise of duty-of-care by all stakeholders as provided in the environmental sanitation policy is undermining efforts at improving services; indiscriminate littering, non-payment of fees and how to implement source separation and recycling to meet policy measures.

- **Sustainable financing:** inability to secure funding for long-term projects such as treatment and disposal facilities is compounded by poor and unreliable schedule of payments by MMDAs for services delivered. This is a key challenge of the sector which is buttressed by the policy. The need

² Barriers to Private Sector Participation in Sustainable Waste Management: Experiences of Private Operators and Waste Service Providers in Ghana, J.S. Agyepong. UN Conference on Building Partnerships for Moving Towards Zero Waste, February 2011

for incentives such as tax reliefs, and waiver of duties on waste management equipment and machinery and good interest-rate regime for financing waste management have been indicated.

- **Poor planning and rapid urbanization:** the lack of infrastructure such as access roads in newly developing urban sprawls and how this compound the delivery of services has also been mentioned; together with the lack of adequate forward looking planning. An additional item worthy of consideration is the need to de-couple the growth in volume of wastes from the growth in urban population and space.

- **Weak human resource capacity and research support base:** the issue of weak institutional capacity has been mentioned already. The central challenge is also the issue of staff skill-mix at the various MMDAs as we speak now there are only 4-5 engineers in the WMDs and EHSUs of the 170 MMDAs. This undermines not only technical and operational planning but also, very importantly, the need to be abreast with emerging issues such as the creeping menace of waste-electrical-and-electronic equipment, access to opportunities of the carbon-offset markets and other initiatives such as the Global Methane Initiative, Output-based-Aid etc.

- **Politics:** from the private operator perspective the power of Government and political office seekers to use the provision of better waste management services in campaign rhetorics undermines the adoption of Public-Private-Partnerships with the private-sector visibly in charge.

Addressing emerging challenges – Innovation and Value Addition

What the discussion above has sought to do is provide some background to the state of affairs by enumerating some of the interventions that have been carried out in the recent past as well as the opportunities that exist to incentivate improved duty-of-care of all stakeholders in the environmental sanitation sector.

This far, it seems to me that the challenges of the sector are well known and the roles and responsibilities of key actors are reasonably clear, though admittedly questions still remain and the sector seems to be caught in a whirlwind of marking-time without visible progress.

While we would want to remedy the challenges confronting service providers and also deepen PPP, there are also fundamental issues that affect performance of delivery of services that needs urgent attention. Are we consistently measuring the right performance indicators? What went into and informed the current waste disposal tariffs? Are weigh bridges installed at the disposal sites? If no then how have we been assessing tonnages and the corresponding costs that we pass on to the MLGRD? Without taking the rights steps and actions to remedy these shortcomings, if indeed we are not providing evidence-based performance reporting then how do we counter the perception of MMDAs short-changing residents and GoG?



No Routine measurements for performance indicators

No functioning weigh-bridge at disposal site so...

What tonnage is this ?



To calculate weight without weigh Bridge....

Volume = ?

Denisty = ?

So what to do? I am inclined to recommend that instead of focusing our energies on a new strategy for solid waste management, perhaps, we should focus on the strategies for solid waste management in the national medium-term development plan, GSGDA (2010 – 2013) which reflects to a large extent those provided in the National Environmental Sanitation Strategy and Action Plan (NESSAP) which is itself derived from the measures of the Environmental Sanitation Policy (Revised, 2010). Besides strategies specific to solid waste management, we should also want to give serious attention to some of the identified bottlenecks to gaining incremental improvements in services delivery.

And where do we start? Taking a cue from excreta management (sanitation) where MLGRD and its partners are developing Country Action Plan (CAP) for Sanitation under the MDG Accelerated Framework (MAF) for “off-track” MDG Goals, targets and/or indicators, and also taking a cue from the potential impact of CLTS in raising awareness for improving behavioral change (at least as far as rural sanitation is concerned) perhaps what is required is for us to focus on a few interventions in solid waste that that can have potential of triggering improved performance(s) in related service areas.

Since targets for solid waste management service are not explicitly expressed in the MDGs, a means of narrowing down on the few interventions will be to consider a number of current or topical global challenges and narrow down to what local (national) actions are being pursued or required to counter these global challenges of our times.

Often the recent global recession caused by the financial crisis of 2007-2008 and climate variability and change come on top when consider these challenges. In growing economies such as ours where economic growth is fueled largely by the urban-services-sector, rapid urbanization is a third phenomenon that clearly needs more attention and am happy to note that CHF as part of its Urban Platform series is already given attention to this. Already by the 2010 Population and Housing Census there are more urban residents than those in rural areas.

