MINISTRY OF SANITATION
AND WATER RESOURCES

REPUBLIC OF GHANA

National Solid Waste Management Strategy for Ghana

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Acknowledgments

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In addition, we are also extremely grateful for the time and patience shown by all the key informants who contributed to the research and analysis underpinning this document. This includes dozens of staff from metropolitan, municipal and district assemblies visited during the fieldwork, as well as a similar number of private sector stakeholders representing small-, medium-, and large-scale service providers drawn from the formal and informal solid waste management sector, particularly: (i) Environmental Service Providers Association (ESPA); (ii) Waste Pickers Association; (iii) Ghana Plastic Sachet Collectors Association; (iv) Ghana Plastic Sachet Manufacturer's Association; (v) Ghana Plastic Sachet Recycling Association. We also wish to place on record our appreciation to officials of "Joy News" (a television channel) for their insight on aspects of behaviour change.

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Foreword

The ambition and scope of this Solid Waste Management Strategy (SWMS) reflects the Government of Ghana's commitment in delivering on H.E. The President's vision of making Accra the "Cleanest City in Africa" and by extension the whole country. The strategy recognises the strengths and weaknesses of current solid waste management practices across the country and sets out a clear pathway, underpinned by existing policies and legislations. It is supported by practical operational recommendations, for the realisation of a more progressive, high quality, and sustainable solid waste management services in Ghana which will enhance environmental, public health, and economic benefits for all citizens.

The development of this strategy is the latest of a series of pro-active steps the Government of Ghana is taking to tackle the environmental challenges facing the country. On plastic waste, for example, Ghana recently became the first African nation to join the Global Plastic Action Partnership (GPAP) as part of efforts to drastically reduce plastic waste in waterways and oceans. Under the leadership of the Ministry of Environment, Science, Technology and Innovation (MESTI), a National Plastic Management Policy was launched in 2019 which aims to establish an extended producer responsibility scheme for plastic products. The Ministry of Sanitation and Water Resources is also finalising an Integrated Master Plan for the Greater Accra Metropolitan Area, which will be an umbrella document including components on solid waste, liquid waste and drainage. This will be replicated in the other urban centres of the country.

Cumulatively these initiatives among others, are designed to place our country on the road towards enhancing environmental stewardship, sustainable and resilient growth, and delivering a vision for the future of which we can all be proud.

The Solid Waste Management Strategy has been prepared through a consultative and participatory process involving all key sector stakeholders at the national, regional and district levels. I wish to express my sincere appreciation to all those who supported the development of this strategy and in particular representatives of the National Technical Working Group on Sanitation, Coalition of NGOs in Water and Sanitation (CONIWAS), Ministry of Finance, Ministry of Local Government and Rural Development, Ministry of Environment, Science, Technology and Innovation, National Development Planning Commission (NDPC) and National Commission for Civic Education (NCCE) who were instrumental in the development of this extremely important strategy for our sector.

Cecilia Abena Dapaah

Minister

Ministry of Sanitation and Water Resources

Executive summary

Despite its links to public health and environmental protection, and its salience in the public consciousness, progress on improving Solid Waste Management (SWM) practices remains slow in Ghana. In all urban areas of the country, solid waste is indiscriminately thrown in the streets, drains, or the sea; crudely dumped at unapproved sites; or burnt on-site. Problematic household practices regarding solid waste disposal are compounded by inadequate, ineffective, or unaffordable service delivery arrangements. In most cases, waste transfer stations (such as skips) are poorly located, inadequate in number, and emptied irregularly. Regular door-to-door collection services, although reasonably widespread, are selective in who they serve due to poorly defined or unenforced zoning. In many Metropolitan, Municipal and District Assemblies (MMDAs) service providers are not accountable for the quality of services they deliver due to weak governance, procurement and monitoring and evaluation systems. Problems also extend to waste disposal and landfill sites - which are poorly managed, lacking in capacity and unsafe. Moreover, waste reduction, re-use, and recycling activities remain extremely localised and small scale.

The overarching aim of this dedicated SWM strategy is to set Ghana on a path towards progressive, high-quality, cost-effective and sustainable waste management services which deliver environmental, public health, and economic benefits to all. This strategy has been informed by consultations during extensive fieldwork across 10 urban areas of Ghana, including: interviews with formal and informal private sector service providers; in-depth discussions with SWM service users; consultations with local and national authorities responsible for SWM; and site assessments of key SWM infrastructure supporting solid waste collection, treatment, disposal, recycling and reuse. Representatives from national and local government, the private sector, and civil society have also played a key role in the strategy development process both as key informants to data collection but also as a reference group to validate fieldwork findings and strategic recommendations

The SWM strategy is organised around seven interdependent pillars of action – all of which require attention if widespread improvements of SWM services are to be delivered.

Pillar 1: Strengthen sector governance

- *Harmonise* sector policies to create a coherent and comprehensive approach to SWM that is progressive and aligned with modern practices in waste management and recovery
- *Enhance* sector coordination and prioritise government *action* on SWM by establishing a temporary inter-ministerial coordination committee for sanitation housed under the Office of the Vice President. Longer-term this may be super-seded by a National Environmental Sanitation Policy Coordinating Committee
- *Require* MMDAs within large conurbations to establish a joint development board to allow pooling of key infrastructure assets and to optimise the use of resources
- *Develop* an enforceable and tailored regulatory framework for the SWM sector which provide a basis for procurement, contracting, monitoring and supervision of service providers working across the waste management chain. The framework should define mechanisms for operational enforcement and oversight, ensure an increased

focus on environmental regulations, and simplify processes that MMDA's have to follow to secure a permit for waste treatment facilities.

- *Build* specialised waste management capacity within MMDAs through the progressive expansion of Waste Management Departments into Municipal and District Assemblies and the roll-out of tailored training programmes in specific technical areas, such as: landfill management and supervision.

Pillar 2: Increase private sector participation:

- *Rezone* service delivery areas within urban areas to include a mix of high and low-income areas and *enable* increased private sector engagement in low-income areas by introducing a special higher rate fee for large waste producers to cross-subsidise these services.
- *Standardise* procurement and evaluation guidelines and contracts to increase rigour and consistency in tender evaluation and contracting arrangements.
- *Formalise* and provide legal recognition of waste pickers and other informal service providers (e.g. 'Borla' taxis)
- *Introduce* tax and fee relief for prospective investors and service providers in the SWM sector

Pillar 3: Optimise service delivery and infrastructure:

- *Develop* a spatial development plan to ensure logical and equitable placement of SWM infrastructure
- *Apply* new guidelines for the evaluation *of* existing and proposed public private partnerships, ensuring these decisions are transparent and based on robust analyses of cost recovery mechanisms and likely demand in order to reduce risks of public investments.

Pillar 4: Create positive social action on SWM:

- *Strengthen* the coherence and targeting of BCC messaging through the development of a comprehensive SWM behaviour change strategy, co-developed with the support of social marketing experts.

Pillar 5: Enable effective waste recovery, re-use, and recycling:

- *Establish*, *promote* and *roll-out* insurance products to cover losses in the recycling sector when commodity pricing for recyclables deviate below defined thresholds
- *Design*, *construct* and *manage* publicly-owned, waste processing assets to increase prospects for recycling and s*et-up* local buy-back centre (using existing transfer sites).
- *Support* the development of a recyclers exchange and recyclers forum that provides key information on commodity pricing, tax responsibilities and open markets for the trade of recyclables.

Pillar 6: Ensure effective sector M&E

- *Integrate* SWM indicators into a national waste management information system.
- *Develop* a simple monitoring framework to track implementation of SWM policies.
- *Institutionalise* a common set of service delivery indicators into MMDA-managed SWM contracts. These should cover elements of service coverage, quality, accessibility and reliability.
- *Adapt* the existing district performance assessment tool to place greater emphasis on SWM performance.

Pillar 7: Establish sustainable sector financing mechanisms:

- *Capitalise* on other elements of this strategy which will strengthen operational governance, competition, service optimisation and oversight (pillars 1,3,4, and 6) within the sector, and improve overall value for money.

- *Review* and *revise* the strategic environmental investment plan to establish the financing gap and investment requirements over a multi-year period.
- *Develop* a strategic financing strategy for mobilising funds from identified sources of funds (user fees, public finance, and private sector investment via PPPs) considering options to set up specific funds (e.g. plastic waste recycling fund or national sanitation fund), ringfencing taxes, or securing funds aligned to the newly developed Plastic Waste Management Policy.
- *Support* improved planning for solid waste as part of the preparation of the District Environmental Sanitation Strategy and Action Plan.

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List of abbreviations

BCC	Behaviour change communication
CONIWAS	Coalition of WASH NGOs
DACF	District Assembly Common Fund
DESSAP	District Environmental Sanitation Strategy and Action Plan
DPAT	District Performance Assessment Tool
EHSD	Environmental Health and Sanitation Directorate
EHSU	Environmental Health and Sanitation Unit
EPA	Environmental Protection Agency
GET	Ghana Educational Trust
GWCL	Ghana Water Company Limited
IMCC	Inter-Ministerial Coordination Committee
KPI	Key performance indicator
LUSPA	Land Use and Spatial Planning Authority
M&E	Monitoring and evaluation
MESTI	Ministry of Environment Science, Technology and Innovation
MINT	Materials in transition
MLGRD	Ministry of Local Government and Rural Development
MMDAs	Metro, Municipal, and District Assemblies
MSD	Management Services Division
MSWR	Ministry of Sanitation and Water Resources
MTDP	Medium-Term Development Plan
NCCE	National Commission for Civic Education
NDPC	National Development Planning Commission
NSA	National Sanitation Authority
OHLGS	Office of the Head of Local Government Service
OHS	Occupational Health and Safety

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PPBME	Policy, Planning, Budgeting, Monitoring, and Evaluation
PPP	Public–private partnership
PURC	Public Utilities Regulatory Commission
RCC	Regional Coordinating Council
RSIM	Research Statistics and Information Management
SESIP	Strategic Environmental Sanitation Investment Plan
SIP	Sanitation Improvement Package
SME	Small and medium-size enterprise
SWM	Solid waste management
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
WMD	Waste Management Department
YEA	Youth Employment Agency

1 Introduction

1.1 Background to the development of this Solid Waste Management strategy

In June 2018 the National Technical Working Group on Sanitation agreed to the development of a comprehensive 'National Urban Sanitation Strategy'. This 'umbrella' strategy was conceptualised as a consolidated document containing three distinct sub-strategies focused on different aspects of environmental health and sanitation management: (1) liquid waste management; (2) solid waste management (SWM); and (3) medical/ hazardous waste management.

Each of the three sub-strategies are being developed in parallel. The Embassy of the Netherlands, through the United Nations Children's Fund (UNICEF) has supported the strategy development process for two of these components – namely, liquid waste and solid waste – whereas the strategy for medical / hazardous waste has been developed by the World Health Organization. The Government of Ghana, through its Ministry of Sanitation and Water Resources (MSWR), has been instrumental in providing leadership across all workstreams of the National Urban Sanitation Strategy

This document is focused on the SWM sub-strategy. It has been developed over a 10-month period and is based on primary research across eight regions of Ghana, secondary data collection, and document review, including extensive stakeholder consultation through interviews and group workshops involving representatives from the national and local government, development partners, international non-governmental organisations, and small-, medium-, and large-scale private sector providers.

A variety of solid, liquid, and healthcare waste management guidelines and manuals have been developed in the past by the Ministry of Local Government and Rural Development (MLGRD), the Ministry of Environment Science, Technology and Innovation (MESTI), and the Ministry of Health. Many of these were developed as part of the World Bank's Environmental Sanitation Project; they have informed the development of this strategy document.

1.2 Aims and objectives of the strategy

The overarching aim of the strategy is to set Ghana on a path towards progressive, high-quality, and cost-effective SWM service delivery, which will deliver environmental, public health, and economic benefits to all.

The specific objectives of the SWM strategy document are two-fold:

- To diagnose key challenges inhibiting effective and progressive SWM practices across urban areas of Ghana.
- To outline a national strategic plan to help ameliorate priority challenges, ensuring alignment with existing administrative and governance structures, inclusivity of key stakeholders (government, private sector, and development partners), and recognition of priority challenges for vulnerable groups.

1.3 Structure of the strategy

The rest of the strategy document is structured as follows:

- **Section 2 provides a situation analysis of SWM service delivery in urban areas of Ghana.** This includes a critical assessment of sector policies, institutional and governance arrangements, service delivery models, and behaviour change approaches. Within this section key sector constraints are grouped and prioritised.
- **Section 3 focuses on defining the strategic priorities of the strategy**. These priorities are organised into seven pillars. Within each pillar, strategic entry points for stakeholder action are identified.
- **Section 4, which is much more operational in its focus, outlines how the strategic priorities identified in Section 3 are to be implemented**. This includes the mapping out roles and responsibilities of key actions and projecting a sector strengthening plan over the short, medium, and long term.

2 Situational analysis

2.1 The SWM challenge in Ghana

Ghana is facing a waste management crisis. In all urban areas of the country, solid waste is indiscriminately thrown in the streets, drains, or the sea; crudely dumped at unapproved dumpsites; or burnt on-site. These challenges are most acute in the larger cities of Accra, Kumasi, Takoradi, and Tamale, and reflect extremely poor behaviour control by households, commercial businesses, and SWM service providers.

Challenges related to poor behaviour and practices are compounded by inadequate, ineffective, or unaffordable service delivery arrangements. In most cases, waste transfer stations are poorly located, inadequate in number, and emptied irregularly. Regular door-to-door collection services are reasonably widespread, especially within metropolitan assemblies, but private sector service providers choose who they serve due to poorly defined or unenforced zoning. This often leaves the poorest and most marginalised households underserved and left with the choice of either engaging an informal provider or dumping waste at unauthorised sites.

