# INVESTIGATING THE IMPLEMENTATION OF THE 2007 NATIONAL SOLID WASTE MANAGEMENT POLICY IN SRI LANKA

By

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*Thesis submitted to Flinders University*

*for the degree of*

**Doctor of Philosophy**

College of Business, Government, and Law

09 November 2023

# Keywords

# Abstract

Municipal solid waste management is in crisis in contemporary Sri Lanka. Poor management and improper waste disposal have led to deaths, property damage, and severe health and environmental issues. These failures are evident despite the existence of the 2007 National Solid Waste Management Policy. By examining the political, institutional, legal, administrative, and contextual factors, this research has investigated the factors influencing the success and failure of the 2007 National Solid Waste Management Policy implementation in Sri Lanka.

This study employed an embedded multiple case study which focused on the Central Government, two provincial councils (Western and Southern), and two local governments (the Kaduweala Municipal Council and Ambalangoda Pradeshiya Sabhawa). Data were collected through thirty semi-structured interviews, two focus group discussions, a document review, and a set of photographs. The collected qualitative data were coded and analysed using NVIVO 12 software, while the quantitative data were analysed using simple statistical methods.

It is argued that the successful implementation of municipal solid waste management in Sri Lanka is destined to remain ineffective due to five key factors. Firstly, the complex institutional framework, which is characterised by a lack of clarity over responsibilities, and operates without coordination mechanisms across all levels of government. This creates administrative fragmentation resulting in overlapping institutional responsibilities of the multiple actors involved in policy implementation.

Secondly, design and practical limitations associated with devolution in the Sri Lankan context. Difficulties arising due to devolution have included lack of coordination and consultation between levels of government, unclear constitutional provisions, and transfer responsibilities without allocation of sufficient resources to implement policies. Thirdly, a highly politicised governance system has also provided a significant opportunity for corruption in the midst of the absence of good governance practices. Fourth, there has been insufficient support from political and bureaucratic leaders. Finally, the municipal solid waste management system faces a lack of funds, human resources, and infrastructure, presenting a critical challenge to effective policy implementation. Until these issues are resolved no policy will be implemented effectively in Sri Lanka.

Considering the context of the current economic and political crisis in Sri Lanka, the thesis does not suggest infrastructure development to resolve municipal solid waste management issues. However, strategies for waste reduction (utilising the Polluter-pays principle, and volume-based fees) would encourage the resolution of a number of critical operational issues. Several governance issues emerging from decentralisation, especially those related to corruption and lack of transparency and accountability, could be addressed by implementing anti-corruption actions, including introducing an open access information system, and a recalling system for public representatives and bureaucrats.

This thesis makes a significant and original academic contribution that addresses a knowledge gap in the policy implementation literature in five ways. First, it contributes to academic understanding in complex governance contexts in developing countries by demonstrating that politics does not end when implementation begins. Secondly, it presents an empirical study of the applicability of the Multiple Streams Framework

developed by Michael Howlett et al. In particular, this research focuses on the policy implementation phase of the framework. Thirdly, this research addresses the analytical gap of politics of policy implementation in complex governance context in developing countries. Fourthly, this research provides previously unavailable analysis to understand the root causes of municipal solid waste management failure across the three tiers of the Sri Lankan government. Lastly, this study provides the earliest evidence examining the complexity of the governance arrangements and its influence on the 2007 National Solid Waste Management Policy implementation failure. The practical implications will be useful to improve municipal solid waste management and provide insights into other policy areas not only for Sri Lanka, but also for other similar countries with complex, decentralised governance arrangements.

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# List of Abbreviations

| | |
|---|---|
| 3R | Reduce, Reuse, Recycling |
| 4R | Reduce, Reuse, Recycling, Recovery |
| ACF | Advocacy Coalition Framework |
| AU$ | Australian Dollars |
| CSOs | Civil Society Organisations |
| FG | Focus Group |
| ha. | Hectare |
| ISWM | Integrated Solid Waste Management |
| LKR | Sri Lankan Rupees |
| MSF | Multiple Streams Framework |
| MSW | Municipal Solid Waste |
| MSWM | Municipal Solid Waste Management |
| MT | Metric Tonnes |
| NGOs | Non-Government Organisations |
| NSSWM | National Strategy for Solid Waste Management |
| NSWMC | National Solid Waste Management Support Centre |
| NSWMP | National Solid Waste Management Policy |
| SDGs | Sustainable Development Goals |
| SLFP | Sri Lanka People's Front |
| UNDP | United Nations Development Programme |
| UNFGG | United National Front for Good Governance |
| UPFA | United People's Freedom Alliance |

# Statement of Original Authorship

The work contained in this thesis has not been previously submitted to meet requirements for an award at this or any other higher education institution. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made.

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Date:    09/11/2023

# Acknowledgements

My sincere thanks go to Professor Beverley Clarke for her continuous support, guidance, and patience throughout my PhD journey. Without her understanding, encouragement, advice, wisdom, and mentoring, this thesis would not have seen the light of the day. I express my heartfelt gratitude to Associate Professor Cassandra Star for her unwavering support, guidance, and motivation until submitting my thesis for external review. My sincere gratitude goes to the research participants for providing valuable information to complete this thesis.

I sincerely thank the University of Kelaniya, Sri Lanka, and the National Centre for Advanced Studies in Humanities and Social Sciences, Sri Lanka, for the financial support for my PhD. I also thank, the College of Business, Government, and Law at Flinders University, Australia, for providing a three-month tuition fee waiver due to the economic crisis in Sri Lanka. My deepest gratitude to Prof. Mahendra Gunawardane and Mr. Nishantha Hettiarachchi for acting as sureties for my bond for the study leave and funding. Without their extended support, my PhD journey at Flinders would not have been possible.

My beloved mother, Ramyawathi Guruge who died during my PhD study without even having the chance to say goodbye due to COVID-19 travel restrictions; thank you so much because you are my morning star. I owe it all to you for what you have done for me. My father, Piyasiri Mahamadachchi and all family members who supported me throughout my PhD study, thank you very much. Pathum Nanayakkara, my nephew, thank you very much for your extended support to enable my success in this journey. My beloved husband,

Sampath Madduma Bandara, your precious support, tolerance, and encouragement during the most difficult time of my life prevented me from switching on the 'withdraw button' during my PhD programme. My sincere thanks to you.

My sincere gratitude goes out to all my friends from the Climate and Sustainability Policy Research group at Flinders University for sharing ideas and helping each other throughout this journey. Judi Storer, Paige Fletcher, and Felicia Kim, thank you very much for your great support throughout the process. Robert Muller and Cecile cutler who supported me in my language editing, thank you very much. Ros and Amy, my office friends, thank you very much for your support in the early stages of this journey. Last but not least, my sincere thanks go to Associate Professor Noore Siddique and Dr. Zhibin Zhang for their guidance in the early stages of this thesis.

# Chapter 1: Introduction

## 1.1    BACKGROUND

Implementing successful Municipal Solid Waste Management (MSWM) is a major challenge facing Sri Lanka (Kumara & Pallegedara, 2020; Saja et al., 2021). Increasing and unmanageable quantities of Municipal Solid Waste (MSW) are being produced in Sri Lanka as a result of a number of factors, such as a high population density (see Figure 1.1), urbanisation, and a rise in affluence is being met with increased consumption (Bandara et al., 2007; Conlon, 2021; Samarasinghe et al., 2021)  A range of efforts have been introduced in Sri Lanka to combat this challenge, including a National Solid Waste Management Policy (NSWMP) in 2007, and a revised policy in 2019, as well as various strategies, guidelines, programmes[1], and projects[2]. Yet, despite these efforts, the challenge of managing solid waste persists, and it is becoming more difficult for the government to ensure people have a clean and safe environment in which to live (Dandeniya & Caucci, 2020; Dharmasiri, 2020).

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[1] Operational activities created under policies to help implement policies to achieve its goals.

[2] A series of tasks with predetermined start and end dates that must be completed to achieve policy goals.
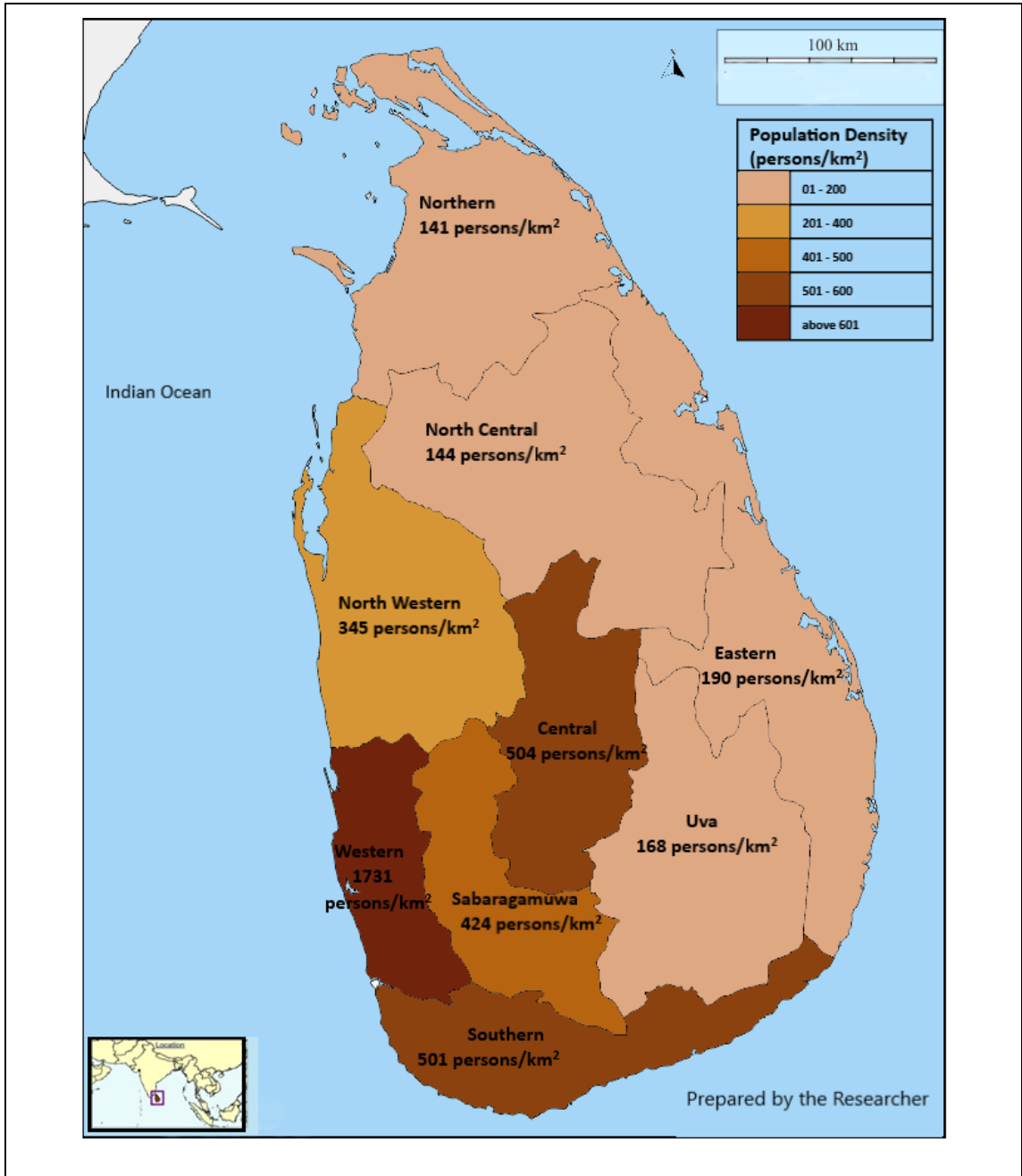
Figure 1.1: Population density in Sri Lanka by provinces in 2021

Source: Researcher (2023) data adopted from Central Bank of Sri Lanka (2022)

Only a small amount of Sri Lanka's daily waste generation (27 per cent) is collected by government waste collection services. Of this, approximately only 75 per cent is disposed

of by LGs in open dumpsites[3], building up as 'mountains' in many town areas. (Japan International Cooperation Agency, 2016).

The seriousness of the solid waste challenge became evident in 2017 as a result of the collapse of the Meethotamulla garbage dumpsite in Western Province, which killed 32 citizens, and 11 remain missing. The collapse also destroyed 146 houses (Chandrasena et al., 2019; Ravishan, 2017). Before the collapse, the advice of the Central Environmental Authority and the Western Provincial Waste Management Authority was for the LG to stop dumping waste at this site, but this advice was not heeded (The Presidential Committee to Investigate Meethotamulla Garbage Dump Collapsed, 2017). The Meethotamulla garbage dumpsite grew from 0.8 ha in 2000 to over 8.5 ha and rising to 60 meters in height in 2017 (Samarasinghe, 2017), when it collapsed (Figure 1.2) (Environmental Foundation (Guarantee) Limited, 2017a; Ranawaka, 2017). This collapse was not the first in Sri Lanka. In 2009, a site at Bloumendhal, Colombo, in Western Province exploded (Musthapha, 2017). These are extreme examples of a growing and ever-pervasive waste management problem.

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https://blogs.agu.org/landslideblog/2017/04/16/meethotamulla-1/

Figure 1.2: Meethotamulla waste dumpsite

In Sri Lanka, MSWM has become a focal point of politics, public policy, the development agenda, and public discourse (Bandara, 2008; Herath, 2017) due to a range of

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[3] Local governments maintain 349 open dumpsites across Sri Lanka (Japan International Cooperation Agency, 2016)

environmental, human health, economic, and governance issues (Fernando & De Silva, 2021; Jayasinghe et al., 2021; Karunarathne, 2015).

The challenges identified above are not unique to Sri Lanka. In the global context, MSWM is a complex issue (Rakib et al., 2022; Singh, 2019), and a focal theme of a range of global agendas, including the Sustainable Development Goals (SDGs) (Rodić & Wilson, 2017). Municipal Solid Waste is identified by the SDGs as humanity's most pressing challenge of the 21st century (Pujara et al., 2019; Rodić & Wilson, 2017). The waste management challenge directly affects 12 of 17 SDGs, including 'mak[ing] cities inclusive, safe, resilient and sustainable', 'clean water' and 'sanitation', and 'good health and well-being' (Sharma et al., 2021). The SDGs cannot be met if MSWM is not addressed globally as a priority.

Globally, around two billion people do not have access to regular waste collection services, and three billion people have no control over waste disposal (Wilson, 2016). At present, one-third of all the world's disposed MSW is harming people and the environment. Researchers have projected that the total global MSWM generation will double from 2.1 billion tonnes in 2016 to 3.4 billion tonnes by 2050 (Kaza et al., 2018). Therefore, the challenges of MSWM will become increasingly complex in Sri Lanka as well as elsewhere across the globe. Finding sustainable solutions to this growing problem is urgent for Sri Lanka to ensure a safe and healthy environment for humans, and to protect nature.

## 1.2    MSW GENERATION AND MANAGEMENT IN SRI LANKA

The per capita daily MSW generation in Sri Lanka, estimated at 0.6 kg (Table 1.1), is considerably lower than in developed nations. . For example, as of 2018, per capita daily

MSW generation in the USA was 2.2 kg (United States Environmental Protection Agency, 2021). However, compared to other South Asian countries, daily per capita MSW generation in Sri Lanka is higher than in many other countries (see Table 1.1).

Table 1.1: Per capita MSW generation in South Asian countries

| Country | Per capita MSW generation (kg/daily) | Based year | Source |
|---|---|---|---|
| Afghanistan | 0.4 | 2016 | Kaza et al. (2018) |
| Bangladesh | 0.6 | 2018 | Mostakim et al. (2021) |
| Bhutan | 0.2 | 2019 | Namgay (2020) |
| India | 0.6 | 2016 | Singh (2020), Kaza et al. (2018) |
| Maldives | 1.4 | 2016 | Kaza et al. (2018) |
| Nepal | 0.2 | 2013 | Maharjan and Lohani (2019) |
| Pakistan | 0.4 | 2015 | Iqbal et al. (2022) |
| Sri Lanka | 0.6 | 2018 | Dharmasiri (2020) |

Source: Researcher (2022)

Low-and middle-income countries are predicted to generate the highest volume of waste by 2050 (Table 1.2). As shown in Table 1.2, waste generation in South Asian countries, including Sri Lanka, will double by 2050, e.g., annual waste generation in Sri Lanka will increase to 3.75 million tonnes by 2050 (Kaza et al., 2018).

Table 1.2: Estimated waste generation in the world by region

| Region | Waste generation (millions of tonnes per year) | |
|---|---|---|
| | 2016 | Projection for 2050 |
| Middle East and North Africa | 129 | 255 |
| Sub-Saharan Africa | 174 | 516 |
| Latin America and Caribbean | 231 | 369 |
| North America | 289 | 396 |
| South Asia | 334 | 661 |
| Europe and Central Asia | 329 | 490 |
| East Asia and Pacific | 468 | 714 |

Source: Kaza et al. (2018)

The absence of accurate figures on waste generation in Sri Lanka is a critical challenge in planning for, and managing, MSWM activities. Municipal solid waste generation statistics differ by source in Sri Lanka; it is hard to find consensus among various sources. According to the Ministry of Environment - Sri Lanka (2021),daily MSW generation in Sri Lanka in 2021 was 11,869 tonnes. The Japan International Cooperation Agency (2016) estimated that Sri Lanka's daily MSW generation in 2016 was 10,768 tonnes, but the Western Provincial Solid Waste Management Authority's estimation was between 7,165 and 7,716 tonnes (Gunaruwan & Gunasekara, 2016). In 2016, the World Bank estimation was 7,210 tonnes per day (Kaza et al., 2018). According to Bandara (2008), daily MSW generation estimates were between 8,818 and 16,534 tonnes in 2008 (Bandara, 2008, cited in Gunaruwan & Gunasekara, 2016). The inaccuracy of the data on waste is a challenge to make suitable planning for MSWM. The inaccuracy of the data on waste is a challenge to make suitable planning for MSWM and addressing MSWM challenges properly.

Biodegradable items are the main component (62 to 85 per cent) of MSW in Sri Lanka, (Arachchige et al., 2019; Centre for Environmental Justice, 2021). In addition to residential

or household kitchen waste, hotels and restaurants (Reitemeier et al., 2021), and post-harvest agricultural activities (Rajapaksha et al., 2021) contribute to biodegradable waste. In Sri Lanka, plastic and polythene account for six to ten per cent of the total MSW generation (Dharmasiri, 2020; Samarasinghe et al., 2021); this is not surprising given that the importation of plastic and polythene has rapidly increased over the last five years (National Audit Office - Sri Lanka, 2020).

### 1.2.1 Governance of MSWM in Sri Lanka

Due to complicated legal and institutional arrangements, MSWM is a complex task in Sri Lanka. Sri Lanka is governed by a semi-presidential system (Perera, 2021) coupled with a unitary political system featuring devolution of power to provincial councils through *The Constitution* (Amarasinghe, 2021; Gunawardena, 2010b). Therefore, the country has a complex, decentralised governance structure involving central, provincial, and local governments.

*The Constitution* and 14 Acts and Ordinances of the Central Government, and a few provincial statutes (laws) provide the legal basis for various agencies and LGs to perform MSWM responsibilities in Sri Lanka. Since *The Constitution of Sri Lanka* has given rights and responsibilities to both the central and provincial governments to manage environmental matters (*The Constitution of the Democratic Socialist Republic of Sri Lanka*, 1977/2021), MSWM falls under both jurisdictions. Twenty four municipal councils, 41 urban councils (in semi-urban areas), and 276 pradeshiya sabhas in rural areas deliver waste management at the local level (Election Commission of Sri Lanka, 2018). These LGs are responsible for implementing the laws of the central and provincial governments and the practical tasks of

MSWM waste collection and disposal (*Municipal Councils Ordinance No. 29 of 1947*, Sri Lanka; *Pradeshiya Sabhas Act No. 15 of 1987*, Sri Lanka; *Urban Councils Ordinance No. 61 of 1939*, Ceylon).

However, LGs provide waste collection services to only 20 per cent of all Sri Lankan households (Department of Census and Statistics, 2015). (Department of Census and Statistics, 2015). Approximately 73 per cent of daily household MSW generation is disposed of by improper methods, such as burning, burying, and dumping in public places (Table 1.3). This is especially so for rural households who have limited access to LG waste collection services. Most rural households burn their waste (Table 1.3).

Table 1.3: Percentage of households by methods of waste disposal

| Area | Method of waste disposed of (%) | | | | | | Total Percentage |
| | Collected by LGs | Burnt by occupants | Buried by occupants | Composted by occupants | Open dumped in public places | Other | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sri Lanka (n=5,267,159) | 20.5 | 47.2 | 23.3 | 7.7 | 1.0 | 0.3 | 100.0 |
| Urban (n=908,078) | 75.0 | 16.0 | 5.6 | 2.7 | 0.4 | 0.3 | 100.0 |
| Rural (n=4,133,982) | 9.4 | 54.0 | 27.3 | 8.8 | 0.3 | 0.2 | 100.0 |
| Estate/ commercial plantation (n=225,099) | 3.2 | 50.2 | 22.5 | 7.6 | 12.8 | 3.7 | 100.0 |

Source: Department of Census and Statistics (2015)

On average, Sri Lanka's LGs spend around 50 per cent of their annual income on MSWM (Fernando, 2019). Due to limited income, most LGs in Sri Lanka rely on external sources of

income, mainly from the Central Government, to run their MSWM service (Gunawardena, 2017).

### 1.2.2 Effects and impacts of improper MSWM in Sri Lanka

Improper MSWM has resulted in several negative effects in Sri Lanka, including environmental and human health issues. These have become human rights issues.

*Environmental issues of improper MSWM*

Improper MSWM results in a range of water, air, and soil environmental challenges, as well as ocean pollution (Kumanayake, 2013; Samarasinghe et al., 2021; Tennakoon & Kulatunga, 2021). Uncollected waste is piling up in public places and along roadsides, causing pollution, and clogging waterways (Véron et al., 2018). Improper practices, such as burning, are also having environmental consequences, e.g., air pollution (Karunarathne, 2015). The discharge of around 70 per cent of plastics and polythene into the environment has resulted in ocean pollution which affects marine biodiversity, as well as polluting other parts of the environment (National Audit Office - Sri Lanka, 2020).

Due to limited sanitary landfill sites and alternative ways of managing MSW, many LGs have reverted to disposing of the waste they have collected in highly sensitive, biodiverse and protected lowlands, thus causing significant environmental damage (Environmental Foundation (Guarantee) Limited, 2017b; Nishanthi & Kaleel, 2021).

*Health issues occurring due to improper MSWM*

Growing volumes of unmanaged waste are causing serious human health and safety problems (Fernando, 2019). Government expenditure is high for treating disease and

health problems due to the exposure of citizens to open dumpsites (Dharmasiri, 2020). Since health services and medical treatment in Sri Lanka are free, the government bears all the costs. The actual health costs due to improper waste management are unavailable due to lack of specific data.

Ruzaik (2021) revealed that 54 per cent of people who live within 500 metres of dumpsites reported a variety of health issues, including nausea, dysentery, headache, wheezing, dengue fever, irritation, and poor sleep. Moreover, 65 per cent of children living in the areas surrounding dumpsites suffered from health issues, including skin diseases and mental health problems (The Presidential Committee to Investigate Meethotamulla Garbage Dump Collapsed, 2017). Furthermore, 75 per cent of waste pickers and 70 per cent of drivers of waste collection vehicles in Sri Lanka reported many health problems associated with unsafe waste collection and management (Ruzaik, 2021).

### Effects of MSWM on human rights

Citizens expect efficient and effective services from the government to maintain a clean and safe environment (Moore, 2013). However, improper MSWM has resulted in the violation of human rights in Sri Lanka (Atapattu, 2002; Centre for Environmental Justice, 2023). These include violations of the rights to life, the rights to safe drinking water, the rights to live in a safe environment, and the rights to engage in livelihood activities (Bellanthudawa et al., 2021; Environmental Foundation (Guarantee) Limited, 2017a). The People's Movement against Meethotamulla dumpsite, community organisations, religious leaders, and citizens have continuously engaged in various protests over the growing problems of accumulated waste, inappropriately managed MSW, and the lack of an

effective government response (Fernando & Silva, 2020; Ravishan, 2017). Protests, media reports, and legal actions against the government suggest that the relevant authorities have not been providing a satisfactory MSWM service to Sri Lanka's citizens. Nevertheless, the Central Government has used its power to control the people's voices by responding with military force against these uprisings (The Presidential Committee to Investigate Meethotamulla Garbage Dump Collapsed, 2017).

## 1.3    THE POLICY CONTEXT

While Sri Lanka has a policy dedicated to resolving SWM problems it is apparent that problems persist. This research uses theories of policy implementation and decentralisation to support an examination of Sri Lanka's experience in introducing a dedicated waste management policy. Policy implementation theories help to explain factors responsible for the failure or success of policy execution. Such theories recognise that different actors and interests are involved in policy implementation (Hill & Hupe, 2002; Winter, 2012) and of the various ways these actors are engaged. Implementation theories also explain that the success of policy implementation rests upon availability of sound policy, adequate resources, political and administrative commitment, institutional capacity and meaningful public participation (Howlett & Ramesh, 2003) . Here the multiple streams theory is utilised because it can accommodate an examination of the relationships of various actors engaged in the implementation process as well as drawing attention to specific junctures and elements of the policy making process.

In Sri Lanka, the decentralisation of government is a key dimension given the distributed authority for implementing waste management policy. Many scholars argue

that decentralisation helps to implement policies efficiently and effectively fulfilling local needs and interests (Cheema & Rondinelli, 2007; Hyden, 2007). Some scholars have identified improvement of public service delivery as a consequence of decentralisation (Ahmad & Brosio, 2009; Ghuman & Singh, 2013). These theories have been used to provide rationales for many governing issues, including policy implementation and public service delivery (Couttolenc, 2012; Lameck, 2017). However, this is not always the case. Decentralisation is argued to have resulted in both positive and negative outcomes (Awortwi, 2011; Devarajan et al., 2009; Robinson, 2007a). Weakness of public service delivery has been identified as a problem in many countries with devolved systems of government. Such weakness includes poor quality of service delivery, corruption, and nepotism (Conyers, 2007; McLean & King, 2002; Wekwete, 2007). These are interconnected issues creating challenges for development and good governance, especially in the Global South (Hyden, 2007). To remedy failed decentralisation, scholars emphasise the need for a wide range of formal and informal relationships among citizens, government institutions, non-governmental and civil society organisations, and the private sector (Shah & Shah, 2006).

## 1.4    PROBLEM STATEMENT

Sri Lanka's MSWM problem has been discussed in various policy forums, and has been on political agendas, and in the public discourse for over two decades. To date, however, there continues to be no adequate solution to this problem (Musthapha, 2017; Ranawaka, 2017). A specific focus on the 2007 MSWM policy and its implementation is therefore warranted.

## 1.5    RESEARCH AIMS, QUESTIONS AND OBJECTIVES

### 1.5.1    Research aim

The principal aim of the study is to examine and analyse the factors affecting the implementation of the 2007 NSWMP in Sri Lanka.

### 1.5.2    Research questions

This research focuses on answering three key research questions.

1. How effectively did the government implement the 2007 NSWMP in Sri Lanka?

2. What were the key challenges to the effective implementation of the 2007 NSWMP?

3. What is the state of academic knowledge about challenges of implementing solid waste management in complex, decentralised context in developing countries?

### 1.5.3    Research objectives

Based on the principal aim, this research has two specific objectives, as follows:

1. To explore the factors that contribute to the success and failure of MSWM operations in Sri Lanka;

2. To explore how the different interests of various actors have influenced the effectiveness of policy implementation.

## 1.6    SIGNIFICANCE OF THE RESEARCH

Globally, the challenges of MSWM have been investigated from various angles, examining socio-economic, technical, and policy frameworks (Minelgaitė & Liobikienė, 2019; Moggi et

al., 2018; Vannoni, 2014). However, few studies have focused on the problems of MSWM policy implementation in the Asian context (Fernando, 2019; Vidanaarachchi et al., 2006; Yukalang et al., 2017).

In Sri Lanka, several studies related to MSWM have considered the problem from a science and technology perspective (Samarasiri et al., 2021; Weligama Thuppahige & Babel, 2021; Wijekoon et al., 2021). A few others have focused on the socio-economic and environmental effects and impacts of improper MSWM (Conlon, 2021; Nishanthi & Kaleel, 2021; Ruzaik, 2021). Studies on MSWM and policy implementation have focused on single provinces, including the Western (Fernando, 2019; Welivita, 2014), Southern (Vidanaarachchi et al., 2006), and Eastern provinces (Saja et al., 2021). It is noted that these studies have not explored governance and the effects of decentralisation on MSWM. Furthermore, some of the research is outdated because the socio-economic situation and practices of LGs have changed recently. This research contributes to policy implementation theories by examining the challenges confronting policy implementation in a complex, decentralised governance system in a developing country. Furthermore, this research analyses policy implementation following through the Multiple Streams Framework (MSF) and five streams (problem, policy solution, politics, process, and programmes) in a complex decentralised government.

This research is unique because it focuses on the challenges confronting policy implementation in a complex, decentralised governance structure using the Sri Lankan 2007 NSWMP as a case study. it examines the involvement of multiple actors in MSWM implementation at different levels of government that have not been previously addressed. Exploring policy implementation in a decentralised developing country may be of relevance

to other developing countries, and may therefore provide insights beyond the Sri Lankan context.

In summary, this research contributes to both the academic and practical perspectives on policy implementation.

## 1.7    STRUCTURE OF THE THESIS

The remainder of the thesis consists of another seven chapters. The research project examines policy implementation in a complex system characterised by decentralisation and lack of good governance. Therefore, in focusing on understanding the theoretical and conceptual background related to the first and second objectives, Chapter Two reviews the scholarship on four theoretical and conceptual frameworks around MSWM and policy implementation. These include concepts related to, and theories of, public policy and policy implementation, decentralisation and service delivery, governance, and MSWM. The MSF developed by Michael Howlett (2018) and Howlett et al. (2015, 2017) provides the theoretical framework to analyse policy implementation in this research. Decentralisation, service delivery in a decentralised governance context, and service delivery using good governance principles, provide the theoretical underpinnings used to analyse MSWM implementation. International best practices in MSWM, including the waste management hierarchy, and the Integrated Sustainable Waste Management Framework are used to judge the effectiveness of the 2007 NSWMP.

The research design used to achieve the research objectives is presented in Chapter Three. This chapter discusses the research design, the sources of data, data collection

methods, sampling, field data collection, the challenges and limitations of data the collection process, and the data analysis.

Chapter Four provides an overview of the case study. It provides the contextual background to the research project, and outlines the roles of the Central, provincial and local governments, and the private sector. The chapter details the institutional mechanisms and legal provisions of the Central Government, and discusses the 2007 NSWMP, the 2019 National Waste Management Policy, and national strategies to implement the policy. The chapter also outlines the local-level situation during the 2019/202 from households to the final disposal of MSWM in Sri Lanka.

Aiming to fulfil the first objective, Chapter Five outlines the research participants' evaluations of MSWM practices and the challenges identified in implementing the 2007 NSWMP in Sri Lanka. This chapter provides evidence for the success and failure of MSWM, the operational challenges of MSWM, and stakeholders or actors' cooperation on policy implementation, at the time of data collection.

Chapter Six focuses on fulfilling two objectives of the research by presenting the findings on the influence of the interests and relationships of the multiple actors[4] involved in the MSWM policy implementation. This chapter outlines the impact of complex multi-level governance, lack of coordination, monitoring, evaluation, and conflicts among actors.

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[4] Elected public representatives, bureaucrats, and public employees in Central, provincial, and local governments, citizens, the private sector, NGOs, donor agencies, community organisations, and interest and pressure groups.

Moreover, the chapter presents the impact of undermining effects, political influence, and corrupt practices on effective implementation.

In Chapter Seven, the findings are analysed through the theoretical lens of the MSF and the relevant literature outlined in Chapter Two. This chapter outlines how politics, process, programme, problem, and policy streams shape the ability to achieve the 2007 NSWMP objectives.

Chapter Eight presents the conclusions and implications of the research with suggestions for further development. This chapter includes the key research findings, limitations and the academic and practical significance of the study.

## 1.8    CONCLUSION

This chapter has provided an introduction to the challenges of MSWM in Sri Lanka in both the local and global context. The key aims and objectives of the research project have been outlined, and the structure of the thesis has been presented. In the following chapter, key theoretical and conceptual frameworks essential to understanding policy implementation and MSWM are reviewed.

This study was conducted during a time of considerable political change in Sri Lanka due to the eighth presidential election being held on 16th November 2019, with Gotabaya Rajapaksa, who was the key person involved in the recent upheaval in Sri Lanka, winning the election. This political activity interrupted some of the planned field-based work because several ministries and officials were busy focusing on the election.

# Chapter 2: Literature Review

## 2.1    INTRODUCTION

As briefly outlined in the introductory chapter, the 2007 National Solid Waste Management Policy (NSWMP) continued with critical implementation challenges. Therefore, this chapter reviews the available literature to understand the theoretical and conceptual background of Municipal Solid Waste Management (MSWM) Policy implementation by particularly focusing on devolved context.

This chapter aims to answer the third research question: What is the state of academic knowledge about challenges of implementing solid waste management policies in complex, decentralised contexts in developing countries? Therefore, this chapter provides key tools for understanding and evaluating the challenges of implementation for MSWM in Sri Lanka.

This chapter reviews the key academic literature on four theoretical and conceptual frameworks. These include a discussion of definitions of public policy, and theories of policy implementation, including the Multiple Streams Framework (MSF), and understanding the governance context through the concepts of decentralisation, service delivery in a decentralised system, and good governance.

## 2.2    AN OVERVIEW OF MSWM

In order to gain a better understanding of international best practice in MSWM, this section outlines the definitions, principles, frameworks, best practices, and challenges of MSWM.

## 2.2.1 Definitions of municipal solid waste and MSWM

Municipal Solid Waste (MSW) is generated as a result of the daily activities of humans in different places, such as households, and in commercial, industrial, and agricultural spaces (Karunarathne, 2015; Khan et al., 2012). Waste can be considered an input or resource with the possibility of being converted to economically valuable by-products. However, if it is neglected, MSW creates serious and complex hazards and challenges both locally and globally (Rakib et al., 2022).

The definition of MSW varies across countries. For this research, MSW has been defined as *"Solid waste which includes all domestic refuse and non-hazardous wastes such as commercial and institutional wastes, street sweepings and construction debris" (Magutu & Onsongo, 2011, p. 3).* It consists of several forms of waste, such as food waste, packaging, garden waste, clothing, paper, and other solid forms of waste, but does not include hazardous and infectious waste or sewage (Magutu & Onsongo, 2011; Yukalang et al., 2018).

As several scholars have outlined, MSWM is a process that should be followed from the generation of waste through human activities to final disposal (Fernando & Silva, 2020; Nishanthi & Kaleel, 2021; Tsai et al., 2020). This process includes several steps, such as waste collection, transportation, segregation and processing, to dumping or final disposal (Khan et al., 2012; Kyere et al., 2019). Municipal solid waste management includes strategic planning and decision-making with consideration of the legal requirements and consequences of waste management practices, including selecting the best available option for waste treatment (Pongrácz et al., 2004).

The ultimate goal of MSWM is environmental and human health protection, and resource conservation (Pongrácz et al., 2004; Usman et al., 2021). Therefore, MSWM should be responsive to the demands of citizens (Illiyas, 2008 as cited in Khan, Ahmed & Siddiqui, 2012). Furthermore, MSWM is not simply the handling of waste, but also covers socio-economic development, improvements to and protection of the quality of the environment and public health, natural resource management, and the circular economy (Malinauskaite et al., 2017).

### 2.3.2 Principles and approaches of MSWM

Globally, several principles and approaches are considered essential to the implementation of efficient MSWM, including the waste hierarchy, and integrated waste management systems. The 4Rs (reduce, reuse, recycling and recovery), polluter-pays principle, sustainable production and consumption, and zero waste are principles used to outline management approaches to minimising resource use and maximising resource re-use (Colasante et al., 2022; García-Oliveira et al., 2022; Usman et al., 2021).