In the following sections, I will focus on a few selected interventions with proven potential opportunities that the solid waste management sector can ride-on in contributing to addressing these challenges; that is to say that we would consider some of the local actions that are required, first from a national perspective and then narrowly to the SWM services sector.

But we should be mindful that, given the complexity and inter-linkages of the various components of environmental sanitation, the areas selected are not exhaustive but selected to provide a platform for the panel discussions that will follow. For example, the rainy season has just set in and we are witnesses the perennial flooding that occurs. In some locations flooding is avoidable; we aspire for covered drains but the hot-spots are at places of blockage in drains and gutters chocked with refuse, especially the covered sections? So should we have covered drains or not? In considering interventions for improving SWM should we also consider storm-water drainage and and sullage conveyance given that 96% of household rely on on-site sanitation systems and drains often have putrid smells and have become basically open sewers. This is just food for thought.



Poor infrastructure-and-services is making unhealthy conditions the norm...!!!



“ there is evidence that aesthetics – the appearance of a locality and the absence or presence of nuisance – influences behaviour that can add more to pollution and its impacts on health and costs”

...NESSAP, MLGRD, 2010

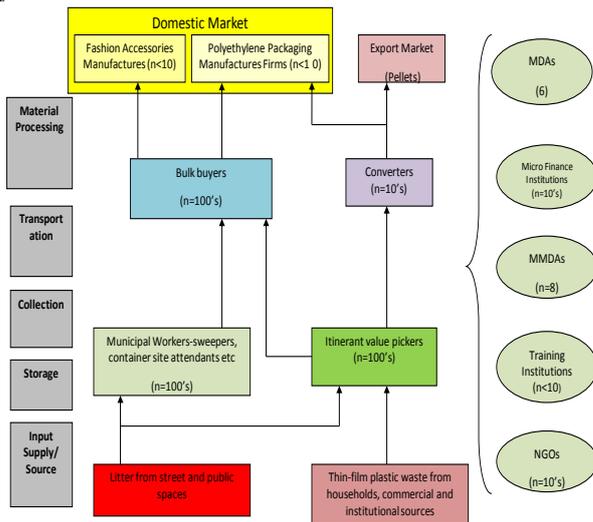
Economic growth and Job creation

Important fallout of the global financial crisis includes the attendant job losses even in developed economies. In an developing country environment where the teeming youth who have completed only primary and secondary level of education are joined by thousands from the tertiary level every year, jobs placement has becoming a major development issue of our times. The waste management industry offers tremendous potential to offer jobs if we refocus on selected value-addition interventions.

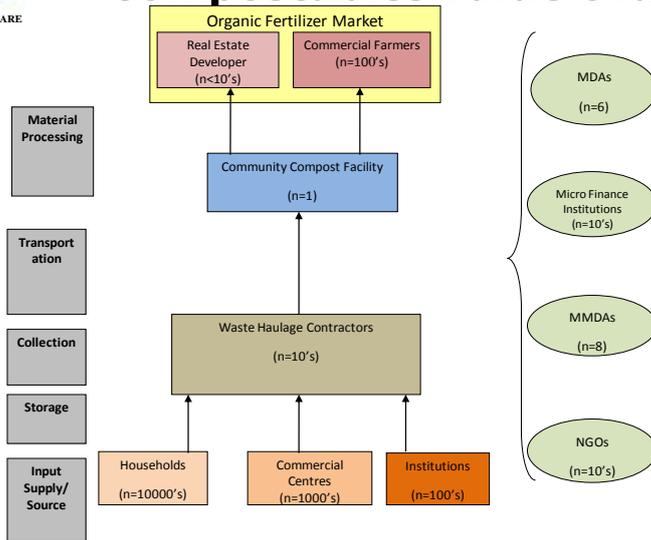
In addressing the issues of job-creation the National Environmental Sanitation Strategy and Action Plan (NESSAP) has given a number of pointers: and this was influenced largely in part by work championed by CHF on Value-Chain Analysis of Solid Waste Management (SWM) in Accra. They include; installation of buy-back centres, small-scale community compost stations and large-scale compost plants to be developed by the private sector such as Zoomlion’s 200T per-shift-day facility at Adzen Kotoko.