Rapid economic activity contributes to the increased production of solid waste. Between 2005 and 2012, the Ghanaian economy grew at an impressive 7.7% per year on average, largely driven by commodity exports (primarily cocoa and gold) and the start of commercial oil production in 2011. However, GDP growth rates slowed between 2012 and 2016, averaging 5.6%, while picking up again to 8.5% in 2017.

Box 1: Public health and SWM

The public health implications of irresponsible waste management are severe, recurrent, and are invariably borne disproportionately by the poor and vulnerable. In Ghana, crude waste management practices have exacerbated environmental (flooding, groundwater contamination) and public health (cholera, diarrhoea, typhoid) risks, particularly in low-income, densely populated, and flood-prone urban areas. In addition, poor SWM hinders the potential of business and enterprise growth (particularly in the tourism and hospitality sectors).

Ghana has experienced intermittent cholera outbreaks since the 1980s, and these have become increasingly regular in recent years as urbanisation gathers pace. The most recent large outbreak occurred between June 2014 and January 2015, where over 28,000 cases were reported, resulting in 243 deaths.

Approximately half of all Ghanaians live in high-density communities within or on the fringes of city centres and these areas have become key drivers of cholera and related diseases through poor SWM and environmental sanitation in general. Several small-scale studies have shown that those most affected live in low-income peri-urban areas where disposal of refuse is limited, and many of the communal facilities which do exist are overflowing and act as mini dump sites where the solids end up in drains. These issues are exacerbated by the additional challenges associated with rapid urbanisation: household overcrowding, lack of public space, social dislocation, and poor urban planning. As such, waste that is collected often ends up in open drains, watercourses, and streams, or in unauthorised dumpsites, which increases the impacts of flooding.

There are also several additional SWM challenges which are less immediately visible to the population. In particular, most ‘managed’ dumpsites and landfills across the country are operated in a ‘semi-controlled’ or an ‘uncontrolled’ manner. Sites are mostly not fenced

and are open to the public, with no leachate control or treatment measures in place, and with limited arrangements for waste compaction and or fire control.

Efforts to reduce the overall SWM burden through mitigation measures, such as waste reduction, re-use, and recycling, remain at the piloting stage or are extremely localised. This is despite a rapidly developing and progressive government policy framework which seeks to keep pace with best practice mitigation initiatives in the sector.

Many of the poor SWM outcomes observed are, in part, a result of weak operational governance in the sector. Key challenges include: weaknesses in procurement, contracting and oversight of private providers by local government authorities; institutional conflicts related to overlapping or incoherent functional responsibilities; and limited overall investment in local government capacity and M&E. Moreover, the limited availability of systematic data on service provider performance, service quality, and household knowledge, attitudes and practices around SWM constrain informed policy debate and weaken accountability mechanisms between households, service providers, and local and national government. Given this context, it is clear that the SWM sector in Ghana requires a dedicated strategy for tackling the key challenges identified.

2.2 Sector characteristics

2.2.1 Collection and transport

In Ghana municipal solid waste collection and transportation is almost exclusively delivered through private sector providers. These providers vary in size, complexity, and models of service delivery. Some are formalised and bid for local government contracts, but the majority are informal, small-scale providers dealing directly with households. The two dominant forms of waste collection are the following:

- **Primary collection:** Door-to-door or kerb-based collection of small aggregations of waste. This is either undertaken by ***formal medium- to large-scale contractors*** working on behalf of the Metropolitan, Municipal, and District Assemblies (MMDAs) and serving registered, fee-paying, households in designated zones, or by a plethora of ***small-scale informal service providers*** who roam the streets with low-capacity vehicles and service households and commercial entities with a pay-as-you go service with no standard fees.
- **Secondary collection:** Relating to large, national-scaled waste evacuation services for waste deposited in communal skip containers or in public areas, including street cleaning activities. Most of these activities are covered under the national ***Sanitation Improvement Package*** *(SIP).* The SIP is a service agreement for the provision and management of skips and waste management equipment for all MMDAs in Ghana. While the service-level contract for each local SIP is between the various MMDAs and a single private service provider, it is contracted and negotiated at the national level, with the MLGRD. The SIP is a crucial pillar of SWM in Ghana and it represents the largest single contract for solid waste service provision.

2.2.2 Waste disposal

In Ghana, the primary, formalised channel for waste disposal is through 'managed' landfill or dump sites. In addition, there are a small number of sophisticated material

recovery facilities for recyclable waste, but these are not heavily utilised. Most urban areas have one designated dumpsite, managed or maintained by a local government contractor.

2.2.3 Waste reduction, re-use, and recycling

There are comparatively few waste reduction, re-use, and recycling initiatives operating at scale in Ghana. Most of the waste recovery and recycling facilities are privately owned and are centred in Accra, Tema, and Kumasi. As such, the majority of recyclables recovered from other MMDAs are sent to these urban centres, where processing and marketing capacity exists and where the recyclables can be further processed to export standards.

The most common recycling activity in Ghana, as in many other lower middle-income countries, is the collection/aggregation and trade of common recyclable plastic sub-typologies (PET, HDPE, and PP), cardboard, glass, and metals. Commercial recycling activities range from highly advanced recycling and material recovery facilities managed under donor and public–private partnership (PPP) arrangements, to informal outdoor aggregation points near waste skips or on dumpsites, overseen by informal waste-pickers. There are also several small-scale recycling centres across the country, managed by small and medium-sized enterprises (SMEs).

What is notable about the recycling sector in Ghana is the absence of advanced and commercially sustainable recycling businesses valorising recyclables to export-grade quality. Such entities can compete in the international export market and drive improved collection practice locally.

2.3 Sector governance

2.3.1 Policy and legislative arrangements

Broadly speaking, the Ghana SWM policy regime is comprehensive, progressive, and aligned with modern practices in waste management and recovery. For example, the Draft National Plastics Management Policy (2018) proposes an extended producer responsibility scheme for plastic products and packaging industries in Ghana, while the Strategic National Energy Plan (2006) made recommendations for the establishment of a tariff regime that would be friendly to renewable energy, such as through pyrolysis or gasification. The National Environmental Sanitation Strategy and Action Plan promotes material recovery through the concept of materials in transition (MINT), which sees waste as having value and which envisages the different components being recovered as a secondary resource.

However, many MMDA actors and authorities have inadequate knowledge, within the changing national policy environment. In general, any local government attention that is given to SWM is focused on the operational issues of rudimentary waste collection, transport, and disposal, without recovery. Furthermore, progressive policy instruments are often not supported by a financial mechanism or allocations to support their implementation. In addition, various policies are situated within different ministries, which do not coordinate effectively on policy coherence or implementation. For example, the National Plastics

Management Policy sits within MESTI, while the Environmental Sanitation Policy was promulgated by MLGRD, which previously had responsibility for sanitation. The Energy Plan (2006) rests with the Ministry of Energy.

Table 1 (below) provides timelines for key policy frameworks and documents that have made a significant contribution to the management of solid waste.

Table 1: Key dates in reform of SWM sector

Type	Year	Legislation/policy
Legislation	2016	Hazardous and Electronic Waste Control and Management Act (Act 917)
	2016	Local Governance Act (Act 936)
	2013	Draft Ghana Public Private Partnership Bill
	2012	Public Health Act (Act 851)
Policies and strategies	2018	Draft National Plastics Management Policy
	2017	Coordinated Programme of Economic and Social Development Policies (2017–2024)
	2014	Ghana Shared Growth and Development Agenda, 2014–2017
	2012	National Environmental Policy
	2011	Strategic Environmental Sanitation Investment Plan
	2011	National PPP Policy
	2010	National Environmental Sanitation Strategy and Action Plan (2010–2015)
	2010	Revised Environmental Sanitation Policy(2010)
	2006	Energy Plan

2.3.2 Institutional arrangements

In Ghana the governance structure for SWM is complex and layered, with different responsibilities across several national- and sub-national-level institutions. MSWR is the primary line ministry in charge of strategic direction and policy development within the SWM sector. MSWR was established in January 2017 and was widely seen as a signal-marker of government commitment to and prioritisation of the sanitation sector as a whole – including solid and liquid waste management. However, despite the establishment of MSWR, institutional complexities persist (see Box 2 below).

The overall environmental compliance of the SWM sector is regulated by the Environmental Protection Agency (EPA), whereas the day-to-day oversight and monitoring of service delivery is provided by MMDAs, while Regional Coordinating Councils (RCCs) have coordinating responsibility. Other ministries with direct and indirect involvement in SWM are MLGRD, MESTI, and the Ministry of Works and Housing.

Box 2: Aligning sector responsibilities – MSWR, MLGRD, and MESTI

Prior to the establishment of MSWR in 2017, sanitation and SWM were under the purview of MLGRD. The current framework reflects some legacy challenges associated with this change. The Local Government Act mandates that MMDAs have responsibility for the provision of waste management services and this means funds are allocated for SWM from the District Assembly Common Fund (DACF). As a result, major contracts, such as the SIP, rest with MLGRD, whereas sectoral responsibility lies with MWSR. A second example is the fact that MLGRD, working in conjunction with the Ministry of Finance, is mandated by Act 512,1996, to specify the use and modalities of the plastic waste recycling fund. The act is yet to be modified to reflect the changes in ministerial responsibility for SWM, and also to reflect the fact that MESTI is in charge of plastic waste policy. The result is that financial-level autonomy and responsibilities are not coherently aligned with service-level responsibilities. If these inter-ministerial accountabilities, functions, and technical expertise are not sufficiently aligned the governance of the sector will be undermined.

2.3.3 Operational governance

Local government capacity, planning, and finance

Local authority capacity varies widely between metropolitan, municipal, and district authorities. The six metropolitan assemblies have dedicated Waste Management Departments (WMDs). In the 109 municipal assemblies waste management functions are subsumed within the Environmental Health and Sanitation Units (EHSUs). **WMDs are better resourced than EHSUs,** but, even so, staffing levels in WMDs still fall below the recommended guidelines of the Office of the Head of Local Government Service (OHLGS).

In most cases, local government District Environmental Sanitation Strategy and Action Plans (DESSAPs) only pay passing reference to SWM issues and rarely if ever contain indicators related to SWM progress. Most annual plans include some generalised components on broader environmental health issues, such as community sensitisation and engagement, prosecution of offenders, and clean-up campaigns, but they do not contain any plans for water management services or infrastructure. One of the reported reasons for this is the existence and overall reliance on the SIP and Youth Employment Agency (YEA) contracts.

The limited emphasis on SWM in DESSAPs also reflects the limited focus on SWM issues in MMDAs' Medium-Term Development Plans (MTDPs). An analysis of the 2018–2021 MTDPs of selected MMDAs indicates that the only activity planned by the Tema Metropolitan Assembly to manage solid waste is to provide public education. There is no information regarding plans to strengthen logistical support for waste management, source separation, or waste recycling. A similar picture is painted in the SWM strategies and proposed activities for La Dade-Kotopon Municipal Assembly, Nanumba North Municipal Assembly, and Shai-Osudoku District Assembly, which all lay emphasis on the software aspects of solid waste collection and management, to the neglect of investments in infrastructure provision.

MMDA	Reference to SWM in their MTDPs
Tema Metropolitan Assembly	• Provide public education on SWM

Accra Metropolitan Assembly	• Improve SWM:
	  ○ household- and commercial-level waste separation and recycling
	• Determine human capital and skill set needs required:
	  ○ organise capacity building training programmes for solid waste collection contractors
	  ○ solid waste haulage
	  ○ acquire 200-acre land for the construction of sanitary landfill
	  ○ facilitate the identification and securing of land by solid waste collection contractors for recycling activities
	• Improve SWM:
	  ○ complete first phase of remediation works at the International Central Gospel Church dumpsite
	• Improve SWM:
	  ○ fee- and performance-based solid waste collection service contracts monitored and evaluated

La Dade-Kotopon Municipal Assembly	• Provide public education on SWM • Promote National Total Sanitation Campaign • Register 12,000 households for solid waste collection services (polluter pays system)

Nanumba North Municipal Assembly	• Enhance access to improved and reliable environmental sanitation services:
	  ○ provide public education on SWM
	  ○ regulate operations of solid waste service providers in the municipality
	  ○ procure and distribute 300 public dustbins
	  ○ fumigate communities against diseases
	  ○ evacuation of refuse dumps

Shai-Osudoku District Assembly	• Expand infrastructure facilities at all levels • Improve SWM

The SIP, contract for waste management infrastructure, and YEA are contracted centrally and account for a substantial proportion of the funds earmarked for local government service delivery in the DACF. This has the dual effect of: (i) leaving little residual funds for investment in sanitation planning and delivery; and (ii) further degrading the level of responsibility that MMDAs feel for service delivery (as, by and large, these have been outsourced to the private sector). The combined MMDA spending on SWM – whether through the SIP, YEA, or more discretionary local spending – represents a sizeable proportion of MMDA funding. With these relatively high levels of public financing for the SWM and waste recovery sector it would be reasonable to expect that service quality and practices would be better than what is currently observed.

Procurement, contracting, and M&E

The low level of competition in formalised SWM service delivery is a major concern. This means that there are few incentives to drive efficiency, innovation, or service quality

amongst formal providers. Broadly speaking, barriers to competition take two forms: (i) the imposition of high local government fees and rates which discourage the formalisation or scaling of small-scale or informal providers to compete on service contracts, and (ii) lack of transparency or probity in relation to contract awards and monitoring.

In respect of communal collection, MMDAs have little or no control over the awarding of SIP contracts. In addition, insufficient supervision of service performance by door-to-door service providers remains a serious threat to the efficient and sustainable management of SWM.