Initially, MSWM focused on dumping or burying collected waste (Vigil, 1989). However, diverting materials from the waste stream is now preferred due to the value of recyclable products, potential employment, income generation, and reduction of the negative impact of disposed waste on natural resources (Sahertian, 2012; Samiha, 2013; Usman et al., 2021). In late 1970, based on the 3R principles (reduce, reuse, and recycle), several strategies for MSWM, such as the waste management hierarchy (see Figure 2.1), were introduced in the Netherlands (Gertsakis & Lewis, 2003 as cited in Sahertian, 2012;

Van Ewijk & Stegemann, 2016). Waste avoidance, resource recovery, and disposal are the three core concepts of the waste management hierarchy (Doaemo et al., 2021).
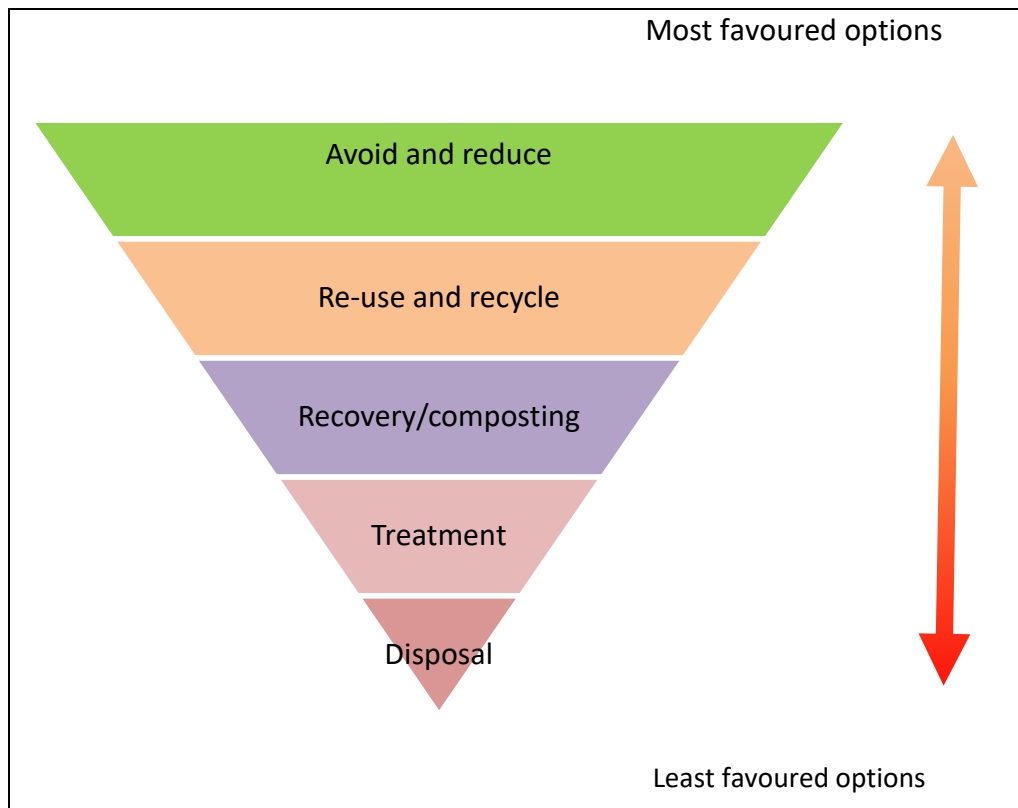


Figure 2.1: Waste management hierarchy (reprinted with permission from Springer Nature)
Source: (Doaemo et al., 2021)

Some countries use the 'zero waste' concept (see Figure 2.2) as a practical alternative through which to preserve all resources using different methods, including responsible production and consumption, and reusing and recycling (Awasthi et al., 2021; Singh & Hussain, 2021). This concept has expanded from the 3R principles to 9R (Umor et al., 2021). The 9R principles include strategies and policies required to achieve zero waste: rethink, reduce, reuse, repair, refurbish, remanufacture, repurpose, recycle, and recover (Kirchherr et al., 2017).

The zero-waste concept encourages waste minimisation and resource recovery instead of landfilling or other environmentally destructive options. Building an effective circular economy by shifting from waste management to resource management is the aim of the hierarchy (Zero Waste Europe, 2019). Zero waste also aims to reduce the quantity of toxicity and the ecological footprint of consumption through reduction and reuse (Awasthi et al., 2021). The recommended way to achieve zero waste is to change production and consumption patterns, business models, packaging with less resource, and minimum waste (Mastakar et al., 2019).
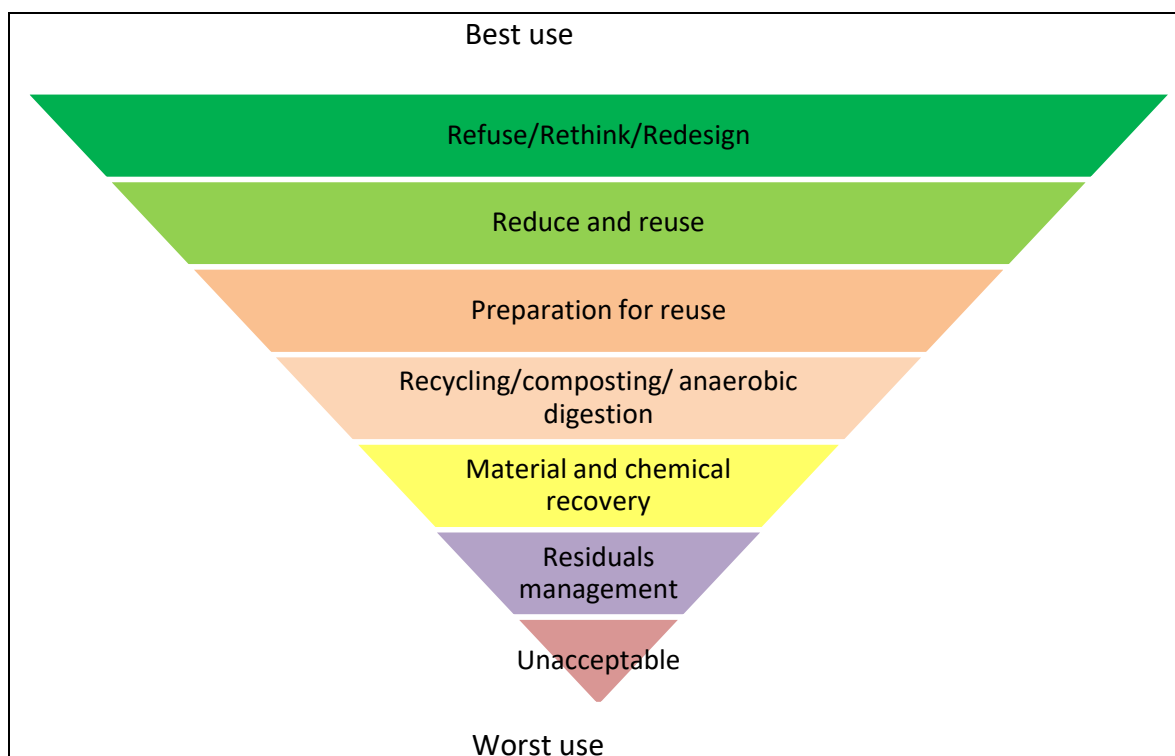


Figure 2.2: Zero Waste Hierarchy (reprinted with permission from Zero Waste Europe)

Source: Zero Waste Europe (2019)

In the late 1980s, another important aspect that built on the 3R principles was that of Integrated Sustainable Waste Management (ISWM) which was been developed to address MSWM issues (UN-Habitat, 2010 as cited in Sahertian, 2012). The conceptual framework

of ISWM has become increasingly prominent since it was accepted as the global standard for MSWM in 1994 (Wilson et al., 2013).

The ISWM consists of three important dimensions: stakeholders, waste system elements, and a range of other aspects (see Figure 2.3). Stakeholders vary by local context and are grouped based on their interests. It is challenging to get stakeholder agreement to support the improvement of the waste management system because they have different interests (van de Klundert et al., 2001). The waste system elements contain several steps from waste generation to final disposal and the 4R principles. Waste management strategic plans play a key role in ISWM (Wilson et al., 2013). The ISWM uses six aspects to assess the existing system and introduce new plans for MSWM (Wilson et al., 2013). These aspects are technical, environmental and health, financial and economic, socio-cultural, institutional, policy, and the legal and political aspects of managing waste (Figure 2.3).

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https://www.ircwash.org/sites/default/files/Klundert-2001-Integrated.pdf

Figure 2.3: Integrated Sustainable Waste Management Framework

The ISWM framework aims to increase environmental and public health safeguards, local participation, private sector efficiency of resource use, income generation, economic growth, and improved governance (Lazo & Gasparatos, 2019; Ravichandran & Venkatesan, 2021). The research findings reveal many positive outcomes of ISWM. An analysis of 45 cases of MSWM systems in developed and developing countries shows that, implementing the ISWM system resulted in increasing environmental benefits by reducing potential global warming (Zhang et al., 2021).

Municipal Solid Waste Management is still a serious challenge facing many countries (Kumara & Pallegedara, 2020; Padmavathy & Anbarashan, 2022). Sri Lanka also in theory elected to use ISWM with 4R principles as the most appropriate strategy to achieve sustainable MSWM (Ministry of Environment of Sri Lanka, 2020). Some countries have achieved success by applying different strategies, frameworks and approaches, including the 3Rs, zero waste principles, and the ISWM.

There are common factors that contribute to the high performance of MSWM in developed countries, including employing ISWM with strong government policies consisting of clear objectives and targets, financial incentives, and sufficient funding (Gillies et al., 2017). Furthermore, continuous and robust public awareness programmes, use of the polluter- pays principle, and clear laws have resulted in successful MSWM in some developed countries (Azevedo et al., 2021; Žmak & Hartmann, 2017).

### 2.3.3   MSWM in developing countries

Developing countries across the world are struggling with challenges of MSWM (Kaza et al., 2018; Kyere et al., 2019; Wilson, 2016). The issues associated with MSWM vary between countries, owing to unique contexts of different places. However, several initiatives have been successful. Nevertheless, success initiatives in developing countries are often limited to certain LGs.

**Success attempts in developing countries**

Successful initiatives in developing countries include strategies used to increase community participation, public private partnerships, transforming waste into reusable items, and establishment of waste banks.

- Community participation in waste collection and disposal

Some local governments in developing countries use community participation as a means to address challenges pertaining to waste collection, such as substantial financial burden placed on local governments for waste collection and prevalence of uncollected waste in many areas (Mutemani et al., 2022). The implementation of techniques such as community ownership of labour and resources, including trucks for waste collection and utilisation of social bonds within the community have been identified as effective approaches to enhance community participation in MSWM (Mutemani et al., 2022; Sinthumule & Mkumbuzi, 2019). Furthermore, in some developing countries, there has been a notable rise in the emphasis on neighbours' accountability as strategy to curb illicit waste disposal practices through active community participation (Marello & Helwege, 2018).

Moreover, several developing countries use community participation as a strategy to implement a zero-waste approach. In order to achieve zero waste  local government use community awareness programmes, several strategies to implement 3R principles such as encourage the citizens to use compost and liquid fertiliser for cultivation (Hidayati et al., 2021)

- Waste banks

In waste banking systems, citizens can opt to receive either money or recycled products by providing recyclable waste to LG waste collection centres. This system is highly successful as a strategy for increasing community participation in MSWM because it provides extra income for citizens, raises awareness, and changes attitudes and behaviours in favour of MSWM (Asteria et al., 2017; Pradiko et al., 2021; Wijayanti & Suryani, 2015). Thailand and

Indonesia serve as noteworthy illustration of successful deployment of waste bank system in developing countries (Pradiko et al., 2021).

- Public-private partnerships

Public-private partnerships and facilitate to develop waste pickers' cooperatives other tools used to implement effective MSWM in developing countries (Marello & Helwege, 2018; Mastakar et al., 2019). Effective waste collection and disposal, reduces the administrative and financial burden of LGs on MSWM, creating many extra jobs for citizens. These are some of the positive results of this strategy. Reduce landfilling and methane emissions are also consequence of this strategy (Mastakar et al., 2019). Pune city in India, Latin America, and Brazil illustrate some success stories associated with these strategies (Marello & Helwege, 2018; Mastakar et al., 2019).

- Converting waste into craft

Certain LGs in developing countries are actively involved in the transformation of MSW into craft through community-based organisations and training initiatives (Hidayati et al., 2021; Mastakar et al., 2019; Medina-Salas et al., 2020; Wardani & Khotimah, 2021). One illustration of their inventive methodology is the development of eco-bricks, which are constructed using empty plastic bottles and non-biodegradable garbage. These eco-bricks serve as alternative materials for the production of household furnishings, like chairs and tables (Hidayati et al., 2021).

The successful attempts for MSWM in developing countries highlighted above show some promise. The factors that contribute to the success of MSWM vary by case. The strong commitment of all levels of government, public policies with clear goals, laws, and sufficient

funds for MSWM are key factors involved in effective MSWM. Nevertheless, MSWM remains a significant challenge  (Kaza et al., 2018; Kyere et al., 2019; Wilson, 2016).

**Key challenges of MSWM in developing countries**

Governments across, the world are still struggling with MSWM issues (Kaza et al., 2018; Kyere et al., 2019; Wilson, 2016). These challenges include institutional and legal complexity, system challenges of MSWM, and limited support and commitment of political leaders and other actors.

Institutional complexity is a key influence on the failure of MSWM in some countries, such as Algeria and Malaysia (Abd Manaf et al., 2009; Hemidat et al., 2022). As multiple actors are involved without clear delineation of responsibilities and coordination, functions related to MSWM overlap between various institutions at the national, regional, and local-levels (Hemidat et al., 2022; Kituku et al., 2020; Spoann et al., 2018).

Researchers have identified complex legal frameworks (Hemidat et al., 2022) and a lack of laws and regulations to address current requirement for sustainable MSWM (Fagariba & Song, 2017 ; Tran & Pushkareva, 2020) as key factors influencing effective MSWM. The absence of legal provisions for waste reduction, reuse, and pollution control is a consequent challenge for effective MSWM (Saja et al., 2021).

Lack of commitment and cooperation from political leaders and bureaucrats are other key challenges for effective MSWM (Spoann et al., 2018). The absence of appropriate plans leading to implementation failure are a consequence of a lack of support from political and bureaucratic leaders (Fagariba & Song, 2017 ). Moreover, political interference and low priority given to the issue by government are significant limitations of  MSWM in

some countries (Kituku et al., 2020; Okot-Okumu & Nyenje, 2011), as is the lack of resource allocation for effective MSWM.

Some researchers argue that the poor participation of citizens is a critical challenge for MSWM in many developing countries (Guerrero et al., 2013; Kumar et al., 2017). Citizens' limited knowledge of waste management (Hidayati et al., 2021; Owojori et al., 2022), and lower willingness to segregate or process waste into a valuable product are a few factors involved in the weak cooperation of citizens (Bashir & Goswami, 2016; Hidayati et al., 2021; Owusu et al., 2013; Rakib et al., 2022). However, many success stories in MSWM are challenging this argument, because citizens are supportive when government provides sufficient information and system to manage waste (Mastakar et al., 2019; Parker, 2020; Wijayanti & Suryani, 2015).

The challenges involved in municipal solid waste management, including insufficient funds, inadequate physical and human resources, and poor infrastructure at the local-level are other reasons for the ineffective performance of MSWM (Fernando, 2019; Kumar et al., 2017). Limited waste collection and inappropriate waste management are consequences of a lack of resources (Gunaruwan & Gunasekara, 2016; Hemidat et al., 2022).

Moreover, many countries faced additional difficulties with managing their MSW during the COVID-19 outbreak due to the extra burden of increased food waste (Ganguly & Chakraborty, 2021). The increase in plastic waste from health care centres, hospitals, and quarantined households were also challenged in effective MSWM during the COVID-19 outbreak (Hantoko et al., 2021).

In summary, MSWM faces a range of challenges depending on national context. The following section will discuss the decentralisation and its impacts on MSWM.

## 2.3    DECENTRALISATION AND IMPACT ON MSWM

All countries typically implement MSWM as a decentralised function, with the obligation being entrusted to LGs (Benito et al., 2021; Magutu & Onsongo, 2011; Maharjan & Lohani, 2019). However, constraints pertaining to decentralisation are significant obstacles that associated with ineffective MSWM in most developing countries. Hence, a comprehensive discussion of the theories and practical applications of decentralisation follows.

Understanding decentralisation and its impacts on policy implementation is crucial in this study, because after establishing the provincial council system in 1987, Sri Lanka has implemented many public policies through three levels of government rather than two. While defining decentralisation, this section elaborates the factors involved in the effective implementation of decentralised policies, and the effects of decentralisation on service delivery, with specific consideration of SWM, as it helps to understand and analyses the challenges in MSWM in complex decentralised governance system in Sri Lanka.

### 2.3.1    Definitions of decentralisation

There has been debate on definitions of decentralisation from different perspectives, such as through the political, administrative, economic, and governance lenses (Cohen & Peterson, Alfano et al., 2014; 1996). Many definitions of decentralisation emphasise the transfer of responsibilities and legal, political, and fiscal power and authority from central government to lower levels of government, field-level organisations, and semi-autonomous agencies (Devas, 2005; Ekpo, 2007; Smith, 1985; Talitha et al., 2020).

However, in addition to transferring the Central Government's power and responsibilities across government, some scholars have defined decentralisation as the transfer of power and responsibilities to the non-government sector based on market approaches. Hence, privatisation and deregulation can also be identified as a form of decentralisation (Andriyana & Hogl, 2019; Gupta et al., 2020; Rondinelli, 1981).

Rondinelli (1981) defined decentralisation as,

> *The transfer or delegation of legal and political authority to plan, make decisions and manage public functions from the Central Government and its agencies to field organisations of those agencies, subordinate units of government, semi-autonomous public corporations, area wide or regional development authorities; functional authorities, autonomous local governments, or non-governmental organisations* (Rondinelli, 1981, p. 137).

The aims of decentralisation vary. Decentralisation is used as a remedy for various issues, such as governance and development (Accominotti et al., 2010; Cheema & Rondinelli, 2007; Conyers, 2006; Wekwete, 2007). Many scholars have argued for decentralisation as a 'cure' for countries with weak public services, e.g. India, Sri Lanka (Bardhan, 2002; Ding & Yang, 2021; Gunawardena, 2017). Some countries use decentralisation to resolve conflict among different ethnic groups (e.g., Sri Lanka, Indonesia, Sudan), address the crisis of democracy (e.g. South Africa, Nepal), and adopt market economies and natural resource management (e.g., Senegal, Zimbabwe, Nepal) (Agrawal & Ribot, 1999; Andriyana & Hogl, 2019; Devarajan et al., 2009; Ribot, 2003).

Although the results have been mixed, in general, the academic literature on decentralisation highlights the aim of decentralisation as being to manage public affairs

efficiently (Agrawal & Ribot, 1999; Alfano et al., 2014; Cabral, 2011; Ghuman & Singh, 2013; Shin & Jhee, 2021). As many scholars have emphasised, decentralisation enhances options for planning and decision-making to address local-level issues, allowing for more public participation (Andriyana & Hogl, 2019; Conyers, 2007; Fischer, 2021; Lubell & Robbins, 2022).

Much of the core academic literature on decentralisation maintains a focus on the legal, political, and fiscal authority aspects (Engdaw, 2021; Mankenda, 2020; Utomo, 2009), but this is only part of the story. Moreover, it is essential to have positive relationships between inter-and intra-governmental organisations as well as other actors to implement decentralised policies effectively (Khambule, 2021; Ochieng, 2022; Omolo, 2010).

### 2.3.2 Types of decentralisation

The academic literature categorises decentralisation into five types: deconcentration (e.g. governmental departments), delegation (e.g., Semi-autonomous agencies, such as Central Environmental Authority of Sri Lanka), devolution (e.g,. States in Australia), deregulation (e.g., deregulation of domestic aviation in Australia in 1990) and privatisation (e.g., private sector companies involved in MSWM in Australia) see Table 2.1) (Busygina et al., 2018; Cohen & Peterson, 1996; Ghuman & Singh, 2013). Countries use different types of decentralisation depending on their objectives at the time of system change (Mankenda, 2020). The type and intensity of decentralisation are determined by various factors, including the purpose of its use, the socio-economic, political, and cultural contexts, and the historical background of the country (Accominotti et al., 2010; Scott, 1996; Talitha et al., 2020).

Among the five types, deconcentration is considered as the least type of power sharing between partners, because the decentralised units, such as government departments are subordinate units of the Central Government (Rondinelli et al., 1989). As Cohen and Peterson (1996) explained further, that when the Central Government transfers administrative power of specified decision-making, financial, and management functions to different agencies under deconcentration, the jurisdictional authority remains under the Central Government (see Table 2.1). Therefore, Central Government tends to only transfer the implementation phase to its subordinate units (Ekpo, 2007). Since devolution (may create or strengthen the independence of the lower levels of government, scholars consider it as the most extensive type of decentralisation (Bergh, 2021; Utomo, 2009).

Sri Lanka uses all types of decentralisation in its governing processes. In particular, four types of decentralisation (devolution, delegation, deconcentration, and privatisation) are used within the MSWM policy arena. The data in Table 2.1 assists with an understanding of the basic features, aims, and limitations of the different types of decentralisation used in MSWM in Sri Lanka.

Table 2.1: Summary of basic features, aims, and limitations of all types of decentralisation

| Type of decentralisation and its basic characteristics | Decentralisation aims | Limitations |
|---|---|---|
| **Devolution**<br><br>• central government transfers the authority and responsibilities for decision-making, financial handling, and managing the activities to autonomous or quasi-autonomous units of government (through constitutional provisions)<br><br>• geographical boundaries of devolved units recognised by the constitution<br><br>• independent and autonomous in devolved matters, devolved units have the authority to recruit their own staff, and establish and manage their own budget, auditing, evaluation, and monitoring systems | Amis of devolution<br><br>• achieve more local development goals by providing appropriate, rapid solutions to local issues, and effective resource utilisation<br><br>• increase public participation in decision-making and policy implementation, practice more good governance<br><br>• increase political stability and national unity | • **Limitations of devolution**create complex issues when political leaders and bureaucrats of central government do not support the implementation of decentralised policies<br><br>• devolution attempts can fail due to design issues, unclear or intersecting legal provisions, or funds and human resources being controlled by central government<br><br>• resources can be co-opted by local elites |
| **Delegation**<br><br>• central government transfers responsibilities and decision-making power to semi-autonomous agencies of the government through acts/legislations to implement clearly defined tasks<br><br>• not fully controlled by the government, but directly answerable and accountable to the government<br><br>• more flexibility in decision-making and power to recruit staff, earn income, and manage resources using by-laws or regulations passed by the authority, and under the control of government rules, regulations, and laws | **Aims of delegation**<br><br>• create technically and administratively more capable institutions to implement specific tasks rapidly by avoiding red-tape in public administration | **Limitations of delegation**<br><br>• misuse of resources and lack of good governance practices due to political influence can occurpoor performance due to corruption and politicisation<br><br>• poor financial management and budgeting can burden the national budget |
| **Deconcentration**<br><br>• central government merely shifts responsibilities and workload to its' field agencies | **Aims of deconcentration** | **Limitations of deconcentration**<br><br>• although field agencies understand local problems and needs, they cannot provide |

| | | suitable solutions beyond the central government |
|---|---|---|
| • do not have authority to recruit staff, generate own income<br><br>• field agencies are subordinate to the central government | provide efficient and effective service delivery providing easy access to people who live away from the capital<br><br>• promote a feeling that government is closer to the people | • street-level bureaucrats can use discretionary power in service delivery if not supervised properly |
| **Deregulation**<br><br>• create a mechanism for improving access to new products without undermining product safety, efficiency, and effectiveness<br><br>• relaxation or deletion of various laws, rules, and regulations that affects the selected business or industry | **Aims of deregulation**<br><br>• efficiency will increase since more service providers are entering the market<br><br>• reduce government burden on finance for welfare | **Limitations of deregulation**<br><br>• when regulating machinery is weak, it can create more issues for consumers, including violating consumer rights and providing low-quality products |
| **Privatisation**<br><br>• transfer government responsibilities and authority on providing goods and services delivery to non-government actors, including the private sector<br><br>• withdrawal of ownership and management, sale of entire public enterprises, and disinvestment (selling off part of the equity) are the methods used to privatise | • **Aims of privatisation**provide greater freedom to customers to select service providers, and reduce the financial burden and responsibilities of government<br><br>• reduce corruption and political interference<br><br>• provides quality and customer-oriented services<br><br>• increase the efficiency of service delivery | **Limitations of privatisation**<br><br>• can increase vulnerability, poverty, and unemployment<br><br>• can increase cost of services and products<br><br>• lack of standardisation and lowering of service quality can occur<br><br>• possibility of loss of customer rights, prevalent cultural identity |

Source: Author (2022)  data adopted from Abdeldayem and Al Dulaimi (2022); Babatunde et al. (2023); Bergh (2021); Cohen and Peterson (1996); Damayanthi (2011); Datta and De (2021); Ding and Yang (2021); Ekpo (2007); Fabre (2019); Florestal and Cooper (1997); Hansen et al. (2002); Litvack et al. (1998); Nouri et al. (2021); Rathod (2018); Rondinelli (1981); Rondinelli et al. (1989); Utomo (2009); Wissmüller (2021); Wu (2021); Levine et al. (2012)

As shown in Table 2.1, each type of decentralisation assumes many positive results but has several limitations. The following section outlines the literature on how different factors contributes to the success or failure of decentralised service delivery.

### 2.3.3 Decentralisation and service delivery

Scholars have argued that a key positive outcome of decentralisation is improved public service delivery through increased efficiency, effectiveness, and quality of services (Bernal et al., 2021; Ding & Yang, 2021; Kolehmainen-Aitken, 2002; Litvack, 2002; Shin & Jhee, 2021). It has been argued that decentralisation may also reduce corruption[5] by increasing citizens' participation in the different phases of policy implementation, including planning, monitoring, and auditing (Ghuman & Singh, 2013; Grindle, 2007; Mehrotra, 2006). In this way, decentralisation also has positive outcomes for good governance and efficient service delivery (Bergh, 2021; McCollum et al., 2018).

Decentralisation practices, such as devolution and delegation can solve severe limitations associated with centrally controlled national planning, unequal distribution of resources, and delays in addressing local problems due to resources controlled by centrally located elites (see Table 2.1) (Merrell, 2022; Smoke, 2015; White, 2011). In particular, devolution and delegation contribute to improving administrative and institutional procedures by building creative, innovative and flexible systems (Ghuman & Singh, 2013; Scott, 1996), removing bureaucratic red-tape, and enabling LGs to address local

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[5] In this study 'corruption' refers as the abuse of public office, including resources and power by violation of established codes of ethics and laws to gain private benefit and resources.

requirements (Merrell, 2022; Talitha et al., 2020). Since decentralisation enables officials to be located closer to the citizens and deliver better services than centralised systems (see Table 2.1), some scholars argue that decentralisation contributes to providing customer-oriented, efficient, and quality services for citizens and, more likely, the successful implementation of policies (Dick-Sagoe, 2020; Ivanyna & Shah, 2011; Mehrotra, 2006).

While improvement in the quality, efficiency, and equity of services delivered to the public is one of the core assumptions of decentralisation, sometimes this is not realised (Azfar et al., 2006; Baiocchi, 2006; Robinson, 2007b). As many scholars have highlighted, such failure occurs due to a range of political, institutional, resource, behavioural, and psychological factors (Hidayat, 2017; Kravchenko et al., 2021; McCollum et al., 2018; Musekiwa, 2020; Okot-Okumu & Nyenje, 2011).

The political factors that contribute to the failure of decentralisation include a lack of a strong commitment and support from national-level political and bureaucratic leaders, and central government's limited acceptance of outside participation for planning and management activities in decentralised policies (Bernal et al., 2021; Ha & Kumar, 2021; Musekiwa, 2020; Péteri & Vaillancourt, 2007; Rondinelli, 1981). The recentralisation of power and resources, and the abandoned or failed implementation of plans, programmes, and policies are a result of such political factors (Busygina et al., 2018; Hyden, 2007; Mwenda, 2010). In decentralised governance systems, dominant political parties hinder the implementation of policies by influencing or engaging in political patronage for resource distribution to the lower levels of government due to political rivalry (Dick-Sagoe, 2020; Muwonge et al., 2022; Nayyar-Stone et al., 2006; Ochieng, 2022; Ribot, 2003).

As shown in Table 2.1, inadequate demarcation of responsibilities, an unclear legal division of power, and vague implementation procedures are institutional factors involved in the failed implementation of decentralised policies (Al-Mawlawi & Jiyad, 2021; Bannink & Ossewaarde, 2011; Omolo, 2010; Rondinelli et al., 1989). Furthermore, a lack of coordination across government(s) (Abd Manaf et al., 2009; Henry et al., 2006; Peters, 2018), the limited availability of information, and a lack of transparency are some of the factors that contribute to outcomes contrary to stated aims (Kolehmainen-Aitken, 2002; Lawrence, 2020; Olson, 2007).

Resource factors that led to poor service delivery include the lack of availability of sufficient resources to implement lower-level governmental responsibilities (Devarajan et al., 2009; Kravchenko et al., 2021; Wekwete, 2007). As presented in Table 2.1, insufficient authority to obtain adequate financial and human resources, or sub-national government resourcing being controlled by the Central Government may hinder the performance of decentralised policy implementation (Muwonge et al., 2022; Reddy & Mohapatra, 2022).

Behavioural and psychological factors that obstruct the achievement of the aims of decentralisation include the attitudes and behaviours of all levels of public employees towards the decentralisation of service delivery and limited interest in sharing public employees' authority with the non-government sector (where required for effective delivery) (Rondinelli et al., 1989; Sovacool et al., 2012). The resistance of public officers to necessary change is another key obstacle to the delivery of efficient public services (Grillos et al., 2021; Ivan, 2019; Ribot et al., 2006). Limited trust and respect between public employees and local organisations are significant factors that hinder decentralised policy implementation (Zaidi et al., 2019). Furthermore, the rent- seeking behaviour of actors

involved in decentralised policy implementation may lead to implementation failure (Crook & Manor, 2018; Galeotti, 1992; Rodríguez-Pose & Muštra, 2022).

Many developing and underdeveloped countries have experienced more negative effects than positive experiences from decentralisation due to the critical factors discussed above (Devarajan et al., 2009; Ghuman & Singh, 2013; Ivanyna & Shah, 2011; Mbowa & Kaaya, 2021). As shown in Table 2.1, these deleterious effects include the deterioration of the quality of services (Green, 2018; Treisman, 2000), services being captured, or allocated resources from the centre being seized by elites (Bardhan & Mookherjee, 2006; Cheema & Rondinelli, 2007; Khambule, 2021). There is also the possibility of increasing costs for service delivery (Kassouri, 2022; Muwonge et al., 2022) and corruption (Alfano et al., 2014; Ghuman & Singh, 2013; Hao et al., 2022; Prud'homme, 1995). Improved service delivery in a decentralised context is not automatic, and much research is devoted to understanding why decentralisation often fails to achieve its aims.

As a consequence of the critical factors discussed above, scholars have emphasised attention on increasing public participation and downward accountability to improve the efficiency of service delivery while reducing corruption (Ivanyna & Shah, 2011; Kassouri, 2022; Musekiwa, 2020; Shah & Shah, 2007). Consequently, scholars have introduced new decentralisation models based on four pillars: local democracy, local governance, local economic development, and state modernisation (Olson, 2007; Zaidi et al., 2019). In response, many governments have attempted to improve public participation in various activities of decentralised policy implementation including planning, decision-making, and auditing using several strategies, such as digital platforms to communicate with citizens,

and more power granted to lower levels of government and community organisations (Musekiwa, 2020; Simonofski et al., 2021; Talitha et al., 2020)..

Here, decentralisation is understood to mean the transfer of the Central Government's authority and their political, legal, and fiscal power along, with adequate resources to provincial councils, and local governments. In this study, the transfer of the Central Government's legal and fiscal power and resources to government departments and quasi-independent agencies is also considered as decentralisation. These entities are constitutionally or legislatively defined and are allocated responsibilities to provide efficient, effective, and quality public services. The transfer of Central Government power and responsibility to the private sector to provide cost-effective public services and establish positive relationships among all actors involved in the MSWM also constitute key characteristics of decentralisation. The definition of decentralisation used in this study is useful for understanding the context of MSWM policy implementation in Sri Lanka because it highlights the number and diversity of actors, the importance of their joint involvement in the policy implementation process, and the need for functional relationships among them to achieve MSWM policy goals.

## 2.4    GOVERNANCE AND GOOD GOVERNANCE

The academic literature suggests that good governance helps to make appropriate plans to resolve local issues, and reduces corruption and irresponsible use of resources by increasing public participation and accountability of actors involved in policy implementation (Chaterera, 2016; Engdaw, 2021; Khan, 2015). Thereby, good governance contributes to efficient and effective service delivery (Detotto et al., 2021; Wahyurudhanto,

2020). To understand the role of governance and its impact on MSWM in Sri Lanka, this section provides a brief overview of the current scholarship on the concepts of governance and 'good governance'.

## 2.4.1 Definition of governance

Earlier scholarship used the term 'governance' to refer to political and administrative functions of government, including the exercise of power, rules, regulations, and resources to manage government functions and to serve the citizens (Barbazza & Tello, 2014; Fukuyama, 2013; Singh, 2005).

> *Governance is the sum of the many ways individuals and institutions, public and private, manage their common affairs. It is a continuing process through which conflicting or diverse interests may be accommodated and co-operative action may be taken. It includes formal institutions and regimes empowered to enforce compliance, as well as informal arrangements that people and institutions either have agreed to or perceive to be in their interest (Commission on Global Governance, 1995, pp. 2-3).*

While the definition of governance differs by institution and discipline, the academic literature on governance widely uses the definition provided by the Commission on Global Governance.

The concept of governance consists of three common elements. The first is process, including how decision-making and implementation proceed, and how decision-makers maintain their accountability. The second element is the interaction between government and non-government actors, and the third is the management of the collective affairs of

the community by accommodating various interests of different institutions and citizens (Addink, 2019; Commission on Global Governance, 1995; Peters, 2012; Plumptre & Graham, 1999; Pomeranz & Stedman, 2020; Rhodes, 2007).

Over recent decades, governance has become an umbrella concept for a range of phenomena (Dahiya & Das, 2020). Consequently, a wide variety of governance concepts, such as 'good governance', 'local governance', 'corporate governance', 'shared governance', 'multi-level governance', and 'democratic governance' are used in the contemporary world (Mankenda, 2020).

### 2.4.2 Good governance

The term 'good governance' is commonly used to describe an admirable set of attributes of how government should be conducted, such as accountability, transference, and public participation (Grindle, 2012; Mankenda, 2020; Peters, 2012; Pomeranz & Stedman, 2020). Most scholars use the characteristics described by the United Nations Development Programme as outlined in Table 2.2 (Addink, 2019; Ramzy et al., 2019). According to Rothstein (2012), good governance requires four essential elements. First, the availability of a government institutional framework that provides the capacity to formulate and implement policies to fulfil public needs. Second, certain qualities of government institutions, such as accountability, transparency, freedom from corruption, a participatory approach to the policy process, as well as responsiveness, efficiency, and effectiveness. Third, government interaction with non-government actors in policy implementation, and finally, government partnership with the private sector, the community, and other non-government organisations.