Value chain map for thin film plastics waste



Compostables value chain map



The issue of sustainable financing has been given attention in the Environmental Sanitation Policy (Revised, 2010); the very essential element of effective investment strategy that will give direction to GoG and MMDAs and development partners in funding various aspects of services has been looked at in the *implementation packages of the NESSAP and costed in the SESIP*. This has also been taken

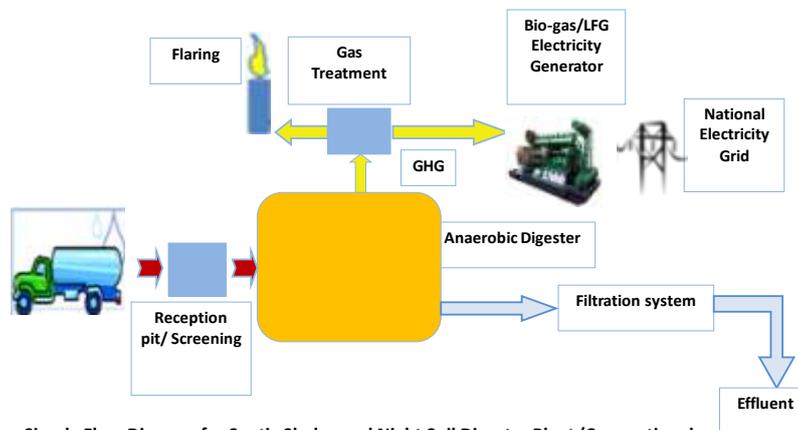
up in the GSGDA (2010 – 2013). The challenge of how to quickly operationalise and utilize budgeted provisions needs to be looked at critically.

Climate Variability and Change

Climate change and vulnerability to its impact including global warming is one of the key issues of our times. The national medium-term development framework, GSGDA (2010 – 2013) considers a number of strategies that will contribute to *reducing vulnerability to climate variability and change* including pursuing a low-carbon growth strategy. The National Environmental Sanitation Strategy and Action Plan (NESSAP) in responding to the issues of climate change has recommended targeted investments for excreta and solid waste management that will contribute to emission-reduction of Green House Gases (GHGs) or biogas (mainly methane, CH₄). The re-emergence of anaerobic digestion for conversion of wastes (both liquid and solid) to biogas presents tremendous value-addition potential that we have to seriously look at. A number of the value addition innovations that can be derived from solid waste management include: construction of compost plants and installation of anaerobic digesters to cater for the large proportion (55- 65%) biodegradable-organic –fraction (BOF) of our municipal waste stream; installation of buy-back-centres for thin-film plastics and rubber for onward sale to outlets that manufacture raincoats, jackets, umbrellas and pellets for recycled plastic items, just to mention a few.



Anaerobic digestion of BOF of solid waste and excreta generated LFG/Biogas for energy generation...



Simple Flow Diagram for Septic Sludge and Night Soil Digester Plant (Conventional Anaerobic Digestion Process)





Private sector has taken the lead... buy-back centres for thin-film plastics



Women washing plastics (HDP) for onward sale



What is required is how we take advantage of the numerous financing mechanisms and opportunities available to trigger and leverage additional funding.

The foregoing point brings to the fore the need for better coordination of efforts and knowledge-sharing to facilitate delivery of services by MMDAs.

Examples will suffice to illustrate this point in the context of emerging interventions. The EPA has developed the Capacity Development for Carbon Development Mechanism (CDM) but are MMDAs aware of it? Have capacity of staff improved on the issue of CDM? Let us also consider the menace of the indiscriminate disposal of Waste-Electrical and Electronic Equipment (WEEE), often shortened

to e-Waste. This menace will only increase as many more countries including the USA shift from analogue to digital electronic equipment including television. Again the EPA and the Dutch Inspectorate of the Ministry of Housing, Spatial Planning and the Environment of the Netherlands (VROM-Inspectorate) and the Dutch Association for the Disposal of Metal and Electrical Products (NVMP) are working to implement a sustainable e-waste management in Ghana. Are the MMDAs and private operators and entrepreneurs aware of this initiative?

The need for effective coordination for accelerated and sustainable services leads to the next issue of urbanization and efficiency of supporting institutions operating across fast growing contiguous jurisdictions as we see in the Greater Accra Metropolitan Area (GAMA), comprising AMA, Tema Metropolitan Assembly (TMA) areas, Ledzorkuku-Krowor, Adentan and Ashaiman Municipalities, Ga-West, Ga-East, and Ga-South districts.

It is important to observe, at this point, that the Office of the Regional Coordinating Council (ORCC) of the Greater Accra Region has been grappling with the administrative boundaries of the various MMDAs particularly within GAMA.

Urbanisation and institutional structuring

Urbanisation is already forcing us to rethink the institutional setting and how we should organise coordinated delivery of services to achieve not only incremental improvements but to match population growth as well. Environmental sanitation services forcefully bring to mind the need to think region-wide not only because of the economy of scale of treatment/disposal facilities to serve a whole catchment-basin- or service-area-but how to efficiently deliver services to serve a number of municipalities as we are already experiencing in GAMA.