At contractual level, most SWM contracts do not specify KPI or stipulate minimum service-level requirements. At the operational level, the majority of MMDAs undertake service monitoring in an *ad hoc* manner. The result is that SWM service providers working on waste collection and disposal are not held accountable for the quality of their service delivery. Even if MMDAs are extremely dissatisfied with the service providers, their ability to influence service provider operation may be restricted by a poorly specified contract, or inadequate technical capacity or resources. Indeed, one of the most common challenges faced by MMDAs is the asymmetry of technical knowledge, capacity, and resources between local government authorities and the provider.

In some areas, such as Kumasi Metropolitan Assembly, locally driven monitoring initiatives have been rolled out; however, such initiatives are extremely localised and are not part of a broader or systematic sector monitoring system.

Box 3: M&E practices for SWM in Ghana

Most MMDAs in Ghana do not have any systems in place for tracking SWM service performance. One notable exception is Kumasi Municipal Assembly: for example, the WMD within this assembly has geotagged the locations of all skip sites and undertakes systematic monitoring of each site to check whether the skips are being regularly emptied and whether the sites are being maintained in a hygienic and safe manner. On the basis of this monitoring, simple league tables have been created indicating the sites and contractors that are performing well or badly. Kumasi Municipal Assembly has also now taken over the management of the local landfill site at Dompoase and daily records are kept of the vehicles and trucks that were bringing waste to the site.

2.4 Sector service delivery

2.4.1 Waste collection and transport

Service quality and equity

The role and configuration of private sector primary waste collection services varies across Ghana. Large urban centres, such as Kumasi, present more dynamic competitive environments that, in turn, support innovation and the development of smart governance models among service providers and local government alike. Such dynamism and innovation is not common in other MMDAs.

- **Primary (door-to-door) collection:** National and local authorities do not effectively zone and govern formal, primary service provision. A basic principle of effective municipal zoning for SWM service provision is the requirement that a licensed and zoned service provider serves all properties in their respective zones. This is not happening in Ghana.

- **Communal collection:** The minimum level of services prescribed by the NESSAP for communal collection is not met by any of the MMDAs, and analysis provided under the SIP is woefully inadequate based on the skip per population standard used. The placement, density, and condition of transfer stations (in this instance, skips) is not just an issue for households but is also important for small-scale service providers. If these are not conveniently placed or if they are frequently full, then service providers are more likely to practise crude dumping and fly-tipping, which cause a deterioration in environmental standards, the local economy, and overall public health.

Cost recovery

In Ghana the cost recovery prospects for collection and transport service providers vary by scale and type of provider operations; specifically:

- **Small-scale informal service providers** (e.g. unregistered 'Borla Taxis' and waste-pickers) can operate a commercially viable business because (i) there is considerable demand for their services, (ii) the financial barriers to market entry are low, (iii) the user fees payable can be negotiated on demand, and (vi) they can avoid municipal levies. However, their informal status acts as a considerable disincentive to scale, meaning most providers will likely remain individualistic in an invisible, tax-free economy, reducing the prospects for competition amongst medium-scale providers or contributions to public funds.
- **The medium- and large-scale formal collection and transport providers** which exist sometimes operate a profitable business based on existing user fee-fixing, but their inability to draw upon legal support services from government or to receive commitments from government for formal, legally watertight contracts also makes such investments risky and unattractive. The lack of commitments from government in regard to issuing legally binding contracts appears to be deliberate so that they do not undermine or pose any threats to large PPP arrangements (e.g. via the SIP).

These constraints cannot be divorced from existing institutional arrangements at national level, which limit MMDA autonomy of financing and decision making regarding SWM. MMDAs cannot, for example, easily provide multi-year contracts to medium-sized service providers, as if these service providers scale their operation, they may have an impact upon sensitive and largely hidden PPP arrangements associated with the SIP.

2.4.2 Waste disposal

A large proportion of the final waste disposal sites in the country are not managed in a safe, secure, or effective manner. In most cases dumpsites are managed, or at least maintained, by a private contractor procured by the MMDA. However, the credibility of this procurement and oversight of eventual implementation is limited by low levels of competition and technical knowledge and capacities within MMDAs. The result is that none of the dumpsites and landfill sites in Ghana can be properly classed as 'sanitary engineered landfills', as defined by United Nations/GIZ standards. In addition to the open burning that takes place at dumpsites, landfills are often prone to fire outbreaks. This situation presents public health and environmental risks, particularly for children. In addition, seemingly unjustifiable fees are levied to government for services and infrastructure that in some cases do not exist/were never rendered (e.g. broken weighbridges, top-soil operations that are not conducted).

Table 2: Assessment of functional status of selected landfill / dumpsites in Ghana

MMDA	Status as defined by United Nations/GIZ descriptors[1]
Greater Accra (TMA, ASHMA, AMA) – Kpone[2]	Engineered landfill (with characteristics of uncontrolled dumpsite)
Greater Accra: Shai Osukodu District Assembly – Dodowa Dumpsite	Uncontrolled dumpsite
Eastern: Asuogyaman District Assembly – Juapong	Uncontrolled dumpsite
Central: Effutu Municipal Assembly	Semi-controlled dumpsite
Volta: Ho Municipal Assembly	Uncontrolled dumpsite
Upper East: Bolgatanga Municipal Assembly	Uncontrolled dumpsite
Northern: Tamale Metropolitan Assembly – Gbalahi	Engineered landfill with operational characteristics of semi-controlled dumpsite
Western: Sekondi Takoradi Metropolitan Assembly – Essipong	Engineered landfill with operational characteristics of semi-controlled dumpsite
Ashanti: Kumasi Metropolitan Assembly – Dompoase	Engineered landfill (with characteristics of uncontrolled dumpsite)

Waste recycling, re-use, and recycling

The '3R' value chain in Ghana largely consists of fragmented and organic informal sector and SME activity, which is constrained by fiscal, tax, and structural challenges to scale and profitability. The key challenges include the following:

- **A weak international market for recyclable commodities:** Recyclers face a host of challenges that are, in reality, based on external/international factors (e.g. a low price of crude oil).
- **A lack of incentives means that the recycling sector is not commercially attractive to the private sector:** The absence of advanced recyclers in Ghana demonstrates that prospective recyclers cannot operate sustainably without public subsidy or a more conducive tax environment.
- **Prevailing household knowledge and behaviours are not conducive or aligned to recycling principles.**
- **The informality and lowly status of waste-pickers means that existing recycling activities comes with substantial health and safety risks.**

[1] GIZ (2013) 'Operator Models. Respecting Diversity. Concepts for Sustainable Waste Management'.
[2] In August 2019, the Kpone landfill caught fire and continued to burn for six weeks, causing the landfill to be closed down.

Box 4: The unseen cost of waste recycling in Ghana

The informal recycling sector in Ghana is dominated by waste-pickers working at dumpsites across the country. Although waste-picking is an extremely common practice, waste-pickers operate entirely outside the regulatory framework or duty of care of local or national government—existing in an invisible economy, with little legal or physical protection.

Waste-pickers constitute some of the most vulnerable and marginalised groups in Ghana and practise a dangerous and arduous form of work. A large proportion of waste-pickers are women and children, many of whom are economic immigrants from neighbouring countries. These people are particularly vulnerable to the physical, environmental, and social risks inherent in Ghana's poorly managed dumpsites.

Movements to formalise and help coordinate waste-pickers are becoming increasingly common globally, and light organisational structures have already been put in place at the Kpone Waste-Pickers' Cooperative in Accra, the city's largest landfill. However, this has not been reflected across the country and such initiatives are poorly supported by the Government of Ghana and the private sector. Adopting simple measures to recognise, train, and equip the informal sector with basic personal protective equipment, for example, can help the Government of Ghana to more effectively harness the collective influence of waste-pickers operating across the country.

2.5 Behaviour change communication

Ghana does not possess clear, coordinated, or coherent behaviour change strategies for SWM behaviour change communication (BCC). This lack of coordinated thinking has led to high levels of inconsistency in messages, which likely undermines the prospects for effective and sustained behaviour change. A BCC strategy was developed for urban liquid waste management in 2010; this has some useful information on overall BCC options, but does not specifically deal with SWM.

On a piecemeal basis, national and local stakeholders (government, civil society organisations, the private sector, and others) have explored a variety of different types of BCC channels, with seeming limited success. Symptomatic of the limited strategic planning around BCC is the paucity of data or evidence on (i) the efficiency, effectiveness, and cost of different approaches, and (ii) the strategic goals of different BCC interventions, i.e. who constitutes the target group and what are the behaviours being targeted. This lack of M&E and the poor articulation of intervention theory severely constrains rigorous analysis of the effectiveness of existing approaches.

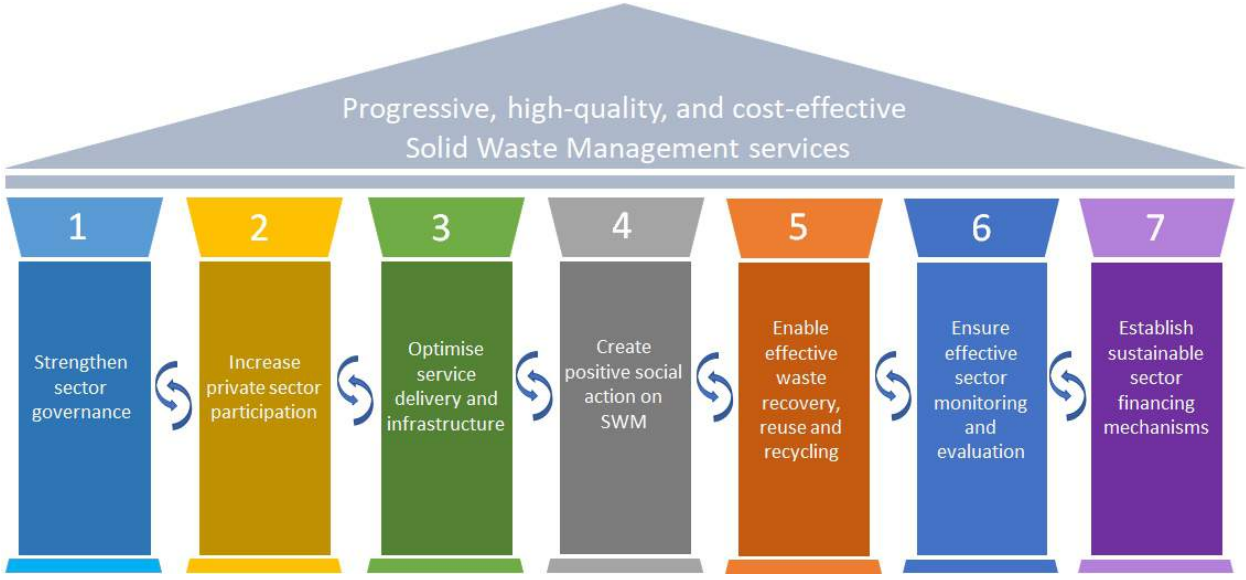
In all cases, without the provision of basic facilities like bins and minimum service provision BCC will be ineffective as people will tend to fall back on the most convenient way of discarding waste. It is therefore important that government and MMDAs should also recognise the need to provide household and communal bins, as well as skips, to go hand in hand with the behaviour change initiatives.

3 Strategic priorities

3.1 Overview

This SWM strategy provides strategic solutions to address the challenges identified in the situational analysis. Overall, the strategy recognises that improvements in sector service delivery will only be achieved through coordinated action by the government, municipalities, development partners, and the private sector. As such, the strategy is organised around seven interdependent pillars of action, all of which require attention if improvements in SWM services are to be realised. These pillars are as follows:

- Pillar 1: Strengthen sector governance.
- Pillar 2: Increase private sector participation.
- Pillar 3: Optimise service delivery and infrastructure.
- Pillar 4: Create positive social action on SWM.
- Pillar 5: Enable effective waste recovery, re-use, and recycling.
- Pillar 6: Ensure effective sector M&E.
- Pillar 7: Establish sustainable sector financing mechanisms.



3.2 Pillar 1: Strengthen sector governance

The situational analysis presented in Section 2 highlights the key issues of sector governance that need to be addressed to create a supportive enabling environment for SWM. The challenges and the proposed strategy to address the challenge are presented in the table below.

Current situation/challenge	Strategic entry point
Sector policies from different ministries are not well aligned and implementation of policy is a challenge at all	Proactive harmonisation and convergence of sector policies and guidelines

Current situation/challenge	Strategic entry point
levels. The timeframe for some strategy documents for the sector is outdated	
A complex sector governance structure, with fragmented and occasionally overlapping responsibilities across national- and sub-national-level agencies	Facilitate the alignment and coordination of key stakeholder institutions
Poor coordination of sector planning and implementation to capitalise on evident political will	Create a platform for inter-ministerial coordination and inter-MMDA coordination
Inefficient supervision on service performance remains a serious threat to the efficient and sustainable management of SWM	Strengthen regulation and oversight of service delivery
Inadequate levels of capacity to deliver services	Establish mechanisms for specialist technical assistance (TA) to support local-level SWM planning, budgeting and finance, and governance

3.2.1 Harmonisation of sector policies and guidelines

In order to achieve results and make significant gains in the sector there is an urgent need for cohesion and convergence of policies, whereby various policies speak to and complement each other. Priority areas of harmonisation include the following:

- Ensuring mechanisms for *extended producer responsibility* profiled in the Draft Plastics Waste Management Policy are mainstreamed within the Environmental Sanitation Policy, with clear plans for implementation.
- Align *waste to energy* plans, which are currently part of the NESSAP, with the National Energy Policy.
- Create strategic linkages between the 2012 Environment Policy and the NESSAP on the issue of *source separation.*

Currently, these policies and strategies are *not linked* because they are situated within *different ministries.* The convergence and alignment of these national-level priorities would constitute an important step towards a comprehensive framework for SWM that is progressive and aligned with modern practices in waste management and recovery.