Table 2.2: Basic elements of good governance

| Elements | Description |
|---|---|
| Participation | Without discrimination, all members of society have a direct or indirect (through the representative system) voice in decision-making in public matters. |
| Consensus-oriented | Government should involve reaching a wider consensus on the interests of groups or citizens by mediating different interests towards policies and procedures. |
| Strategic vision | Government should have a broad and long-term vision on good governance and human development, with a comprehensive understanding of the social, historical, and cultural complexities of the subject matter. |
| Responsiveness | Government should have the flexibility and capacity to give quick responses to societal changes by identifying citizens' expectations. |
| Effectiveness and efficiency | Government should supply quality public service and goods to citizens at minimum cost. |
| Accountability | All decision-makers, including the government, the private sector, and Civil Society Organisations (CSOs), are accountable to the public and their institutional stakeholders. |
| Transparency | Government actions, decisions, and decision-making processes are open to all parties including citizens and external parties of the government, to an appropriate level of scrutiny. |
| Equity | All people have opportunities to improve and maintain their well-being. |
| The rule of law | Government should enforce fair and impartial laws. |

Source: Graham et al. (2003); United Nations Development Programme (1997)

As Grindle (2012, p. 259) explained, "good governance is a mighty beacon" of what should be for the betterment of millions of people around the world. Grindle (2012) further explained that good governance approaches particularly helpful to address governance issues in developing countries, including corruption, misuse of the rule of law, and inefficient and ineffective public service.

### 2.4.3 Good governance and service delivery

According to Wang et al. (2021), in order to enhance the living conditions of citizens, government should provide quality, customer-oriented services to their citizens. Public-

private partnerships (Bano, 2019), the establishment and strength of watchdog mechanisms such as anti-corruption commissions and ensuring citizens' rights to access public information (Maramura, 2022) are some strategies used by countries to provide efficient, effective, and accountable public services. The influence of citizens on politicians to improve service delivery also leads to the provision of efficient services (Benito et al., 2021).

However, as Roy and Tisdell (1998) explained, several factors negatively influence good governance, including corruption, bureaucratic incompetence, and lack of institutions to promote good governance. According to (Qhobosheane, 2018), political interference has an adverse impact on several components of good governance, including accountability, efficiency, effectiveness, and transparency. The absence of transparency in decision-making, limited access to information, and lack of partnerships also challenge the promotion of good governance and effective policy implementation (Ramirez, 2021).

## 2.5 PUBLIC POLICY AND POLICY IMPLEMENTATION: THEORETICAL AND PRACTICAL PERSPECTIVES

Good governance includes the successful implementation of policies designed to improve service provision, including MSWM. To better understand what is happening in terms of implementation of MSWM policies in Sri Lanka this section outlines the key theoretical concepts of policy formulation and implementation, including definitions of public policy, policy formulation, implementation, and the Multiple Streams Framework (MSF). This section also discusses the literature on the factors that contribute to the success and failure of policy implementation.

### 2.5.1 Defining public policy

Public policy is "anything a government chooses to do or not to do" (Dye, 1972, p. 2). As this definition highlights the government is the primary agent of policy-making, even if other actors, such as citizens and the private sector are often influential in the policy-making process (Howlett & Cashore, 2020; Howlett & Mukherjee, 2017). According to this definition 'public policy is a conscious choice of a government' (Howlett & Cashore, 2020, p. 11), Dye's above-cited definition implies that 'public policy is a conscious choice of a government'. Although this definition is very helpful for understanding public policy, it does have some limitations, such as how governments make policy decisions and how they are implemented (Knill & Tosun, 2020; Smith & Larimer, 2016). The following definition by William Jenkins (1978) assists in gaining a better understanding of public policy.

> *A set of interrelated decisions taken by a political actor or group of actors concerning the selection of goals and the means of achieving them within a specified situation where these decisions should, in principle, be within the power of these actors to achieve (Jenkins, 1978, p. 15).*

As this definition highlights a public policy comprises of goals and strategies used to achieve outcomes (Howlett & Cashore, 2020). Public policy is not merely a government decision; rather it is a complex process of interrelated decisions that based on the common understanding of policy problems and solutions (Yinger, 1980). This process leads to actions beyond the initial policy-making process (Hill & Varone, 2021). Multiple agencies, individuals, and their diverse interests cumulatively contribute to frequent changes of policy and to shape policy outcomes, making policy dynamic. Hence, dynamism identified as another characteristic of policy (Howlett & Cashore, 2020).

### 2.5.2 Definitions of policy implementation

For this research, policy implementation is defined as "a process of interaction between the setting of goals, and actions geared to achieving them" (Pressman & Wildavsky, 1984, p. xxiii). The actions lead to implementation comprise a range of activities including, programmes and projects creation (Richardson, 2002), establishment of required agencies and project governance arrangements (enact legislations, by-laws, guidelines) (Peters, 2021), agree on roles and responsibilities of various actors, assign leadership, unite implementing actors (Hateley-Browne et.al, 2019). Planning and project management (development of strategies, action plans, monitor resources and timeline), obtaining acceptance of target groups on policy decisions, revision of basic policy decisions, and effective communication with all stakeholders are also significant actions included in policy implementation (Pressman & Wildavsky, 1984). Above cited definition is widely-used in policy implementation studies, and thus, is appropriate to understanding the case being considered in this research. This definition also assumes that coordination of various implementing agencies is necessary to achieve the policy goals (Sapru, 2011).

Researchers identify implementation as a process aimed at achieving policy goals (Bardach, 1977; Edward III, 1980; Sabatier & Mazmanian, 1980), or putting policy decisions into action (Barrett 2004 cited in Pulzl & Treib, 2017). A basic policy decision stipulates the implementation process and structure, and the different ways of achieving its goals (Sabatier & Mazmanian, 1980).

Bureaucrats (managerial-level public officers), civil servants (or public employees below the managerial level) from all levels of government, the non-government sector, and

citizens are typically involved in te delivery or consumption of public goods or services during policy implementation (Howlett, 2018). However, bureaucrats are the key actors in the implementation process because they are responsible for determining the design and development of the programmes to achieve policy decisions, using their knowledge, experience, expertise, and values (Funder & Mweemba, 2019; Haaland et al., 2020; Howlett, 2018).

Policy implementation is often a complex, joint action with multiple pressure points (Bardach, 1977; Cairney, 2019; Cline, 2010; Wildavsky & Peters, 2018). Diverse perspectives, multiple (and often confusing) goals, inconsistency between policy objectives, and inadequate funding in many cases to fulfil objectives are key factors contribute to making policy implementation a complex process (Hasler et al., 2022; Ramcilovic-Suominen et al., 2019). The involvement of the many laws and various bureaucratic agencies from different tiers of government create complexity in implementation (Hasler et al., 2022; Howlett, 2007; Ridde, 2009; Wildavsky & Peters, 2018). Bureaucratic agencies bring their own interests, ambitions, and traditions into the implementation process that can influence the process, and shape its outputs[6] and outcomes[7] (Hampton, 2018; Howlett, 2018; Ramcilovic-Suominen et al., 2019; Wang & Ap, 2013). For example, a central government may not be able to compel lower levels of government to operationalise its policy for a range of reasons, including the provision of power-sharing, lack of resources at other levels of government, and the differing political

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[6] Immediate effects of policy implementation

[7] Changes in society or the sector which is expected to be achieved through policy implementation

will or interests of sub-national governments (Sander, 2018; Wang & Ap, 2013). Therefore, the Central Government has to offer conditions, incentives, or threats to operationalise its policy (Li et al., 2019). As such, implementation can be considered to be a process of intergovernmental bargaining (Bardach, 1977), depending on the local context (Hudson et al., 2019).

At the policy adoption stage, actors may support or oppose the policy. When the policy transits to implementation, opposing actors, particularly bureaucrats, may continue their opposition using some administrative guidelines and regulations (Bardach, 1977; Metz et al., 2020). It is also possible that many who supported the original policy may undermine its success in the implementation phase due to fear of loss of benefits from current arrangements or due to institutional interests (Bardach, 1977; Haaland et al., 2020; Harris et al., 2020; Ramcilovic-Suominen et al., 2019).

### 2.5.3 Theoretical understandings of policy implementation

Since the 1950s, policy scientists have developed and employed several theories, models, and frameworks to analyse the challenges of policy implementation (Nilsen, 2020; Wildavsky & Peters, 2018). The Policy Cycle Model (PCM), the Advocacy Coalition Framework (ACF), and the Multiple Streams Framework (MSF) with three streams are significant examples. This section briefly outlines these frameworks and models to gain a better understanding of the theoretical framework of policy implementation in this study, with particular emphasis on the MSF.

*The Policy Cycle Model (PCM)*

The PCM is one of the earliest and most simple frameworks used to study the sequential phases of the complex policy process over several decades (Howlett, 2018; Jann & Wegrich, 2007). This model was introduced by Harold D. Lasswell (1956) through his study on *The decision process: Seven categories of functional analysis*. Lasswell (1956) introduced seven phases of the policy process, considering the sequence of tasks involved in policy-making and policy outcomes: intelligence, promotion, prescription, invocation, application, termination, and appraisal. Although scholars have used the PCM with a different number of phases, the five phase model: agenda-setting, policy formulation, decision-making, implementation, and evaluation, is the most widely used by policy scientists (Jann & Wegrich, 2007; Mohammed, 2020; Perl, 2020). Instead of focusing on particular actors, organisations, or specific substantive problems and associated programmes, the PCM emphasises the generic elements of the policy process (Jann & Wegrich, 2007). Consequently, the policy sub-system is the key level of analysis emphasised by the Policy Cycle Model (Howlett & Ramesh, 2003).

Policy sub-systems refers "space[s] where relevant actors discuss policy issues and persuade and bargain in pursuit of their interests" (Howlett & Ramesh, 2003, p. 53). In this study, policy sub-systems refer to central, provincial, and local governments, the private sector, NGOs, donor agencies, community organisations, pressure groups, and citizens, as well as their interactions and networking in waste management policy implementation.

### The Advocacy Coalition Framework (ACF)

The ACF was initiated by Paul A. Sabatier and Jenkins-Smith in the late 1980s and 1990s, and focused on the problems involved in policy formulation, such as disagreement and conflict over policy goals and technical disputes (Howlett, 2018; Mohammed, 2020; Sabatier & Weible, 2019). This framework is complex compared to the Policy Cycle Model, as it examines coalitions of actors based on their policy beliefs, and the collective actions of various actors at different levels of government (Nohrstedt & Olofsson, 2016; Sabatier & Weible, 2019). The ACF also addresses the constraints and resources of policy sub-systems as well as external system events, such as changes in socio-economic conditions and public opinion (Sabatier & Weible, 2019). However, the ACF does not focus on analysing policy implementation (Howlett, 2018).

### Multiple Streams Framework (MSF)

The MSF was initiated by John Kingdon (1984) in his book *Agendas, Alternatives, and Public Policies*. The initial MSF included three semi-independent streams of various actors and events in agenda-setting: problem, policy, and politics (Howlett, 2018). Kingdon (1984) suggested that the problem, policy, and politics streams flow independently until policy windows open at a particular point in time, and agenda-setting occurs due to interaction and connecting of actors and events (Béland & Howlett, 2016; Howlett, 2018). Many researchers have employed the MSF to analyse the early phases of the policy cycle: agenda-setting, decision-making, and policy formulation with a focus on the behaviour of various actors in the problem, policy, and politics streams (Howlett, 2018). Nevertheless, few researchers, including Ridde (2009) have used Kingdon's MSF to analyse public policy

implementation. However, lack of evidence to prove researchers have used this framework to analyse policy evaluation (Howlett, 2018).

A key limitation of the ACF and the MSF is that they focus only on the early phases of the policy-making process (Howlett, 2018). Policy scholarship has also criticised the PCM due to several limitations, including it being excessively linear, rationalistic, and technical, while neglecting political, bureaucratic, and other struggles in the policy-making process (Howlett & Ramesh, 2003; Jann & Wegrich, 2007).

Addressing the limitations of existing policy analysis frameworks and models, Michael Howlett and his colleagues, Allan McConnell and Anthony Perl, developed the MSF (Five Streams Model of Policy Process) otherwise known as the MSF (five streams). This framework represents a new generation policy framework which will be used in this research.

### 2.5.4   Justification for selecting the MSF (five streams) for analysis

It is challenging to analyse policy implementation in isolation because it is related to other phases of the policy cycle, such as policy formulation and evaluation) (Howlett, 2018; Pulzl & Treib, 2017). The MSF (five streams) integrates all phases of the policy-making process and synthesises the PCM, the ACF, and the MSF (three streams) into a single framework which can be employed to analyse the entire policy process (Howlett, 2018). This framework is also useful for examining relationships, competition between various actors, and their influences on policy implementation (Howlett et al., 2017).  The MSF (five streams) will allow the researcher to study the highly complex 2007 NSWMP implementation, and as a result, has been chosen to structure this research.

### 2.5.5 Key features of the MSF – five streams

The vertical list on the left side of the Figure 2.4 depicts the five phases of the policy-making process: agenda-setting, policy formulation, decision-making, implementation, and evaluation. Of the five streams, the problem (blue thread), policy solution (red thread), and politics (green thread) streams flow throughout the policy-making process while the process (black thread), and programme streams (yellow thread) join at the policy formulation and implementation phases respectively (Figure 2.4).
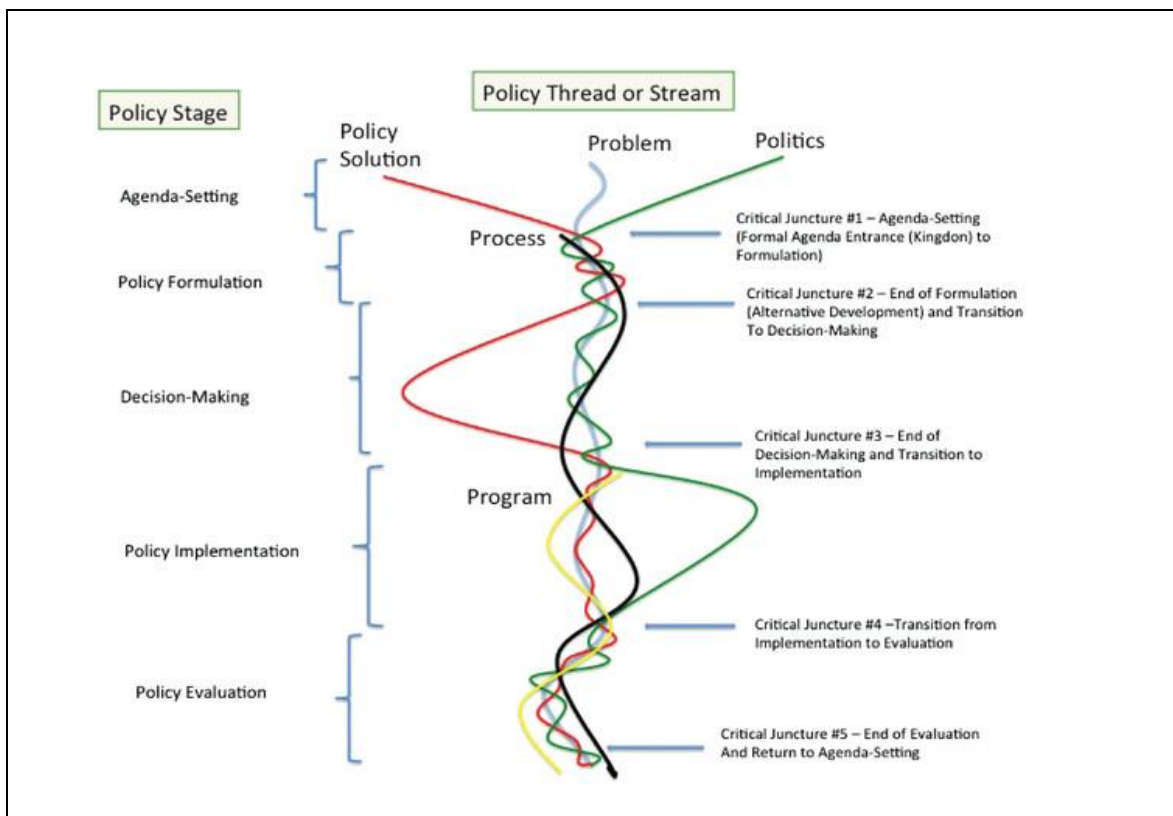


Figure 2.4: Five Streams Model of Policy Process
Source: Howlett, 2018, p.18

This framework consists of five critical junctures (see Figure 2.4). A critical juncture is an expression of a significant turning point from one phase to the next of the policy-making process (Howlett, 2017). Every critical juncture adds different policy inputs (new actors, interests, strategies, resources, and values) while others move away. The merger point of

each stream intersects to create a 'window' for the next phase of the policy cycle (Howlett et al., 2017).

During the agenda-setting phase, the problem, policy solution, and politics streams flow separately, but when these three streams intersect temporarily (as illustrated by blue, red, and green threads in Figure 2.4), it creates two significant changes in the policy-making process. First, it creates the process stream which creates the initial conditions and motivation for future policy discussions and establishment. Second, it opens a window for policy formulation (Howlett et al., 2017).

At the policy formulation phase, the process stream (black thread in Figure 2.4) connects to the problem, policy solution, and politics streams. In this phase, actors from the problem and policy solution streams are blended and provide alternative solutions to the policy problem (Howlett et al., 2017). When the problem, policy solutions, politics, and process streams intersect (as shown in blue, red, green, and black threads in Figure 2.4), it opens a window for the second critical juncture which leads to the next phase of the policy-making process: decision-making.

In the decision-making phase, the policy solution stream (red thread in Figure 2.4) separates from the problem, politics, and process streams. Meanwhile the politics stream connects with the process stream (blue and green threads in Figure 2.4) and creates momentum for decision-making (Howlett, 2018). When decisions are taken, they provide a window for the third critical juncture, the end of the policy-making phase and the transition to policy implementation (Howlett, 2018; Howlett et al., 2017).

In the policy implementation phase, the politics stream (green thread in Figure 2.4) separates from the problem, policy solution, and process streams, while the programme stream (the yellow thread in Figure 2.4) joins with the problem, policy solution, and process streams to produce policy outputs.

When implementation generates outputs it creates momentum for the fourth critical juncture: evaluation (Howlett, 2018; Howlett et al., 2017). Here, the policy solution stream (red thread in Figure 2.4) reconnects with the problem, politics, process, and programme streams.

The fifth critical juncture occurs when the evaluation is finished. This creates a window for new agenda-setting and policy revision (Howlett et al., 2017).

The flow of the process, problem, policy solution, politics, and programme streams varies between critical junctures in the policy-making process. The next section highlights the major characteristics of the five streams in order to understand their flow throughout the policy implementation phase (between the third and fourth critical junctures). Further, Table 2.3 summarises the actors and their key activities in each of the steams in policy implementation.

***The problem stream***

The problem stream (blue thread in Figure 2.4) consists of the perceptions, opinions, and attitudes of different actors, including scientists or experts (*epistemic communities*), political activists, and other relevant people depending on the case (see Table 2.3), in defining and articulating problems in decision-making, policy formulation, implementation, and evaluation (Howlett, 2018). According to (Béland et al., 2018), epistemic communities

play a significant role in translating broader issues into particular actionable policy problems. Knowledge of the policy problem is a key factor that unites actors within the epistemic communities (Haas, 1992; Howlett, 2018).

### *The policy solution stream*

The policy solution stream (red thread in Figure 2.4) brings recommendations from the policy communities or *instrument constituencies* (Voß & Simons, 2014). As shows in Table 2.3 instrument constituencies consist of various actor networks, including scholars, policy consultants, bureaucrats, the business community, and civil society (Béland et al., 2018; Howlett, 2018). These actors deliberately form groups to materialise their policy solutions and connect with each other through different activities, such as policy articulation, improvement, implementation, and dissemination of technical models of policy governance (see Table 2.3) (Howlett, 2018). *Instrument constituencies* develop a discourse about how to preserve, maintain, promote, and expand their policy tools (Howlett, 2018).

### *The politics stream*

The politics stream (green thread in Figure 2.4) assists with examining the role played by political actors in the policy process. According to Howlett (2018), actors from the politics stream are continuously involved in implementation by contesting with each other to adopt and implement their choice of problem definitions and solutions (see Table 2.3).  As shows in Table 2.3, The actors from the politics stream include the president and members of the parliament or congress, bureaucrats, political parties, the media, interest groups, and citizens (Kingdon, 1984), party brokers and fixers, and advisors who work behind the scenes

(Weishaar et al., 2015 as cited in Howlett, 2018). Furthermore, this stream consists of contextual characteristics, including the national mood (Howlett et al., 2017).

*The process stream*

The process stream (black thread in Figure 2.4) describes the overall process of the policy, including how to achieve policy outputs. As shows in Table 2.3, this stream creates a key set of tasks and events that led to success (or failure) of policy outputs in the different phases of the policy process, including implementation (Howlett, 2018; Howlett et al., 2015). According to Howlett (2018), the process stream became an important nexus around which the other streams subsequently converge, and create critical junctures. Mukherjee and Howlett (2015) argued that the process stream is formed by coalitions that compete to follow the most appropriate process ranging from consultation with citizens to consideration of the best administrative practices to follow in implementing policies. However, scholarships on MSF (five streams) did not clearly mentioned about who are the actors involved in the process stream (see Table 2.3)

*The programme stream*

The programme stream (yellow thread in Figure 2.4) consists of multiple actors, including bureaucrats, public employees, and political leaders in different tiers of government, citizens, and NGOs (see Table 2.3). However, bureaucrats and public employees play a significant role in the programme stream as they apply their knowledge, experience, expertise, and value to shape implementation activities by establishing and managing required actions (Howlett, 2018).

As a results of multiple actors' involvement, different interests, traditions, values, and conflicts of interest affect policy implementation, particularly in multi-level governing systems (Howlett, 2018). Some members of the political stream continuously engage in implementation activities, particularly in politicised or corrupt regimes or clientelistic administrations Howlett (2018). In a such context, political actors also significantly influence the programme designers (bureaucratic actors who design programmes) and their designs. Furthermore, as public policy implementation is an expensive and multi-year task, it provides opportunities for continuous negotiation, discussions, and conflict within and between the various actors involved in implementation (Howlett, 2018).

Table 2.3: Summary of the activities and actors identified in MSF in the implementation phase

| Stream | Actors identified in the literature* | Activities/roles played by actors during the implementation |
|---|---|---|
| Problem | *Epistemic communities* (scientists), academic experts, political partisans, and others depending on the case. | Engage in discourses leading to definition of specialised implementation issues or problems. |
| Policy | *Instrument constituencies:* Heterogeneous networks of policy consultants, academia, administrators, policy scientists, business, civil society, and think- tanks. | Supply information about the design and mechanisms of the policy tools to policy-makers, and advocate for particular tools or combinations  of tools to resolve problems. |
| Politics | Political leaders (the President and his high-level appointees, Members of Parliament), the media, political party brokers and fixers, interest groups/lobbyists, advisors, participants at work in the implementation. | Compete to get their choice of solution/s to implement. |
| Process | Not clearly mentioned, but implies that bureaucrats are the actors. | Design to examine options, support authoritative decisions, targets, and events, time-tables to achieve targets paying some serious attention to lists of problems at any given time. |
| Programmes | Administrators at different levels of government, affected members of the public and stakeholders, NGOs, political actors, members of *epistemic communities*, and *instrumental constituencies*. | Bureaucrats and public employees engaged in design programmes establishing and managing necessary actions to implement policies, and deliver and distribute goods and services. Citizens engage in consuming government-supplied or affected goods and services. NGOs involved in co-production and collaborative service delivery. Political actors (corrupt and politicised regimes) influence programme designers and designs. |

* Data derived from  Béland et al. (2018); Goyal et al. (2020); Howlett (2018); Howlett et al. (2017); Mukherjee and Howlett (2015).

Source: Researcher (2022).

As outlined in the MSF, policy implementation is a complex process with multiple actors involved in different activities with various interests. Therefore, competition and coalitions of interest are common characteristics in the policy implementation phase. In order to

understand the factors that contribute to the success or failure of implementation, the next section will outline the academic literature on policy implementation.

### 2.5.6 Factors affecting success and failure of policy implementation

The literature highlights several key factors that contribute to the success of policy implementation, including clear policy goals and objectives, sufficient bureaucratic procedures, commitment of actors, knowledge of the policy by street-level bureaucrats[8], the availability of resources, and the socio-economic context. Each of these factors will be discussed in turn below.

*Influence of clear policy goals and objectives*

When policy goals and objectives are not clear, implementers tend to interpret and implement policies according to their professional role identity (Al-Mawlawi & Jiyad, 2021; Mizrahi-Shtelman, 2021; Phulkerd et al., 2017). As Bardach (1977) identified, this interpretation by implementers tends to alter the course away from the original policy goals. Therefore, at the implementation phase, actors may insert additional or changed policy goals; thus, the effects and impacts of policy implementation vary from the original policy objectives or goals.

*Adequate procedures and management tools to implement policy*

Bureaucratic procedures, including guidelines, standards, rules, regulations, and legislation influence implementation (Khan, 2016; Pressman & Wildavsky, 1984). Conversely,

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[8] In this study, commissioners of municipal councils, and secretaries of urban councils and pradeshiya sabhas are considered as street-level bureaucrats.

unnecessary administrative procedures result in ineffective performance (Bernal et al., 2021; Ensari, 2021; Knox & Meinzen-Dick, 2001).

Weak managerial tools, including lack of planning, coordination, supervision, monitoring and evaluation are also a challenge for effective policy implementation (Abd Manaf et al., 2009; Dugle et al., 2021; Khan, 2016). Lack of communication between different levels of government and non-government actors, including citizens, hinders the success of policy implementation (Kolehmainen-Aitken, 2002; Sudrajat et al., 2021).

*Commitment of actors in policy implementation*

Continuous support from political leaders and interest groups to achieve goals are essential factors for the success of policy implementation (Harris et al., 2020; Yukalang et al., 2017). A network of supportive actors is a key factor influencing the success of implementation (Hill & Hupe, 2002; Wang & Ap, 2013).

In policy implementation, bureaucrats have the legitimacy to implement the government's will and so can have a significant influence on people's lives, and have discretionary power to decide how to implement policies (Funder & Mweemba, 2019; Haaland et al., 2020; Sevä & Jagers, 2013). Therefore, direct interaction between bureaucrats and citizens, have an influence on policy implementation (Hasniati et al., 2020; Lipsky, 1971).

*Street-level bureaucrats' policy knowledge*

Street-level bureaucrats' (public officers who frequently interact with citizens to implement public policies or perform their duties, such as school principals and teachers, police officers, welfare departments and village level officers) knowledge of policy has a critical

influence on national policy implementation (Moseley & Thomann, 2021). If street-level bureaucrats have sufficient knowledge and commitment to implement policy, it positively affects the creation of good relationships with customers, provides customer-oriented service, increases supervision, and gives proper direction to co-workers (May & Winter, 2009; Moseley & Thomann, 2021). However, limited knowledge held by street-level bureaucrats can result in the failure of policy implementation (McConville & Hooven, 2021).

Bardach (1977) summarises the influence of bureaucrats on the failure of policy implementation as involving the diversion of resources, deflection of policy goals, dilemmas of administration, and dissipation of energies. Table 2.4 presents Bardach's four basic 'adverse effects' in policy implementation.

Table 2.4: Bardach's four basic 'adverse effects' in policy implementation

| Factors/adverse effects | Characteristics |
|---|---|
| **Diversion of resources** | Easy money: individuals involved in policy implementation and organisations have easy access to government money provided for policy implementation |
| | Easy life: public officers protected by civil service rules, with little attention given to their responsibilities |
| | Budget game: the idea that all money allocated should be spent |
| | Pork barrelling: scarce finance is preoccupied and dissipated through the political game |
| **Deflection of policy goals** | Piling on: policy implementers would like to add more goals |
| | Up for grabs: capturing additional benefits |
| | Keeping the peace: act of leaders, but not having the best leader |
| **Dilemmas of administration** | Tokenism: administrators trying to make the public impression that they contribute to policy implementation, but their actual contribution is minimal |
| | Massive resistance: avoid the responsibilities created by the policy |
| | Social entropy: issues of incompetence, inconsistency, and lack of coordination |
| | Management game: do not have any concrete decisions, and nobody is responsible |
| **Dissipation of energies** | Tenacity: people do not want to change |
| | Territory: competition for land |
| | Not our problem: nobody wants to take responsibility |
| | Odd man out: lack of moral authority |
| | Reputation: try to fulfil personal requirements and ambitions |

Source: Researcher (2020); data adopted from Bardach (1977, pp. 66-148).

*Availability of resources and human capacity*

Many scholars consider resources as being critical to achieving successful policy implementation (Ariti et al., 2018; McCord et al., 2019; Niyigena & Claude, 2021). Studies show that lack of funds (McConville & Hooven, 2021), limited remuneration, and physical and human resources are key factors that hinder effective policy implementation (Fernando, 2019; Hemidat et al., 2022). Furthermore, inadequate technical capacity is a challenge for successful policy implementation (Niyigena & Claude, 2021).

If citizens and municipalities have poor socio-economic conditions, this can negatively affect policy implementation (Galvani, 2018; Wang & Ap, 2013). Furthermore, unfavourable changes in the socio-economic framework may lead to the failure of policy implementation (Dugle et al., 2021; Pulzl & Treib, 2017; Sabatier & Mazmanian, 1980).

The factors affecting policy implementation differ by specific policy, by policy domain, and by the governance, political, and socio-economic contexts. The following section outlines the academic literature on decentralisation to assist with a deeper understanding of this key governing feature of Sri Lanka.

## 2.6    CONCLUSION

The literature review on public policy implementation, decentralisation and service delivery, good governance, and MSWM has exposed the theoretical and conceptual background of this research. In summary, clear policy goals, adequate administrative procedures, strong commitment and support from all levels of government, and availability of sufficient resources are key factors involved in effective policy implementation. Although decentralisation assists effective policy implementation, the literature review shows that unclear demarcation of responsibilities, a lack of political and bureaucratic commitment to implementing decentralised policies, and the absence of coordination among levels of government results in the failure of implementation. Many developed countries have achieved effective MSWM through an integrated waste management system and zero waste concepts by employing various strategies, including 3R to 9R and polluter-pays principle. Sri Lanka aims to achieve sustainable MSWM through 4R principles. However,

considering the economic conditions of Sri Lanka, 3R principle is the most suitable approach to implement MSWM policy. The literature on the relationship across levels of government, and the influence of administrative integrity on good governance and policy implementation has helped the researcher to understand policy failure in Sri Lankan MSWM.

Sri Lanka has implemented the 2007 NSWMP by using globally accepted strategies and concepts as well as a decentralised governing approach for nearly two decades. On this basis, it is useful to study the Sri Lankan case of MSWM to understand the unrevealed institutional, administrative, political, and other contextual factors related to MSWM policy in a developing country. Therefore, given Sri Lanka's policy alignment with accepted international standards, the study now turns to the research design most appropriate to the investigation of the implementation of the policy. The next chapter outlines the research methods and design used to answer the research questions.

# Chapter 3: Research Design

## 3.1 INTRODUCTION

The literature review chapter examined the existing gap between theory and practices in policy implementation, particularly focused on Municipal Solid Waste Management in developing countries. It shows that although developing countries applied theoretically sound approaches and principles, including waste hierarchy, decentralisation and good governance to implement waste management policies effectively, many are failed, due to several challenges, including the absence of political interest, issues coordination and resource allocation.

This research aims to understand the extent to which current waste management operations apply the intention of the NSWMP, and what factors have contributed to its implementation. As well as examining paper-based forms of evidence this task involves engaging the people responsible for waste management as well as those affected by it and hearing their perceptions of success or otherwise.

Understanding the perceptions and involvement of actors are significant factors for better comprehend of challenges of policy implementation. The population under study, therefore, includes various actors with differing roles in the MSWM system. This chapter explains how the research methods and design have been planned in order to examine, understand, measure, and analyse the various political, administrative, governance, institutional, and socio-economic factors involved in the 2007 NSWMP implementation in Sri Lanka.

## 3.2    RESEARCH DESIGN

The researcher argued that a case study method was the best way to address the questions of this research examining the impact of various human interactions and different contextual factors in the 2007 NSWMP implementation in Sri Lanka. The following sections provide the justification for the research design.

### 3.2.1    Case study approach

*"A case study is an empirical method that investigates a contemporary phenomenon (the 'case') in-depth, and within its real-world context, especially when the boundaries between phenomenon and context may not be clearly evident" (Yin, 2014, p. 16).*

According to Yin (2014), a case study is a research approach that can explore unrevealed relationships between factors and phenomena in real-life situations. Description of the characteristics of the bounded system or case in social, economic, cultural or historical settings is another function of a case study (Vanderstoep & Johnston, 2009). It involves detailed, and closer exploration of the research problem and its related context (Creswell, 2007; Farquhar et al., 2020). Furthermore, the case study method explores phenomena by revealing relationships between the factors and causes within a specific context, it helps the researcher to gain a broader picture from multiple (Farquhar et al., 2020; Flyvbjerg, 2006).

The case study approach also has some drawbacks (Thomas, 2021; Yin, 2012). Key weaknesses of case study research are bias in case selection and results and the inclination to use an excessive volume of data (Bennett, 2004; Thomas, 2021). Moreover, researchers

are concerned about the inability to generalise case study results to a wider population and to establish causal relationships between variables (Bennett, 2004; Yin, 2014).

Most limitations of the case study research approach can be fixed by adopting several steps, including the use of appropriate design, using purposeful sampling strategies, collecting and managing data systematically, and using appropriate theoretical guidelines to analyse data (Baxter & Jack, 2008; Yin, 2014). Triangulation of evidence using multiple sources is another strategy to enhance data credibility (Farquhar et al., 2020; Yin, 2014).

### *Design and epistemological frame of case study*

There are four case study designs: single, multiple, holistic, and embedded case studies (Yin, 2014) (See Table 3.1). The embedded single case study involves exploring a few cases within a unit or context, while the embedded multiple case study explores a variety of cases within different contexts (Yin, 2014).

Table 3.1: Types of case studies

| Type of case study | Characteristics |
|---|---|
| Design of case study | |
| Single | Focus on a single issue. One bounded case is used to demonstrate insights into a problem. A single case may be considered unique, prototypical, salient, or revelatory to understanding a phenomenon or problem. |
| Multiple/collective | Focus on one issue, but multiple case studies used to explore the issue. Every case should be designed based on a specific purpose within the overall scope of the study. |
| Holistic | The study is shaped by a qualitative approach dependent on narrative and phenomenological description. Hypotheses and themes may be important but should remain subordinate to the understanding of the case. Holistic case studies are divided into two: single and multiple case studies (see Figure 3.1). |
| Embedded | This involves more than one unit or object of analysis. In general, an embedded case study is not limited to qualitative research. There is a focus on various salient features of the case, while multiple data and information are explored through sub-units. This design may be articulated by a quantitative data sample or analysed using statistical methods. The embedded case study is split into two: embedded single case study and embedded multiple case studies (see Figure 3.1). |
| Epistemological status | |
| Explanatory | The explanatory case used to explain the cause-effect relationship between the subject and the hypothesis. Explanatory case studies address 'how' and 'why' research questions. |
| Exploratory | Used when exploring a relationship between the subject and the hypothesis or to test research procedures. The exploratory case study uses as pilot research for further large-scale research. The research design and data collection methods are usually specified in advance. It addresses 'how' and 'why' research questions. Exploratory case studies help to gain insight into the structure of a phenomenon to develop hypotheses, models, or theories. |
| Descriptive | Used to describe an intervention, phenomenon, and real-life context. Addresses the 'who', 'what' and 'where' research questions. It uses a reference theory or model that directs data collection and case description. This type of case study analyses many formative scenarios. |

Source: Researcher (2021); data adopted from Scholz and Tietje (2002); Thomas (2021); Yin (2014)

The embedded multiple case study approach has been selected to study the implementation of the 2007 NSWMP in Sri Lanka because it allows for comparison of the phenomena under investigation by using multiple sub-units with different socio-economic, political, and administrative contexts (see Figure 3.1). This design is helpful for studying complex, real-life, contemporary problems that cannot be fully explored through quantitative research methods (Stake, 2003; Yin, 2014). This is an appropriate type of case study when a researcher needs to explore a multiplicity of evidence focusing on different aspects of a case, such as sociological, political, economic, and psychological issues (De Toni & Pessot, 2021; Scholz & Tietje, 2002).

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Figure 3.1: Different designs of case studies

### 3.2.2 Case selection

Three different socio-economic, political, and administrative contexts were selected for this study: national, provincial, and local.