In discussing the effects of urbanization, the 2009 World Development Report - Density, Distance, Division – (World Bank, 2009) which dwelled substantially on the issue of urbanization and its challenges recommends the adoption of institutions that are locality-blind. In other words institutions should be competently staffed to handle issues across both rural-urban divide. The report further recommends that targeting investments is the more important than “targeting institutions”. What do we see on the local scene? The Government of Ghana (GoG) in implementing a number of development partner projects (especially those by the World Bank) has often followed the dictates of vertically-oriented task-managed projects. Let us consider a few examples to illustrate.

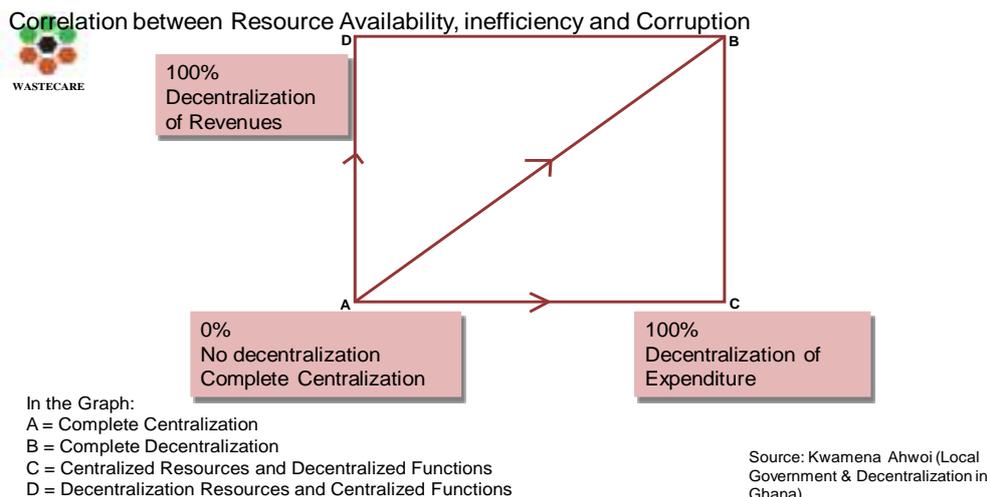
To counter the phenomenon of urbanization and its effect on transport corridors, for example, the Greater Accra Office Regional Coordinating Council (ORCC) recently inaugurated a Project Steering Committee for the Urban Transport Project. The Steering Committee for Urban Transportation is made up of Metropolitan, Municipal and District Chief Executives from the GAMA and the Central Regions will also develop a framework within the Route Service Contracts for the implementation of the Bus Rapid Transit across the country

But if one may ask - have we forgotten so soon that in implementing the Village Infrastructure Project (VIP) and the Community-Based Rural Development Project (CBRDP) we have had to rely on Rural Infrastructure Coordinating Units (RICUs)? What have we learnt from RICUs implementing project components? As we become more urbanized should the RICUs remain rural-focused, should

we not consider transforming them into Regional ICUs so they are staffed and resourced adequately to become location-blind as proposed by the World Bank’s World Development Report (WDR 2009). And yet another pipeline World Bank Project, the Greater Accra Metropolitan Area (GAMA) Sanitation and Water Project is grappling with the right institutional arrangements to cater for GAMA. So four (4) World Bank projects - the UESP II with its Projects Coordinating Unit (PCU), the UTP with its expanded Project Steering Committee, the CBRDP with its RICUs, and the GAMA Sanitation and Water Project with its proposed GAMA Projects Steering and Coordination Committee will be operating with different implementation arrangements? How we effectively coordinate projects in GMA has become critically important.

In a country driving to deepen decentralization, we are always mindful of the need for institutional arrangements that do not interfere with the established mandates of the hierarchy of institutions. And so, for example, the National Environmental Sanitation Strategy and Action Plan (NESSAP) proposes the establishment of a National Environmental Sanitation Investment Management Board (NESIMBoD) to bring coordinated oversight to investments in environmental sanitation and facilitate the monitoring of performance of MMDAs and their agents (private operators).

Yet the National Development (Planning) System, Act 480 has proposals to overcome some of the challenges. Under section 12 of Act 480 the National Development Planning Commission (NDPC) may, in consultation with the Minister of Local Government and Rural Development (MLGRD), recommend to the president the designation of any contiguous area as a Joint Development Planning Area. The President may then do so by Executive Instrument (EI). Under Section 14, the NDPC may, in consultation with the Minister of Local Government and Rural Development (MLGRD), recommend the designation of any area required for special purposes in the national interest as a Special Development Area. The President does so by an EI. (see Kwamena Ahwoi, 2010).