There are considerable opportunities for policy revision and harmonisation in the short term. MSWR intends to revise the current Environmental Sanitation Policy and this provides an opportune entry point to consolidate and bring cohesion to the national-level policies. The revision of the Policy should identify all progressive and current good practices in waste management, identify the existing policy documents which already refer to these, and add an integration section at the end of the Policy to show the linkages.

In combination with policy alignment there is a need for the Government of Ghana/MSWR to ensure internal and external accountability for policy implementation and effectiveness. Beyond the development of policy, the government should ensure that implementation guidelines are developed to support the achievement of policy goals. The cost of policy implementation should be determined (see Section 3.2.5) and included in the

implementation framework. Finally, government must ensure that adequate resource and financing are provided for policy implementation.

3.2.2 Alignment of key stakeholder institutions

National level

The roles of key sector players, particularly line ministries and sector agencies, should be clearly defined and aligned to avoid duplication of roles. An important first step will be the clear mapping and allocation of functional responsibilities across national, regional, and district-level administration, which, ultimately, can be used as a basis for defining new policy measures and directives with effective institutional capacity, potentially through the enhanced roles of MLGRD and MSWR in their support to local agencies, and potentially a role for RCCs (subject to legislative review and resourcing, as outlined below).

Alongside mapping functional responsibilities, it is equally important that the institutional arrangements and linkages among agencies are clearly defined. This can be effectively captured in an organogram illustrating the relationship among government agencies, service providers of different scales and complexity, and other stakeholders across the SWM service delivery chain. The organogram would focus on the linkages across and within institutions and the associated reporting and accountability mechanisms and structures.

The Government of Ghana has recently announced plans for the establishment of a dedicated National Sanitation Authority (NSA) and Fund. To ensure the effective operationalisation and functionality of the NSA, we recommend that MSWR should interface with the relevant government institutions for the establishment of the appropriate structures and institutional framework of the NSA within the current government machinery, to ensure effective delivery. We further recommend that the NSA should be adequately resourced to ensure that it can deliver on its mandate. In line with this, the establishment of the Fund alongside the NSA is welcome.

Local government level

Key to strengthening operational governance at local government level is the availability of resources and support for local authorities – achieving this will likely require legislative change. Investing in specialised technical capacity in each urban MMDA would be unaffordable and inefficient, especially when compared with proposed investments in technical specialists (e.g. public health engineers) based at the RCC to provide oversight and support to multiple MMDAs. At present, RCCs do not have the mandate for waste management (as per Act 936), and RCC staff often lack experience in SWM. As such, enhancing the role of the RCCs will require legislative review and resources for engaging specialised staff.

It is also critical to define clear roles and guidelines for improving governance and oversight arrangements within MMDAs. The process for the establishment of WMDs provides an entry point for some of the recommendations. As such, local government operations guidelines and manuals must be updated to provide specific, tailored operational guidelines on:

- procurement and contracting for SWM;
- supervision of SWM service providers and monitoring of SWM service delivery; and
- the cost structure for waste management.

3.2.3 Sector coordination

National level

An inter-ministerial coordination committee for sanitation (and by extension SWM) is required to enhance sectoral coordination, as well to force urgent actions to be taken to improve SWM. As noted in Section 2.3.2, there are currently a number of ministries with varying responsibilities, and sometimes duplicating roles, for the management of solid waste. Given that all of these ministries are of equal importance at the executive level, it is critical to effectively build synergy across the different ministries for the delivery of environmental sanitation (including SWM). Furthermore, given the ramifications of poor sanitation and SWM, it is important to elevate the issue of sanitation beyond the usual rhetoric, to give it the needed attention.

Establish an inter-ministerial committee to be formed for SWM (or, more broadly speaking, sanitation) under the office of the President or Vice President. To drive change in the sector, SWM may be considered as a national emergency and, in that vein, as a national priority for action. This would reflect the urgent need to address environmental sanitation and associated public health challenges, and also given the vision that the President of Ghana has espoused for waste management.

The inter-ministerial committee should be seen as an interim, temporary measure. This structure will make way in the longer term for the National Environmental Sanitation Policy Coordinating Committee. This committee, which was proposed by the 1999 Environmental Sanitation Policy, should be revamped to take on the longer-term coordination activities, given that it has co-chairing arrangements across the different ministries, departments, and agencies. Furthermore, it will be prudent to have a National Environmental Sanitation Policy Coordinating Committee secretariat established within the NSA to ensure continued engagement of the relevant stakeholders in the long term.

Local government level

At the local government level, a joint development board is required for MMDAs within a conurbation, e.g. Greater Accra or Greater Kumasi Area etc. The concept of 'assemblies without borders' is currently being practised in some urban MMDAs. To make this structure more permanent and to anchor it in law, these assemblies without borders could be formalised to become joint development board, with an appointed joint development committee. Provision for the establishment of such a structure exists in Act 936 – Section 31. (1), which states: '*A District Assembly may appoint a joint committee with another District Assembly for a project in their mutual interest and may delegate a function of the District Assembly related to the project to the committee.*'

A joint development board is likely to be most effective in instances where MMDAs share common infrastructure, such as treatment plants. could also be a means of pooling together

resources, especially financial resources, for solid waste delivery. This will be of particular benefit to smaller MMDAs which are not able to raise as much revenue as the large ones.

3.2.4 Regulatory framework and regulation of service delivery

Sector oversight and regulation must be guided by a well-defined and consolidated regulatory framework. This framework would provide a basis for procurement, contracting, monitoring, and supervision of service providers in all aspects of the waste management chain. Regulatory measures to control the functions of waste management are critical to ensure adequate service delivery in SWM. The extremely limited and *ad hoc* oversight of service provider performance is a major weakness of existing service delivery. The underlying reasons for this are complex and have roots in issues of local government capacity and resources, personal and professional incentives, and hidden interests; nevertheless, a major contributing factor is the absence of a common framework outlining how oversight is to be exercised, with roles and responsibilities. At the time of writing, it is clear that MSWR intends to consolidate all key legislation on sanitation and waste management into one document. While this is a step in the right direction, it is important to ensure that this law is underpinned by a well-defined regulatory framework. Some of the issues that could be considered by this regulatory framework are:

- registration and licensing of service providers;
- the requirements of service providers (e.g. the requirement of providers to actively engage in 3Rs not as corporate social responsibility but as an integral part of their service provision);
- regulation of the siting, construction, operations, and maintenance of major sanitary infrastructure;
- the process of setting and approval of tariffs and tariff collection (a formula could be indicated in the act);
- service quality and expansion;
- service equity issues; and
- environmental protection.

The regulatory framework should also define the mechanisms for enforcement. This will be useful for oversight and supervision for private service providers and also for PPPs. Discussions with the officials of MSWR suggest that the yet to be established NSA will play the role of a single formal regulatory body for the management of waste in the country. A stakeholder consultative process will help to consolidate the issues to be considered. The rules and regulations could be consolidated into a Solid Waste Recovery and Disposal Act.

Ensuring an increased focus on environmental regulations. MMDAs intending to set up waste treatment or disposal facilities will benefit from a guidance document that outlines what EPA permitting processes and environmental impact assessments are to be conducted, particularly for projects that have a high environmental impact. As noted in Section 2.3.1, while there are comprehensive policy documents, some MMDAs may not be sufficiently aware of these. We recommend that **MSWR engages with the EPA to build capacity for the MMDAs in environmental assessment regulations and processes**.

Some documents that MMDAs should be engaged with include**:**

- **Ghana's Environmental Policy (2012);**
- **Environmental Protection Agency Act, 1994 (Act 490);**
- **Environmental Assessment Regulations 1999 (LI 1652); and**
- **Ghana Landfill Guidelines, 2002.**

Furthermore, the current gazetted fee regime may be prohibitive for investment and will require review, particularly for MMDAs making investments in final disposal facilities. We recommend that MSWR collaborate with the EPA to improve the processes that the MMDAs have to follow to receive environmental permits for much-needed waste treatment facilities.

3.2.5 Capacity building

It is imperative to address capacity gaps through the establishment of WMDs at the municipal level and by resourcing existing WMDs at metropolitan assemblies. The institutional capacity to govern SWM is limited and this is widely acknowledged as a critical gap. Addressing this gap requires a commitment to bring staff numbers to the levels prescribed by the OHLGS. In addition, it is necessary to tighten up the criteria for the recruitment of public health engineers to WMD roles. At present, such roles are open to those without waste management experience, training, or qualifications.

Specialised capacity building will be rolled out for key staff at the different levels. This requires the revision and enhancement of current training programmes under the scheme of service, to include specific training for landfill management and supervision. Moreover, current or potential managers of landfills and treatment facilities in the MMDAs require support to undertake professional and specialised courses in landfill management. MSWR should lead the development of a capacity building programme, in conjunction with the OHLGS.

Financial resources for the MMDAs are discussed in detail under Pillar 7. The availability of financial resources is critical and is linked to providing equipment for the MMDAs. Currently, some equipment is being provided under the SIP programme. This could be reviewed to provide adequate levels of equipment for each of the MMDAs.

3.3 Pillar 2: Increase private sector participation

This section of the strategy draws heavily upon recent and relevant primary and secondary data that indicate that working to improve **cost recovery mechanisms** is key to strengthening the enabling environment of Ghana's waste management, recycling, and recovery value chains. It also argues, strongly, that the private sector can never effectively participate in service provision so long as the **inclusion of informal actors**, including waste-pickers and Borla Taxis, is not recognised, or more systemically engaged with, by national government.

The overarching recommendation is that the government ensure that sector institutions, policies, and regulations for private sector participation are realigned to promote healthy competition and to reduce barriers to entry for the private sector. The provision of quality SWM services across Ghana is a basic public utility right, but largely operates in an organic and uncoordinated manner. Supporting an enabling environment that

provides conducive investment and operational conditions for prospective and existing solid waste service providers is key to promoting and increasing private sector participation across the sector.

Current situation/challenge	Proposed strategy
• Current fees in the gazetted MMDA fee-fixing resolutions do not effectively generate funds for cross-subsidising SWM service provision in Ghana.	Introduction of 'price-inflated' fee bands to co-subsidise and finance a number of investments, with the aim being to increase private sector engagement.
• Prospective and existing service providers are responsible for paying the same VAT, import, and licensing taxes and fees as any other business type, despite indirectly helping government to provide a basic public utility service.	The elimination or temporary waiving of specific applicable taxes, fees, and licensing costs, levied on service providers.
• Low-income areas receive fewer choices and poorer service standards. • Fragmentation in service provision contracts for related activities (beautification, street sweeping, waste collection) leads to poor evaluation and zoning support from local authorities. • A lack of standardised procurement guidance and contracting incentives within and outside the SIP provides some private sector stakeholders with large market advantages, preventing healthy competition.	Equity in private sector participation (standardised procurement, evaluation, and zoning support).

3.3.1 Cost recovery mechanisms and governance

National government to promote dynamic cost recovery mechanisms that improve the prospects of cost recovery for public and private service providers.

- **Government to introduce a special 'price-inflated' fee band, levied on large waste producers (e.g. hotels, shopping malls, and commercial districts).** Revenue from this fee band to cross-subsidise service

  with the aim being to increase private sector engagement in less popular consumer sectors of the SWM sector (e.g. services in poorer areas, recycling services).

  Determining the rates and conditions of the new fee band will require discussion and consensus among MMDAs (and where present, WMDs), as well as among policy, enforcement, planning, health and environmental officers, and those responsible for regional oversight, through the RCCs.

  Determining the roll-out and implementation plan for the special fee band will require discussion and engagement with Ghana's public, private, community-based, and informal service providers.
- **Government to eliminate or temporarily waive specific applicable taxes, fees, and licensing costs levied on service providers.** The enhanced tax and licensing environment will reduce the administrative and cost-related barriers for new investments and scaled business services across the sector.

  Rationalisation or waiving of VAT that is applied on SWM services.

Rationalisation or waiving of import taxes and charges for equipment and vehicles destined for use in solid waste service provision.

Rationalisation or waiving of application, licensing, and business fees levied by local authorities for prospective service providers.

Tailoring regulations for the importation of different goods and products is essential to ensuring Ghana's private sector is able to source necessary technology and equipment for beneficial waste recovery and recycling operations. Developing countries like Ghana are reliant on imports due to a weaker local manufacturing sector, lower access to skills and finance, and stronger export markets elsewhere (Europe, America, and China etc). Building on this point, MSWR, working in collaboration with MESTI, could develop guidance on specific types of imports that do not compete with local industry, such as advanced waste recycling machinery, and seek to waive or ease the tax and administrative burden of importing such equipment into Ghana.

3.3.2 Inclusive SWM and recognition of the role of the informal sector in SWM

National government to lead efforts to recognise, formalise, and support the considerable collective influence of the informal economy in SWM service provision and waste recycling and recovery activities.

- **National, regional, and local government agencies to publicly recognise and commend the role of waste-pickers** and informal Borla Taxi operators in print and media campaigns, to set the precedent that informal waste management and recycling activities are welcomed and beneficial for the wider waste collection and recycling value chain.
- **National government to provide basic, government-issued ID cards** for waste-pickers and informal Borla Taxi operators to collect valuable data on the size, scale, and characteristics of this informal economy.
- **National government to integrate an Occupational Health and Safety (OHS) standards directive** for the wider SWM and recycling value chain. Upon launching an OHS strategy for the wider sector, national and regional government can employ a measured effort to equip waste-picker cooperatives and informal Borla Taxi operators with basic personal protective equipment (e.g. municipal branded overalls) and training (e.g. on waste segregation techniques).