*National context*

National-level 'embedded units' for the study include the agencies and ministries directly involved in the 2007 NSWMP implementation (the Ministry of Environment and Wildlife

Resources[9], the Ministry of Urban Development, Water Supply and Housing Facilities[10], the Ministry of Public Administration, Home Affairs, Provincial Councils, and Local Government[11], the Environmental Protection Division of the Department of Sri Lankan Police, and the Central Environmental Authority) are considered.

### *Provincial context*

The Western and Southern Provincial Councils were selected as the focus of the provincial level because these councils have different political and administrative contexts representing contrasting MSWM practices. Figure 3.2 illustrates the location of the two provinces under study.

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[9] When the research started, the ministry was known as the 'Ministry of Mahaweli Development and Environment'. However, the name and jurisdictions of the ministry were changed on 10.12.2019 under the Gazette notification number 2153/12 dated 10th December 2019.

[10] Before 10.12.2019, the ministry was known as the 'Ministry of Megapolis and Western Development'. However, the name and jurisdictions of the ministry were changed as by the extra ordinary Gazette notification number 2153/12 dated 10th December 2019.

[11] Before 10.12.2019, the ministry was known as the Ministry of Provincial Councils, Local Government, and Sport. However, the name and jurisdictions of the ministry were changed by the extra ordinary Gazette notification number 2153/12 dated 10th December 2019.
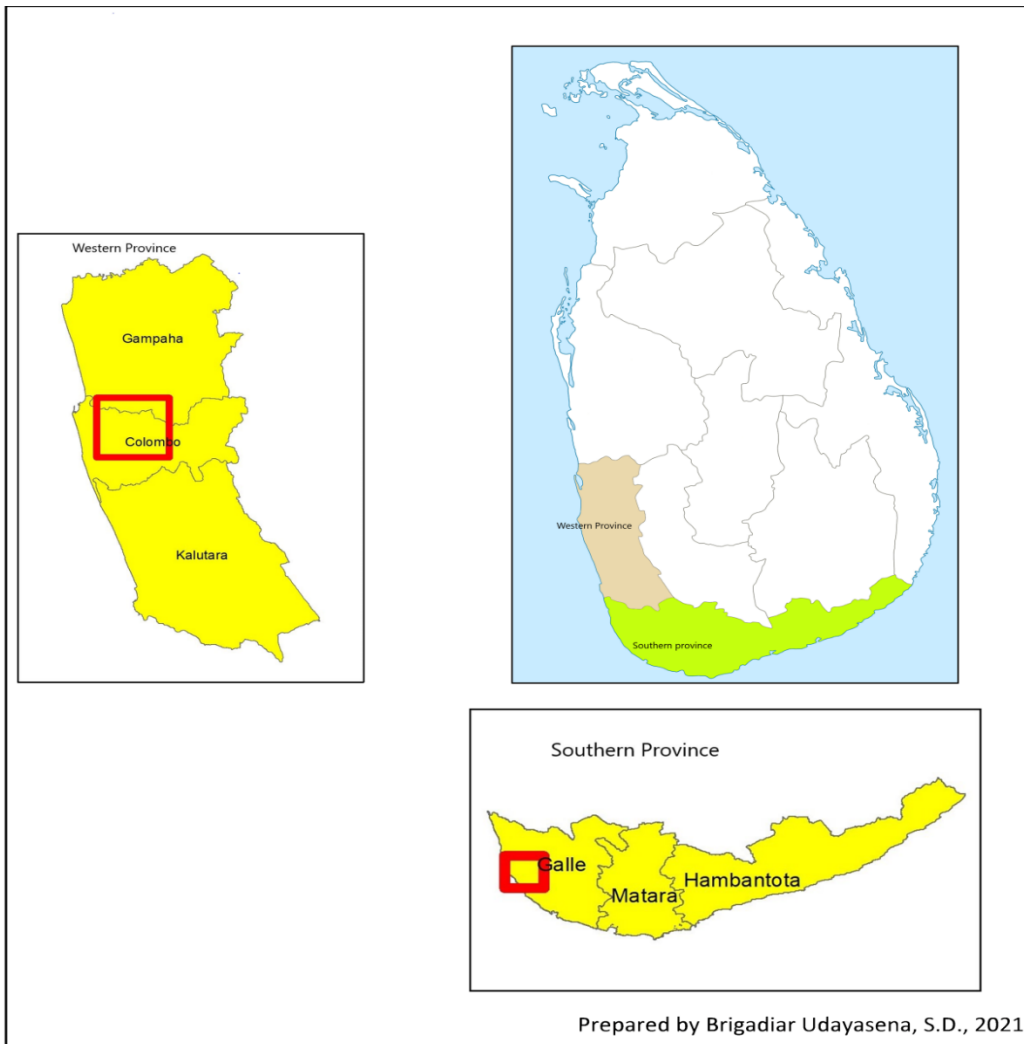
Figure 3.2: Provinces selected for the study (reprint with the permission of Udayasena, S.D.)

Source: Udayasena (2021a)

Urban and regional variations are considered because the literature highlights that local governments (LGs) in urban areas show success in MSWM due to the availability of and accessibility to, resources compared to regional LGs (Mihai, 2017; Xue et al., 2011). The Western Province is urbanised and has a provincial statute to administer MSWM. The Southern Province is regional and has no specific regulations for MSWM.

The provincial statutes are considered to be important in this research because they provide necessary administrative and legal mechanisms to these councils to implement devolved and concurrent subject matters[12] at provincial and local-levels (Amarasinghe, 2010).

***Selection of provinces for the study***

Several factors were considered in the selection of study locations for this research, including the legal provisions to manage solid waste, urban vs rural experiences, the quantity of waste generation, and households' access to MSWM services. Table 3.2 offers a brief summary of these elements for the selected sites.

The Western Province accounts for the highest contribution of daily garbage creation (3,502 tonnes per day) (See Table 3.2), but collects only 52 per cent of it (Japan International Cooperation Agency, 2016). It is urbanised, has the highest reported percentage of households using LG services to dispose of garbage (Table 3.3).

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[12] The Constitution of Sri Lanka has devolved 37 subjects, including local government and protection of environment within the province) as well as listed 36 Concurrent subjects (both the Central Government and provincial councils have power and responsibilities to involved in), such as protection of the environment and health *The Amendment XIII to The Constitution of the Democratic Socialist Republic of Sri Lanka*. (1987).

Table 3.2: Criteria for area selection (Provinces)

| Criteria | Western Province | Southern Province |
|---|---|---|
| Provincial statute for MSWM | Available - Western Provincial Solid Waste Management Authority Statue No. 01 of 2007 | Not available |
| Specific provincial mechanism for MSWM | Available - Western Province Solid Waste Management Authority | Not available |
| Urbanisation | Urbanised | Regional - mostly rural |
| Volume of daily garbage creation (% of the total waste generation of the country) | 33 per cent or 3,502 tons in 2016 (1$^{st}$ place) | 11 per cent or 1,158 tons in 2016 (3$^{rd}$ place) |
| Percentage of households having access to MSWM services | 41.7 per cent (618,269 households in 2012) (1$^{st}$ place among nine provinces) | 10.8 per cent (68,895 households in 2012) (5$^{th}$ place among nine provinces) |

Source: Researcher (2019); data derived from Department of Census and Statistics (2015)

The Southern Province reported the third-highest rate (11 per cent or 1,158 tonnes per day) of daily waste creation and collected only 23 per cent of it (Japan International Cooperation Agency, 2016). Far fewer households have access to MSWM services in the province and so it serves as a useful comparison (See Tables 3.3, Table 3.4).

*Selection of districts for the study*

To narrow down the selection of LGs the researcher selected one district from each selected province. A district is an administrative unit between provincial and local government, but district level agencies have no responsibility for MSWM and so they are not included as unit of study in this research. Nevertheless, volumes of waste generation within districts helped to decide from which districts to select LGs.

Table 3.3: Households using LG services to dispose of garbage, by province

| Province | Total number of households in province | Total number of population in province | Households using LG services to dispose of waste | |
|---|---|---|---|---|
| | | | Number | Percentage (%) |
| Western | 1,482,221 | 6,479,886 | 618,269 | 41.7 |
| Central | 658,911 | 2,571,557 | 84,552 | 12.8 |
| Southern | 636,405 | 2,477,285 | 68,895 | 10.8 |
| Northern | 259,471 | 1,061,315 | 34,381 | 13.2 |
| Eastern | 397,083 | 1,555,510 | 152,495 | 38.4 |
| North-Western | 646,145 | 2,380,861 | 44,955 | 6.9 |
| North-Central | 342,365 | 1,266,663 | 19,192 | 5.6 |
| Uva | 335,037 | 1,266,463 | 22,021 | 6.6 |
| Sabaragamuwa | 506,642 | 1,928,655 | 33,230 | 6.5 |
| Sri Lanka | 5,267,159 | 20,988,195 | 1,077,990 | 20.5 |

Source: Researcher (2021); data adopted from Department of Census and Statistics (2015)

The Western Province consists of three districts: Colombo, Gampaha, and Kalutara (Figure 3.2 and Table 3.5). Among these districts, Colombo is the most urbanised and accounts for the highest waste generation in the province (Japan International Cooperation Agency, 2016). The Southern Province also has three districts: Galle, Matara, and Hambantota (Figure 3.2). Of these, Galle district is a relatively urbanised district and accounts for the highest waste generation in the province (Department of Census and Statistics, 2015). So Colombo and Galle were the districts from which LGs were selected.

Table 3.4: Percentage of households that use principal method to dispose of waste

| Province and district | Total number of households | Percentage of household use method to dispose of waste | | | | | | Total |
|---|---|---|---|---|---|---|---|---|
| | | LG services | Burnt by occupants | Buried by occupants | Composted by occupants | Dumped into waterways, on roads, in forests, the sea, or creeks | Other | |
| **Western Province** | 1,482,221 | 41.70 | 40.03 | 13.62 | 3.93 | 0.38 | 0.34 | 100.0 |
| Colombo District | 527,475 | **68.84** | 19.66 | 7.51 | 3.21 | 0.38 | 0.38 | 100.0 |
| Gampaha District | 604,009 | 28.67 | 51.64 | 11.60 | 4.30 | 0.37 | 0.29 | 100.0 |
| Kalutara District | 305,737 | 16.66 | 55.25 | 22.93 | 4.54 | 0.40 | 0.21 | 100.0 |
| **Southern Province** | 636,405 | 10.82 | 48.66 | 29.31 | 10.69 | 0.38 | 0.14 | 100.0 |
| Galle District | 273,140 | **12.31** | 48.76 | 28.90 | 9.33 | 0.52 | 0.16 | 100.0 |
| Matara District | 206,790 | 12.05 | 43.85 | 33.61 | 10.95 | 0.41 | 0.12 | 100.0 |
| Hambantota District | 156,476 | 5.41 | 57.31 | 24.35 | 12.73 | 0.08 | 0.11 | 100.0 |

Note: Data calculated by using Household and Population Survey - Sri Lanka, 2012.
Source: Researcher (2019)

**Local context**

Local Government is main implementing agency of the 2007 NSWMP. Therefore, two LGs (the Kaduwela Municipal Council and Ambalangaoda Pradeshiya Sabhawa) have been selected as focal points for the study, one LG from Colombo and one from Galle Districts (Figure 3.3 and Figure 3.4)
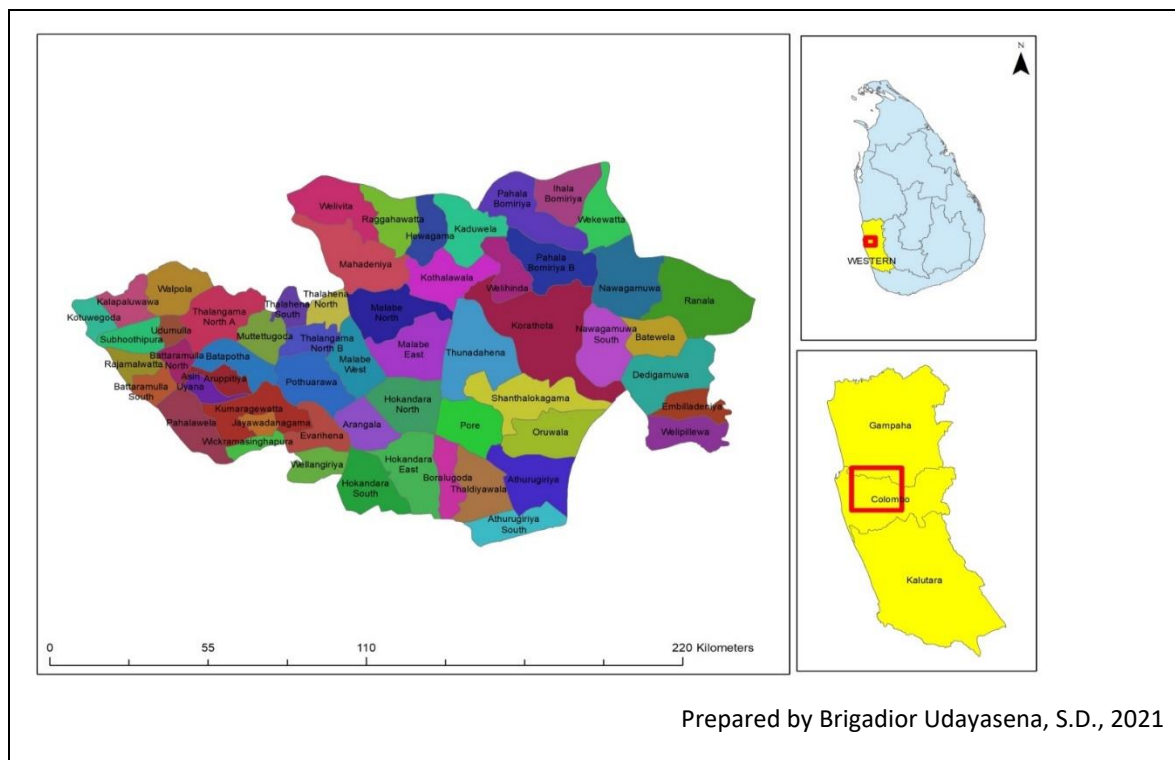


Figure 3.3: Kaduwela Municipal Council area (reprint with the permission of Udayasena, S.D.)
Source: Udayasena (2021b)

The Colombo district has 13 LGs, and the Galle has 20 (See Table 3.5). Both the Kaduwela Municipal Council (Colombo District) and the Ambalangoda Pradeshiya Sabhawa (Galle District) were selected due to their growing populations and high level of urbanisation. Both also have some waste management facilities.

Prepared by Brigadior Udayasena, S.D., 2021
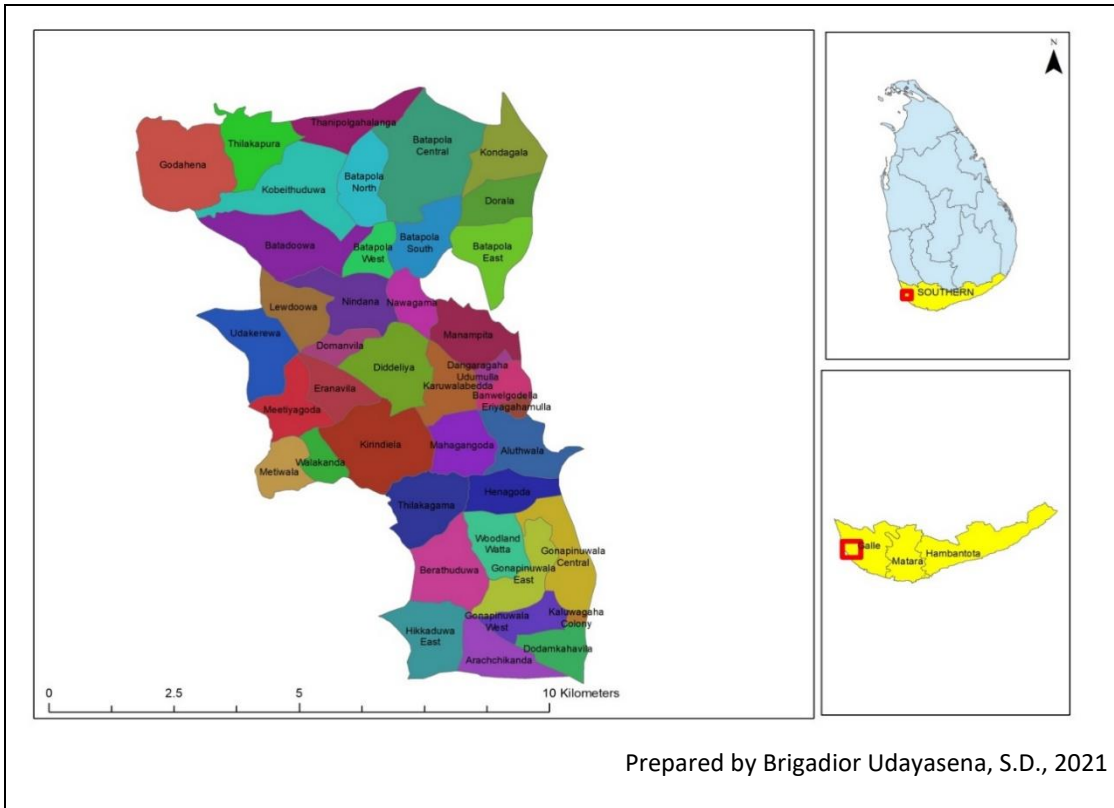
Figure 3.4: Ambalangoda Pradeshiya Sabha area (reprint with the permission of Udayasena, S.D.)

Source: Udayasena (2021c)

Table 3.5: Number of LGs in selected provinces

| Province and district | Number of LGs | | | Total number of LGs |
|---|---|---|---|---|
| | Municipal councils | Urban councils | Pradeshiya sabhas | |
| **Western Province** | 7 | 14 | 28 | 49 |
| **Colombo District** | **5** | **5** | **3** | **13** |
| Gampaha District | 2 | 5 | 12 | 19 |
| Kalutara District | 0 | 4 | 13 | 17 |
| **Southern Province** | 3 | 4 | 42 | 49 |
| **Galle District** | **1** | **2** | **17** | **20** |
| Matara District | 1 | 1 | 15 | 17 |
| Hambantota District | 1 | 1 | 10 | 12 |

Source: Election Commission of Sri Lanka (2018)

## 3.3 RESEARCH METHODS

The following sections provide the justification for the choice of research methods. A mixed-methods approach underpins this study (Johnson et al., 2007; Tashakkori & Creswell, 2007).

### 3.3.1 Mixed-methods

Social science researchers employ mixed-methods techniques to obtain a better understanding of social phenomena (Miles & Huberman, 1994), because this approach maximises the advantages of different research methods (Creswell, 2013; Timans et al., 2019). Mixed-methods can be defined as,

> *Research in which the investigator collects and analyses data, integrates the findings, and draws inferences using both qualitative and quantitative approaches or methods in a single study or a program of inquiry* (Tashakkori & Creswell, 2007, p. 4).

This integration enables an extensive understanding of the topic being investigated (Johnson et al., 2007; Tashakkori & Creswell, 2007). Qualitative approaches address 'how' and 'why' questions while quantitative approaches address 'how many' and 'to what extent' (Clements, 2014; Creswell & Hirose, 2019; Tashakkori & Creswell, 2007; van Hoof et al., 2022).

Using various methods a researcher can collect rich data to explore the same phenomena (Creswell, 2007; Onwuegbuzie & Leech, 2005). Triangulating data converges and confirms results from different methodological techniques are also key advantages of mixed-method approach (Edmonds & Kennedy, 2017).

There are several epistemological and ontological differences in quantitative and qualitative methods (Bryman, 2012; Yilmaz, 2013). In general, quantitative methods depend on numerical data and have an objectivist notion of social reality (Bryman, 2012), or a positivist philosophy to generalise research findings (Kothari, 2020; Yilmaz, 2013). In contrast, qualitative research uses inductive and interpretative approaches to study social phenomenon (Bryman, 2012; Mehrad & Zangeneh, 2019; Yilmaz, 2013).

Qualitative methods are becoming increasingly popular in policy research due to the requirement for comprehending complicated policy stystem and actors' behaviours (Ritchie & Spencer, 2002).

### *Qualitative methods – their use in policy research*

The qualitative method can be defined as, " a research strategy that usually emphasizes words rather than quantification in the collection and analysis of data (Bryman, 2012, p. 380).

Qualitative research is focused on data collection in natural settings and interpretation based on understanding of the meaning conveyed by participants to the researchers (Groenland & Dana, 2019; Mehrad & Zangeneh, 2019). A qualitative approach allows the researcher to collect a rich and in-depth understanding of study participants' experiences (Bryman et al., 2008; Kothari, 2020). Qualitative approaches are flexible (Amaratunga et al., 2002).

The qualitative approach tends to use small samples (Mason, 2010). Saturation in qualitative research does not require a large sample (Ritchie et al., 2013). Recommendations for an appropriate sample size vary in the literature. For example,

according to Morse (1994), the appropriate sample size for the grounded theory method is 30-50, while Creswell (2018) recommends 20-30 respondents.

Nevertheless, there are number of limitations to qualitative approaches (Bryman et al., 2008; Ochieng, 2009; Queirós et al., 2017). As some scholars have argued, the main disadvantage of the qualitative approach is that it is difficult to generalise findings, as these findings are not tested in order to establish whether they are statistically significant or if they have emerged due to chance (Ochieng, 2009). An additional weakness of the qualitative approach is the time it takes to transcribe and analyse the data (Bryman, 2003; Queirós et al., 2017).

***Quantitative methods – their use in policy research***

Quantitative methods are

> *[Entail] the collection of numerical data, as exhibiting a view of the relationship between theory and research as deductive and a predilection for a natural science approach (and of positivism in particular), and as having an objectivist conception of social reality* (Bryman, 2012, p. 160).

Quantitative methods are based on numerical data and numerical values (Clements, 2014). Furthermore, quantitative methods employ various forms of statistical analysis, including descriptive statistics, Likert scales, and correlations to examine and generalise relationships between research variables (Bryman, 2012; Yang, 2017).

The ability to demonstrate the statistical validity of research findings through numerical assignment is the main advantage of applying a quantitative approach (Yardley & Bishop, 2017). It is also possible to achieve reliability, replicability, generalisability,

explicitness, and transparency by using quantitative approaches (Bryman et al., 2008; Neuman, 2014). An additional benefit is that quantitative methods can reduce bias (Bryman et al., 2008).

The quantitative approach has several limitations. Some scholars have argued that quantitative methods using fixed-choice answers are not helpful in explaining perceptions, relationships, or experiences. Although quantitative data is technical and scientific, the influence of the researcher during the analysis, such as through the selection of data for analysis can affect the findings (Denscombe, 2010).

### 3.3.2 Research techniques

Different methods are used to collect qualitative data in policy studies, including interviews (semi-structured and in-depth interviews), focus group (FG) discussions, observations – primary sources (Bryman, 2012; Deschaux-Dutard, 2023), and document reviews – secondary sources (Feng et al., 2021). These methods are applied in this study and the justification and approaches taken are described in the following sections.
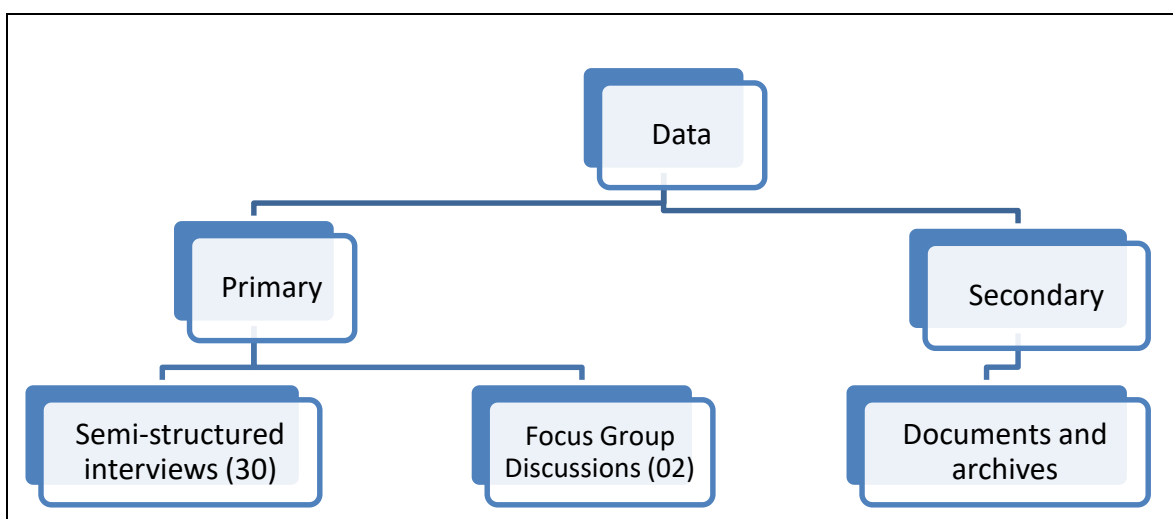


Figure 3.5: Data collection methods utilised
Source: Researcher (2020)

### 3.3.8 Secondary sources -Document review

In this study secondary sources, including Acts, Ordinances, circulars, by-laws, Hansard, official reports, and research reports were used to investigate laws and regulations, policies, budget allocations, and expenditures, related to MSWM. The researcher collected secondary data to examine the strengths and weaknesses of the policy, the legal background, institutional capacity, the coordination mechanisms, and resource utilisation for MSWM. Furthermore, information on budget estimations, allocations, and actual expenditures, and the number of waste fairs conducted by LGs was collected through secondary sources. This data was collected from published budget proposals of selected LGs, published books, articles, Hansard, Gazettes, and websites (Table 3.2).

Document reviews of secondary sources are defined as,

*A data collection technique that taps into existing sources of information. For example, programme documents provide basic information about the situation and the context, insight into what people or groups of people say about themselves, and ideas for questions to pursue in later observations and interviews. Material contained in official and unofficial documents may make it possible to frame comparisons between ideal conceptualizations and actual observations* (Hanson et al., 2011, p. 379).

The researcher can use printed and digital material to undertake a document review, including reports, programme logs, minutes, books, journals, performance reports, newsletters, budget proposals, advertisements, diaries, newspapers, maps, and charts (Bowen, 2009). For the purposes of this research, policy documents, acts and ordinances, performance reports, other official reports, Hansard documents, budget proposals, journal

articles, and books are defined as documents. Such documents provide the best sources to collect background information at a relatively low cost, and may provide some information that cannot be collected through other empirical methods.

Document review is helpful to give context, and as a secondary source of information is one element of triangulation (Siegner et al., 2018). Document review provides validation and verification of data gathered from other methods. This reduces the potential biases of interviews and FGs (Bowen, 2009).

### 3.3.3 Primary sources - sampling

To comprehend the complexity behind the implementation of the 2007 NSWMP in Sri Lanka perspectives were needed from various actors involved at all levels of government (central, provincial, and local), non-government organisations (NGOs), community organisations and pressure groups, and the private sector.

The researcher employed purposive sampling to select the respondents. Because the study population was heterogeneous, and the nature of the research questions required the selection of participants who had specific knowledge and experience in the implementation of the 2007 NSWMP in Sri Lanka.

The study population consisted of bureaucrats, public employees, and elected public representatives at the national, provincial, and local-levels, researchers, entrepreneurs (industry representatives), and leaders or members of NGOs, community organisations, and pressure groups.

*Sample selection – elected public representatives*

Understanding the perceptions of elected public representatives at all levels of government was considered essential because they play a central role in waste management policy formulation, and implementation, including budget approvals which affected resourcing for MSWM. Moreover, collecting information from LG representatives was important for understanding institutional capacities and challenges in national policy implementation at the local-level. Elected public representatives from the Central Government and the Western and Southern Provincial Councils, and members of selected LGs, including mayors or chairpersons were included in the sample.

The sample included:

- **Bureaucrats and public employees at national and provincial levels** - public employees from different government institutions including senior officials and executives from the Central Government' Ministry of Environment and Wildlife Resources, the Ministry of Megapolis and Western Development (currently the Ministry of Urban Development, Water Supply and Housing Facilities), the Ministry of Public Administration, Home Affairs, Provincial Councils, and Local Government, the Central Environmental Authority and the Environmental Protection Division of the Department of Police; provincial executive officers from provincial ministries of local government in the Southern and Western Provinces and the Western Provincial Solid Waste Management Authority.

- **Local governments** - bureaucrats and public employees from the selected LGs (e.g. commissioners, management assistants, waste collectors, and labourers in compost yards, and Central Government employees working at the local-level).

- **Researchers -** policy advocate/researchers.

- **Entrepreneurs -** entrepreneurs involved in the recycling industry.

- **NGOs, community organisations, and pressure groups.**

### 3.3.4 Ethics

To approach the people identified in the sample ethics approval was essential. When conducting research, the researcher is ethically responsible to ensure that the research participants do not feel coerced into participating, their information is confidential (where possible) and anonymous, and that they give informed consent (De Vaus, 2005).

The researcher applied to the Flinders University, Social and Behavioural Research Ethics Committee in July 2019 and received the approval confirmation 4 November 2019.

### 3.3.5 Recruitment of participants

The researcher communicated via email with selected organisations to seek institutional consent to conduct the study from mid-May 2019. Many officers and political parties did not reply to the initial email. Therefore, the researcher faced difficulties in receiving approval from key officials. To overcome this challenge, telephone follow-up calls were made from Australia on 19 August 2019, 4, 16, and 23 September, and 7 and 23 October 2019 seeking permission for a general email to be sent to various organisations to assist in recruitment of bureaucrats/public employees at all levels of government. Even after the

follow-up procedures, receiving responses from some offices was a challenge. Therefore, potential participants from a few Central Government agencies, including the Western Provincial Ministry of Local Government were not interviewed.

After achieving permission, emails invitations were sent to 36 individuals and 20 NGOs, community organisations, and pressure groups, seeking their involvement in the study. The emails included a letter of introduction, information sheets, and consent forms (see Appendices 3.1, 3.2 and 3.3.).

Of these 31 individuals and 17 NGOs, community organisations, and pressure groups, replied. There were no responses from the Western Provincial Department of Local Government.

### 3.3.6 Semi-structured and in-depth interviews

For this research semi-structured, one-on-one, face-to-face interviews were employed to gather insights from key actors involved in MSWM with bureaucrats, public employees, and elected public representatives at all levels of governments were undertaken. Other participants, including entrepreneurs involved in upcycling or recycling, and researchers, were recruited for the study (see Table 3.6 for a summary of the participants).

Semi-structured interviews are conducted using a flexible 'interview guide' of open-ended questions. A conversational mode provides an opportunity for participants to express opinions or give information using their own terms and experiences (Brenner, 2006 cited in Yin, 2011). Thus, the semi-structured interview process provides space for capturing and clarifying detailed and in-depth information (Husband, 2020; Yin, 2011), and

building connections by asking the respondent follow-up questions (Miller & Glassner, 2016).

Table 3.6: Summary of field work

| Level of government/filed of represent | Research tool | Number of respondents selected | Number of respondents participated | Date of interviewed |
|---|---|---|---|---|
| National-level – bureaucrats and public employees | interview | 6 | 6 | 2nd and 13th of December 2019, 2nd, 3rd, 13th of January 2020 |
| National-level- elected public representatives | interview | 2 | 2 | 12th and 24th of December 2019 |
| Provincial councils- bureaucrats and public employees | interview | 4 | 3 | 20th November 2019, 9th, 10th January 2020 |
| Provincial councils- elected public representatives | interview | 2 | 2 | 17th December 2019, 11th January 2020 |
| Local governments- bureaucrats and public employees | interview | 11 | 10 | 3rd, 4th, 6th, 9th, 15th, 17th, 20th, 27th, and 30 of December 2019 |
| Local governments- elected public representatives | interview | 4 | 4 | 3rd, 17th, 23rd, and 28th of December 2019 |
| Entrepreneurs | interview | 2 | 2 | 19th and 23rd of November 2019 |
| Experts/researchers | interview | 1 | 1 | 5th December 2019 |
| Total | | **32** | **30** | |
| NGOs/community organisations/pressure groups | FG discussions | | | |
| Focus group - Southern province | | 8 | 7 | 07th December 2019 |
| Focus group – Western Province | | 8 | 9 | 19th January 2020 |
| Total number of participants | | **48** | **46** | |

Source: Researcher (2020)

As most of the participants were bureaucrats and public employees with different levels of ranking in a multi-level governing structure, they were reluctant to provide information related to policy implementation or policy failure due to the fear of threat to their employment. This was implicitly implied by several statements and questions raised by participants, such as "are there anyone participate from out office to this discussion? If so, I don't want to put my employment at a risk" (ID LGABO04: Public Employee/Local Government), and "providing this information shouldn't jeoparadise my employment, right" (ID CGPO04: Public Employee/Central Government). The semi-structured interviews provided an opportunity for participants to express their perceptions and experiences confidentially.

### *Pilot – semi-structured interviews*

The research instruments for the semi-structured interviews were piloted in the Kesbewa Urban Council area in Colombo district on 19 November 2019. Two elected public representatives and four LG employees, including a public health officer, a management assistant, a labourer, and the secretary of the urban council piloted the questions. Some questions were amended based on the pilot.

### *Field data collection – semi-structured interviews*

The interviews were conducted between 21 November 2019 and 13 January 2020. The interviews took place in confidential office spaces (a meeting room and a conference room) of the place of employment of the participants, the offices of elected public representatives at all levels of government and entrepreneurs. The interviews lasted from 45 to 90 minutes, depending on the knowledge and experience of the respondents.

The interviews were recorded using a personal digital audio-recorder and a smartphone with a password. In total, 30 interviews were conducted 29 of which were in the Sinhalese language (see Appendix 3.4 for interview schedules and Appendix 3.5 for interview questions).

After each interview, the researcher uploaded the digitally recorded files into a password-protected computer server at Flinders University and a personal password protected laptop.

### 3.3.7 Focus group discussions

In this study focus group discussions with members and leaders of community organisations, pressure groups, and NGOs were undertaken. When conducting the FG discussions, the researcher had the opportunity to understand how people collectively made sense of policy implementation, public participation related to MSWM in Sri Lanka, and how they constructed meaning around the implementation process.

A focus group (FG) discussion is

> *"a technique where a researcher assembles a group of individuals to discuss*
> *a specific topic, aiming to draw from the complex personal experiences,*
> *beliefs, perceptions, and attitudes of the participants through a moderated*
> *interaction" (Nyumba et al., 2018, p. 21).*

Usually, a FG discussion takes between 60 and 90 minutes with the participation of six to eight pre-selected participants from similar backgrounds or shared experiences on the research issues (Hennink, 2013). In FG discussions, group members present, challenge each other's opinions, revise, and develop views from the interactions that takes place within

the group (Bryman, 2012). Therefore, the researcher has the opportunity to gain an in-depth understanding of the particular phenomenon, and more naturalistically constructed meanings of the experiences of participants than in individual interviews (Wilkinson, 1998).

However, there are drawbacks to undertaking FG discussions, for example, if the researcher loses control over proceedings, or if group members influence other participants' ideas. Focus group data can be also time-consuming to transcribe (Bryman, 2012). Only a few topics are able to be discussed in a FG session (Neuman, 2014).

### *Pilot – Focus Group Discussions*

A pilot for the FG discussions was held on 24 November 2019 with members and leaders of community organisations and pressure groups at the community hall at the Sri Rathnarama temple, Boralesgamuwa in the Western Province. The question schedule was changed slightly after conducting this pilot.

### *Field data collection – Focus group discussions*

The researcher sent emails and/or letters (by post) to key persons of 20 active NGOs, community organisations, and pressure groups. A total of 17 organisations responded. Considering time and financial limitations for field data collection and analysis FGs were limited to two: one in the Southern and one in the Western Province on 7 December 2019 and 19 January 2020 respectively (see Table 3.7).