The situations of A and B are rare in the real world. The situations that are normally found in the real world are C and D, that is “centralized resources and decentralized functions” and “decentralized resources and centralized functions”. C breeds inefficiency while D breeds corruption. In other words, where more finances are transferred than there are functions, the excess finances are dissipated. That scenario breeds corruption. Where less finances are transferred than there are functions, the functions cannot be performed. That scenario breeds inefficiency. Finances and functions must therefore always be in a state of equilibrium.

So in concluding the remarks on urbanization and institutional structuring it may be useful for the MLGRD, the Local Government Service Council, Ministry of Finance and Economic Planning (MoFEP), the Ministry of Environment Science and Technology (MEST), NDPC and RCCs to revisit institutional arrangements of Act 462, and Act 480 to provide direction on how to grapple with region-wide facilitation support to MMDAs, the lack of adequate staff-mix at all levels and the need to expedite delivery of projects (both GoG budgeted and development-partner funded projects) cutting across contiguous jurisdictions. Government should lead in this and not the World Bank.

Making Behavioural Change Communication a key component of services provision and innovation

The last but not the least important underlying I wish to discuss is awareness-raising for behavioural change.

The NESSAP has taken up issue of the poor uptake of the concept of 4Rs – *waste reduction, re-use, recycling and recovery* and proposed the adoption of the philosophy of MINT (materials-in-transition). We need to carry out *“massive nationwide campaign employing competent behavior change communication...to effect changes in people’s perception towards waste in general”*.

But we must admit that changing ingrained behavior is not easy and just talking about it or policing the concept does not make it happen. Indeed to deepen uptake and achieve the impact of the behavioural change intervention sometimes requires different messaging and methods, as well as different incentive schemes and the institution that leads the messaging and hence the focus.

Let us consider an example: in 2004, the Community Water and Sanitation Agency (CWSA) launched the Hand-washing with Soap (HWS) strategy. The advert *“huhuru wonsa, huhuru wonsa, fa samina ye”* won the best spot advertisement of 2005. And yet the observation at funerals, in many chop-bars, restaurants and even reputable hotels is that we all resort to communally or individually *“wash-in”* bowls of water instead of *“wash-off”* the dirt by water poured from a jug, for example. Perhaps after the adoption of Hand-washing-with-SOAP (HWS), the next stage of messaging should refocus on the fact that washing *“off”* with running water from a tap or poured from a jug is also important.

Given that focusing solely on the goodness of achieving environmental sustainability does not appeal to many people who face the challenges and vagaries of daily subsistence living, perhaps the BCC strategy should focus on the incentives that households can derive from such interventions. Hence practical implementation of the philosophy of materials-in-transition (MINT, or zero waste as it is referred to in some other places) will have to focus on the value-addition derivable from the whole value-chain of the waste stream.

Am not a communication expert but I share the thinking that if we would want to sustainably change our environmental sanitation behavior then we should persistently hammer at applying effective behavioural change communication, gauge achievements and look for requirements for message-change and even the institutions that lead the campaign in order to provide the right audience-incentives and thus engender the right uptake. For example, it has been demonstrated that washing *“off”* with soap using a jug saves water and so CWSA should pass on the baton to the Ghana Water

Company Limited (GWCL) to emphasise the byte on water-saving which should be more appealing to residents in cities and urban localities.

I would want conclude by recapping that by focusing on the above three areas of *economic growth and job-creation, climate variability and change*, as well as *urbanization and institutional structuring* we can make some incremental progress but we should also begin gird all these interventions with effective BCC, which for solid waste management, will contribute to deriving the benefits of source separation which would in-turn influence greatly the uptake of the concept of Materials-in-Transition (MINT), provide evidence-based performance indicators so service beneficiaries earn value-for-money.. The Ghana Shared Growth and Development Agenda, GSGDA (2010 – 2013)³ succinctly captures this need as

“...a critical development challenge facing the country is the non-alignment of citizens’ life-styles with demands of modernisation, due largely to ignorance, and resulting in self-inflicted vulnerabilities, and therefore the spending of scarce public resources on preventable expenditures. Negative attitudes towards time, work, care of public property, health, education, human rights, safety, reproductive rights, disability, etc need to be tackled head-on to ensure the alignment of the national psyche to the development vision of the country”. The GSGDA recommends the adoption of more effective BCC in delivery of all sector plans.

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³ Medium-Term National Development Policy Framework, Ghana Shared Growth and Development Agenda (2010 -2013), GoG/NDPC, 2010.