3.3.3 Promoting equity in private sector participation

National government to ensure wider equity in private and public service provision and procurements.

- **Government to provide standardised procurement and evaluation guidelines for SIP and non-SIP opportunities that are tailored to a wide selection of different corporate, SME, and community-based contractors across Ghana.** Formal guidance and opportunities that are appropriately positioned for smaller, localised service providers across Ghana will increase service quality and equity in lower-income areas and support healthier competition across the value chain.

  Government to lead a robust stakeholder mapping and consultation process to identify and determine the varying capacity of prospective and existing service

providers across Ghana. Such efforts to be led in partnership with well-established representative bodies in the sector, such as the ESPA.

Standard rates payable to contractors and related incentives (e.g. bin distribution programme), for SIP and non-SIP services will be defined and publicly communicated, to allow for fair and transparent competition among prospective and existing service providers.

Robust, independent, and transparent evaluation criteria to be presented to prospective and existing service providers, underpinned by measurable indicators and scientific data (further discussed under Pillar 6).

- **Government to zone service delivery areas that require service providers to provide comprehensive SWM services, including skip management, street cleaning, and beautification.** Comprehensive SWM contracts will ensure easier monitoring and measurement of service provider performance and will eliminate confusion on where roles and responsibilities lie in regard to any waste challenges within the zone.

  Government to conduct a consultative process to determine what services will be included under SWM contracts (including street and drain cleaning, beautification) and the cost recovery model that will be applied to each service (e.g. user fees, public subsidy for public cleansing).

  Comprehensive SWM and public cleansing contracts to further inform revised M&E strategy (further discussed under Pillar 6).

3.4 Pillar 3: Optimise service delivery and infrastructure

This section of the strategy draws heavily upon recent and relevant primary and secondary data that indicate that working to improve **approved sanitary and waste transfer infrastructure sites and leveraging private sector investments through PPPs** is key to strengthening the enabling environment of Ghana's waste management, recycling, and recovery value chains.

The overarching recommendation is that the government ensure that existing and proposed waste management, transfer, and recovery infrastructure is strategically and equitably distributed, and that it is supported by smart PPP frameworks. The equitable and strategic distribution of waste transfer assets is essential to supporting service provision among public, private sector, community-based, and informal-based waste collectors, and furthermore, inherently attracts and supports investments in waste recycling and recovery activities. This waste transfer infrastructure, most commonly skip sites, provides the foundation for the provision of waste services in lower-income settlements, by Ghana's smallest waste collectors. While higher-income service provision can always price larger distances into the cost model the ability to provide affordable services in lower-income settlements is a key policy objective.

3.4.1 Leverage private sector investment and expertise through appropriate PPPs

Government to lead the drive for infrastructure delivery through considered use of PPPs. This will include an emphasis on strengthening the transparency of how PPP models are designed and implemented to ensure value for money.

- **MSWR to develop guidelines for PPPs (based on the PPP bill, while still being tailored to suit the needs of SWM).**

  The guidelines will provide directions on how to respond to unsolicited PPP proposals.

  The guidelines will provide a framework for the systemic assessment of proposals.

  For solicited PPPs MSWR will outline and prepare a list of all projects that require investment (similar to Ghana Water Company Limited (GWCL) SIPs), showing the projected cost etc.

  At the local level, a guidance document for procurement and assessment of service providers will be developed for the MMDAs.

- **Clarify, rationalise, and ratify all existing PPPs that do not have clearly defined contracts and terms of engagement to ensure fairness for both the private sector investor and the government.**

  Government to ensure that modern facilities financed by PPPs are not underutilised and are clearly defined in existing contracting modalities.

  Government to ensure the presence of an appropriate tariff scheme to ensure that the right prices are paid for services while service quality is regulated.

  Government to request that potential investors in the SWM value chain submit both technical and financial proposals for vetting, benchmarked against international best standards.

  As noted in Section 3.2.4, an appropriate regulatory framework is essential to support the delivery of service through the private sector. A regulatory body similar to the Public Utilities Regulatory Commission (PURC) could be set up to regulate and harmonise the tariff-setting mechanisms.

3.4.2 Strategic spatial planning of transfer infrastructure

Government to undertake a strategic spatial planning and mapping study to reposition waste transfer infrastructure and zone these sanitary sites through the Land Use and Spatial Planning Authority (LUSPA).

- **National government will promote scientific, evidence, and systemic backed spatial planning of public waste management, transfer, and disposal infrastructure and assets to ensure the effective allocation of infrastructural assets.**

  Assessment of MMDA-controlled waste transfer assets: The quantification, indexing, and assessment of the standard, quality, and condition of waste transfer infrastructure held by MMDAs. This can be achieved by mapping of the various sanitary sites and disposal sites in order to optimise their usage, to avoid ‘overcrowding’ or ‘scarcity’. A pre-designed mechanism will facilitate requests for supplementary skips and waste transfer assets where an MMDA does not meet skip to population/area directives.

  Redefining the category of service delivery based on population density: This approach forces private sector collectors to focus on an area or locality to which their equipment is well suited. The various MMDAs can limit the use of the Borla Taxis to collect waste from densely populated areas to be transported to a ‘waste transfer site’ akin to a sanitary site for onward lifting by the compactor truck. In this way, the issue of fly dumping by the Borla Taxis can be curtailed.

GIS zoning and strategic spatial planning of waste transfer assets: A rigorous study to indicate the appropriate level and quantity of resources that each MMDA/WMD requires to meet national indicators/requirements for skip to population and area ratios.

Determination of whether current MMDA-controlled waste transfer assets meet directives on skip to population and skip to area ratios. These could either be defined by the SIP or national government, or via consultations with GIS and engineering specialists in Ghana or academic institutions, or based on international guidance.

Procurement and placement of new waste transfer assets: Financial or material support from the national government to ensure that local MMDAs/WMDs have sufficient internal resources to ensure skip ratios are adequate based on local population and areas.

3.5 Pillar 4: Create positive social action

Future approaches to BCC in SWM will embedded within a coherent strategic framework, adhering to the following principles:

- Giving disproportionate attention to legislative approaches, such as legal enforcement, **is ineffective and potentially inequitable** if it is not combined with the provision of accessible waste facilities (public bins, skips, and carts) and affordable services.
- To the extent possible the design and implementation of BCC approaches will be informed by **evidence** and **defined strategic objectives**:

  the channels and mechanisms of BCC will be tailored according to target audiences – segmenting approaches by low-, middle-, and high-income households, commercial businesses, and service providers; and

  the aims, objectives, and target behavioural outcomes of specific BBC initiatives will be stated before implementation, to enable monitoring, learning, and accountability
- BCC will be implemented through a **mixture of channels**, leveraging, where appropriate, the use of increasingly prevalent communication channels – particularly social media. This recognises that both traditional approaches, such as messaging through **local radio** and **town hall meetings**, and more modern approaches, such as leveraging **social media 'influencers',** can be extremely cost-effective ways of reaching different audiences.
- The impact and cost-effectiveness of all BCC approaches can be improved if they are implemented in a **coordinated manner as part of an overarching behaviour change strategy** – led by MSWR and supported by a specialist communication agency. It is envisaged that this strategy will involve the following:

  Define key behaviours and messages for segmented stakeholder groups across the country, ensuring messages are consistent, coherent, and integrated with parallel initiatives – whether enforcement measures, private sector outreach, or the provision of infrastructure. It is expected that messages will be simple, powerful, memorable and targeted. Example slogans are *'reduce your waste'* and *'use a bin'*.

  The Environmental Health and Sanitation Directorate of MSWR and the proposed NSA should, in collaboration with the National Commission for Civic Education (NCCE), coordinate solid waste-related BCC messaging and activities to ensure coherence and sustainability.

  Ensure that bins and communal facilities are progressively provided in areas where household waste collection is not feasible.

Establish a private sector and civil society platform at national and regional levels to periodically assess and evaluate BCC programmes on SWM.

3.6 Pillar 5: Enable effective waste reduction, recovery, and recycling

Government to provide and stimulate key tax policy, cost recovery, and co-investment measures to influence the uptake and scaling of 3R activities across Ghana. Sustainable and integrated SWM practices are rooted in the diversion of waste from landfill and the integration of resource recovery into waste management practices. The design, provision, and strengthening of incentives that influence and increase waste reduction, recovery, and recycling activities across Ghana will set a benchmark precedent that promotes and increases private sector engagement and participation in these sustainable activities. It will also ensure that the government is able to operationalise its own policy on MINT.

Current situation/challenge	Proposed strategy
National government currently provides limited support to the existing or prospective investors in the waste reduction, recovery, or recycling sectors.	• The introduction of a special 'price-inflated' fee band, levied on large waste producers (e.g. hotels, shopping malls and commercial districts) and ring-fenced to support recycling activities. • National government to conduct an objective examination of import/export, and VAT tax measures, to waive or reduce these charges for recyclers. • The provision of timely subsidies or the promotion of insurance products that partially cover the loss in revenue of the recycling sector.
Tightly controlled PPP arrangements on waste valorisation infrastructure arguably favour a small, non-inclusive group of stakeholders, limiting the number of SMEs entering the advanced waste recycling sector.	• National government to design, construct, and manage public, light infrastructural waste valorisation assets for stakeholders operating at various scales within the recycling value chain, to expand their activities and capacity to valorise waste recyclables.
Waste-pickers and informal waste recyclers are currently unrecognised by government and receive no support—despite representing the largest waste management and recycling stakeholder group in Ghana.	• Government-sponsored establishment of WIEGO-backed national and local waste-pickers' cooperatives. • Integration of basic OHS standards for the waste management and recycling sector through ongoing support to waste-pickers cooperatives such as WIEGO. • Provision of basic personal protective equipment, training, and marketing resources to support integration and inclusion of waste-pickers in the waste management and recycling value chains. • A conscious effort should be made to create a database of all players in the informal sector.

3.6.1 Dynamic tax instruments to enhance cost recovery

Government to provide and stimulate key tax policy, cost recovery, and co-investment measures to influence the uptake and scaling of 3R activities across Ghana.

- **National government to introduce a special 'price-inflated' fee band**, levied on large waste producers (e.g. hotels, shopping malls, and commercial districts). These fees would be designed similarly to those applied to large waste producers (Pillar #2) but would be ring-fenced to directly support recycling activities.

  Determining the rates, conditions, and implementation plans for such a fee band would require consistent stakeholder consultation and consensus, as outlined under Pillar #2. The evaluation and stakeholder consultations may determine that the most appropriate method of selecting cost recovery options is through a dedicated, independent body, such as a Tariff Regulatory Commission.

  One popular method of introducing and streamlining the new fee band would be to couple/bundle it with other utility charges (e.g. water, electricity, property tax).

- **National government to conduct an objective examination of import/export, HS code, and VAT tax measures** currently in place in Ghana, to identify a number of tax relief or waiving measures that will support recycling activities, while setting the important precedent, by government, that sustainable waste recycling activities are desirable and invited.

Government to eliminate import tax bands, payable on equipment, vehicles, or assets that are destined for a 3R activity. The Government of Ghana to set up a mechanism that facilitates the import of these assets to influence further uptake of 3R activities.

Government to waive VAT payable on valorised or recycled products.

- **Government to promote subsidies or directly provide insurance products that partially cover the loss in revenue of the recycling sector.**

  Design and promotion of index insurance products that cover losses in the recycling sector when commodity pricing for recyclables deviate below a pre-defined threshold.

3.6.2 Construction of public, free-to-use recycling stations to valorise recyclable commodities

National government to design, construct, and manage, public, light infrastructural waste valorisation assets for stakeholders operating at various scales within the recycling value chain, to expand their activities and capacity to valorise waste recyclables.

- Government to lead efforts related to the allocation of land, light construction of storage facilities for waste valorisation activities, and simple paving for vehicle access.
- Government to develop an operational plan for the facility (usage base: per Mt processed vs per hour used). Government will lead robust stakeholder engagement to determine most conducive and effective operational model.
- Government to lead efforts related to the procurement and setting up of light processing technologies, including for a vertical baler and plastic shredder, operational in every MMDA.

3.6.3 Inclusive SWM and recycling value chains / integrating OHS standards in SWM and recycling value chains

Similar to the entry points outlined under Pillar #2, national government to lead efforts to recognise, formalise, and support the considerable collective influence of the informal economy in SWM service provision and waste recycling and recovery activities.

In addition to the previously stated entry points on, **the public recognition by national, regional, and local government agencies of waste-pickers**, the provision of **basic, government-issued ID cards for waste-pickers**, and the **integration of OHS standards** for the wider SWM and recycling value chain. Specific recycling sector tailored entry points include the following:

- The creation of a **recyclers exchange** that provides key information on commodity pricing, tax responsibilities, and open markets for the trade of recyclables.
- The creation of a **recyclers' forum/association** that provides a more conducive and welcoming environment for existing and prospective investors in the recycling market to meet others in the sector and form collaborations. There is currently a United Nations Development Programme (UNDP) waste recovery platform that provides information on all waste recycling activities and stakeholders in Ghana. It will be useful for MWSR to draw linkages with and information from this platform. The Ghana National Plastics Action Platform has recently been established by MESTI. It is recommended that MSWR engage in these knowledge exchange programmes, to ensure it is abreast of the current state of knowledge in the recycling and waste recovery sector in Ghana.

3.7 Pillar 6: Ensure effective M&E

National and local-level M&E of SWM is extremely weak and will be a focus of government action – specifically through commitments to harmonised data management systems and monitoring of policy implementation, and establishing common key performance indicators (KPIs) to enable the measurement and comparison of MMDA and service provider performance. Central to M&E strengthening is the definition of robust SWM performance, integration of M&E with ICT solutions for cost-effective and reliable reporting, and the establishment of mechanisms for independent oversight.