Table 3.7: Summary details of FG discussions

| Communication details | Southern Province | Western Province |
|---|---|---|
| Number of NGOs, community organisations, pressure groups sent email | 10 | 10 |
| Number of NGOs, community organisations, pressure groups replied | 8 | 9 |
| Number of potential participants | 7 individuals from 6 NGOs, community organisations, and pressure groups | 11 individuals from 7 NGOs, community organisations, and pressure groups |
| Actual participation | 7 individuals | 9 individuals |
| Date and time of Focus groups were conducted | 7th December 2019, 3pm to 4.45pm | 19th January 2020, 3pm to 4pm |
| Venue | Community hall, Woodland Estate | Community gathering place at the Meemure village in Kandy district* |

* Meemure village located in the Central Province and potential organisations had scheduled to do collective clean-up programme there. Therefore, the FG discussion was held after the clean-up programme. Source: Researcher (2022).

Focus group discussions commenced with the researcher welcoming the participants and explaining the research objectives, procedures, and potential risks of participating in the study. Using a flip chart, the researcher introduced the main questions to be discussed in each group.

As an appreciation of the participants' time and contribution to the research, the researcher provided a gift voucher valued at LKR 20,000.00, the equivalent of AUD 160. Participants chose to donate their vouchers to the 'Saranak Evasi Minisun Soya organisation' (an organisation for needy people).

Discussions were recorded using a personal digital recorder, a laptop, and a smartphone with a password. After each discussion, the researcher stored the recorded

files according to the ethics approval guidelines of Flinders University, with access permitted only to the researcher and her supervisors.

## 3.4    DATA ANALYSIS

This section discusses various steps of data analysis process. These steps include transcription and translation of the collected data, and analysis framework.

### 3.4.1 Transcription and translation

From mid-January to the end of March 2020, the Interviews and FG discussions were translated and transcribed ready for qualitative analysis. Most of the interviews were conducted in the Sinhalese language. The researcher subsequently translated all transcripts from the Sinhalese language into English. Copies of the interview transcriptions were sent to the participants via email or post to allow checking of their comments and to seek their final approval to use their information for the research.

### 3.4.2   Data analysis framework

This study generated both quantitative and qualitative data.

Descriptive statistical methods, including calculating mode, median, frequencies, and percentages are appropriate for analysing ordinal data derived from Likert scale questions (Jamieson, 2004). Such statistical methods help to correctly understand the differences between categories of participant perceptions on the investigated phenomena (Jamieson, 2004; Maxwell, 2010)

The thematic analysis approach is appropriate for identifying and analysing patterns of meaning in a data set and to demonstrate which themes are significant in the description

of the phenomena under investigation (Joffe, 2012). As defined by Guest et al. (2011), thematic analysis is a process that consists of several steps to identify and analyse collected qualitative data.

> *The thematic analyses move beyond counting explicit words or phrases and focus on identifying and describing both implicit and explicit ideas within the data, that is, themes. Codes are then typically developed to represent the identified themes and applied or linked to raw data as summary markers for later analysis* (Guest et al., 2011, p. 9).

This process includes the six-step framework of: becoming familiar with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the thesis (Javadi & Zarea, 2016; Kiger & Varpio, 2020). Furthermore, thematic analysis provides the researcher with significant flexibility to interpret and analyse a wide variety of data sets using an inductive approach (Kiger & Varpio, 2020).

The researcher created 12 themes based on the questions and sub-questions of the semi-structured interview schedules. The qualitative data were coded by theme using NVivo -12 software. To create these themes, the auto-code system of the NVIvo -12 software was used, after which the sub-codes that emerged through the data were identified. The coding process started with open coding (descriptive and coding data according to content). To code the FG discussion data, the researcher used 10 themes based on the questions included in the FG schedule.

The collected quantitative data (through both primary and secondary sources) were analysed using Excel software and simple descriptive statistical methods, including percentages. The analysed data is presented using graphs and tables.

## 3.5 CHALLENGES AND LIMITATIONS IN FIELD DATA COLLECTION

An unexpected presidential election held on 16 November 2019 introduced several challenges for both organising and conducting the field work. The post-election situation also created several difficulties. Even though the election was for the singular position of the President, parliamentary power also changed. New cabinet ministers were appointed, many senior-level bureaucrats were transferred, and new secretaries were appointed. Under the Extra Ordinary Gazette number 2153/12 in 2019, the structure of the ministries changed, including their name, jurisdiction, and attached institutions. For example, the Ministry of Megapolis and Western Development, which had had key responsibilities related to MSWM, was restructured as the Ministry of Urban Development, Water Supply and Housing Development. Therefore, some institutions were skeptical about engaging in the study both during and after the election.

In addition, the busy working schedule of a few officers affected the field data collection. Interviews were scheduled at the most convenient time for both parties; however, when calling at the agreed time, a few participants asked the researcher to return the next day. Many of them were able to participate in the interviews after rescheduling to another time, although one participant who played a significant role in MSWM in a relevant agency repeatedly asked the researcher to reschedule. Despite eight visits to interview this participant and collect necessary quantitative data, no interview took place.

As almost all the interviews were conducted in the Sinhalese language, maintaining the original meaning when translating the interviews and FG discussions from Sinhalese to English required thoughtful interpretation. This was because the participants would sometimes use implicit wording to express their opinions, and at times, it was challenging to find a direct translation from the Sinhalese language into English. The researcher spent a considerable amount of time transcribing the interviews.

## 3.6    CONCLUSION

This chapter has outlined the design and methodology for exploring the research questions presented in the introduction chapter. In order to understand the current situation of the 2007 NSWMP implementation, the combination of qualitative methods, including semi-structured interviews, focus group discussions, primary and secondary document reviews, and photographs were chosen to collect contextual data on the governing system of MSWM, the 2007 NSWM and strategies. Field data were during the November 2019 to January 2020. The thematic analysis and simple statistical methods will employ to analyse and present generated qualitative and quantitative data respectively.

The next chapter outlines the document review which aims to understand the existing governance mechanism and legal frameworks acros the levels of government, MSWM policies, the contribution of the private sector and NGOs as well as an overview of MSWM operations at LGs during 2019/2020.

# Chapter 4: The Governance System of Municipal Solid Waste Management in Sri Lanka

## 4.1    INTRODUCTION

The previous chapter outlined how the research design and methods were developed to examine, measure, and analyse the factors involved in the implementation of the 2007 National Solid Waste Management Policy (NSWMP) in complex devolved governance system in Sri Lanka. As various agencies of Central government, provincial councils, and Local Governments (LG) are responsible and involved in Municipal Solid Waste Management (MSWM), it become a complex process.

Therefore, by reviewing documents and analysing photographs, this chapter aims to provide an analysis of Sri Lanka's system in a way that enables it to be characterised as a complex decentralised system that is informed by international frameworks. This chapter also attempt to understand and analyse the other contextual factors related to MSWM operation, particularly the contribution of other key actors, including private sector, NGOs and the citizens.

In order to understand the complex devolved governance system, this chapter examines the different roles, the legal, and institutional arrangements of each of the three tiers of government in Sri Lanka. Moreover, investigation on the national policies on MSWM will assist to gain better comprehend on the 2007 NSWMP by comparing globally accepted principles and strategies. Furthermore, the role of the private sector is also outlined in the chapter because it makes a significant contribution to MSWM through

infrastructure development and recycling. The chapter also discusses the practical situation of the MSWM process at Local Government (LG) sites, including the role of waste generators, waste handlers, collection services, and final disposal to facilitate for better understanding of current MSWM operations and challenges. Finally, a conclusion of the chapter and focus for the next chapter is outlined.

## 4.2    THE ROLE OF THE CENTRAL GOVERNMENT IN MSWM

In Sri Lanka, the Central Government's legal instruments, role, and institutional arrangements for MSWM are complicated. Overall, the President, the Parliament, six ministries, seven departments, and various authorities and institutions are involved, or have the power to be involved, in MSWM at the national-level (Figure 4.1) through a range of overlapping responsibilities and functions. Further deepening this complexity, *The Constitution* and 14 other legal instruments (Appendices 4.1 and 4.2) shape the governance of MSWM. Issues in the design and practice of devolution also have contributed to increase the complexity.

The Central Government's leading roles in MSWM are the enacting of laws, formulating national policies and strategies, and coordinating and regulating all actors involved in the process. Resource distribution, infrastructure development, and overall monitoring and evaluation are other responsibilities of the Central Government.

The key policy instrument governing MSWM in Sri Lanka is the 2007 National Solid Waste Management Policy (NSWMP). The 2002 National Strategy for Solid Waste Management (NSSWM) and the 2019 Technical Guidelines on Solid Waste Management also provide national-level guidance on MSWM in Sri Lanka.

### 4.2.1 Constitutional matters related to MSWM

*The Constitution of Sri Lanka* enacted in 1977, shapes the governance of MSWM in three ways. First, it gives directive principles to the Central Government to make laws and policies. Second, in 1987, the *Thirteenth Amendment to The Constitution* devolved LGs to provincial councils. Third, to some extent, *The Constitution* devolves legal, fiscal, and staffing power and responsibilities of MSWM to provincial councils.

***Directive Principles of The Constitution***

Article 27(14) of *The Constitution of Sri Lanka* guides the Central Government to protect, preserve, and improve the environment for the community's benefit. However, Article 29 states that any inconsistency in the use of the directive principles of state policy shall not be questioned in any court or tribunal (Appendix 4.1). Therefore, directive principles of state policy are only an ethical direction for law-makers and do not have much practical effect in shaping MSWM policy or laws and governance.

**Constitutional provisions to devolve MSWM functions**

With the establishment of provincial councils as part of the devolution process in 1987, *The Constitution of Sri Lanka* divided government functions, responsibilities, and power into three lists: List I (provincial council), List II (reserved/Central Government) and List III (concurrent - both the provincial councils and the Central Government have rights to involvement in such matters). Although the devolution provisions did not directly mention MSWM as a matter for provincial councils, transferring LG matters under Item 4 of the provincial council list impled that MSWM was also devolved matter to provincial councils

(*The Amendment XIII to The Constitution of the Democratic Socialist Republic of Sri Lanka*, 1987). However, waste collection and management **responsibilities** were vested with LGs under three pieces of Central Government' legislation: The *Municipal Councils Ordinance No. 29 of 1947,* the *Urban Councils Ordinance No. 61 of 1939, and the Pradeshiya Sabha Act No.15 of 1987*. *The Constitution* created confusion over the devolved functions by including 'environmental protection' in both the provincial councils and concurrent lists (Appendix 4.1). Although *The Constitution* did not define it, according to *the National Environmental (Amendment) Act of 1988*, MSWM fell within the scope of the environment. Therefore, both the provincial councils and the Central Government had **rights** and **responsibilities** to be involved in MSWM, but the **roles** of these two tiers were not sufficiently clear, resulting in avoidance, overlapping responsibilities, and conflict between tiers of government (Jayaratne, 2017).

Article 154G(5)(a) and (b) of *The Constitution of Sri Lanka* grants **power** to the Central Government and provincial councils to enact laws on MSWM under the List III: the concurrent list. According to *The Constitution,* the Central Government and provincial councils must consult each other before enacting laws on concurrent matters to avoid overlap. However in practice there were overlaps between tiers of government, resulting in confusion and conflicts regarding **functions, responsibilities,** and **power** in MSWM governance (Marikkar, 2017).

In reality, the Central Government introduced obstacles for making provincial statutes. These obstacles included provisions for the Governors' approval to enact provincial statutes and delays in receiving the Central Government's Attorney General's

assurance that the law was in accordance with *The Constitution of Sri Lanka* (Amarasinghe, 2010). Furthermore, the Central Government practically blocked the ability of the provincial councils to enact statutes by dissolving all provincial councils and not conducting provincial council elections for more than five years.

**Constitutional provisions and practice in fiscal devolution**

*The Constitution of Sri Lanka (1987)* devolved financial matters to provincial councils to implement provincial matters, including MSWM. These included,

1.    Transfer of power to provincial councils for collecting income from 20 specified sources (Items 33, 36.1-36.20 of the provincial council list).

2.    Granting the power to provincial councils to maintain, spend, and manage provincial funds.

3.    Establishment by the Central Government of the National Financial Commission under Articles 154R (1) - (8) of *The Constitution of Sri Lanka* to ensure fair and equitable distribution of finance to provincial councils.

4.    Granting the power to provincial councils to borrow money within limits set by the Parliament of Sri Lanka under Item 35 of the Provincial Council List (*The Amendment XIII to The Constitution of the Democratic Socialist Republic of Sri Lanka*, 1987).

There has however been criticism of fiscal devolution in Sri Lanka, including high dependency on the Central Government and delays in releasing grants to provincial councils. All provincial councils depend on Central Government' funds for approximately 80% of their budget (Bandara, 2007; De Alwis, 2020; Finance Commission, 2019). The

Central Government's line ministries receive funds from the National Treasury to implement devolved matters, but provincial councils and LGs suffer from a lack of funds to perform their devolved functions (Finance Commission, 2019).

**Constitutional provisions for provincial staffing**

*The Constitution* granted the power to provincial councils to establish and maintain Provincial Public Service in Sri Lanka. but the Central Government has been controlling the recruitment of employees. Provincial councils needed to obtain prior approval from the Central Government to fill vacancies because provincial and LG employees' salaries and other recurrent expenditures were provided by the Central Government (Gunawardena, 2010b).

In 2020 the Management Service Circular No. 01/2020 suspended the filling of primary level vacancies, including labourers and drivers at all levels of government. Labour shortages have been a critical challenge for LGs in undertaking MSWM for decades (Fernando, 2019), the decision of the Central Government created severe challenges to local-level MSWM operations.

In summary, although the government was supposed to deliver efficient and effective MSWM services through devolution, in practice, it has created more challenges for operating MSWM activities at the local-level. Design issues of devolution, such as unclear demarcation of responsibilities and the Central Government's control over funding and human resources greatly hindered MSWM operations in Sri Lanka.

### 4.2.2    The Central Government's legal framework for MSWM

Fourteen Acts and Ordinances of Central Government created the legal instruments for three activities: delegating functions, power, and responsibilities of MSWM to LGs, regulating LGs' MSWM activities, and penalising illegal dumping or disposal of waste (Appendix 4.2). Of these 14 Acts and Ordinances on MSWM, 10 focused on punishing citizens for unlawful waste disposal. The rest transferred MSWM functions to LGs without focusing on power and adequate resource distribution for undertaking MSWM responsibilities.

**Transfer of Central Government responsibilities to LGs**

Under the Central Government's *Municipal Council Ordinance No. 29 of 1947,* the *Urban Council Ordinance No. 61 of 1939,* and the *Pradeshiya Sabha Act No.15 of 1987* the Central Government transferred field-level MSWM functions and responsibilities, including waste collection and disposal, to municipal councils (in major cities), urban councils (in semi-urban areas), and pradeshiya sabhas (in rural areas).

These three Central Government legal instruments granted several responsibilities to LGs, including waste collection and disposal, sweeping of roads, enacting standard by-laws, and earning income through selling collected waste. Furthermore, the *Municipal Council Ordinance No. 29 of 1947* and the *Urban Council Ordinance No. 61 of 1939* granted the power to acquire land required for waste disposal of municipal and urban councils.

Under Section 26 of the *Environmental Act No. 47 of 1980,* LGs were granted the power by the Central Environmental Authority to issue environmental protection licenses

for managing scheduled waste *(The Gazette of the Democratic Socialist Republic of Sri Lanka- Extraordinary No. 1534/18, 2008).* Thereby, LGs could prohibit unauthorised disposal, release, or dumping of waste into the environment *(National Environmental (Amendment) Act, 1988; National Environmental Act, 1980)*.

**Central Government' power to regulate LGs' MSWM activities**

Although MSWM was the responsibility of LGs, the authority to take legal action against illegal waste disposal was vested with the Central Government's institutions and officers, including the Department of Police, and public health inspectors from the Department of Health Services. Furthermore, the *National Environment Act No.47 of 1980* granted power to the Central Environmental Authority to regulate LGs' MSWM activities through the issuing of standards and criteria for MSWM, inspection, and taking legal action against LGs, if LGs, violated the environmental laws of the country.

Provisions within the Central Governments three key legal instruments gave the Central Government Minister of Local Government the power to issue regulations on administrative, financial, human resource and general matters. In practice, the Central Government Ministry of Provincial Councils and Local Government regulated LGs' activities, including MSWM (Aheeyar et al., 2020; The Commission of Inquiry on Local Government Reforms, 1999).

**Punishment focuses of MSWM**

Three arms of the Central Government: the Department of Police, public health inspectors from the Department of Health Services, and the Central Environmental Authority, were

given the power to raid and prosecute unlawful waste disposal through 10 Acts and Ordinances of the Central Government. The Department of Police mainly used *Police Ordinance No. 21 of 1939 to* prosecute illegal waste disposal.

Waste dumping*,* keeping waste on, or near, any public road for more than 24 hours, or the release, deposit, or emission of waste causing environmental pollution was an offence. e.g. releasing rubbish or liquid waste into any body of water or drain.

The penalty for such offences differed by act and ordinance. For example, magistrates could impose fines of LKR10,000 – 100,000 (AU$67.00-670.00) or order imprisonment (*National Environmental (Amendment) Act No. 56 of 1988*; *Police Ordinance No. 21 of 1939*).

None of the Central Government's legislation set out its expectations for a MSWM system, nor did it attribute responsibility for the creation of a strategy to distribute resources and infrastructure fairly and equitably to support LGs to implement the 2007 NSWMP. This was a significant oversight in these legal arrangements. The focus of most legal instruments for the punishment of contravention of the law, while failing to articulate and legislate a functional MSWM in practice.

### 4.2.3 Institutional arrangements and role of the Central Government in MSWM

The President, six ministries and their affiliated authorities, and a range of departments were involved in different aspects of MSWM at the national-level (Table 4.1 and Figure 4.1). This section outlines the Central Government's institutional arrangements, assigned functions to the various agencies, and challenges arising due to roles played by different

agencies. It exposes complexity and overlapping functions among the Central Government's agencies, and recentralisation of power, functions, and responsibilities for MSWM.

***Responsibilities of national policy formulation, strategies and planning***

*The Extra-Ordinary Gazette No. 2153/12* (2019) announced that three ministries were responsible for formulating policies related to MSWM under the Acts applicable to them. These ministries were,

5.     Ministry of Environment and Wildlife Resources

6.     Ministry of Public Administration, Home Affairs, Provincial Councils and Local Government

7.     Ministry of Urban Development, Water Supply, and Housing Facilities

Each Ministry had responsibility for policy formulation for MSWM. Within the Central Government there was great potential for overlap.
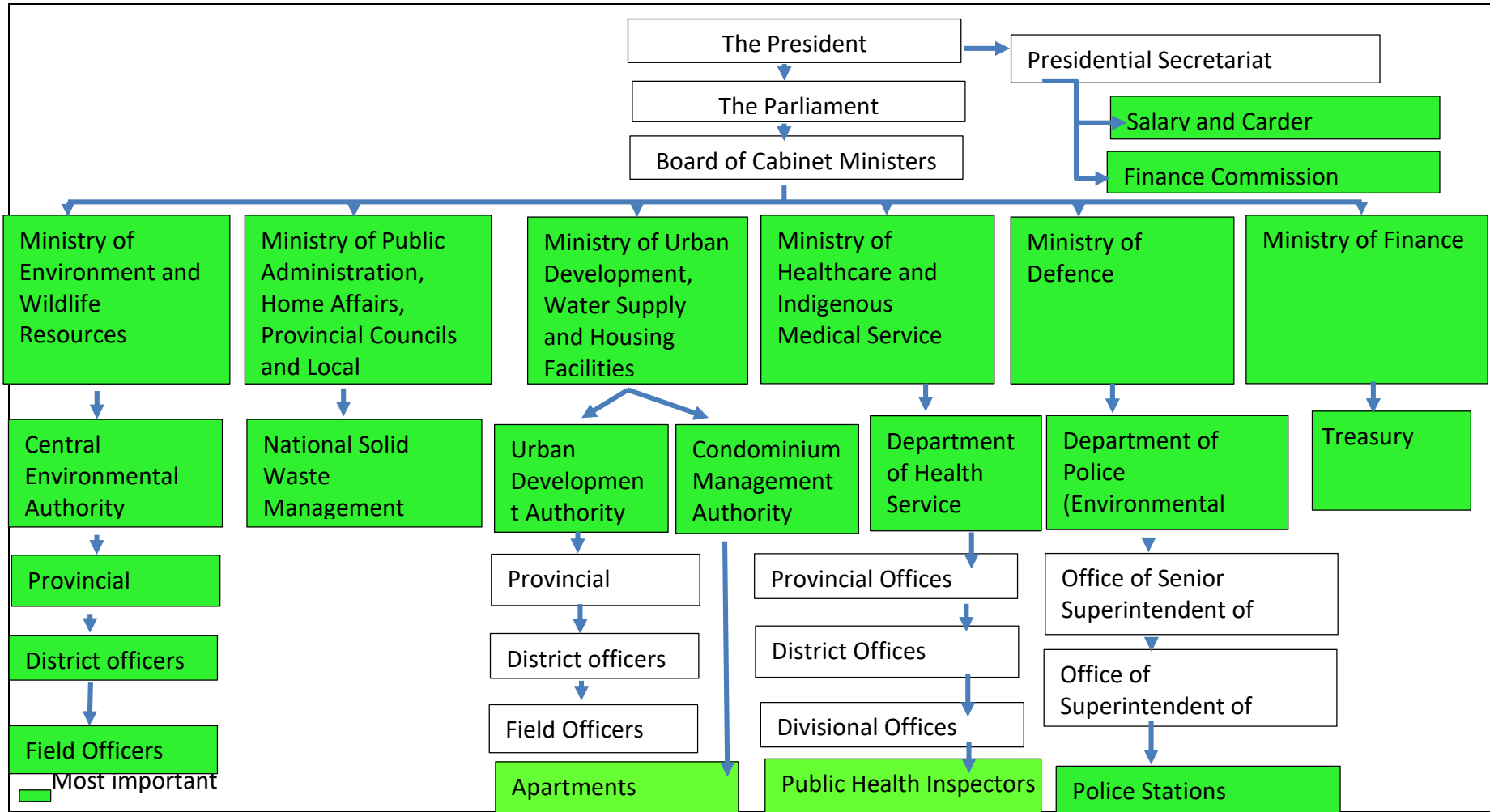
Figure 4.1: The Central Government's institutional arrangements for MSWM in Sri LankaSource: Researcher (2021)

Table 4.1: Responsibilities and functions of Central Government's institutions in MSWM

| Institution | Responsibilities and functions of different institutions under constitutional provisions and different laws |
|---|---|
| The Executive President | Chairs the Board of Cabinet Ministers, which has a vital role in deciding policies, major projects, and programmes related to MSWM |
| Finance Commission | Approves finance for provincial councils and LGs |
| Salary and Cadre Commission | Grants approval for filling vacancies of LGs |
| Board of Cabinet Ministers | Approves MSWM policies, major projects, and programmes |
| The Parliament | Approves finance and enact laws for implementing MSWM |
| Ministry of Environment and Wildlife Resources (previously known as the Ministry of Mahaweli Development and Environment) | Formulates, implements, monitors and evaluates of policies, programmes, and projects related to MSWM under the *National Environmental Act No. 47 of 1980*. Prepares national framework and guidelines, monitors and evaluates the 2007 NSWMP implementation. |
| Central Environmental Authority | Issues guidelines to LGs for MSWM, regulate the 2007 NSWMP, enforces laws under the *National Environmental Act No. 56 of 1988*, collects and maintains island-wide data, conducts research, monitors and evaluates of national-level programmes related to MSWM |
| Ministry of Finance | Allocates funds, coordinates, and approves international development agencies' projects related to MSWM |
| Treasury | Collects special commodity taxes (Cess), distributes funds for MSWM activities to national and provincial institutions and LGs |
| Ministry of Public Administration, Home Affairs, Provincial Councils and Local Government | Formulates, implements, monitors, and evaluates of policies, programmes, and projects related to MSWM under the provisions of the *Municipal Councils Ordinance, the Urban Councils Ordinance, and the Pradeshiya Sabha Act*. As a line ministry, it regulates MSWM activities of provincial councils and LGs, grants credit facilities to LGs for public utility development including MSWM and trains LGs' employees |

| | |
|---|---|
| National Solid Waste Management Support Centre | Compiles laws and guidelines to direct LGs in proper MSWM, conducts public awareness campaigns, builds capacity of LG waste handlers, distributes physical resources to LGs, prepares MSWM plans for all provinces, and constructs and improves LG compost projects |
| Ministry of Urban Development, Water Supply and Housing Facilities (previously known as the Ministry of Megapolis and Western Development) | Manages urban waste, and formulates, implementations, monitors and evaluates policies, programmes, and projects for providing amenities and services to the community (including MSWM) in development areas declared under the *Urban Development Authority Act No. 41 of 1978* |
| State Ministry of Urban Development, Coast Conservation, Waste Disposal and Community Cleanliness | Operates an efficient mechanism to manage urban waste, constructs waste disposal yards and sanitary landfilling jointly with LGs, and adopts measures to prevent irresponsible waste disposal |
| Urban Development Authority | Assists the State Ministry of Urban Development, Cost Conservation, Waste Disposal, and Community Cleanliness for infrastructure development for MSWM |
| Condominium Management Authority | Arranges waste collection and disposal methods for housing schemes and apartments through housing committees |
| Ministry of Defence | Formulates, implements, monitors, and evaluates policies, programmes, and projects for enforcing laws on illegal waste disposal under the *Police Ordinance No.16 of 1865* |
| Department of Police (Police Environmental Protection Division) | Enforces laws related to MSWM, including raiding illegal waste disposal and prosecution under the *Police Ordinance No.16 of 1865* |
| Ministry of Healthcare and Indigenous Medical Service | Formulates, implements, monitors, and evaluates policies, programmes, and projects on the enforcement of laws related to illegal waste dumping and preventing epidemics under the *Health Service Act No. 12 of 1952* |
| Department of Health Service | Enforces laws related to MSWM, including raiding illegal waste disposal and prosecution under the *Health Service Act No.62* |

Sources: *The Constitution of the Democratic Socialist Republic of Sri Lanka* (2021), *The Gazette of the Democratic Socialist Republic of Sri Lanka*

*– Extraordinary 2153/12* (2019)

**Responsibility for preparing national strategies and guidelines for MSWM**

The preparation of national strategies and frameworks to implement the 2007 NSWMP was the singular responsibility of the Ministry of Environment and Wildlife Resources was involved. Nevertheless, several agencies, including the Central Environmental Authority, the Ministry of Public Administration, Home Affairs, Provincial Councils and Local Government, the Department of Health Service, and the National Solid Waste Management Support Centre all issued regulations for LG MSWM without coordination (Ranawaka, 2017).

**Responsibility for national planning for MSWM**

Two Ministries were responsible for national planning to implement the 2007 NSWMP: the Ministry of Environment and Wildlife Resources and the Ministry of Public Administration, Home Affairs, Provincial Councils and Local Government. In practice, the Central Environmental Authority and the National Solid Waste Management Support Centre were involved in the planning of MSWM on behalf of the above-cited ministries (see Table 4.1).

**Responsibility for coordinating actors**

The Ministry of Environment and Wildlife Resources was responsible for implementing the NSWMP but there was no coordinating mechanism to coordinate the actors involved in MSWM (Jayaratne, 2017). The Ministry of Public Administration, Home Affairs, Provincial Councils and Local Government coordinated the provincial councils to inform and provide guidelines to implement the policy decisions of cabinet ministers. Furthermore, the National Solid Waste Management Support Centre coordinated the provincial councils to

collect data on waste generation and on available and required resources (Japan International Cooperation Agency, 2016). The Ministry of Finance was involved in coordinating foreign funded projects on MSWM. However, these  agencies did not coordinate all the actors involved in implementing the 2007 NSWMP (Saja et al., 2021).

**Responsibility for resourcing, infrastructure development and capacity building**

Various agencies of the Central Government were involved in resource distribution to LGs, but often many of these agencies controlled LGs' MSWM performance through recentralisation of resources, including finance (Gunawardena, 2017). The Parliament, the Ministry of Finance and the Treasury, the Finance Commission, the Salary and Cadre Commission, and the Ministry of Public Administration, Home Affairs, Provincial Councils, and Local Government were responsible for resourcing to implement MSWM activities (Table 4.1).

The Ministry of Finance was involved in financial allocation to all government actors involved in MSWM, and for approving  foreign-funded projects on MSWM (Table 4.1). The role of the Finance Commission was significant in LG MSWM activities due to its power and responsibility for approving funds for provincial councils and LGs on a fair and equitable basis (Finance Commission, 2019). The Treasury was responsible for distributing the special commodity tax (Cess) and other funds to government agencies involved in MSWM activities (The Gazette of the Democratic Socialist Republic of Sri Lanka - Extraordinary No. 2153/12, 2019).

The Salary and Cadre Commission played a significant role in MSWM due to its power and responsibility for approving or rejecting LG requests to fill vacancies for waste

handlers and other positions. The National Solid Waste Management Support Centre was responsible for the capacity building of LG waste workers. Therefore, this agency trained LG waste handlers up to National Vocation Qualification Level IV (State Ministry of Provincial Councils and Local Government Affairs, 2022).

Physical resource distribution to LGs for MSWM was the responsibility of the National Solid Waste Management Support Centre. Consequently, this centre distributed vehicles and other machinery, including compactors, alarm instrument kits, and compost barrels (for distributing to households) to LGs. Although the Central Environmental Authority was not responsible for distributing physical resources, which created overlaps, it also delivered machinery and compost barrels for home composting (Central Environmental Authority, 2015; Lekammudiyanse & Gunatilake, 2009).

**Responsibility for infrastructure development for waste disposal**

Prior to 2019, None of the ministries were singularly responsible for establishing MSWM infrastructure. Therefore, different ministries and agencies, such as the Central Environmental Authority, the Ministry of Mahaweli Development and Environment, the Ministry of Megapolis and Western Development, the Ministry of Provincial Councils, Local Government and Sport[13], and the State Ministry of Urban Development, Coast Conservation, Waste Disposal, and Community Cleanliness and the and the Urban

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[13] Since 2019 known as the Ministry of Public Administration, Home Affairs, Provincial Councils, and Local Government

Development Authority have been involved in infrastructure development for MSWM (Fernando & Silva, 2020; Karunarathna, 2019).

In 2019, *Extra-Ordinary Gazette No. 2153/12* (2019) announced that 'Urban Waste Management' was a responsibility and duty of the Ministry of Urban Development, Water Supply and Housing Facilities This provision was problematic because it was an action toward recentralisation of devolved power for MSWM. However, the State Ministry of Urban Development, Coast Conservation, Waste Disposal, and Community Cleanliness and the Urban Development Authority subsequently became involved in infrastructure development for MSWM in Sri Lanka (Ministry of Urban Development and Housing, 2023). Furthermore, the Central Environmental Authority and the National Solid Waste Management Support Centre were also involved in infrastructure development for LGs including the upgrading of compost yards (Japan International Cooperation Agency, 2016; Karunarathna, 2019). Therefore, although infrastructure development was a responsibility of a single ministry, the involvement of different institutions resulted in overlapping of functions.

**Responsibility for regulating LG MSWM activities**

Regulatory functions, including the power to issue standards, norms and criteria for LG MSWM activities, and inspection of LG waste collection and disposal methods were the responsibility of the Central Environmental Authority *(National Environmental (Amendment) Act, 1988; National Environmental Act, 1980).* The Central Environmental Authority implemented these powers and responsibilities through their regional offices and

officers placed in each Divisional Secretariat (division level public administration offices of the Central Government) (Central Environmental Authority, 2015).

**Responsibility for prosecution of contravention of laws on MSWM**

Three Central Government were responsible for prosecuting illegal waste disposal at the local-level: the Department of Police, public health inspectors from the Department of Health Services, and the Central Environmental Authority (Ministry of Health, 2010; National Environmental Act, 1980; Police Ordinance, 1939 ; The Presidential Committee to Investigate Meethotamulla Garbage Dump Collapsed, 2017).

The Central Environmental Authority was responsible for taking legal action against individuals and institutions, including LGs for illegal waste disposal (National Environmental Act, 1980). Regardless of the available legal provisions for hefty fines and imprisonment, the Central Environmental Authority was not able to enforce the law due to a lack of human resources (Dharmasiri, 2020; Fernando et al., 2020).

**Responsibility for prosecution of contravention of laws on MSWM**

Three Central Government were responsible for prosecuting illegal waste disposal at the local-level: the Department of Police, public health inspectors from the Department of Health Services, and the Central Environmental Authority (Ministry of Health, 2010; National Environmental Act, 1980; Police Ordinance, 1939 ; The Presidential Committee to Investigate Meethotamulla Garbage Dump Collapsed, 2017). The Central Environmental Authority was responsible for taking legal action against individuals and institutions, including LGs for illegal waste disposal (National Environmental Act, 1980). Regardless of

the available legal provisions for hefty fines and imprisonment, the Central Environmental Authority was not able to enforce the law due to a lack of human resources (Dharmasiri, 2020; Fernando et al., 2020).

**Responsibility for monitoring and evaluation of MSWM activities**

The overall monitoring and performance evaluation of the 2007 NSWMP implementation was the responsibility of the Ministry of Environment and Wildlife Resources (The Gazette of the Democratic Socialist Republic of Sri Lanka - Extraordinary No. 2153/12, 2019). Moreover, according to the *National Environmental Act No. 47 of 1980*, the Central Environmental Authority was responsible for monitoring and evaluating national-level MSWM programmes. Furthermore, the Ministry of Public Administration, Home Affairs, Provincial Councils, and Local Government was also responsible for monitoring LGs' MSWM activities. However, this overlap resulted in avoiding responsibility for monitoring the implementation of the 2007 NSWMP (The Presidential Committee to Investigate Meethotamulla Garbage Dump Collapsed, 2017).

### 4.2.4   National solid waste management policies

This research focuses on the key policies that have shaped MSWM in Sri Lanka. The critical policies that informed the MSWM framework were the 2007 NSWMP and the 2019 National Waste Management Policy (NWMP).

**2007 National Solid Waste Management Policy (NSWMP)**

In 2007, taking a national approach, the Ministry of Environment and Natural Resources of Sri Lanka formulated the NSWMP to improve solid and healthcare/biomedical waste management. The policy goal was:

> *To ensure integrated, economically feasible and environmentally sound solid waste management practices for the country at national, provincial, and local authority levels* (Ministry of Environment & Natural Resources Sri Lanka, 2007, p. 3)

**Objectives of the 2007 NSWMP**

The 2007 NSWMP consisted of a set of objectives. Ensuring the environmental accountability and social responsibility of all actors, including waste generators, managers, and service providers was a key objective. The policy also aimed to secure the active involvement of all actors in integrated and environmentally-sound MSWM practices. Other key objectives included reducing the adverse impacts of waste disposal on the environment and on human-and eco-systems through increasing resource recovery and minimising final disposal (Ministry of Environment & Natural Resources Sri Lanka, 2007).

**Principles of the 2007 NSWMP**

Eight principles underpinned the 2007 NSWMP. The waste management hierarchy (reduce, reuse, recycle, and resource recovery), and the national environmental standards were key principles of the policy. Sustainable production and consumption, producer responsibility in the production cycle, and application of market-based methods including the idea of 'polluter-pays', were principles used to secure the active involvement of stakeholders.

Entrusting the sustainability of participation of all actors throughout the process was an important principle used for effective MSWM.

Increasing private sector partnerships in MSWM activities, including collection, transportation, and infrastructure development to ensure efficient and cost-effective MSWM was another key principle of the 2007 NSWMP. Efficient law enforcement was also recognised as an important principle for effective MSWM. Exploring suitable resource mobilisation strategies and promoting sustainable financing mechanisms were the principles used to address the MSWM system challenges of LGs (Ministry of Environment & Natural Resources Sri Lanka, 2007). The 2007 NSWMP guided the use of these principles to achieve policy objectives through a number of components, including system implementation and capacity building.