This strategy provides a wide range of recommendations for the consideration of specific M&E indicators to measure service delivery quality and enhance the capacity of existing and proposed oversight in national and operational government. These tables and resources can be found in Annex A.

3.7.1 Creation of a harmonised data management system at both local and national level

Government to establish a National Waste Management Information System and integrate indicators of solid waste in sector monitoring systems.

- MSWR is currently being supported by the United States Agency for International Development (USAID)/WALIS project to create a harmonised database for sanitation and water. A section on SWM information should be created in this database.

  There should be coordination between the Research Statistics and Information Management (RSIM) Directorate of MSWR and the Environmental Health and Sanitation Directorate (EHSD) to ensure data are regularly updated.

Appropriate SWM data capture systems should be created at the WMDs to collect data for M&E purposes. MMDAs will be provided with budget and resource allocations for newly established M&E functions to enable them to provide up to date information for a national-level database.

3.7.2 Monitoring of policy implementation

MSWR to develop a framework for monitoring policy implementation as part of its policy review process.

- **Government to establish a monitoring framework to ensure effective implementation of policy.**

  Design and release terms of reference for the policy review assignment; include the requirement for an appropriate framework for policy monitoring.

  MSWR to mainstream policy monitoring for sanitation either in the RSIM or Policy, Planning, Budgeting, Monitoring, and Evaluation(PPBME) Directorates of MSWR. These two directorates will work closely with EHSD to ensure that monitoring is done at the agreed frequency.

  At the MMDA level, newly established structures for M&E at MMDA level (3.7.1) will be provided with adequate budget and resource allocations.

3.7.3 Clearly defined KPIs at the operational level

Government to develop service delivery indicators for SWM.

- **Government to adopt a structured monitoring framework that measures service delivery.**

  M&E for services received by users – quantity, quality, accessibility, and reliability over time. These types of indicators are often missing from assessments, such as District Performance Assessment Tool (DPAT). The quality of service received by users could also serve as a proxy for the performance of service providers

  M&E for sector performance of the service authority (MMDAs) – assessment of planning, coordination, regulatory, supervisory, and support functions necessary to effectively procure and oversee service provider performance

- **Government to adopt KPIs that cover key areas related to improved service delivery.** KPIs considered important to the SWM value chain are indicated below and are also unpacked in more detail in the annex A.

  Generation/collection/transport, including: household-level coverage of SWM services; efficiency of the collection of municipal solid waste; and the extent of segregation of municipal solid waste.

  Re-use, treatment, and disposal, including: the extent of municipal solid waste recovered; and the extent of scientific disposal of municipal solid waste.

  User perspective, including: efficiency in addressing customer complaints and grievances (use client service unit at MMDA level as grievance redress mechanism); and the creation of a short code or call centre that will be used for this service.

3.7.4 Use of DPAT to incentivise performance of MMDAs

Two major recommendations are made under this heading:

1. **Government to integrate SWM indicators within DPAT to incentivise performance of MMDAs**

- **Government to design and develop a Responsive Factor Grant (as part of DPAT) to improve performance.**

  Financial incentives will be linked to performance and delivery in SWM.

  Financial incentives could be developed similar to the Sanitation Challenge Awards for Ghana.

  Scoring information will also draw upon existing and new M&E functions led at MMDA level, such as a DPAT-based assessment on whether MMDAs have a DESSAP that has been implemented, verified, and approved by the MSWR.

- **Validation and verification of MMDA performance in SWM should be done prior to DPAT assessments.** The DPAT is undertaken by external consultants, mainly through a document review. This limits the ability to adequately assess service delivery through indicators from the DPAT. The DPAT assessment could benefit from the review of reports that have been validated. For example, rather than checking whether an assembly has a DESSAP, the DPAT assessment could rather check whether the MMDAs have a DESSAP that has been implemented, verified, and approved by MSWR. Similarly, the check for improvements in sanitation and SWM should be approved by MSWR.

2. **Civil society to provide independent assessment of performance through the design and development of a score card showing the performance of MMDAs in SWM.**

The development of the score card for SWM will draw upon best practice and knowledge transfer from the current UNICEF score card for SWM.

3.8 Pillar 7: Establish sustainable financing mechanisms for SWM

Mobilising and making efficient use of public, private, and household finance is essential to drive improvement in waste management nationwide. The strategic recommendation for strengthening sector financing has several dimensions which cut across some of the sector governance, competition, and capacity issues mentioned in other pillars:

1) **Ensure investments in sector governance and oversight are in place to improve the value for money of existing SWM investments.**

   - The Government of Ghana is already making significant investments in the sector through municipal budgets, quarterly allocations from the DACF and central contracts. However, lack of operational oversight and performance management of private operators means that collection, transport, recycling, and disposal services fall well below expected levels.
   - More broadly, MSWR/the Ministry of Finance does not have a tailored PPP strategy or guidelines to support the design of existing and prospective investments in waste management and recycling value chains. This has contributed to some PPP being designed without adequate guidance. National and local government officials are also ill equipped to guide sustainable investments into Ghana.

2) **Review and update the Strategic Environmental Sanitation Investment Plan (SESIP)**[3] to establish the existing funding gap and clarify the level of investment required to address low service coverage rate and the very poor rate of waste recovery and recycling. This will require appropriate planning, budgeting, and forecasting based on the life cycle costs of service delivery and supporting infrastructure and technology. The development of SESIP should actively involve both the Ministry of Finance and MLGRD.

3) **Develop a strategic financing strategy for mobilising funds from identified sources** (including fees, taxes, and private sector investments via PPPs). Specific measures that have been or could be proposed include the following:

   - The ringfencing of taxes and fees for investments in the waste and recycling value chains.
   - The proposed plastic waste recycling fund (proposed in Act 512 but not yet established). The law provides that the disbursement of this fund should be the responsibility of MLGRD. However, MSWR could liaise with the Ministry of Finance to amend this, to ensure that those in charge of waste management will determine fund usage.

[3] The previous investment plan elapsed in 2015.

- Investments and finances that derive from the newly developed Plastic Waste Management Policy (2018), which sits with MESTI. MSWR should work closely with MESTI to ensure these amendments are in place, and possibly to ensure joint oversight of the plastic fund.

4) **Introduce a public levy that can be ring-fenced for investments in the SWM and recycling value chains** – similar to charges and levies for national health insurance and education. While the introduction of special levies is outside the remit of MSWR, the ministry can engage with the Ministry of Finance and appropriate parliamentary select committees to lobby and help inform such policy shifts. Recently, MPs called for an increase in VAT to deal with waste management[4]. If this is to be realised, it is critical that an appropriate fund management structure – similar to the Ghana Educational Trust (GET) fund secretariats – is established to transparently and sustainably disburse funds. The MSWR should additionally ensure that appropriate guidelines are developed for disbursement, so that related ministries understand and are able to effectively assess prospective investments.

5) **Establish a National Sanitation Fund**. Officials of MSWR, in addition to the Vice President, indicated at the Mole 2019 Conference that an NSA and corresponding fund is to be established in Ghana, with significant scope for addressing SWM challenges and opportunities across Ghana. There have also been talks of a green fund that could integrate or align itself with the NSA. MWSR could review existing and proposed funds and funding streams for SWM and explore how to integrate them into a consolidated Sanitation Fund. These can all be defined in the SESIP.

6) **MMDAs should undertake adequate planning and budgeting for SWM as part of preparation for the DESSAP.** Guidelines would be provided as part of the DESSAP handbook to support this action. Outputs would feed into existing operational governance structures, such as the MTDPs and the annual workplans of the MMDAs. The respective budget should be used as an input for fee-fixing in the specified year[5]. Amounts obtained from fees, fines, and other revenues should be ring-fenced at the assembly level to finance and pay for SWM services (a minimum amount could be determined).

7) Mobilise funds through public levies though mechanisms such as:

- ringfencing environmental fees (licences, littering fines, new tax instruments) for investments exclusively in local SWM service provision; and
- bundling of public utility fees to combat citizen apathy and default rates (e.g. water, electricity, property tax, waste management, sanitation).

[4] www.myjoyonline.com/politics/2019/September-11th/npp-mp-proposed-increase-in-vat-to-tackle-sanitation-challenges.php

[5] Guidance for MMDAs to set appropriate fees for cost recovery is discussed under Pillar 2.

4 Implementation arrangements

4.1 Coordination and phasing

The required actions to strengthen SWM service delivery will need to be implemented by a variety of stakeholders in a coordinated and phased manner. The prior Section 3 outlined the key strategic priorities for SWM sector strengthening. However, the operationalisation of these recommendations involves multiple stakeholders and as the recommendations have a degree of interdependence it is vital that they are sequenced to maximise impact and effectiveness.

This section provides operational details on the key activities required to implement identified strategic objectives. To make this information as accessible and practical as possible, recommendations are organised into those that are most appropriately implemented in the short term (within a year), medium term (within three years), and longer-term (over three years), and they are thematically clustered. For each recommendation additional details are provided on the specific inputs required, the stakeholders responsible, and likely resources or interdependencies implied.

4.2 Priority actions in the short term

4.2.1 National level

A platform that provides the foundational structure for enhanced inter-ministerial coordination—helping to align incentives and policy measures that promote private sector participation in service delivery. This will be complimented by the further development of a comprehensive institutional framework and organogram for sanitation and waste management and the expansion of financial and technical support to help establish WMDs in all MMDAs. Once national and local government institutional structures are revised, a number of priority actions will also be adopted to ensure adequate data management and to support new PPPs with SME and corporate partners in the private sector.

Create platform for inter-ministerial coordination

Objective: To establish a new sector mechanism which provides a forum for coordinated action, decision making, and financing for the SWM sector		
Strategic alignment: Strengthening sector governance and decision making to lay the foundation for achieving the President's mission of improving sanitation across the country and in Accra specifically		
Required activities / inputs	**Responsibility**	**Inter-dependencies**
MSWR to submit a policy brief and a cabinet memo for the establishment of an Inter-Ministerial Coordinating Committee (IMCC) under the Chairmanship of the Vice President or Senior Minster. The Secretariat for the IMCC should be at the Office of the President/ Vice President.	MSWR	N/A
MSWRto set up a core team to follow up on operationalising the recommendations in the cabinet memo.	MWSR	N/A
Ongoing support and TA to ensure that these recommendations and actions are implemented.	Development partner / UNICEF	N/A
Other considerations / implementation risks N/A		

Establish well-resourced WMDs in the MMDAs

Objective: Effectively resource MMDAs and WMDs to ensure efficient oversight and quality control of service provision in Ghana		
Strategic alignment: The National Environment Sanitation Policy states that '*Waste management shall be carried out by Waste Management Departments, within Metropolitan and Municipal Assemblies'.* This recommendation seeks to fully implement that policy recommendation		
Required activities / inputs	**Responsibility**	**Inter-dependencies**
New WMDs will need to be established through executive instrument, this will require: - MSWR to draft a letter, in conjunction with MLGRD, in line with Act 936, for the presidency to establish WMDs in the Municipal and District Assemblies. - The amendment of schedule 2 of Act 936 to provide the necessary authority for the establishment of WMDs at the MMDA level.	MSWR MLGRD OHLGS	Management Services Division (MSD)
Supporting the effective operation of newly established WMDs at municipal level will require: - updated operational guidelines for the WMDs; - recruitment and staffing of WMDs; and - training and orientation for WMDs (e.g. training and capacity building of a number of public health	OHLGS	MSWR

Objective: Effectively resource MMDAs and WMDs to ensure efficient oversight and quality control of service provision in Ghana		
engineers and related staff to be attached to various MMDAs country-wide).		
Other considerations / implementation risks • Establish mechanisms for specialist TA to support local-level SWM planning, budgeting and finance, and governance. • WMDs are established on paper but are not provided with sufficient technical and financial resources to allow them to perform their role effectively.		

Develop a comprehensive institutional framework and organogram for waste management

Objective: Facilitate the alignment and coordination of key stakeholder institutions		
Strategic alignment: Improving operational governance by establishing clearer guidelines on respective stakeholder roles and responsibility and level of authority at national and local government – particularly in respect of service delivery oversight and regulation		
Required activities / inputs	**Responsibility**	**Inter-dependencies**
MSWR to ensure that the same team leading efforts at inter-ministerial coordination leads the development of the sector organogram (likely with some form of TA support): - identify the role of key stakeholders and existing overlaps; - define clear responsibilities; and - organise key informant interviews and focus group discussions with related stakeholders and ministries to ensure a wide range of views are represented and taken into account.	MSWR	MESTI MLGRD Ministry of Health OHLGS MSD National Development Planning Commission (NDPC)
Once agreed by the task force, the cross-sector organogram would be drawn up by the Management Services Division of the Office of the Head of Civil Service. In particular, the organogram should draw linkages and reporting structures among the national, regional, and district levels (reporting mechanisms and structures).	MSD	MSWR
Other considerations / implementation risks • The political decisions regarding the proposed NSA will have a significant impact on institutional arrangements in the sector		

Develop a framework for data harmonisation

Objective: Strengthen processes for data collection, processing, and harmonisation to enable improved sector oversight, and ultimately decision making		
Strategic alignment: Supporting ongoing government-led efforts to develop an integrated 'sector information system'		
Required activities / inputs	**Responsibility**	**Inter-dependencies**
Extending the scope of work and additional funding for the ongoing 'Improving Data Harmonisation within the Ghana WASH Sector' assignment to consider indicators and data management processes associated with SWM.	MSWR	USAID UNICEF
Develop a framework for solid waste data capture at both the national and district level – defining the frequency and type of data to be collected.	MSWR	MLGRD, OHLGS, TA
Establishing robust processes for the field and remote collection of data relating to newly established indicators.	MSWR	MLGRD, OHLGS, TA
Establishing the newly required capacity to clean, manage, and articulate data to related departments and ministries.	MSWR	MLGRD, OHLGS, TA
Other considerations / implementation risks • The existing ODF protocol provides some indicators for SWM to be considered.		