**The 2007 NSWMP focus for MSWM system implementation**

The 2007 NSWMP used 3R principles, particularly the waste prevention approach for MSWM (see Figure 4.2). The idea was that landfill was to be limited to materials that could not be used as resources. The government was to prohibit the importation of all types of post-consumer waste for the recycling industry. As plastic waste become a critical issue in MSWM, the government of Sri Lanka has introduced the National Action Plan on Plastic Waste Management for 2021-2030 (Ministry of Environment - Sri Lanka, 2021). The 2007 NSWMP was expected to support the development and implementation of sub-sectoral policies, such as recycling under the industrial policy (Ministry of Environment & Natural Resources Sri Lanka, 2007), but by 2021 it was yet to achieve this (Ministry of Environment - Sri Lanka, 2021).

Improvement of inter-agency coordination mechanisms was a key task of the 2007 NSWMP (see Figure 4.2), but by 2022 the government had not established a coordination mechanism between levels of government or within the Central Government (Peiris & Dayarathne, 2022). Although the 2007 NSWMP emphasised regular monitoring, evaluation, and performance reporting of LGs for the overall improvement of the MSWM system, none of these were properly implemented (The Presidential Committee to Investigate Meethotamulla Garbage Dump Collapsed, 2017).

**Main Features of the National Strategy**

- Prioritise waste avoidance over recycling and recycling over other forms of environmental sound disposal
- Reuse non-avoidable waste as far as possible
- Maintain the content of hazardous substances in waste at the lowest possible level
- Guarantee an environmentally sound residual waste treatment and disposal as basic prerequisites for human existence

**National Strategy for Solid Waste Management**

- Waste avoidance/reduction
- Reuse of waste
- Recycling of waste
  - composting
  - recycling of glass
  - recycling of paper
- Final disposal
  - Sanitary landfilling
  - Incineration
- Energy recovery
- Biogas utilization
- Sorting of waste at source to facilitate recycling

**Coordinating Committee at National Level to**

- Develop national policies to facilitate implementation of NSSWM
- Review the strategy from time to time in accordance with national requirements

**Coordinating Committees at Provincial Level to**

Provide infrastructure facilities to LGs for implementation of the strategy at provincial level

**Coordinating Committees at Local Government Level to**

- preparation of time bound action plans based on the national strategy
- implementation of the strategy

**Contribution of the Government**

- Develop national policies and guidelines
- Facilitate Provincial Councils and LGs to provide infrastructure

**Contribution of the Public**

- Sorting of waste at household level to facilitate to reduce, reuse and recycle before final disposal

**Contribution of the Private Sector**

- Involvement in recycling activities
- Participate in the development of infrastructure facilities in collection, transportation and recycling of waste
- Provide industry Infrastructure facilities
- General awareness creation

**Contribution of the NGOs**

- Implementation of NSSWM
- Awareness creation
  - Secure community participation
  - Create awareness

Figure 4.2: Framework for the implementation of the 2002 National Strategy for Solid Waste Management

Source: Adopted from the Ministry of Forestry and Environment (2002, p.22)

*The 2007 NSWMP focus on capacity-building of actors*

The 2007 NSWMP focused on the capacity-building of actors involved in MSWM in various ways, including in the legal, financial, and training areas. This policy emphasised legal reforms for strengthening available regulatory mechanisms. Furthermore, the 2007 NSWMP ensured effective law enforcement to maintain the accountability of stakeholders (Ministry of Environment and Natural Resource, 2007).

To implement integrated sustainable waste management (see Section 2.2), this policy promoted awareness, education, and training for actors at all levels of government. Various programmes for public awareness on waste reduction and segregation were conducted by all levels of government (Fernando & Silva, 2020). Furthermore, this policy focused on improving the capacity of integrated waste management by transferring the best available technology and environmental practices to LGs and the private sector (Ministry of Environment and Natural Resource, 2007).

The 2007 NSWMP suggested improving LGs financial flow through effective revenue generation, and establishing appropriate financial incentive schemes, including carbon financing to promote waste management. However, these policy focuses had not been implemented by 2019 (Fernando, 2019). Although some LGs earned revenue through selling compost and recyclable waste items, most remained highly dependent on the Central Government for finance (Basnayake et al., 2019; Gunawardena & Lakshman, 2008; Japan International Cooperation Agency, 2016).

According to the 2007 NSWMP, public-private partnerships were to be strengthened to improve resource recovery and infrastructure development (see Figure

4.2). Furthermore, community partnerships for LG MSWM activities were to be promoted (Ministry of Environment & Natural Resources Sri Lanka, 2007). While the Central Government has attempted to start many public-private and community partnership projects over the last two decades, most have not been implemented or have been unsuccessful (Japan International Cooperation Agency, 2016; Karunarathna, 2019).

## Limitations of the 2007 NSWMP

There are some limitations to the 2007 NSWMP, such as the lack of clear demarcation of roles and responsibilities (Ministry of Environment of Sri Lanka, 2020; Musthapha, 2017), and the failure to address all types of waste management (Ministry of Environment of Sri Lanka, 2020). Furthermore, the weakness of the implementation process has resulted in severe threats to human lives and the environment (The Presidential Committee to Investigate Meethotamulla Garbage Dump Collapsed, 2017).

## 2019 National Waste Management Policy (NWMP)

After the collapse of the Meethotamulla garbage dump in 2017, two NGOs, the Centre for Environmental Justice and the Environmental Foundation (Guarantee) Limited, filed cases in the Supreme Court (SCFR 152/2017 & SCFR 243/2017) against the Sri Lankan Government (Environmental Foundation (Guarantee) Limited, 2017b). Both petitioners claimed that by allowing open dumping, the government had violated the citizens' fundamental rights: the right to life, the right to a healthy environment, and the rights of future generations. In these cases, the petitioners requested the Supreme Court to order the Central Government to formulate and implement an appropriate national policy,

regulations, and mechanisms for waste management (Environmental Foundation (Guarantee) Limited, 2017b).

The policy was approved by the Board of Cabinet Ministers on 1 October 2019 (Ministry of Environment of Sri Lanka, 2020), but had not reached the implementation stage by early 2022 (Environmental Foundation (Guarantee) Limited, 2023), because the new government decided it must get approval from the parliament before moving to the implementation phase, due to "a lack of political interest to implement it" [ID CGPO05: Public Employee/Central Government].

The goal of the 2019 NWMP was:

To provide coherent and comprehensive directions for waste management in the country covering all forms of wastes to meet the acute short-term challenges in line with medium and long-term sustainable solutions up to 2030 with entrusted accountability (Ministry of Environment of Sri Lanka, 2020, p. 5).

**Strengths of the 2019 NWMP**

There were many key improvements in the 2019 NWMP compared to the 2007 NSWMP. These improvements include the demarcation of the roles and responsibilities of all actors involved in MSWM, the establishment of a national-level mechanism to coordinate actors and monitor policy performance, and the establishment of a waste management unit for each LG, with the managerial post having technical knowledge on MSWM (Ministry of Environment of Sri Lanka, 2020). Most of the 2007 NSWMP objectives have not been

implemented or have failed while the 2019 NWMP may never be implemented at all due to a lack of political interest.

### 4.2.6   Conclusion – the Central Government's role in MSWM

The 2007 NSWMP focused on resolving critical MSWM issues through internationally accepted approaches, including the waste hierarchy and nationally viable MSWM standards. However, the 2007 NSWMP implementation was challenged by four key factors: lack of interest and limited support from political leaders for MSWM, the weakness of the legal framework, complicated institutional arrangements, and design issues and practical challenges related to the devolution of power.

After 15 years of policy implementation, key governing issues addressed by the 2007 NSWMP, including establishing a coordination mechanism, remained unresolved. Furthermore, the 2019 NWMP had not been implemented at the early 2022.

The inherited limitations of decentralisation in Sri Lanka, including the transfer of the responsibilities to LGs and provincial councils without allocating sufficient human and financial resources to perform duties challenged policy implementation at the local-level. In addition, the ambiguity of *The Constitutional* provisions on devolution of the power of MSWM matters led to conflict between the different levels of government in the policy implementation process.

All these factors resulted in obstacles to other levels of government and poor performance, lack of accountability, and responsiveness in MSWM policy implementation. The next section will discuss the role of provincial councils in MSWM.

## 4.3    PROVINCIAL COUNCILS' ROLE IN MSWM

The provincial council system was established in 1987 as the second tier of the Sri Lankan government structure (Shastri, 1992). There are nine provincial councils, each with its Governor (appointed by the President of Sri Lanka), Council, Board of Ministers, four ministries, several departments, authorities, and provincial public service. Of these, the Provincial Ministry of Local Government and the Provincial Department of Local Government had key roles in MSWM in the provinces, including resourcing and regulation.

### 4.3.1 Legal framework of provincial councils for MSWM

Except for the Western and North-Western provinces, all provincial councils used a similar institutional set-up and legal instruments to regulate, monitor, and evaluate LGs' MSWM performance. Provincial councils used two types of legal instruments for MSWM, the provisions of *The Constitution* and the Central Government's acts and ordinances*. Second, The Constitution of Sri Lanka* granted **power** to provincial councils to enact statutes (provincial laws) on List I (provincial matters) and List III (concurrent matters). Two provincial councils: the Western and North-Western Provincial Councils issued rules and regulations for LG MSWM within their provinces. Most provincial councils did not use constitutional powers on provincial law making due to a lack of political and bureaucratic enthusiasm in both the provincial and the Central Government (De Alwis, 2020).

In practice, Governors created obstacles using constitutional provisions against the passing of provincial statutes (Amarasinghe, 2010). Governors did this by delaying approval or sending back statutes to be reconsidered6 or reserving them for

reference by the President to the Supreme Court to determine compatibility with *The Constitution* (Damayanthi, 2011; Damayanthi & Nanayakkara, 2008).

After establishing provincial councils, the power and responsibilities of coordination, supervision, evaluation, and regulation of MSWM were transferred from the Central Government's Commissioner of Local Government to provincial commissioners of local government under the provisions of the *Provincial Councils (Consequential Provisions) Act No. 12 of 1989*. Therefore, provincial commissioners of local government in all provinces used this legal instrument to coordinate, supervise, and evaluate MSWM activities within the province.

### 4.3.2 Institutional arrangements and role of provincial councils in MSWM

Provincial institutions mainly engage in five activities in MSWM. These are enacting provincial laws and regulations and establishing provincial institutions to administer MSWM, coordinating LGs and Central Government, facilitating infrastructure, resources, and human development, issuing guidelines, and evaluating the performance of LGs.

In practice, the implementation of coordinating power differs according to the provisions of legal instruments. The Provincial Governor was the representative of the President and the official focal point that linked the Central Government and the provincial councils (*The Amendment XIII to The Constitution of the Democratic Socialist Republic of Sri Lanka*, 1987). As a tradition, the provincial department of local government became the focal point for liaison between LGs and the Central Government in MSWM activities (Aheeyar et al., 2020). However, bypassing the provincial councils, the Central Government would sometimes directly connect with LGs to distribute resources as a result of political

connections between the political leaders of the Central Government and the LGs [ID PCPO02: Public Employee/Provincial Council].

The provincial department of local government was headed by a Provincial Commissioner who had oversight of the work of the assistant provincial commissioners of local government in the districts (North Central Province, 2023). The provincial commission of local government was responsible for issuing guidelines to implement MSWM activities in line with the 2007 NSWMP, and the monitoring and evaluation of LGs' performance in MSWM.

Provincial councils were responsible for allocating funds to LGs' MSWM activities through provincial budgets as part of their standard duties and provincial ministries of local government distributed these funds and other resources to LGs (Cheif Ministry - Southern Province, 2023). Sometimes provincial councils distributed physical resources. The relationship between political leaders of provincial councils and LGs influenced decision-making on resource allocation (Silva & Lecamwasam, 2021).

Provincial councils were responsible for transferring LG revenue, such as stamp duties which were collected by the different provincial departments. Stamp duties were a major source of income for LGs (Gunawardena, 2010a). In some cases the contribution of stamp duties was estimated to be about half of total estimated income of some councils (Ambalangoda Pradeshya Sabhawa., 2020; Kaduwela Municipal Council, 2019). Transferring stamp duties from provincial councils to LGs was important for maintaining day-to-day activities, including waste collection and disposal (Gunawardena, 2010a). In

practice, this limited transfer adversely affected LG MSWM [ID LGABPR02: Elected Public Representative/Local Government].

Provincial councils were not directly involved in infrastructure development for MSWM. Although provincial councils had the power to create their own institutional and practical arrangements to serve local needs for MSWM, many did not use this power.

## 4.4    LOCAL GOVERNMENTS' ROLE IN MSWM

Local governments have been the most important agencies for implementing the 2007 NSWMP in Sri Lanka, because MSWM was a function delegated to the LGs by the Central Government. Therefore, the entire process of MSWM, including collection, transportation, segregation, treatment, composting, and final disposal, was performed by LGs (*Municipal Councils Ordinance No. 29 of 1947*; *Pradeshiya Sabhas Act No. 15 of 1987*; *Urban Councils Ordinance No. 61 of 1939*). Local governments were also responsible for conducting public awareness programmes for waste reduction at the household level. The systems used by LGs for MSWM differed depending on the availability of resources and infrastructure, the volume of waste generation, and support from the Central Government and provincial councils for finance, physical resources, and technical matters.

There are three types of LGs in Sri Lanka: municipal councils, urban councils, and pradeshiya sabhas. Municipal councils have more established systems with greater access to financial, human, and physical resources and facilities for MSWM (Figure 4.4). Urban councils have partially established systems (Figure 4.5), while pradeshiya sabhas do not have well-established systems for MSWM (Figure 4.6).

The three types of LGs had some common features: a LG council, environment and finance committees, and the political executives of LGs (the mayor of the municipal council, and a chairperson and deputy chairperson of the urban council and pradeshiya sabha) who had important roles to play in decision-making on resource allocation, budgets, and project approvals for MSWM in the LG area. Furthermore, the municipal commissioner and the secretaries of the urban council and pradeshiya sabha had overall responsibility for implementing council decisions on MSWM (*Municipal Councils Ordinance, 1947; Pradeshiya Sabha Act, 1987; Urban Councils Ordinance, 1939*). Moreover, none of the LGs had a specific managerial position requiring technical knowledge of MSWM. Thus, MSWM was deprioritised and managed by bureaucratic actors and leaders without essential knowledge or training (Alagiyawanna, 2017; Dharmasiri, 2020).

While the Central Government transferred their responsibilities and functions on MSWM to LGs through various acts and ordinances, most LGs were vulnerable due to insufficient income or infrastructure to manage growing volumes of waste (Fernando, 2019), Central Government favouritism leading to uneven resource distribution, and provincialisation of LG funding .
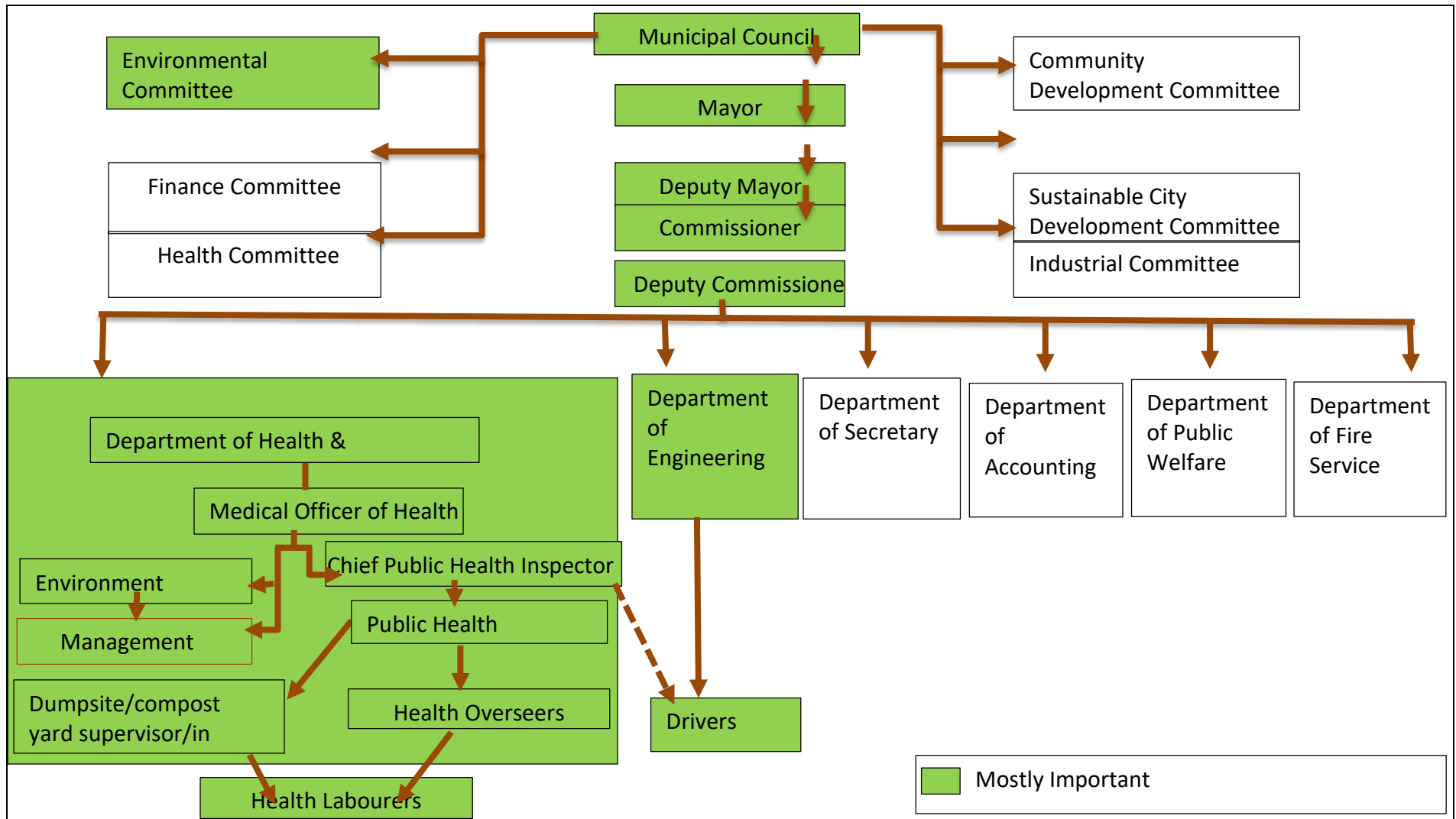
Figure 4.3: Organisational structure of Municipal Councils

Source: Researcher (2021)
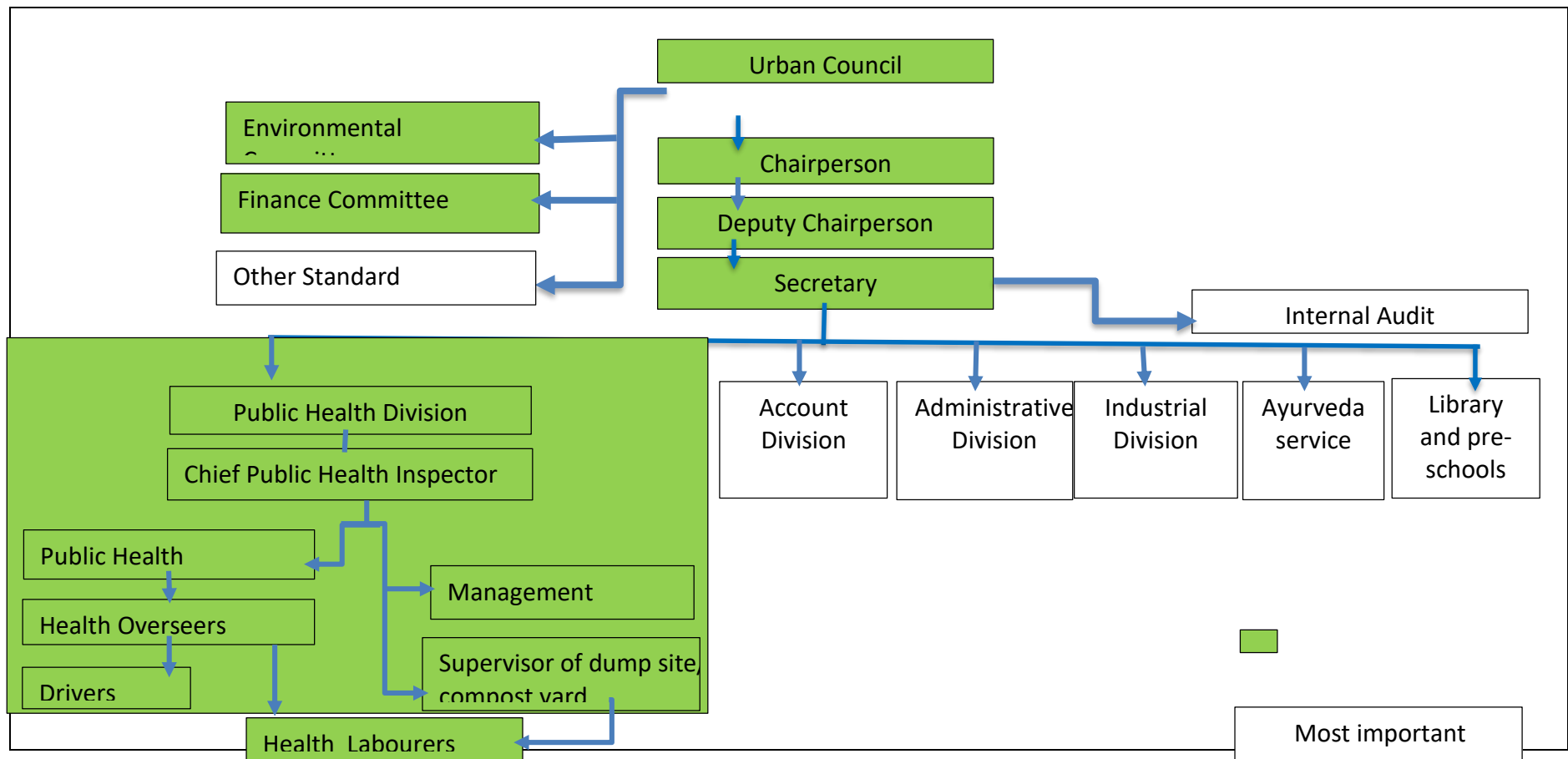
Figure 4.4: Organisational Structure of Urban Councils
Source: Researcher (2021)

Note: Departments, and standard committees are subjected to vary by urban council. Only the MSWM organisation structure is shows in detail in the chart
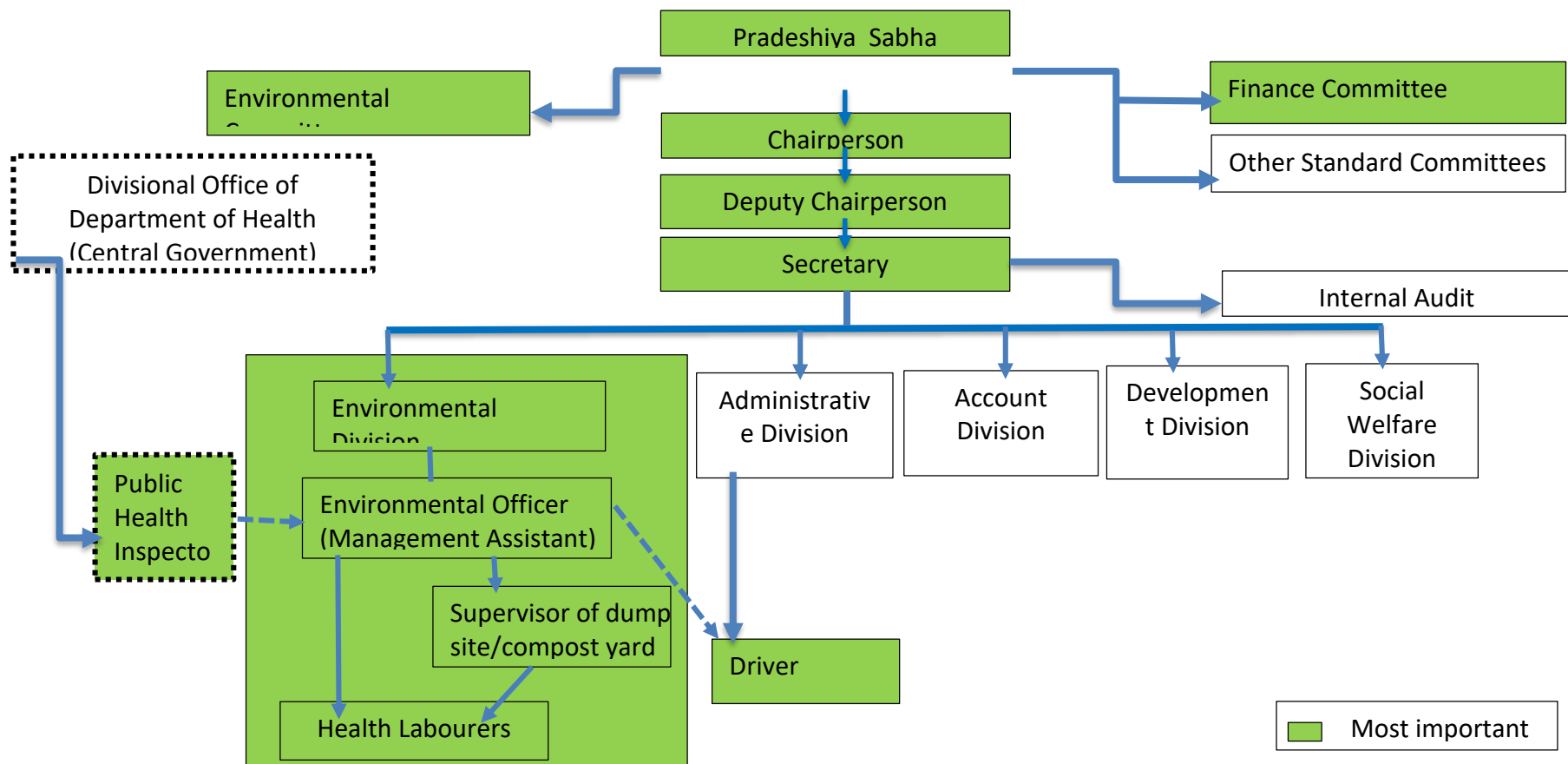
Figure 4.5: Organisational Structure of Pradeshiya Sabhas

Source: Researcher, 2021

Note: Departments and standard committees varied by Pradeshiya Sabha. Only the MSWM organisational structure is shown in detail in the chart.

## 4.5    PRIVATE SECTOR AND NGO' ROLES IN MSWM

In addition to government actors, the 2007 NSWMP and 2002 NSSWM emphasised the importance of the contribution of the private sector and NGOs to effective MSWM, including waste reduction, recovery, and recycling. In practice, the private sector and NGOs contributed to the implementation of the 2007 NSWMP in various ways, including through partnerships for infrastructure development, recycling, and intermediate collection of recyclable waste (Basnayake & Visvanathan, 2014).

The private sector played a crucial role in recycling and resource recovery projects in Sri Lanka. As of December 2021, the Central Environmental Authority had registered 318 private waste collectors and recyclers, of which 275 (86 per cent) were intermediate collectors and 43 (14 per cent) were recyclers. Only 2 entrepreneurs were engaged in the export industry (Central Environmental Authority, 2022). Approximately 2,000 small- and medium-scale entrepreneurs were involved in waste recycling and upcycling in the country (Basnayake et al., 2019) but many quit due to low profits from the industry and a lack of support from the government (Fernando et al., 2020).

The private sector supplied some outsourced services in MSWM, including waste collection, transportation, and final disposal in LGs and in commercial entities. However, there has been much criticism of the private sector contribution, particularly for violating environmental laws by misusing their permits issued by the Central Environmental Authority and LGs for MSWM activities (Musthapha, 2017).

In addition to the private sector, some NGOs and community organisations have been involved in community-based MSWM activities with the participation of LGs (Akurugoda, 2014). These activities have included composting, generating biogas, and community awareness projects (Perera & Ranasinghe, 2022). However, the continuity and success of such projects has depended on the will and strength of the community organisations involved (Basnayake & Visvanathan, 2014). On the other hand, "due to a lack of reporting and weak coordination between NGOs and the Central Government, it has been challenging to identify the contributions of NGOs to MSWM" [ID CGPO04: Public Employee/ Central Government].

The private sector has been a double-edged sword in MSWM in Sri Lanka because it has largely contributed to waste generation, but nevertheless, it has the potential to make a significant contribution to better MSWM. However, the sector has been underutilised and unsupported by government. Small- and medium-scale entrepreneurs have engaged in recycling and intermediate waste collection without much support from any level of government. Although some LGs have used outsourced services for MSWM activities since the 1990s, experience has shown that it has become a space for corrupt practices by politicians and public employees (The Presidential Committee to Investigate Meethotamulla Garbage Dump Collapsed, 2017).

## 4.6    ARRANGEMENTS AND PRACTICES PERTAINING TO DECENTRALISATION IN MSWM IN SRI LANKA

This section will briefly outline and provide examples for use of different types of decentralisation in MSWM in Sri Lanka and how these applications have unintentionally served to hinder the implementation of the 2007 NSWMP in Sri Lanka.

**Current applications**

The Sri Lankan government used four types of decentralisation in MSWM. Provincial Council system is an illustrative instance of devolution employed by the government of Sri Lanka. Transfer of Central Government power, responsibility, and specified functions on environmental protection to the Central Environmental Authority serves as an example for delegation. Furthermore, establishment of the Western Provincial Waste Management Authority and the North-Western Provincial Environmental Authority which were granted relevant provincial councils' power, responsibility, and functions on waste management also serves as illustrative instances of delegation in MSWM. As showed in the Table 4.1, several Central Government's agencies, such as the Departments of Health, the Department of Police, the National Solid Waste Management Support Centre involved in MSWM providing examples for deconcentration (administrative decentralization). Although LG possess a few characteristics associated with devolution, such as elected public representatives having authority to make decision within their specific geographical jurisdiction on matters granted by the Central Government, these entities serve as another example for deconcentration.  Because LG exhibits various attributes commonly associated with deconcentration, such as financial and physical resources as well as power control by

the Central Government and adherence to pertinent provincial legislation. The public-private-partnership for MSWM infrastructure development and contract outing of municipal solid waste collection provided examples for privatization. In addition, the private sector is the main actor involved in recycling.

**Theory Vs practices in Sri Lanka**

According to theoretical perspectives, decentralisation is posited as a potential remedy for countries with weak public services (Bardhan, 2002; Ding & Yang, 2021; Gunawardena, 2017; Rondinelli, 1981). However, the Sri Lankan case study of the 2007 NSWMP implementation demonstrates that the anticipated benefits of decentralisation, as outlined in decentralisation theories, have not been realised in practise.

Devolution aims to address local issues promptly and effectively, optimise resource utilisation, enhance public involvement in decision-making and policy implementation, and mitigate governance issues (Table 2.3). As per theoretical perspectives, devolution facilitates the effective implementation of decentralised policies (Benito et al., 2021; Rondinelli et al., 1989). However, in relation to the 2007 NSWMP implementation, most provincial councils in Sri Lanka often undermines the aforementioned advantages. For example, with the exception of the Western Provincial Council, none of the other provincial councils have enacted provincial legislation or established a dedicated institution to address the waste management issues. Similar to many other developing countries, unclear or intersecting legal provisions on devolved matters related to MSWM, the Central Government's control over provincial statutes making, funds, and human resources (see Sections 4.2.3 and 4.3.1), are the key factors contributed to prevent success of the MSWM

practices under devolved system (Fernando, 2019; Gunawardena, 2017). Furthermore, resources controlled by provincial councils due to political interests of provincial political leaders hinder the performance of LG MSWM performance. Decentralisation theories suggested that delegation offers a potential avenue for efficient and effective service delivery by avoiding red tapes within public administration (Merrell, 2022; Talitha et al., 2020). In practice, the implementation of the MSWM responsibilities by the Central Government and provincial councils' delegated authorities were undermined by flexible legal arrangements (compared to deconcentrated agencies), and politicised institutional framework. Political interference in decision-making and policy implementation, corruption, wastage of resources, and engage in functions beyond their designated scopes were the results. As an illustration, the Central Environmental Authority was involved in the development of infrastructure, as indicated in Table 4.1.

According to the decentralization theories, the aim of the deconcentration is to provide efficient and effective public service by facilitating easy access to people who live away from the capital. In the case of MSWM in Sri Lanka, several deconcentration agencies from the Central Government, such as the Department of Police and Department of Health are engaged in MSWM. However, their primary focus lies in prosecuting or imposing punitive measures on individuals who partake in unlawful MSWM practices. Therefore, most deconcentration agencies of the Central Government serve as additional pressure point for citizens who suffer from a lack of access for LG MSWM services.

According to decentralisation theories, the aims of the privatisation to increase the efficiency of service delivery by reducing the financial burden and responsibilities of

government, corruption and political interference (See Table 2.3). However, the Sri Lankan case of MSWM revealed that privatisation (contract out waste collection and management and public-private-partnership for infrastructure development) has been created extra burden for LGs' and the Central Government's budget because political and bureaucratic culture in the country provides more avenue for corruption, increase cost of services and lower the service quality.

**Conclusion**

In summary, decentralisation theories propose numerous benefits of employing different types of decentralisation, particularly in public service delivery. However, the implementation of the 2007 NSWMP in Sri Lanka revealed that the anticipated benefits proposed by decentralisation theories were ultimately negated due to politicisation of public service and misconduct and nepotism within the system. This situation further exacerbated by a limited support from the political and bureaucratic leadership to gain benefits from decentralisation. Consequently, Sri Lankan case study on the implementation of the 2007 NSWMP aligns with the negative outcomes associated with decentralisation, as identified by various scholars within the context of developing countries.

## 4.7    OVERVIEW OF LG MSWM OPERATIONS

As waste collection is an important part of the MSWM process, knowledge of waste collection services and their limitations is essential to understanding the local-level situation of MSWM.

Of the total households in the country, only 20 per cent had access to a LG waste collection service (Department of Census and Statistics, 2015). Most of these households were located in the main cities and in the semi-urban areas covered by municipal and urban council services. The services of the pradeshiya sabhas covered only a small percentage of households in rural areas (Department of Census and Statistics, 2015).

In the absence of services, municipal waste became a major issue in Sri Lanka. Unlawful waste disposal methods, including illegal dumping and burning, were not ideal, but illegal waste management practices were the last resort for those who did not have access to the LG waste collection service. Available LG waste collection services were also limited for some waste types. In this situation, households behaved rationally to get rid of their waste, but this had a negative on the environment.

In Sri Lanka 80 per cent of all households that had no collection service managed their waste using methods such as burning (Figure 4.8), open dumping at the household premises (Figure 4.9), and burying, composting, and illegal dumping in public places or on others' properties (Figure 4.10, Figure 4.11). Some recyclable waste was sold to intermediate mobile waste collectors. Those who had no access to a LG waste collection service did not segregate their waste except for composting and selling to intermediate collectors. Figure 4.8 depicts open burning in the Ambalangoda Pradeshiya Sabha area and shows that burning recyclable items was a widespread practice for many urban and rural households in Sri Lanka.