Develop appropriate guidelines and procedures for PPPs in waste management

Objective: Strengthen the transparency and probity of decision making around PPPs in waste management to ensure investments deliver value for money for public and development partners funding		
Strategic alignment: Supporting the optimisation of SWM service delivery and infrastructure through increased oversight and more considered private sector engagement		
Required activities / inputs	**Responsibility**	**Inter-dependencies**
Increasing capacity and resources within MSWR to lead PPP decision making – such as setting up a PPP within the ministry as a counterpart to the similar unit within the Ministry of Finance.	MSWR	N/A
Identify and clarify funding architecture for existing PPP projects in the sector.	MSWR	N/A
Develop a list/ inventory of all projects that require investments (similar to GWCL Strategic Investment Plan).	MSWR	MMDAs, NDPC, TA
- Set up a standing committee at MSWR to undertake initial assessment on the merit of PPP proposals. - MSWR (through the established PPP unit) to liaise with the Public Investment Division of the Ministry of Finance for the evaluation of PPPs.	MSWR	Ministry of Finance/Public Investment Division

Objective: Strengthen the transparency and probity of decision making around PPPs in waste management to ensure investments deliver value for money for public and development partners funding		
Develop guidelines for the assessment and evaluation of proposals.	MSWR	Ministry of Finance, Attorney General's Department
Other considerations / implementation risks N/A		

4.2.2 Operational level

Newly revised and established national structures in the waste management sector will demand bold actions to be adopted by local regulatory bodies. A framework for enhanced oversight and reporting functions, similar to the PURC, for example, will be established and a number of key research and capacity building actions will be explored, through the body, employing internal TA and an external consultant. Specific outputs of such research and capacity building measures will include new KPIs and M&E forms, to be used to measure service provider performance.

Operational-level actions in the short term will also be defined by the strategic and spatial data-informed placement of waste transfer infrastructure to ensure foundational, public, waste management infrastructure is equitably distributed for informal, community-based, SME, and larger private sector actors. Such measures will be complemented by the establishment of community-based recycling and buy-back centres, to allow smaller and informal actors to access advanced waste recovery and recycling technologies without fronting the entry costs. Actions will also address the recognition and coordination of the informal sector, including through the provision of PPP and basic OHS standards for Borla Taxis and waste-pickers.

Develop a regulatory framework and regulatory body for waste management

Objective: Strengthen regulation and oversight of service delivery		
Strategic alignment: Sector regulation to ensure that service is delivered according to set standards. This is in line with existing recommendations in policy and the sector's strategic action plan		
Required activities / inputs	**Responsibility**	**Inter-dependencies**
Develop a regulatory framework for waste management MSWR to initiate steps to develop SWM Act – Solid Waste Recovery and Disposal Act or Solid Waste Management and Regulations Act – ministry to decide on title and scope of act – Section 3 of the report proposes some areas to consider. Further study and discussions required to finalise.	MSWR	MESTI EPA MLGRD OHLGS

Objective: Strengthen regulation and oversight of service delivery		
Drafting of Act – Consultancy assignment, working in concert with the drafting division of the Attorney General's Department.	MSWR	TA – Attorney General's Department
- Set up regulatory body similar to PURC (explore setting it up as a unit in the PURC or as an independent body). - Define reporting framework for the designated regulatory body. - Regarding the regulatory agency – the government to study and review options for the set-up of a unit within PURC or, alternatively, an entirely independent regulator for SWM. - Government to make a final decision on the body and the duties of the agency. The legislation setting up the regulatory body to be part of the SWM Act. Department vs commission debate by considering duties outlined for the new agency.	MSWR	PURC EPA
Capacity building for government officers to build technical and administrative capacity of new regulatory body.	MSWR	PURC EPA
Other considerations / implementation risks • The mandate and roles of the NSA is not clear at the time of drafting and will influence the roles and responsibilities of sector regulation and oversight. • The regulatory framework to consider appropriate regulations to support waste reduction and recycling and environmental standards (3Rs, MINTing etc.).		

Develop a service delivery monitoring framework for MMDAs

Objective: To support efficient and effective supervision and monitoring of services at the operational level		
Strategic alignment: Alignment with the National Environment and Sanitation Policy (NESP) policy focus of M&E at the local level. The NESSAP (2010) indicates that the foundations for implementing an effective M&E system would be established in the short term as part of the pre-implementation stage of DESSAPs. This would involve building on assessed capacity needs at all levels for effective M&E.		
Required activities / inputs	**Responsibility**	**Inter-dependencies**
Develop KPIs for service delivery at the MMDA level.	MSWR	OHLGS, MMDAs
Develop forms for supervision and monitoring.	MSWR	OHLGS, MMDAs
Other considerations / implementation risks • Possibly link to the preparation and M&E of the DESSAPs. • Possibly link to verification for ODF in communities.		

Develop a system to recognise and monitor the operations of the informal sector

Objective: Improve working conditions and economic potential of informal waste-pickers and recyclers		
Strategic alignment: Enabling effective waste reduction, recovery, and recycling; strengthening the protection of vulnerable and marginalised groups		
Required activities / inputs	**Responsibility**	**Inter-dependencies**
MMDA to spearhead a step-wise process - Identification and registration of informal service providers. - Provision of identification numbers and identity cards. - Monitoring of 'Borla Taxis' through electronic tracking. - Provision of basic OHS standards. - Provision of basic OHS equipment by MMDAs.	MMDAs	YEA, GSA NHIA
MMDAs to consider zoning the operations of registered Borla Taxis.	MMDAs	YEA,
Borla Taxis to be registered to be part of the community-based waste recovery and recycling programme in each MMDA.	MMDAs	YEA, NHIA
Other considerations / implementation risks • Requires government-led commitment to protect vulnerable and marginalised groups. • Free National Health Insurance registration of informal sector service providers based on minimum tonnage collected. • Introduce a bonus scheme through YEA for informal sector.		

Revise the placement and locations of transfer infrastructure

Objective: To improve the placement and allocation of MMDA-controlled waste transfer assets, such as skips, through systemic and strategic use of GIS data within local MMDAs		
Strategic alignment: Optimise service delivery and infrastructure		
Required activities / inputs	**Responsibility**	**Inter-dependencies**
Develop a spatial plan for the equitable placement of skips within MMDAs. National government will mandate and support MMDAs to assume this capacity.	MMDAs (WMDs, Planning Unit)	MSWR, LUSPA
WMDs and LUSPA to work in close concert to develop area/ street mapping and spatial data for SWM purposes (location of skips, transfer and other sanitary sites).	MMDAs	MSWR, LUSPA
Locations of large-scale infrastructure (for treatment and disposal) should be included in the Spatial Development Plans being developed by LUSPA.	MMDAs	MSWR, LUSPA
Resolve property rights relating to sanitary sites (payment of compensation to land owners where appropriate).	MMDAs	MSWR, LUSPA

Objective: To improve the placement and allocation of MMDA-controlled waste transfer assets, such as skips, through systemic and strategic use of GIS data within local MMDAs
Other considerations / implementation risks • GIS capacity to be built up at MMDAs and based on indicators that are strongly based on ensuring an equitable and effective distribution of these assets, relating to their placement per population and area. • Government to set up a call centre and control room where all sanitation-related activities are monitored. The call centre will serve as a means of providing a quick response to reported issues.

Create community-based waste recovery and recycling programme in low-income areas

Objective: Increase access to advanced waste recycling technology for marginalised groups		
Strategic alignment: Promotion of inclusive waste management and recycling infrastructure and technology		
Required activities / inputs	**Responsibility**	**Inter-dependencies**
Various inter-related activities, including: - setting up of a local buy-back centre (using existing transfer sites); - government to lead efforts for the allocation of land, light construction of storage facilities for waste valorisation activities, and simple paving for vehicle access; - government to develop an operational plan for the facility (usage base: per Mt processed vs per hour used); - government will lead robust stakeholder engagement to determine most conducive and effective operational model; - government to lead efforts for the procurement and setting up of light processing technologies, including for a vertical baler and plastic shredder, operational in every MMDA. **Possible models include:** - Community education to encourage members to send separate waste at source. Waste to be picked by the informal sector or sent by the community members to the centre for a token. - Results-based waste rewards scheme to encourage community members to bring in waste,	MMDAs	MSWR Informal sector Manufacturing companies Private sector (e.g. Environment 360 or city waste)
Other considerations / implementation risks • Risk of Bora Taxis and informal sector not complying. • Risk of not getting off-takers for the waste.		

4.3 Priority actions in the medium term

In the medium term, national government will seek to establish PPPs with advertising and social marketing companies to communicate effective and comprehensive BCC strategies through various media, print, and online channels. It will additionally revise the DPAT so that it effectively measures service quality for SWM services and effective oversight by MMDAs and WMDs, and will develop a Clean Cities Challenge in Ghana to create a sense of competition among MMDAs in regard to cleanliness and beautification.

4.3.1 National level

Develop and roll-out comprehensive BCC strategy and campaigns

Objective: Improve household practices in relation to waste disposal		
Strategic alignment: Create positive social action on SWM		
Required activities / inputs	**Responsibility**	**Inter-dependencies**
- MSWR to engage the services of an advertising and social marketing company to develop a comprehensive BCC strategy for SWM emphasising the link between improved service delivery and behaviour change. - A key action is to develop an actionable slogan, tagline, or message associated with positive sanitation behaviours that can be implemented nationwide.	MSWR	NCCE; CONIWAS, Media, community-based organisations Advertising and social marketing TA
- Identify other targets for behaviour change, such as formal and informal service providers.	MMDAs	MSWR
- Pilot the implementation of this strategy in selected urban areas with a view to scaling it up nationwide.	MMDAs	MSWR, UNICEF, development partners
- Roll-out of campaign on a nationwide scale.	MMDAs	MSWR, UNICEF, development partners
- Engage local groups and community-based organisations/faith-based organisations etc. to support implementation at the community level.	MMDAs	MSWR, UNICEF, development partners
- Consider other effective tools and outlets – use of selected BCC sketches, jingles, and drama to be played/aired just before prime news on GTV and popular TV and FM stations; also, to be played at lorry parks, sports stadia, and markets; and display of small posters on front page of national dailies such as ***Daily Graphic***, ***Ghanaian Times*** etc. Employ use of social media in the campaigns.	MMDAs	MSWR, NCCE, UNICEF, development partners
Other considerations / implementation risks • Behaviour changes approaches must be complemented by the provision of appropriate infrastructure to enable and support positive behaviours. • Seek to complement this with the progressive implementation of sanctions for those egregiously dumping irresponsibly in locations where transfer infrastructure is available.		

Develop and implement a strategic sector investment plan

Objective: Implement new approaches to mobilise finance and maximise value for money		
Strategic alignment: SESIP to consider the priority actions and plans stated in the National Infrastructure Plan. The development of the SESIP will support strategic priorities to optimise service delivery and infrastructure, and enable effective waste recovery, re-use, and recycling		
Required activities / inputs	**Responsibility**	**Inter-dependencies**
Review of the current SESIP: Develop terms of reference for review of SESIP to be developed for a consultant, this should include elements looking to: - review and update SESIP; - costing the services; - identifying the funding gap; - plan for mobilising funding; PPP, taxation, results-based financing etc. at both the national and district levels; - include a financing plan for the DESSAPs; and - cover a 10-year period up to 2030. MMDAs to present their funding gaps based on their DESSAPs. These will feed into the bigger SESIP. As part of the development of SESIP strategic infrastructure that need investment should be identified.	MSWR	MMDA/TA
Other considerations / implementation risks • Revisions of the NESSAP and SESIP are important interlinked priorities, given that the implementation wing of the existing documents has elapsed.		

Incentivise performance of MMDAs through the provision of financial rewards

Objective: Implement an incentivised system for MMDAs in SWM similar to and based on the Sanitation Challenge for Ghana Strategy		
Strategic alignment: Improving operational governance and strengthening M&E systems in SWM		
Required activities / inputs	**Responsibility**	**Inter-dependencies**
Include incentives for sanitation service delivery under DPAT: - Liaise with MLGRD, OHLGS, to identify and agree on the appropriate SWM indicators to be added to the DPAT. - Integrate SWM indicators within DPAT to incentivise performance of MMDAs. - MMDAs to report on performance monthly.	MSWR	MLGRD, OHLGS, DACF
Establish clean cities challenge for Ghana: - Develop an implementation plan for the challenge.	MSWR	Development partners,

Objective: Implement an incentivised system for MMDAs in SWM similar to and based on the Sanitation Challenge for Ghana Strategy		
- Interested MMDAs to register on a platform. - Procedures would be designed for self-assessment and reporting. - Introduction of tracking devices on skips, vehicles, and other equipment to verify information reported by MMDAs. - MWSR to undertake verification of reports submitted. - Independent judges to assess and score the performance of MMDAs.		DACF, OHLGS
Other considerations / implementation risks To ensure that the DPAT scoring is effective, the MMDAs will be required to submit regular reporting, similar to district reports to the controller and account general. These reports will be required to be submitted to MSWR by the middle of the month and verified by MSWR by the end of the month within which they are submitted. Some of the risks of the sanitation challenge include: • the lack of interest in MMDAs – this could be mitigated by sensitisation workshops to be held at zonal level to introduce and market the challenge; and • lack of funding – MSWR and MLGRD to source funds to implement this challenge for at least two years. Civil society organisations can provide independent monitoring score cards for MMDAs.		

4.3.2 Operational level

Operational-level actions will focus on the zoning of MMDAs to be revised so that prospective contractors of all sizes (e.g. informal, community-based, SME, and larger private sector actors) are capable of applying and competing with one another.