### 4.7.1 Role of households and other waste generators in MSWM

Households and commercial places with access to a LG collection service were required to segregate waste into two to three categories. Although many LGs had asked for two categories, degradable and non-degradable, some LGs, particularly municipal and urban councils, asked for three categories, including recyclable waste (Fernando & Silva, 2020). Basic waste segregation was consequently done by households and businesses prior to collection (Figure 4.7).
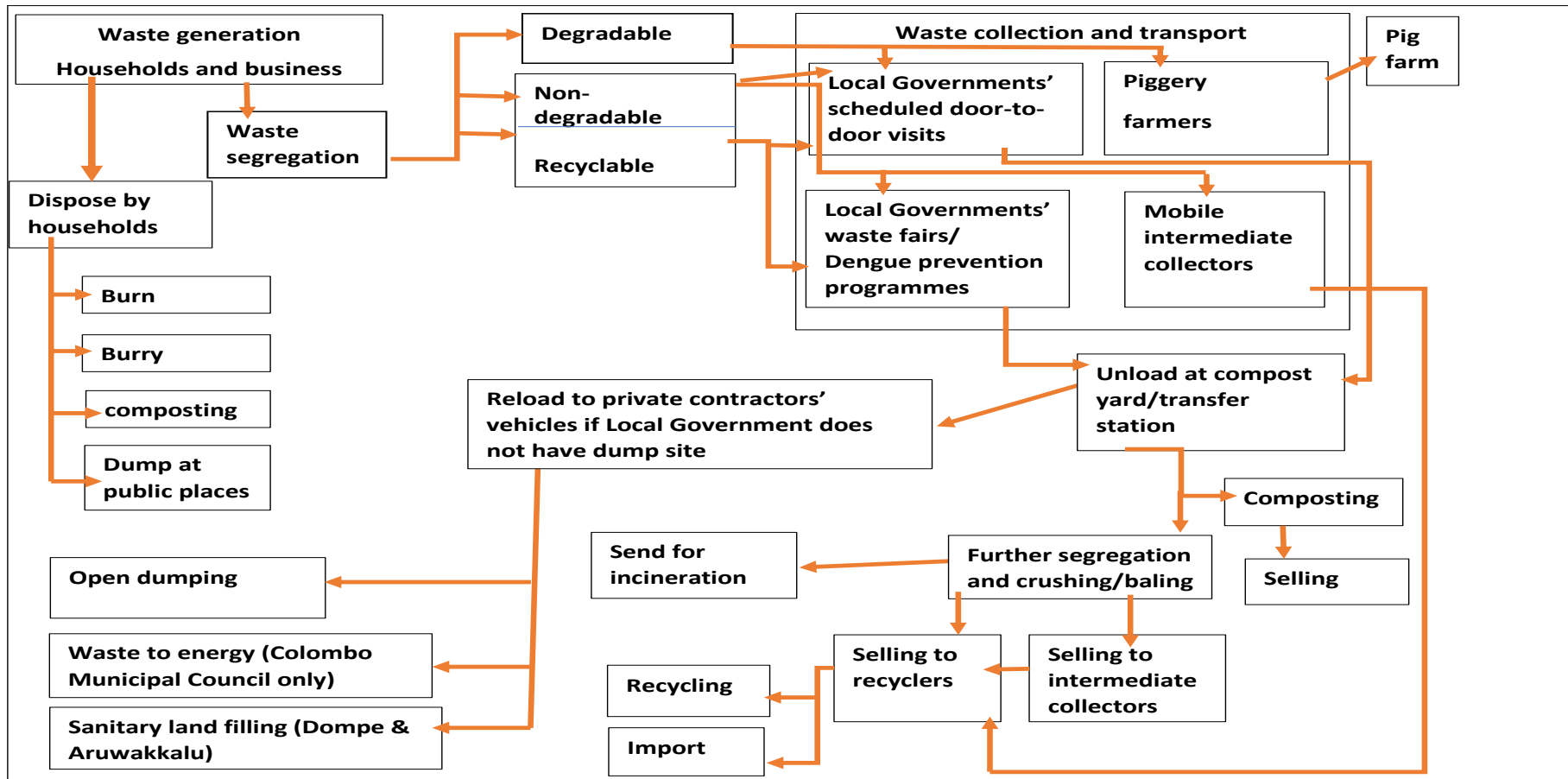
Figure 4.6: Municipal solid waste management system in Sri Lanka

Source: Researcher (2021)

Households and business owners put waste in polythene grocery bags and placed them in front of the household/business entity on scheduled waste collection days (Figure 4.7). Figure 4.7 shows that people left their waste bags on higher ground, such as on outside walls to protect them from street dogs.



Figure 4.7: Segregated waste put outside a household on Kelaniya-Kaduwela road

Source: Researcher, 19 December 2019 at 7.30 a.m.

Figure 4.7: Household waste disposal in Ambalangoda Pradeshiya Sabha area

Source: Researcher, 24th December 2019 at 6.01 p.m.

Figure 4.9 illustrates open dumping in a rural household where the household dumped their mixed waste into the environment. Figures 4.10 and 4.11 depict open dumping practices in public places in rural and urban areas, respectively.

Figure 4.8: Waste disposal in rural households in the Ambalangoda Pradeshiya Sabha area

Source: Researcher, 05th December 2019 at 7.19 a.m.



Figure 4.9: Illegal waste dumping on abandoned paddy land/marshland adjacent to the public

road in the Ambalangoda Pradeshiya Sabha area

Source: Researcher, 19th December, 2019 at 7.21 p.m.

Figure 4.10: illegal waste dumping along roadsides in Udawaththa road in the Kaduwela Municipal

Council area

Source: Researcher, 22nd November 2019 at 1.56 p.m.

Under different projects, many LGs distributed compost bins to citizens free of charge or at

concession prices. The distribution of 15,000 compost bins by 2010 under the 'Pilisaru

project' was an example (Ranawaka, 2010). Additionally, some households used plastic

compost bins purchased from the open market (Dandeniya & Caucci, 2020). Photos 1 and

2 of Figure 4.12 show a compost bin used by a family and compost bins at a Municipal

Council available to distribute to the citizens.

Figure 4.11: Household compost bins

Source: Researcher, 18<sup>th</sup> January 2020, at 3.20 p.m., 18<sup>th</sup> December 2019 at 10.49 a.m.

### 4.7.2 Waste collection and transportation

In Sri Lanka, the main solid waste collection service is the scheduled door-to-door visits of LG waste collectors. The frequency of waste collection depended on the availability of resources, but most LGs collected degradable and non-degradable waste at least once a week (Fernando & Silva, 2020; Saja et al., 2021). Some LGs collected the recyclable waste once a month. However, a few, such as the Colombo Municipal Council, collected waste two to three times per day, including a night shift in selected areas (Colombo Municipal Council, 2023).

Most LGs used their own resources for MSWM. Generally, a vehicle (a tractor with a trailer or truck) with two assistants and a driver were used to collect waste in scheduled areas (Figure 4.13). The assistants picked up waste manually from households and

businesses and put it into the vehicle (Figure 4.13). After covering the scheduled area or filling up the vehicle, collected waste was transported and unloaded at the dumpsite or waste transfer area (Fernando & Silva, 2020).



Figure 4.12: Transport mode of collecting waste by the Ambalangoda Pradeshiya Sabhawa (photo 01) and the Kaduwela Municipal Council (photo 02)

Source: Researcher, 15th December 2019 at 12.25 p.m., 18th December 2019 at 10.05 a.m.

Most LGs in Sri Lanka used this type of open vehicle to collect and transport MSWM from households to disposal sites (Saja et al., 2021). In addition to scheduled waste collection services, LGs used other methods to collect non-degradable waste, including waste fairs and dengue prevention programmes.

**Waste fairs as a method of collecting recyclable waste**

Some LGs in urban areas collected selected non-degradable waste through waste fairs (Figure 4.14) which were conducted at ward level on public holidays (Kaduwela Municipal Council, 2019). Relevant LGs informed citizens about the waste fairs through banners, notices, and mobile media units (vehicles with loudspeakers). Local governments would buy waste from the people at waste fairs (Kaduwela Municipal Council, 2019; Minuwangoda Urban Council, 2023). Figure 4.14 shows different categories of waste (paper and cardboard, plastic, glass bottles, and coconut shells) collected at a waste fair in Western Province in Sri Lanka.

At these fairs, some LGs implemented waste reduction strategies by facilitating the sale of self-employed people's products, including cloth bags, recycled items, and compost produced by the LG (Kaduwela Municipal Council, 2019). Local governments also collected non-degradable waste items at the ward-level under the dengue prevention programmes (Ambalangoda Pradeshya Sabhawa., 2020). After collecting waste through fairs or dengue prevention programmes, LGs transported and dumped it at the waste dumpsite/transfer area, and some LGs sold recyclable items to the private sector.

Figure 4.13: Waste fair held in Siri Nikethanarama Temple, Bandaragma.

*Outsourcing of waste collection services*

Some LGs, such as the Colombo Municipal Council, outsourced many MSWM activities, including waste collection, transportation, road sweeping, and waste removal from roadsides (Musthapha, 2017). Figure 4.15 depicts a labourer from a private company undertaking some MSWM activities along a roadside in Colombo city.



Figure 4.14: Road sweeping and waste collection in Colombo Municipal Council area by labourer of an outsourced company

**Intermediate waste collectors**

Intermediate mobile waste collectors visited semi-urban and rural areas to collect selected waste items (Figure 4.16). These mobile collectors used megaphones to inform people of their arrival. They exchanged new plastic items for recyclable waste given by the citizens and sold collected waste to recyclers (Figure 4.7). Figure 4.16 depicts an intermediate mobile waste collector visiting a semi-urban area in a small lorry to collect recyclable waste.



Figure 4.15: A mobile intermediate waste collector visiting Korathota, Kaduwela
Source: Researcher, December 18, 2019 at 3.48 p.m.

**Communication methods between LGs and citizens on MSWM**

Local governments used various communication methods, including verbal communication, leaflets or notices, and announcements through mobile media units to inform people of their collection schedules. Additionally, "particularly in rural areas, information was also distributed by elected public representatives" [ID LGKAPO02: Public Employee/Local Government]. In urban and semi-urban areas, most LGs announced messages in the evening when people were more likely to be at home. Some LGs, such as the Colombo Municipal Council, used their websites to display waste schedules, contact details of waste collection supervisors, and hotlines for waste collection services (Colombo Municipal Council, 2023). However, as most LGs did not have websites, this was not a common practice in Sri Lanka.

Some LGs, including the Minuwangoda Urban Council and the Kaduwela Municipal Council, used a digital app for waste management services (Figure 4.17) (Saja et al., 2021). These apps facilitated both the citizens and the LG, it displaying the arrival time of waste collection trucks to pick up waste, and providing communication facilities with responsible LG officers. As shown in Figure 4.17, the 'Clean up app' of the Kaduwela Municipal Council displayed the waste collection schedule for the area (Transcite24 (PVT) LTD, 2020). Furthermore, some LGs such as Balangoda Urban Council, used the Twitter news alert service to communicate with their citizens (Balangoda Urban Council, 2023).
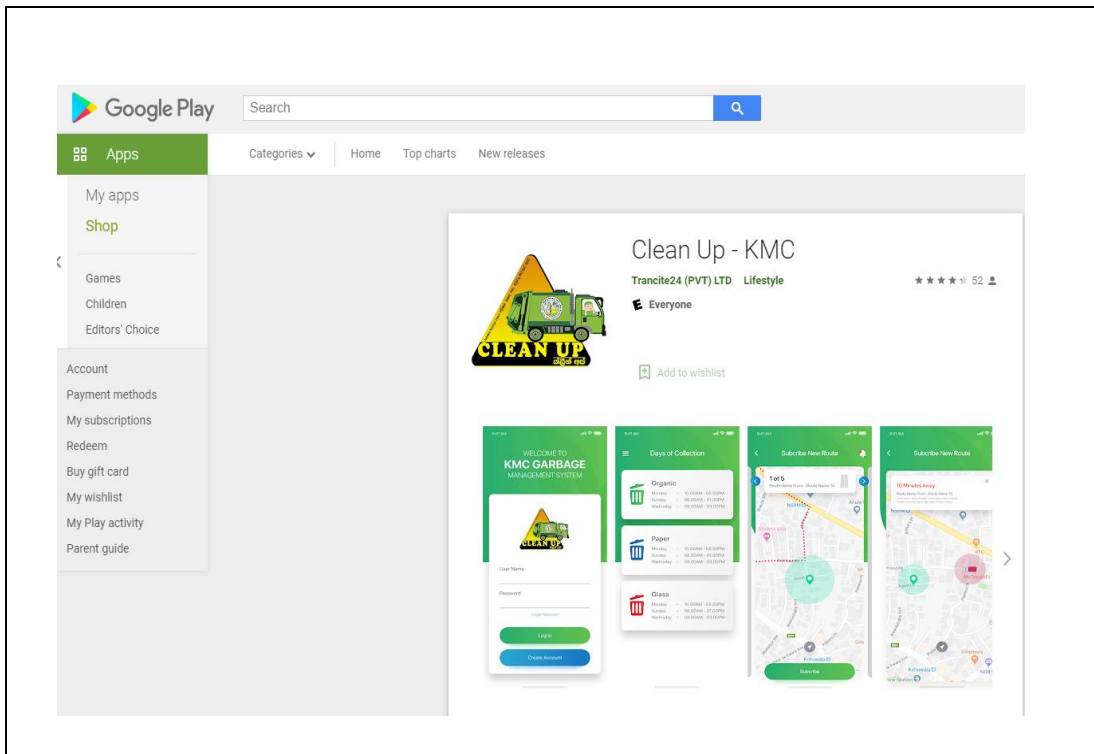
Figure 4.16: Waste collection app of the Kaduwela Municipal Council

Source: Transcite24 (PVT) LTD, (2020)

The availability of resources determined the frequency of waste collection and the areas covered by LGs' waste collection services (Fernando, 2019), pradeshiya sabhas in particular, were very limited in their waste collection services due to resource shortages.

### 4.7.3   Segregation of collected waste by LGs

In many LGs, after unloading collected waste at the waste transfer area (Figure 4.18), labourers manually segregated non-degradable items into various categories, such as metal and glass. Figure 4.18 shows unloaded, mixed non-degradable waste, including plastic, fabric, and polythene at Kaduwela Municipal Council's waste yard.

Local governments used segregated waste in different ways, with some selling it to intermediate collectors or recyclers. After bailing, some would deliver soft plastic and polythene to cement factories for incineration (Jayathilake et al., 2020). Many LGs were

reluctant to segregate collected recyclable waste and dispose of it at open dumpsites (Jayasinghe et al., 2019). In contrast, private collectors/recyclers sorted the recyclable waste at some dumpsites using hired workers. In addition, some people who were not associated with public or private institutions were engaged in waste sorting at dumpsites for their livelihood (Musthapha, 2017).
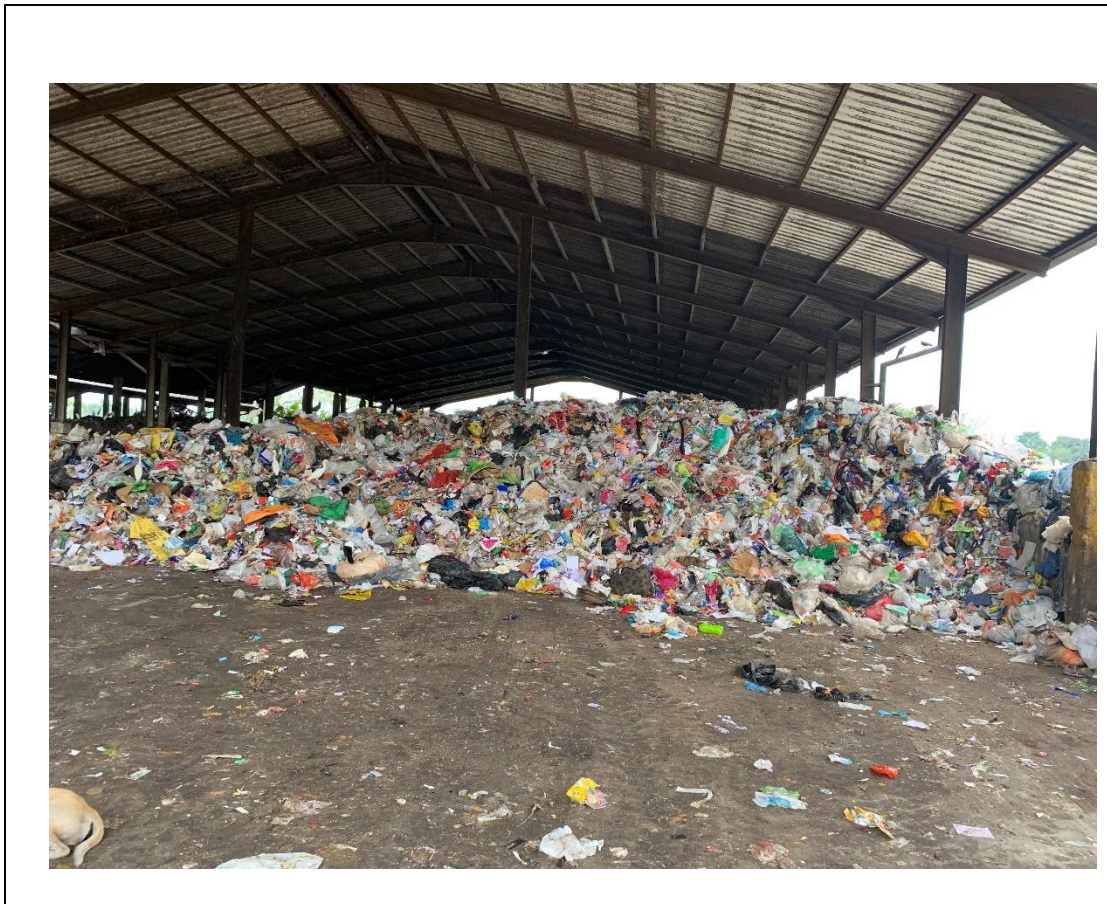


Figure 4.17: Unloaded non-degradable waste for further segregation at the Kaduwela Municipal Council's waste yard

Source: Researcher, 18th December 2019, at 10.18 a.m.

Although further segregation of waste was a LG responsibility, it was challenging for LGs because most did not have sufficient human resources to undertake such labour-intensive work. Therefore, although recyclable waste was in demand from the recycling sector, most

LGs disposed of recyclable items as mixed waste at open dumpsites (Jayathilake et al., 2020).

### 4.7.4 Treatment and final disposal of collected waste by LGs

Figure 4.19 shows compost manufacturing using collected degradable waste at the Kaduwela Municipal Council waste yard, while Figure 4.20 depicts manufactured compost at the Ambalangoda Pradeshiya Sabha waste yard.
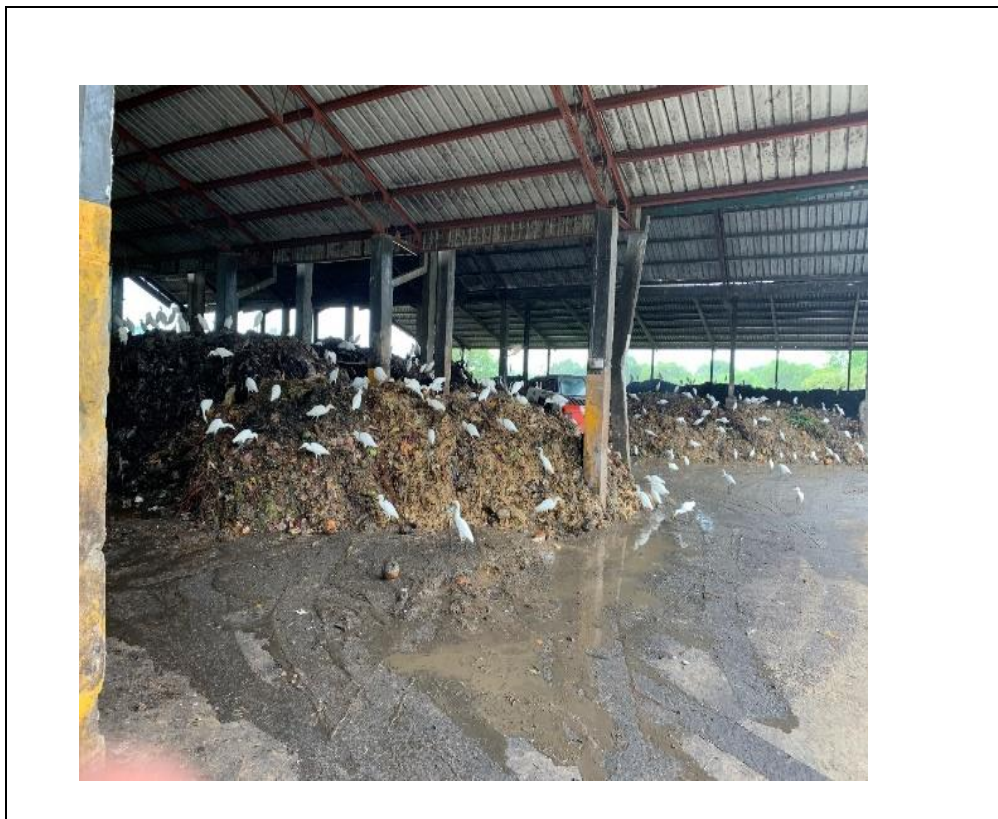


Figure 4.18: Compost manufacturing using collected waste at the Kaduwela Municipal Council's waste yard

Source: Researcher, December 18, 2019 at 10.10 a.m.

Figure 4.19: Manufactured compost at the Ambalangoda Pradeshiya Sabha waste yard

Source: Researcher, December 30, 2019 at 12.49 p.m.

Many LGs were unable to use waste as resources for a few reasons, including lack of infrastructure and facilities (Fernando, 2019). Therefore, a large volume of collected waste was disposed of at open dumpsites (Figure 4.21).

Disposal of waste at open dumpsites was a costly process for LGs, as they needed to outsource soil, chemicals, and machines to compress the waste. Therefore, they did not always follow national guidelines for final disposal (Herath, 2017).

Figure 4.20: Waste disposal at open dumping

Source: Researcher, 30th December 2019 at 12.43 p.m.

Contractors who operated waste transportation and final disposal should transport waste from the LG transfer area to the final disposal sites (open dumpsites),  However, many contractors did not follow such rules, and dumped their waste elsewhere; for example, into marshlands or granite quarries (Marikkar, 2017). Figure 4.22 shows paddy land (low land) filling by a private contractor using waste collected from the Kaduwela Municipal Council.

Figure 4.21: Waste dumping by a private contractor into a paddy field in Kaduwela

Source: Researcher, 18th December 2019 at 11.21 a.m.

Open dumping was a common practice, and a consequence of a lack of infrastructure for sustainable waste disposal, difficulties in further segregation, mixed waste provided by some waste generators, and a lack of networking between LGs and recyclers.

### 4.7.5 Conclusion – overview of MSWM operations at LGs

From waste collection to final disposal, LGs played a key role in MSWM in Sri Lanka. To achieve the 2007 NSWMP goals, some LGs introduced innovative programmes for MSWM, including occasional waste fairs for collecting recyclable items, but these were neither widely adopted nor sufficient solutions for limited waste collection services. An absence of waste collection services for most parts of the country led citizens to manage their own waste, often using illegal methods.

In practice, the private sector and NGOs made a small but significant contribution to MSWM activities. Although the private sector had greater capacity than LGs, the evidence shows that the government did not take steps to use this potential to resolve MSWM issues in Sri Lanka. Corrupt practices by politicians, and LG bureaucrats, and the private sector, lowered the quality of outsourced services.

## 4.8    CONCLUSION

This chapter has presented the legal and institutional complexity involved in MSWM, with a focus of the 2007 NSWMP and provisions, and practices of devolution for MSWM in Sri Lanka to provide the context to explain the implementation of the 2007 NSWMP. Although the 2007 NSWMP consisted of internationally recognised approaches and support through nationally viable strategies, three key factors hampered the implementation, rejection of accountability by political and administrative leaders, institutional and legal complexity at all levels of government, and issues in devolution, including the transfer of responsibilities to sub-national governments without allocating adequate resources.

In Sri Lanka, MSWM has been dominated by a complex array of institutional and legal arrangements across three tiers of government, with a lack of clarity on roles, responsibilities, and power. Furthermore, the Sri Lankan MSWM system has been characterised by under-resourcing, institutional complexity, political interference in resource allocation, and lack of continuous political support and interest. Given this situation, an increasing waste stream and a lack of integration of private sector potential, the system has been in crisis for some time, leading to households adopting widespread maladaptive and unsustainable alternative solutions.

In order to understand the existing situation in MSWM operations, the next chapter presents participants' views on the effectiveness of current MSWM practices, and the challenges involved in the implementation of the 2007 NSWMP, gathered through semi-structured interviews and focus group (FG) discussions.

# Chapter 5: Effectiveness of Municipal Solid Waste Management Practices

## 5.1  INTRODUCTION

The previous chapter shows that the National Solid Waste Management Policies (NSWMP) in Sri Lanka are theoretically sound as those are compatible with globally accepted principles and nationally viable strategies. However, with several initiatives towards effective Municipal Solid Waste Management (MSWM), including use of four types of decentralisation (devolution, delegation, deconcentration, and privatisation), the document review revealed a gap between policy implementation theories and practices. A complex governance system led by involvement of various agencies and laws from different layers of the government and decentralisation issues, such as constitutional limitation on provincial law-making, and transfer the responsibilities and functions to Local Governments (LG) without allocation of adequate resources appear to be created negative influence on the policy implementation

The purpose of this thesis is not only to examine how and to what extent the different aspects of the 2007 NSWMP have been implemented, but also to determine which factors have affected its effectiveness. To this end, this chapter analyses the opinions of the study participants on the 2007 NSWMP, and their attitudes about the progress and failures of the MSWM in Sri Lanka (at the time of data collection in 2020).

Apart from this introduction, the chapter is divided into five thematic sections with pertinent sub-sections. In order to understand effects of actors' policy awareness on policy

implementation, the next section examines the participants' awareness of the 2007 NSWMP in light of their responses. The third section presents the participants' evaluation of the current waste management practises in Sri Lanka to comprehend how far success the MSWM operations in Sri Lanka. Forth section discuss the reasons for the participants' evaluation of the efficacy of the current MSWM practices and potential alternatives for strengthening MSWM tasks going forward. Sections five and six present the participants' opinions on the strengths and weakness of the 2007 NSWMP respectively. These two sections facilitate to determine the extent to which the policy is suitable for addressing the MSWM challenges at the local level.  The chapter ends with a summary and emphasis for chapter six.

## 5.2  PARTICIPANT AWARENESS OF THE 2007 NSWMP AND ITS INFLUENCE ON POLICY IMPLEMENTATION

The participants in this study were asked about their awareness of the 2007 NSWMP (see Appendix 3.4 for a copy of the interview schedules). This section outlines the participants' opinions about how an understanding of policy by bureaucratic and political leaders at all levels of government' influenced the effectiveness of MSWM practices in Sri Lanka.

### 5.2.1  Participants' awareness of the 2007 NSWMP

Of the total sample, 63 per cent (n = 29/46) were unaware of the 2007 NSWMP. This included 60 per cent (n = 18/30) of interviewees and 69 per cent (n = 11/16) of focus group (FG) participants (Figure 5.1). Of all the tiers of government, the LG participants had less awareness of the 2007 NSWMP than participants from either provincial councils or Central Government (Figure 5.2). This was an expected result because, although participants from

the public sector were engaged in MSWM activities, most other employees, apart from LG

decision-makers (mayors, and chairpersons) and street-level bureaucrats (commissioners

and secretaries), were not required to understand the policy to perform their duties,

including waste collection.
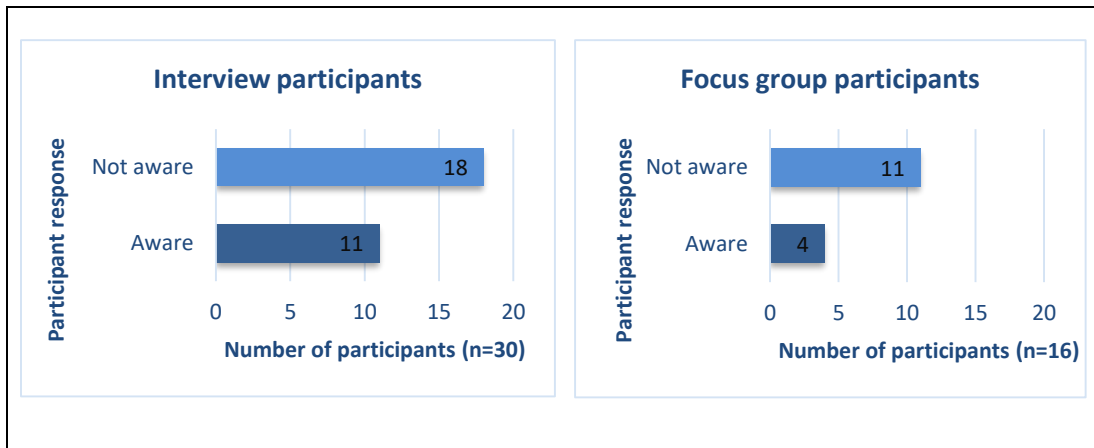


Note: one participant from each group did not respond
Figure 5.1: Comparison of participant opinion about the awareness of the 2007 NSWMP in Sri Lanka

Source: Field data collection, 2019/2020

Several participants highlighted three reasons why LG decision-makers and bureaucrats

had limited knowledge of the 2007 NSWMP. First, a copy of the 2007 NSWMP was not

publicly available; second, there was a lack of intervention by the Central Government and

provincial councils in relation to making LG decision-makers and bureaucrats aware; and

thirdly, there were poor levels of participation by LG decision-makers and bureaucrats in

policy awareness workshops organised by the Central Government.
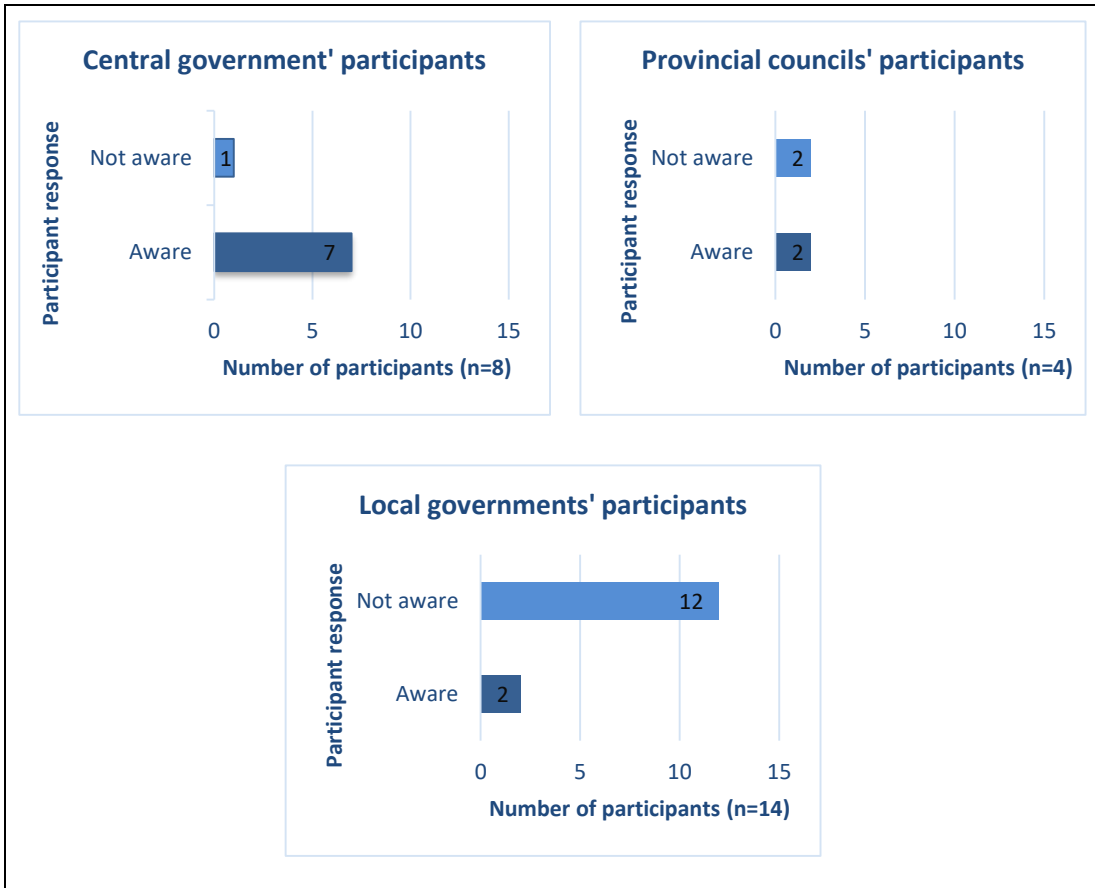
Figure 5.2: Comparison of the government actors' awareness of the 2007 NSWMP

Source: Field data collection, 2019/2020
Note: one provincial council participant did not respond

As some participants stated, all government institutions are supposed to display relevant policy and other information on their websites, but none of the ministries or agencies of the Central Government or provincial councils included the 2007 NSWMP on their digital platforms. This situation resulted in preventing them from easily finding the policy document:

*The waste management policy [the 2007 NSWMP] is not available on websites of either the Environmental Ministry or Central Environmental Authority. Since this policy document was published a long time ago, now it is hard to find [printed copies]. Therefore, many newly appointed officers of local government*

*are unable to understand the policy document* [ID CGPO06: Public Employee/ Central Government].

Although seminars and workshops were another way to inform LG decision-makers and bureaucrats about the 2007 NSWMP, according to some participants, the Central Government or provincial councils rarely conducted such events. Consequently, political leaders and bureaucrats were unable to get information about the policy:

> *Awareness programmes are conducted rarely on the [2007] waste management policy. As [LG] politicians are elected for only a few years, if they [the Central Government or provincial councils] do not organise an awareness programme, how can we gain such knowledge?* [ID LGKAPR01: Elected Public Representative/Local Government].

In contrast, some participants argued that although the Central Government attempted to disseminate information on the 2007 NSWMP among LG decision-makers and bureaucrats, via workshops and seminars, there was a lack of participation in these events:

> *Many workshops and seminars are conducted to educate leaders of local authorities on waste management policy. But they are reluctant to participate in such events saying that it is useless, because the leaders of the local authorities think that they themselves have sufficient knowledge of waste management and the policy* [ID CGPR01: Elected Public Representative/Central Government].

A few participants from the Central Government and LGs revealed two reasons for not participating in these Central Government workshops or seminars. First, the political leaders believed that they themselves sufficiently understood the 2007 NSWMP. Second,

political and bureaucratic leaders considered that participation in policy awareness programmes was ineffective without adequate resources for LGs to provide MSWM services. Even where LGs political leaders were aware of the policy, without adequate resources, they could not implement it:

> *When organising awareness programmes, sometimes they [political leaders of LGs] question us [Central Government] about the benefits of participating in [educational programme] without having resources to implement the policy at the local-level* [ID CGPR04: Public Employee/ Central Government].

As implied by the participants' opinions, the limited involvement of the Central Government had a substantial impact on the inadequate policy awareness of LG decision-makers and street-level bureaucrats.

### 5.2.2 Effects of decision-makers' knowledge on the 2007 NSWMP for policy implementation

The research findings revealed that the limited understanding of the 2007 NSWMP by decision-makers, at all levels of government had an adverse impact on MSWM activities. As several participants highlighted, the decision-makers' limited understanding resulted in zero, or inadequate, budget allocations, and rejection of approvals for MSWM programmes and project activities, such as waste reduction.

A few participants noted that the Central Government's institutions, particularly the Ministry of Finance and the Treasury, played a significant role in allocating finance for MSWM through the national budget. However, according to CGPR01 and CGPO05,

decision-makers at all levels of government *'[gave] MSWM lower priority'* because they had little understanding of the importance of implementing the 2007 NSWMP:

> *Budget allocation at all levels of government is highly challenging. Nobody considers waste management as an important subject, even the finance minister or officers in the finance ministry [of the Central Government] do not understand the importance … One of the most critical issues affecting waste management in Sri Lanka is whether the heads of local governments as well as other institutions have any knowledge on the policy* [ID CGPR01: Elected Public Representative/ Central Government].

According to several participants, LG decision-makers (mayors and chairpersons) and bureaucrats (municipal commissioners and secretaries of urban councils and pradeshiya sabhas) were responsible for planning, directing, budgeting, and monitoring MSWM at the local-level. Therefore, a working knowledge of the 2007 NSWMP was essential for them to make decisions and successfully implement its objectives. However, the following statements from participants demonstrate that not all LG bureaucrats and decision-makers understood the 2007 NSWMP and that this imposed challenges on the implementation of some policy provisions:

> *The chairman or the secretary of the pradeshiya sabhawa does not understand the waste management policy. According to their knowledge, waste management is only collect and dump waste in open dumpsites. Therefore, it is hard to get their approval or support for other aspects of the policy* [ID LGABPO05: Public Employee/Local Government].

This statement shows that the limited knowledge of LG decision-makers and bureaucrats of the 2007 NSWMP.