Develop clarity in service delivery zones for contractors

Objective: Improve SWM service coverage and service quality through zoning such that private contractors undertake all waste management activities within the zone		
Strategic alignment: Optimise service delivery and infrastructure; enable effective waste recovery, re-use and recycling		
Required activities / inputs	**Responsibility**	**Inter-dependencies**
- Undertake a consultative process to re-zone urban areas, ensuring that each zone includes a mix of high- and low-income areas. - Service delivery contracts to include mandates for the provision of beautification and street cleaning services to ensure there is no ambiguity relating to the role and scope of the service providers' work.	MMDA	N/A
Other considerations / implementation risks • New zoning provisions will likely challenge SIP arrangements. Local governments will have to directly influence and amend their SIP contracts to suit their particular needs.		

Develop standard procedures for the procurement and support of contractors

Objective: Promote equity in private sector participation through standardised procurement, evaluation, and zoning support		
Strategic alignment: Transparency to ensure improved competitiveness for private waste companies/a level playing field for all. This is in line with policy recommendations for providing sector-wide standards for service provision		
Required activities / inputs	**Responsibility**	**Inter-dependencies**
Defining service provider categories and capacities (financial, logistical, human resource) to determine the realistic scale and zone allocation that they could manage and administer.	MMDA	N/A
Develop standard procurement guidelines (invitation for bids, templates for bid, agreement forms, contracts, criteria for evaluation) based on the Public Procurement Act.	MMDA	N/A
New investments in the sanitation space based on approved technical and financial modelling.	MMDA	N/A
Identify relevant subsidies to be provided for contractors and provide uniform subsidies across service provider category.	MMDA	N/A
Development of Standard Operating Procedures.	MMDA	N/A
Other considerations / implementation risks N/A		

4.4 Priority actions in the longer term

4.4.1 National level

Longer-term priorities at the national level are focused on building the prominence of environmental sanitation as a priory aspect of decentralised service delivery, improving the prospects for policy implementation through improved monitoring and accountability of government actions, and the gradual introduction of incentives to improve private sector engagement in the sector.

Include the MSWR in the IMMC on decentralisation

Objective: To improve intersectoral collaboration by making the MSWR a permanent member of the IMCC on decentralisation
Strategic alignment: The IMMC which is responsible for the intersectoral policy coordination of decentralisation and for the decentralised local governance system. The objective of this action is aligned to Pillar 1 and will support the policy goals of achieving a sustainable mechanism for effective coordination of, and collaboration among, sector stakeholders for country-wide adoption of policies, plans, and programmes

Objective: To improve intersectoral collaboration by making the MSWR a permanent member of the IMCC on decentralisation		
Required activities / inputs	**Responsibility**	**Inter-dependencies**
MSWR to prepare justification and make submission to the IMCC secretariat.	MSWR	IMCC/Office of the President Annex
IMCC Secretariat to respond to proposal; necessary amendments to be made to Act 936, Part Nine.	IMCC	MWSR, Attorney General's Department
Other considerations / implementation risks Time and processes required to make amendment to legislation may be challenging. Ministry to engage with the appropriate parliamentary select committees to ensure processes are completed.		

Develop incentives for private sector engagement through tax reliefs, or similar

Objective: The elimination or temporary waiving of specific applicable taxes, fees, and licensing costs, levied on service providers		
Strategic alignment: Providing an enabling environment to encourage private sector participation in waste management		
Required activities / inputs	**Responsibility**	**Inter-dependencies**
Identify the current operational costs for service providers.		
Make an inventory of taxes paid by service providers (e.g. import taxes, PAYE on employees, property rates, business operating permits).	MSWR	ESPA members, Ghana Revenue Authority (GRA)
Ascertain the contribution of taxes to the cost build up.	MSWR	ESPA members,
Identify which of the taxes can be eliminated and prepare a proposal to Ministry of Finance and GRA.	MSWR	Ministry of Finance, GRA
Other considerations / implementation risks N/A		

Monitoring of policy Implementation

Objective: To provide follow through for policy implementation – ensuring accountability and transparency in policy implementation		
Strategic alignment: Aligned to the strategic entry points for Pillar 1 and also to the Environmental Sanitation Policy which requires the MSWR to 'appraise and assess progress in policy implementation, the effectiveness of policy actions'		
Required activities / inputs	**Responsibility**	**Inter-dependencies**
Identify policy objectives and outcomes.	MSWR	N/A
Identify the interventions needed to achieve outcomes and the timelines for implementation (to support policy implementation there should be a team of persons within the MSWR responsible for overseeing the interventions).	MSWR	N/A
Development of framework for policy implementation and provide indicators for outcomes.	MSWR	N/A
Establish a technical committee or assign personnel to undertake the monitoring – link to mid-year and annual review activities for the ministry.	MSWR	N/A
Civil society to provide independent assessment of performance through the design and development of a score card showing the performance of national government and MMDAs in SWM.	MSWR	CONIWAS
Other considerations / implementation risks **N/A**		

Annex A Monitoring and evaluating SWM service delivery

This annex provides an overview of a series of proposed indicators of SWM service performance at different stages of the SWM chain. Alongside the proposed indicators themselves, guidance is provided on the means of verifying the indicator and the source of information.

Table 3: Summary of key indicators and means of verification

	Indicator(s)	Means of verification	Source(s) of information
Collection	1. Volume of waste generated 2. % of solid waste collected 3. Household storage facilities and communal storage facilities	Reports on waste characterisation; weighbridge or landfilling capacity records; data on capacity of public and private waste transfer assets and vehicle fleets (e.g. number of vehicles, volumetric capacity of skips, trailers)	Monitoring data from WMDs on public and private infrastructural assets; key informant interviews with transport managers at largest waste collection companies
Transport	1. Availability of transfer stations 2. Availability of compactor trucks and other means of transporting 3. Small-scale Borla Taxis should be regulated 4. % of waste collected and transported to end disposal (dumpsites, landfills) 5. % of waste collected and transported to waste transfer stations	Reports on actual vs recommended vehicle and transfer capacity; population and area ratios (e.g. actual skip: to population ratio vs industry recommendations); reports on the scale, size, and capacity of informal workers, including Borla Taxis and waste-pickers	Monitoring data from WMDs on public and private infrastructural assets; key informant interviews with transport managers at largest waste collection companies
Treatment	1. Availability of treatment plants 2. Availability of recycling plants and transfer stations 3. Volumes of waste treated or recycled	Reports and spatial data on location and capacity of waste recycling and recovery infrastructure	Logs from treatment and recycling plant operations
Disposal	1. Availability of final disposal site/landfill 2. Volumes of waste safely disposed of after treatment	Reports on waste characterisation; weighbridge or landfilling capacity records	Logs from landfill managers; internal records from private sector operators who dump at the site

As part of developing the indicators for monitoring service delivery, the indicators of the ODF verification protocol for urban areas were reviewed. It was noted that some of the features of a sanitised community are as follows:

- there is a SWM system in place (this includes composting, recycling, re-use, burying, temporarily kept in bins with cover, and collection and transferred to designated site);
- lanes and alleys between houses and path to the refuse dump are clean or regularly swept;
- overgrowth of weeds controlled to a minimum; and
- animal droppings controlled to a minimum.

These indicators are somewhat shallow and not well targeted on the key aspects of SWM and do not provide any insight into the service delivery performance.

A.1.1 Routine service provider monitoring

House-to-house collection monitoring (to be done weekly in line with the collection plan stated in the contracts):

- name of sub-metro
- service zone
- number of households in zone
- name of contractor/contractor capacity – equipment/number of workers
- number of collections
    - planned
    - actual
- total weight/tonnage collected
- destination of waste
    - MRF
    - landfill
    - dumpsite

Communal collection monitoring (to be done weekly)

- name of sub-metro
- service zone
- number of households in zone
- number of containers
- volume of containers
- name of contractor/contractor capacity – equipment/number of workers
- number of collections
    - planned
    - actual
- total weight/tonnage collected
- destination of waste
    - materials recovery facility
    - landfill

dumpsite

A.1.2 Communal collection – monitoring of site conditions for transfer points

In addition to monitoring collections, the transfer site should be monitored to ensure that the site is properly managed. Forms for monitoring centrally located containers/communal containers to be completed by cleansing officer and reviewed by the officer in charge of solid waste.

Table 4: Proposed indicators to assess conditions at communal transfer stations (skips)

Indicators
Metro/sub-council
Date and time of monitoring
Service provider for the area
Location of container (linked to the mapping of the container sites) Note – provide location ID on the form, also provide container ID (containers to be provided with electronic tagging to aid e-monitoring)
Volume of container
Collection days/frequency of collection Planned collections can be calculated based on expected volumes for the area being served
Describe site conditions upon visit – well kept, or dirty with litter on the ground; skip pad in place or just open skip site
Describe container condition – empty; full; not full; spills
Compile summary of planned vs actual collections at the end of the week or month

A.1.3 Compliance checking and monitoring of OHS standards

One recommendation is the mandatory provision and use of OHS equipment by MMDA staff, workers employed by contractors, and service providers and the informal sector. The WMDs can pay regular visits to sites where workers are located or to company premises for inspections.

This requires OHS guidelines to be developed for MMDAs, contractors, service providers, and the informal sector. The list of items to be checked includes the following:

- Protective clothing – personal protective equipment (gloves, masks, boots, first aid kit, overalls and uniforms, boots or appropriate footwear that protects the toes, goggles, nose masks where needed – nose masks to have special protection against dangerous gases etc.).
- Also check that appropriate OHS signage, notices, and warnings are provided for waste management sites. Check the site management practices to ensure that the sites are clean and operated in a compliant manner.
- Check medical exams and inoculations and shots.

A.1.4 Monitoring of waste at landfill

This should include the routine monitoring of vehicles, including: vehicle details; type of vehicle; capacity – volume/tonnage

1. information on source of waste
2. type of waste
3. tipping fees paid

Annex B Stakeholders engaged

Table 5: Attendees at the validation workshop, Accra, 1 August 2019

No	Name	Organisation
1	Gladys Wartenberg	MSWR
2	Emmanuel Obeng	ACARP
3	Ama Ofori Antwi	ESPA
4	Kweku Akuamoah-Tsekpetse	MSWR
5	Lorretta Roberts	UNICEF
6	Joseph Boham	EASD
7	Anthony Mensah	MSWR
8	Jonathan Manu	MSWR
9	Stephen L. Padi	MSWR
10	G. Joseph Agbesie	MSWR
11	Millicent Oppong	City Waste
12	Vivian Ahiagbor	City Waste
13	Jonas Duneebon	STMA
14	I.B. Freeman	National Focus
15	Dr Richard Amponsah	AFESC – Jospong
16	Dr. Daniel Sarpong	MSWR-GASSLIP
17	Thomas M. Edinam	MSWR
18	Bright A. Baah	MWSR
19	Theophilus Addico	MSWR
20	Elvis Oppong	PRWCIA
21	Doris Acquah	EHSU, Asuogyaman DA
22	Agnes Korletey	EHSU, Shai-Osudoku
23	Paul Sitsofe	Dept. of Comm. Development
24	Francis Xavier Anowie	Global Communities
25	Ishaq K. Mahama	MLGRD
26	Gloria Akuffu	MLGRD
27	Prosper Kotoka	Kumasi Metropolitan Assembly
28	Bertha Darteh (Dr)	MAPLE Consult
29	David Delienne	UNICEF consultant
30	Ramesh Bhusal	UNICEF
31	Susana Martinson	Effutu Municipal Assembly
32	Ellen Gyekye	GES SHEP Organiser
33	Patience Ampomah	National Dev. Planning Commission
34	Aaron K. Amedzo	Ho Municipal Assembly
35	Derick Tata Anku	Tema Metropolitan Assembly

No	Name	Organisation
36	Paul Amoako-Gyampah	UPPR
37	Josh Palfreman	Oxford Policy Management
38	Jacob Amanor	MSWR
39	Ing. Baah Tetteh	OHLGS
40	Pamela Adompreh	OHLGS
41	Prince Bio	JICA
42	Janet Arthur	EKN
43	Faustina Asante	WSUP
44	Peter Dagadu	Waste Landfills Co. Ltd.
45	Basilia Nanbigne	CONIWAS
46	S. K. Martey	PWWCA
47	Cindy Badoe	EPA
48	Theophilus Arthur -Mensah	AGI
49	Levina Owusu	MESTI
50	Senam Tengey	Zoompak
51	Dr Solomie Gihen	Int. Water Management Institute
52	John Defor	Association of Ghana Industries
53	Prof. Oteng Ababio	Tersus Ghana
54	Abraham Bugre	Univ. of Ghana
55	Johannes Boachie-Yiadom	Zoompak Ghana
56	Emmanuel Lamptey	MSWR
57	Dr Tanko Azzika	WSUP
58	Mahamoo A. Samari	PWWCA
59	Giwa Shaabu B.	MSWR
60	Jamil Wuni Iddi	DEHO,
61	Erasmus Amanor	MSWR
62	Nii Odai Laryea	MAPLE Consult
63	Mawuena Dotse	MAPLE Consult
64	Emmanuel Sessou	MAPLE Consult
65	Peter Burr	Oxford Policy Management
66	Joel Ayim Darkwah	UNDP
67	Patrick Tsigbey	ASHMA
68	Korama Ocran	UNICEF
69	Isaac Barnes	ESPA
70	Matilda Owusu	ESPA
71	Faustina Essandoh	Department of Community Development
72	Martin Ahorlu	Tamale Metropolitan Assembly
73	Fiabge E. Eugene	EHSD
74	Lydia Essuah	MESTI

Kingdom of the Netherlands

unicef