> *The pradeshiya sabhawa can plan and initiate several low-cost projects to sustainable municipal waste management. For example, waste reduction programmes. But our higher authorities [chairperson and the secretary] do not understand waste reduction as a policy component. Therefore, though we suggested such programmes, the political leaders of the local authority do not allow us to do it* [ID LGABPO03: Public Employee/Local Government].

### 5.2.3    Conclusion – participants' awareness of the 2007 NSWMP

Interviewees and FG participants' most commonly mentioned challenges were the limited budget allocations for MSWM at all levels of government, and the low priority given by LGs to implementing important aspects of the 2007 NSWMP, such as waste reduction.

### 5.3    PARTICIPANTS EVALUATION ON CURRENT WASTE MANAGEMENT PRACTICES IN SRI LANKA

Participants were asked about the effectiveness of MSWM in Sri Lanka (in 2019/20) and to give reasons for their answers (see the interview schedule in Appendix 3.4). This section presents the participants' ratings of the effectiveness of current MSWM practices, and the reasons provided for their ratings.

Of the total sample, 80 per cent (n = 37/46) of responses rated current MSWM practices as either 'very ineffective or ineffective'. This consisted of 87 per cent (n = 26/30) of interviewees and 69 per cent (n = 11/16) of FG participants (Figure 5.3).

**Interview participants**

Participant opinion

| | |
|---|---|
| Very ineffective | 15 |
| Ineffective | 11 |
| Neutral | 2 |
| Effective | 2 |
| Very effective | |

Number of participants (n=30)

**Focus group participants**

Participant opinion

| | |
|---|---|
| Very ineffective | 6 |
| Ineffective | 5 |
| Neutral | 3 |
| Effective | |
| Very effective | |

Number of participants (n=14)
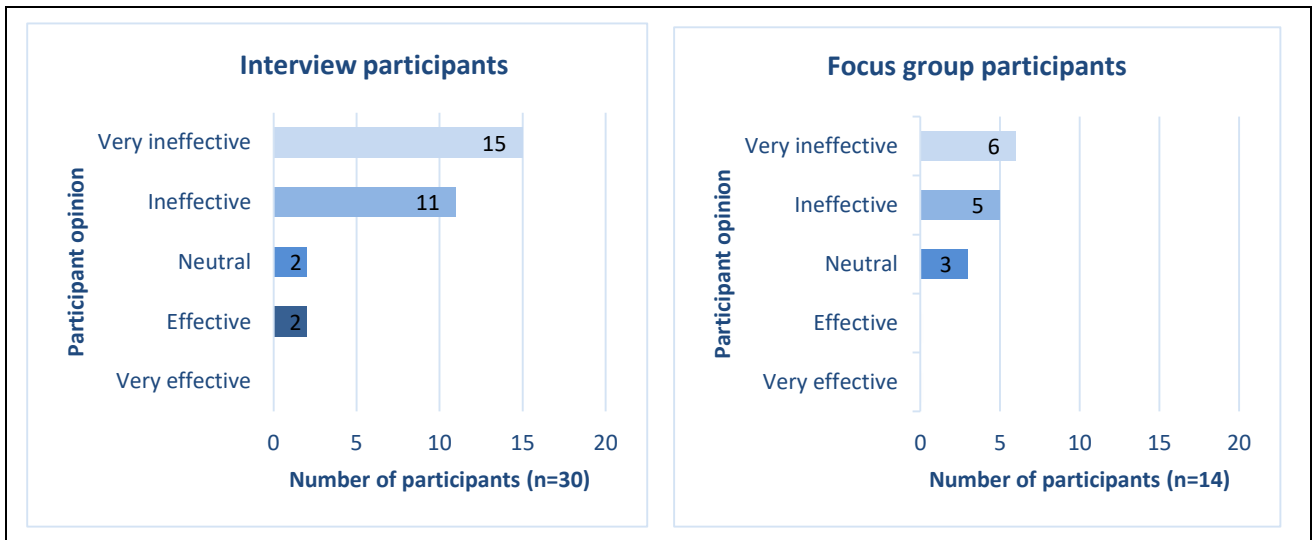
Figure 5.3: Comparison of interview and focus group participant opinions about the effectiveness of MSWM in Sri Lanka

Source: Field data collection, 2019/2020
Note: two FG participants did not responds to the question.

As depicted in Figure 5.4, interview participants from all groups, including government and non-government interviewees, were critical of MSWM practices. Only a few government interviewees thought there had been progress.
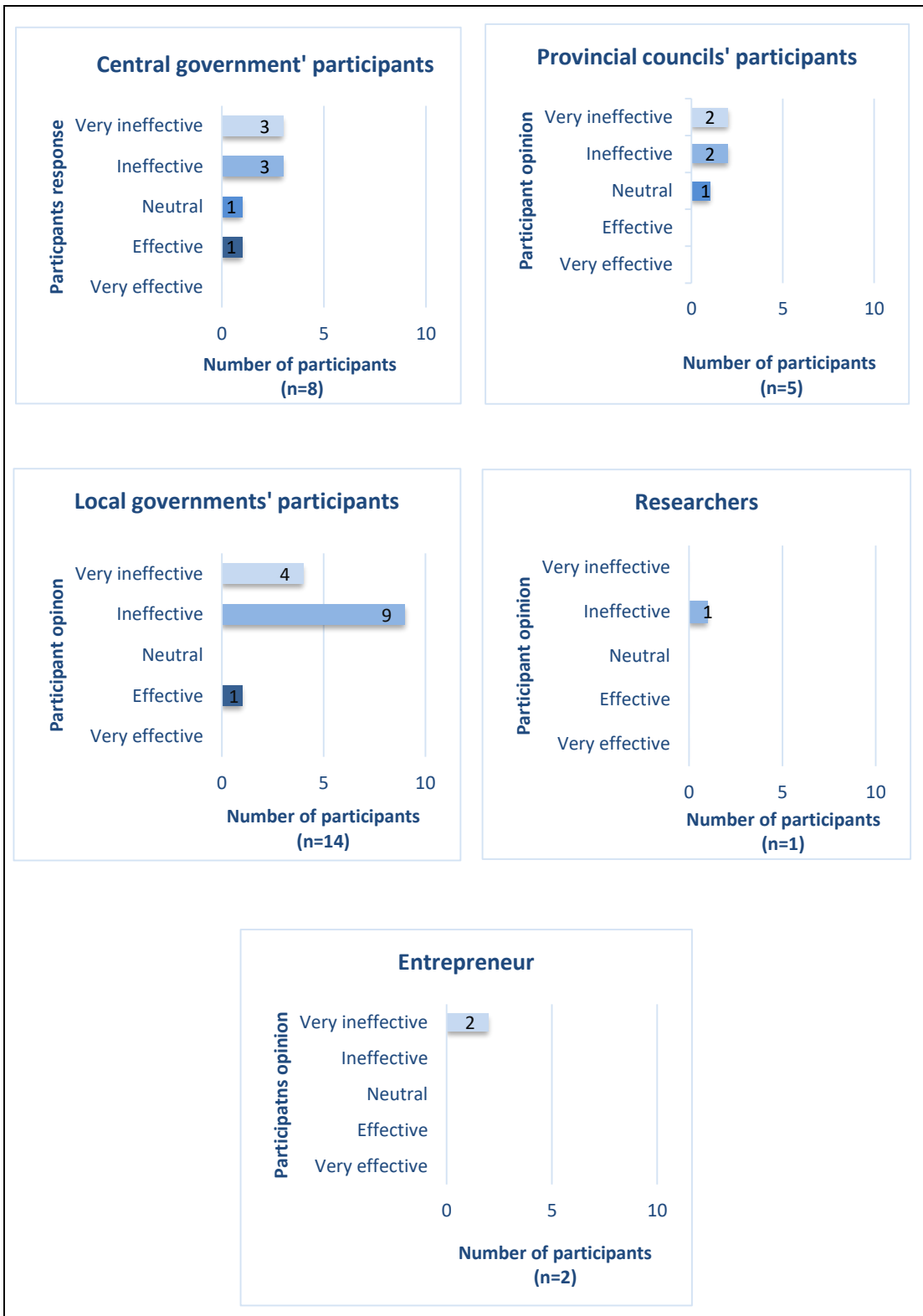
Figure 5.4: Comparison of interview participants' opinions on the effectiveness of MSWM in Sri Lanka
Source: Field data collection, 2019/2020

## 5.4 REASONS FOR PARTICIPANTS' EVALUATION OF EFFECTIVENESS OF CURRENT MSWM PRACTICES

The participants reasons for their evaluation of MSWM operations are presented under four themes. The first theme discusses evidence for the success and failure of current MSWM practices, while the rest of the themes outline LGs' MSWM operational challenges, the inadequate cooperation of the private sector and the public, and the challenges involved in recycling. The participants' suggestions for improvements to current MSWM practices are also discussed in this section.

### 5.4.1 Evidence of the success and failure of current MSWM practices in Sri Lanka

The key evidence cited by some participants for the progress of MSWM was the expansion of LG waste collection areas. Some LGs, such as the Kaduwela Municipal Council, expanded their door-to-door waste collection areas over the last decade:

> Only a limited number of households and firms were included in waste collection services a decade ago. The Kaduwela Municipal Council currently provides its waste collection services to 80 per cent of the households [ID LGKAPO04: Public Employee/Local Government].

***Progress in the MSWM operational system***

The Central Government initiative to establish large-scale infrastructure for resource recovery and composting was the reason participants thought that progress had been achieved in the current MSWM operational system compared with the previous decade. As revealed by a few participants, the Central Government established nine large-scale composting projects in different locations:

> *We have established nine mega-scale compost yards in the Central, North Central, North-Western, Eastern, Northern, Southern and Sabaragamuwa provinces* [ID CGPO03: Public Employee/Central Government].

These projects included machines for composting, weighbridges, buildings, and other required facilities which were unavailable for MSWM in most LGs.

Three public-private partnership agreements signed by the Central Government and the private sector to establish mega-scale waste-to-energy projects were another example cited as evidence of improvement in MSWM:

> *The Western Power Project in Muthurajawela is planned to be in operation by March 2020 by adding 11.5 megawatts to national grid capacity. The project is expected to use 500-700 metric tons of collected waste from Colombo Municipal Council daily* [ID CGPO03: Public Employee/Central Government].

Another example provided by some participants to illustrate progress was the construction of the Aruwakkalu and Dompe sanitary landfills, although the Aruwakkaru project had not been completed by the end of 2019:

> *Colombo Municipal Council aims to reduce up to 60 per cent of open dumping via the Aruwakkalu project. However, the Aruwakkalu project is not completed yet [at the end of December 2019]* [ID PCPO01: Public Employee/Provincial Council].

Implementing innovative programmes, including digital apps and waste fairs introduced by several LGs, are cited as evidence of progress by a number of participants. Evidence for the introduction of innovative programmes was limited to some LGs in the Western Province. According to some participants, several LGs introduced digital apps for their waste collection service. As the apps provide navigation facilities, the citizens knew the arrival

time of the vehicle for picking up waste, and the municipal council could monitor whether the vehicles had covered the scheduled routes. Furthermore, as the apps contained free communication facilities between the customers and the LG, if the citizens had any grievances, they could complain directly to the relevant officers. Therefore, the digital apps for waste collection services helped to maintain, to some extent, the efficiency and effectiveness of the waste collection services.

> *Since our 'Clean Up app' facilitates to navigate waste collection vehicles, both the municipal council and the app users' can track the vehicle. We [council] can directly communicate with the citizens if council has any special notice. The citizens also can communicate with responsible officers directly* [ID LGKAPO04: Public Employee/Local Government].

> *As explained by a few provincial council participants, waste fairs were introduced by the Western Provincial Solid Waste Management Authority to achieve the 2007 NSWMP objectives on sustainable MSWM and to provide an alternative to supplement LGs' financial limitations through selling collected waste items:Waste fairs are an innovative programme introduced by the Western Provincial Solid Waste Management Authority to encourage recyclable waste collection, promote waste reduction, and increase local governments fund through waste* [ID PCPO01: Public Employee/Provincial Council].

Most LGs in Western Province frequently conducted waste fairs at the village level. During 2018/19, the Kaduwela Municipal Council collected around 50,000 kg of recyclable waste through 18 waste fairs. LGs played an intermediate role in waste fairs, because they bought recyclable items from the citizens and sold them to recyclers. This contributed to increases in municipal council's funds:

> I supposed that we had earned LKR 400,000.00 (AU$3,125.00 in 2019 price]
> each year by selling collected recyclable waste through waste fairs [ID
> LGKAPO03: Public Employee/Local Government].

### Evidence of the failure of MSWM in Sri Lanka

The increasing volume of uncollected waste, the limited LG waste collection services, open dumping, and the adverse impacts on humans and nature, together with abandoned programmes and projects, constitute the evidence provided by participants to explain the lack of effectiveness of the MSWM.

### Uncollected waste in public places and private properties in Sri Lanka

Uncollected waste in many parts of the country particularly in rural and semi-urban areas in Sri Lanka was a critical issue identified by many participants:

> *The amount added to the environment is probably higher than the amount*
> *collected by local authorities* [ID PCPO02: Public Employee/Provincial Council].

As many participants highlighted, people have been using roadsides, public places, waterways, isolated places, and unauthorised private properties to dump household garbage

> *Uncollected waste in public places is common in Sri Lanka, particularly in urban*
> *area. Even in a central point of cities, such as in front of shopping centres and*
> *bus halts you can see uncollected waste [ID FGW04: Focus Group Participant/*
> *Western Province].*

### Limited waste collection services of LGs

Most participants highlighted that the limited and poor quality of LG waste collection services had a negative impact on MSWM. Although the majority of the population lived in

rural areas, pradeshiya sabhas (rural councils) only supplied waste collection services at a minimal capacity; they did not offer region-wide services:

> *We [praseshiya sabhawa] supply waste collection services only for 5 to 10 per cent of households in the pradeshiya sabha area* [ID LGABPR02: Elected Public Representative/Local Government].

Due to the lack of availability of LG waste collection services at rural and in many semi-urban areas, the public tended to freely dispose of their waste in the environment through illegal dumping or burning:

> *All villages consist of 750 - 1,000 houses, but villagers do not have access to waste collection services. Uncollected waste in barren land, roadside, or private properties are common in this area, because people do not have an alternative other than illegal dumping* [ID FGS05: Focus Group Participant/Southern Province].

Several participants also identified contractors who received private sector waste disposal contracts as another contributor to improper waste disposal on public and private property. The limitations of LG waste collection services led to the outsourcing of private institutions' waste disposal, such as that of hotels:

> *Hotels and companies are contracting out their waste disposal and pay a lot for those lorries [contractors]. The contractor should dispose of waste at a [government approved] dumpsite* [ID LGABPO05: Public employee/Local Government].

However, many of them deposited waste into the open environment, in public places, including forests, and in reserved areas:

> *Contractors dump garbage in isolated places like reserved forest. A few months ago, we saw a lorry driver dump hotel waste in the Rangalla forest [a reserved mangrove forest]* [ID LGABPO05: Public employee/Local Government].

Many participants stated that LG waste collection services functioned poorly, e.g., most LGs collected and transported garbage using open vehicles. Thus, it was common for waste to fall onto roads producing a foul odour during the transportation of days-old kitchen waste:

> *None of the local governments collect garbage using closed vehicles. Local governments transport garbage in a completely open manner. Very unpleasant, and the stench is high* [ID PCPR02: Elected Public Representative/Provincial Council].

Lack of adherence to safety methods in waste collection and transportation in most LGs, resulted in negative impacts on the health and safety of the public and waste handlers.

***Increased open dumping by LGs***

A few participants revealed that LGs operated approximately 350 garbage dumps across the country. As explained by some participants, the lack of recycling and sanitary landfilling facilities by LGs was a key reason for the increasing number and size of open dumpsites.

Some waste generators providing mixed waste to LG waste collection services was another reason highlighted by several participants for the increase in open dumping. As

segregation and cleaning of mixed waste are expensive and labour-intensive tasks, the handling of mixed waste was not cost-effective for LGs:

> *The benefits are minimal compared to the money spent for mixed waste recycling. For example, recycling of lunch sheets or polythene with food waste is not cost-effective* [ID CGPO05: Public Employee/Central Government].

Therefore, LGs preferred to put mixed waste into open dumpsites which have been expanding in recent years:

> *If people provide mixed waste, we dump it our dumpsite, because effort to separate mixed waste is unpleasant and enormous. Consequently, dumpsites have grown year by year by making trouble* [ID LGABPO01: Public Employee/Local Government].

Due to poor maintenance of composting infrastructure LGs were reverting to open dumpsites.

> *We have a lot of failed experiences. For example, Rathgama Monrovia Watta [compost] project implemented under the Pilisaru Project. After a few years of operation, now it is more likely to be an open dumpsite* [ID PCPO02: Public Employee/Provincial Council].

According to some participants, this situation occurs at many compost yards in Sri Lanka.

### *Adverse impacts of open dumping on humans and nature*

Participants outlined many adverse impacts of open dumping, including threats to human lives, livelihoods, health, and the environment. Many participants repeatedly cited violations of the rights to life and property as adverse impacts of open dumping. A good

example of this was the collapse of the Meethotamulla open dumpsite in 2017 which cost people their lives and damaged their properties:

> *We could not manage or stop dumping at Meethotamulla dumpsite until it collapsed in 2017 killing more than thirty people* [ID CGPR01: Elected Public Representative/Central Government].

Karadiyana in Colombo district and Gohagoda in Kandy district were further examples cited by some participants for the destruction of private property by open dumping.

Some participants stated that LG open dumpsites resulted in many environmental and socio-economic issues, e.g., due to spring water pollution, residents in surrounding areas faced challenges finding clean water for their daily activities. Water and soil pollution in the surrounding lowlands, the loss of livelihood activities including paddy farming and animal husbandry by people in the neighbouring areas, were further consequences of open dumping:

> *People can't live in houses because the stench [of waste] blows for miles. Well-water is polluted and could not be used. Birds pick up litter and dump it in wells and everywhere. Also, paddy fields in the area cannot be cultivated due to problems caused by dumpsites* [ID PCPRS02: Elected Public Representative/ Provincial Council].

The hindrance of school education and harm to children's health were other social consequences of open dumping. As further explained by a Central Government participant (CGPR01), as some LGs maintained their dumpsites near schools, so students suffered from infectious illnesses, including skin diseases and diarrhoea. This example demonstrates that

although the *Environmental Act No. 47 of 1980* emphasised ecological and public safety in MSWM, LGs were reluctant to follow such laws when operating MSWM activities.

### Abandoned MSWM projects

From the 1990s, the Central Government commenced a range of projects to attempt to resolve MSWM issues in Sri Lanka. These included setting up infrastructure for composting, biogas, and waste-to-energy projects. Many of these projects were abandoned after some time; therefore, several participants identified this issue as evidence for the 'ineffectiveness' of MSWM.

> The Environmental Action Plan-I project is such an example. During 1995-1998, this project was implemented with the financial support of the Norwegian Agency for Development Cooperation (NORAD):
>
> > *The success of the NORAD project was 30 per cent [in early 2000]. They constructed 130 compost yards...Not a single project is operating currently* [ID CGPO06: Public Employee/Central Government].

Some of the abandoned components of the Pilisaru project, which was implemented by the Central Environmental Authority, is another example:

> *They had an exciting programe called 'Pilisaru Pasal' [school club programme]. It went very well in the first year. But, from the second year, it was forgotten…. The reason was the Minister, and the original director were transferred, and new persons were appointed for the positions. The new director focused only on constructing compost plants* [ID R01: Researcher].

The Central Government abandoned many projects. As participants explained, these attempts failed owing to political meddling, corruption, public protests, and poor management practices. These issues are discussed in Chapter Six.

### 5.4.2   Effects of MSWM operational system challenges on MSWM operations

In this research, MSWM operational system challenges refers to the institutional and practical limitations of LGs. The institutional limitations include a lack of leadership. The practical limitations consisted of a lack of facilities, including staff, vehicles, machines, funds, and equipment insufficient infrastructure for recycling and resource recovery, lack of landfill sites, and inadequate public bins required for local-level waste management.

Eighty-three per cent (n = 38) of respondents identified MSWM operational system challenges as a critical factor influencing the failure of current MSWM operations. This consisted of 90 per cent (n = 27/30) of interviewees, and 69 per cent (n = 11/16) of FG participants.

***Effects of MSWM operational system challenges on the 2007 NSWMP implementation***

Participant opinions on the challenges of the MSWM operational system are analysed under five themes, including lack of specific leadership, the shortage of human resources, inadequate funds, limited physical resources, and limited infrastructure for resource recovery.

### Challenges of the lack of availability of leadership for MSWM in LG

Some participants revealed that, apart from for Colombo Municipal Council, LGs did not have a particular officer/position, such as a director, specifically responsible for MSWM and this was a key reason for the failure of current MSWM activities:

> *Local governments do not have any specific officials for waste management. Hence, local government officers' direct involvement and responsibilities on waste management are minimal* [ID CGPO06: Public Employee/Central Government].

Therefore, health overseers and public health inspectors in municipal and urban councils and a management assistant in the pradeshiya sabhas oversaw and directed the day-to-day activities of MSWM. Overall responsibility rested with the Municipal Commissioner or the Secretary of Urban Councils and Pradeshiya Sabhas in addition to a range of other responsibilities, but according to some participants, these executives did not have technical knowledge of MSWM.

Therefore, some activities may not have been completed or may have been delayed, such as providing guidance or devising solutions for day-to-day issues in MSWM.

### Challenges of inadequate LG staff for MSWM operations

A lack of LG human resources was a critical factor influencing effective MSWM. The research findings revealed that, although a few municipal councils, such as the Kaduwela Municipal Council, had excess labour for MSWM, most LGs particularly pradeshiya sabhas, suffered from inadequate human resources for several reasons. The lack of availability of

substitute workers and casual workers not continuing their work were the key challenges. A few participants revealed that operating mega-scale resource recovery projects was highly challenging due to a lack of professionals.

The Central Government and provincial councils controlled LG staffing in two ways: not granting approval to fill vacancies in the approved cadre and not allowing an increase in the number of labourer positions. The labour shortage for MSWM at the local-level is provided as an example of the complexity and dysfunction of governance:

> *We required more workers to handle waste. But the [Central] Government is not*
> *allowed to increase the number of employees of LGs. We must receive approval*
> *from the provincial council and the [Central] Government to fill vacancies even*
> *in approved cadre. Extremely hard to get such approval. We need 6 -7 workers*
> *for the compost yard, but we have only four workers there* [ID LGABPO03: Public
> Employee/Local Government].

As some participants stated, even if LGs hired casual workers, retention was challenging due to low salaries and the health conditions created by the unhygienic working environment. Labourers received around LKR 750 (AU$6 in 2019 prices) per day from LGs, but their wages were around LKR 1500-2000 (AU$12-14) when they worked outside other jobs. Therefore, labourers frequently worked other jobs:

> *Waste labourers take off their leave and go elsewhere for a day's pay work that*
> *brings a higher income* [ID LGABPO05: Public Employee/Local Government].

Long hours and unpleasant and unhygienic environments, resulting in health issues:

> *After 6 - 7 pm, it is hard to do any work. Feel swelling of eyes, sleepy, and tired.*
>
> *I always feel like vomiting because I work the entire day with this unpleasant*
>
> *smell and dirty things* [ID LGABPO01: Public Employee/Local Government].

Pointing out the seriousness of the issue, a provincial participant (PCPO02) provided an example of the labour shortage in MSWM:

> *Though we recruited 22 casual labourers for the Monrovia Watta waste disposal*
>
> *unit [in Southern Province], only three persons reported for duty after a few*
>
> *months* [ID PCPO02: Public Employee/Provincial Council].

***Challenges of the lack of availability of qualified professionals for resource recovery***

A lack of qualified professionals for sanitary landfilling affects MSWM. At the end of 2019 (the time of the field work), many vacancies had not been filled:

> *There are no people in Sri Lanka who have studied or have experience in sanitary*
>
> *waste disposal …They have not been able to find qualified candidates to handle*
>
> *the* subject yet [ID CGPO05: Public Employee/Central Government].

The Central Government had employed unqualified people to operate sanitary landfilling projects, leading to dangerous outcomes. For example, according to a Central Government participant (CGPO02), employees' poor knowledge and experience caused an explosion in the Aruwakkalu project in October 2019.

Several participants acknowledged that pradeshiya sabhas had no employees with technical knowledge about MSWM:

> *Pradeshiya sabha does not have any officer who knows waste management* [ID
>
> LGABPO05: Public Employee/Local Government].

Pradeshiya sabhas tended to assign MSWM duties to their Environmental Officers (Management Assistants), who did not have the necessary technical knowledge to operate MSWM. One example was that the Environmental Officer in Ambalangoda Pradeshiya Sabhawa, who was handling MSWM activities, was a history graduate who did not have any technical training to handle waste management. As a result, these officers would order labourers to maintain daily waste collection and composting, but if there were any issues, they were unable to devise solutions.

***Challenges of inadequate funds for MSWM operations***

Another practical limitation revealed by many participants was the financial constraints of LGs. The inadequate income of LGs and delays by the Central Government and provincial councils in distributing funds were the reasons for the financial deficits of LGs. Although LGs had income, it was insufficient to support their MSWM systems, particularly the pradeshiya sabhas:

> *We [Ambalangoda Pradeshiya Sabhawa] don't have the financial strength to buy new machines* [ID LGABPR02: Elected Public Representative/Local Government].

Another example of governance challenges is revealed about funding protocols for MSWM. Several participants revealed that the primary revenue sources of LGs, such as stamp duties, were collected and distributed by the relevant provincial councils. The collected revenue should have been distributed among LGs within two years of collection, but many provincial councils were not distributing it within this time-frame. For example, Ambalangoda Pradeshiya Sabhawa collected stamp duty each year from 2015 to 2019 and

earned LKR90 million (AU$725,806 in 2019 prices). The income was not released until January 2020 by the Southern Provincial Council:

> *After four years, the pradeshiya sabhawa received only LKR2 million (AU$16,129) in December 2019. It is not sufficient to pay even our utility bills* [ID LGABPR02: Elected Public Representative/Local Government].

The Central Government and provincial councils allocated grants for LGs for MSWM, but many participants said these grants were insufficient to undertake MSWM effectively. Some participants provided reasons for this inadequate financial allocation for MSWM, such as:

i)   lack of knowledge of waste issues by authority figures who prepared national budgets:

> *The main factor influencing this issue [lack of fund] is the Minister of Finance and other officers involved in budget preparation do not have a clear understanding or knowledge about the waste issue* [ID CGPR01: Elected Public Representative/Central Government].

and:

ii)   competition among various matters, including health, poverty alleviation and waste management on limited funds:

> *When everyone [ministries] competes for a small budget, garbage goes under, and other needs (public security, health etc.) arise* [ID CGPO05: Public Employee/Central Government].

***Challenges of inadequate physical resources for MSWM operations**

Lack of vehicles to collect waste and machines to manufacture compost or crush/recycle non-degradable waste was another practical challenge identified by many interview participants:

> *Except for a few, all local authorities lack vehicles to collect waste and suitable machines for producing compost* [ID R01: Researcher].

Some participants thought after waste reduction that reuse and recycling were the most appropriate MSWM methods. However, a provincial public employee [ID PCPO02] revealed that provincial councils did not even focus on recycling as they *'[did] not have capacity'*.

Many LGs started to manufacture compost using perishable waste but lacked the required machines to do the work. Some LGs, such as Ambalangoda Pradeshiya Sabhawa, had machines with outdated technology which broke down frequently. Therefore, LGs could not manage waste efficiently:

> *We have a large quantity of waste to crush, but we can't do it using the old machines, that we received in 2007. At least once a week, something is wrong with this machine … Using this machine, we can't sift at least 100kg of compost per day, but a new machine with modern technology can sift 100kg within a few minutes* [ID LGABPO03: Public Employee/Local Government].

The opinions of most of the participants indicated that the inadequate physical resources of LGs substantially influenced the disposal of collected waste at open dumpsites.

### *Challenges of inadequate infrastructure for final disposal*

Interview participants agreed that LGs did not have adequate infrastructure facilities for final waste disposal, including sanitary landfills, waste recovery systems, or suitable land for dumping. Instead, LGs dumped their collected waste in environmentally sensitive areas, including paddy lands, bogs, river basins, and forest reserves:

> *Local Governments mainly select paddy lands (lowlands) or marshlands to dump collected waste because they do not have either infrastructure for resource recovery or suitable land for waste dumping* [ID LGABPR02: Elected Public Representative/Local Government].

A recent example cited by a few participants for dumping LGs' collected waste into an environmentally sensitive area was the Colombo Municipal Council's decision to dump collected waste in Muthurajawela marsh-lagoon. Evidence provided by some of the research participants suggested that the challenges of the MSWM operational system had an adverse impact in a range of areas, including on humans and the environment. Furthermore, a common view of both interviewees and FG participants was that the lack of prioritisation of MSWM at all levels of government created significant challenges to achieving the targets set in the 2007 NSWMP.

### *Resolving LG MSWM operational system challenges*

The most common suggestions for resolving MSWM operational system challenges were capacity building of LGs, and establishing a waste management unit in every LG area. A few participants also suggested to empower waste workers.

Increasing the capacity building of LGs, included infrastructure development for waste recovery and allocating more resources for MSWM operations. These resources would include ensuring sufficient staff, enough vehicles, enough machinery for composting and recycling, and suitable land for waste dumping:

> *Government or provincial council should provide required facilities, such as land, machinery, and vehicles* [ID LGABPO 04: Public Employee/Local Government].

As LG waste collection services frequently suffered from vehicle breakdowns, one participant (R01) proposed:

> *Establishing a vehicle repair shop and maintaining a few extra vehicles per district as a solution to urgent vehicle requirements of LGs* [ID R01: Researcher].

Considering the limited infrastructure for resource recovery some participants proposed the establishment of large-scale projects under the public-private partnership model to reduce open dumping, while increasing composting and energy recovery:

> *Large-scale projects must be established if [the government] want to reduce open dumping* [ID PCPO01: Public Employee/Provincial Council].

Several participants also suggested establishing a separate division for MSWM in every LG, and appointing a qualified person as a Division Director. A Central Government participant (CGPO06) stated that the proposed director should have dual accountability for both the Central Government and LGs:

> *Every local government should have a separate department or division for waste management. This division should be headed by a qualified director who is*

*responsible for national-level institutions and the local government* [ID CGPO06:

Public Employee/Central Government].

Empowerment of workers was another recommendation. This would include improving

health and hygiene facilities in the workplace, changes to remove the existing social gap

through providing attractive uniforms, and introducing more socially respectable titles for

their roles:

*A system should be put in place to reduce the existing social gap [of waste*

*workers] as much as possible* [ID CGPO05: Public Employee/Central

Government].

### 5.4.3 Effects of private sector and citizens' cooperation on the implementation of the 2007 NSWMP

Some participants stated that citizens and the private sector were cooperating on MSWM

by handing over segregated waste and contributing to the reduction of non-degradable

waste through changing their shopping behaviour. Many participants cited that improved

waste segregation practices by households and the private sector helped LG waste handlers

to perform their duties more efficiently:

*Compared to previous years, currently most people provide segregated waste.*

*Thus, it is easy to handle for composting and further segregation* [ID LGKAPO02:

Public Employee/Local Government].

As noted by a few respondents, changes in peoples' shopping behaviours and private sector

initiatives had positively affected MSWM. As a focus group participant [ID FGW05] further

explained, many people who live in urban areas used "environmentally-friendly reusable

bags and containers to pack purchased items like meat/fish to avoid non-degradable waste".

Some participants provided two examples of improvements in private sector support for MSWM, including the introduction of biodegradable bags by supermarkets and offering an incentive to customers to bring reusable bags bought from the supermarket. As a LG public employee [ID LGABPO05] highlighted, "these supermarkets reduced customer shopping bills by around LKR5 (AU$0.04 in 2019 price) per shopping event".

Although citizen and private sector cooperation for MSWM had been increasing, many participants identified that this support was insufficient to make MSWM effective. However, 61 per cent of participants (n = 28/46) thought that because of poor cooperation of the private sector MSWM was 'ineffective or very ineffective' at the time of data collection in 2019. Twenty-six per cent (n = 10/46) of all respondents stated that a lack of citizens' cooperation contributed to the failure of the current MSWM.

Participants commonly cited four reasons to explain the influence of a lack of private sector and citizen cooperation in MSWM operations in Sri Lanka. The release of high volumes of non-degradable waste by the private sector without contributing to the collection or management of it was the most highlighted reason given to demonstrate the limited support of the private sector. The volume of mixed waste provided by some private institutions and citizens to LG waste collection, avoidable waste volume releases into the environment, and unacceptable practices against projects were cited by some participants as challenges for effective MSWM.

***Limited support from the private sector for implementing the 2007 NSWMP***

Around 67 per cent (n = 20/30) of interviewees and 50 per cent (n = 8/16) of FG participants revealed that the lack of private sector cooperation had an adverse impact on MSWM.

Some participants identified two legal matters that limited support from the private sector for effective MSWM: the absence of laws to enforce private sector involvement in MSWM, and the Consumer Affairs Authority's decision to provide free grocery bags to customers. The lack of laws to regulate the collection of post-consumer plastic and polythene enabled the private sector to avoid their responsibilities, according to the participants:

> *We don't have a law to implement the polluter-pays principle. Therefore, most private companies are not involved in collecting or disposing of the [post-consumer recyclable] waste they release through their products* [ID PCPO01: Public Employee/Provincial Council].

Furthermore, some interviewees claimed that the Consumer Affairs Authority's decision to provide free grocery bags to customers resulted in a large volume of non-degradable single-use polythene from households being dumped into the environment, which could have been avoided:

> *When supermarkets and retail shops charge for grocery bags it helps to reduced quantity of single use polythene add in open dumps. However, this trend has changed with the decision of the Consumer Affairs Authority, which announced that receiving free grocery bag is a consumer right* [ID CGPO03: Public Employee/Central Government].

Several participants explained how such decisions affected local-level MSWM:

> *Every shop, even mobile sellers, offer single-use polythene bags to customers ... Thus, an average family (three to four people) may collect 100-150 bags per month. We do nothing with such polythene. We put those bags into day-to-day waste* [ID FGS07: Focus Group Participant/ Southern Province].

This evidence demonstrates that legal or policy decisions of Central Government institutions which did not have direct responsibility for MSWM, could possibly have a significant influence on local-level MSWM.

As participant (R01) explained, even when all methods of collection were utilised, only 30-35 per cent of the total volume of PET (polythylene terephthalate) bottles were collected in Sri Lanka:

> *Almost 65% or 70% [PET bottles] remain in the households and environment. And they [government or private sector] have no collection system to get their [waste from their product]* [ID R01: Researcher].

According to a few participants, large companies, such as those in the automobile, food, and beverage industries released high volumes of plastic and polythene into the environment as packaging materials without considering their collection:

> *A leading beverage company in Sri Lanka, xxxx produce 100,000-200,000 plastic soft drink bottles per day, without taking action to collect back* [ID CGPO05: Public Employee/Central Government].

As several participants highlighted, neither LGs nor private companies had a systematic method for collecting and reusing or recycling post-consumer plastic and polythene. This resulted in the free disposal of post-consumer waste into the environment:

> *We don't have any mechanism to collect post-consumer plastic and polythene. Sometimes mobile collectors are collecting waste. They only ask for paper, glass bottles, iron or steel, and broken hard plastic items. We put many things into the open environment* [ID FGS05: Focus Group Participant/Southern Province].

Furthermore, LG waste collection services were not designed to collect industrial and hazardous waste generated by large-scale enterprises, including hotels, factories, private health care centres, and laboratories. As a few participants explained, although some enterprises had been outsourcing their waste disposal, some had used LG collection services to dispose of inappropriate items along with general waste. For example, mixing hazardous items with Municipal Solid Waste (MSW) for collection by LGs was unacceptable, but some health care centres and laboratories did it:

> *Medical wastes [of private medical centres] are disposed of with general garbage through the pradeshiya sabha* [ID LGABPO05: Public Employee/Local Government].

The reason given for placing hazardous waste into LG waste collection services was the lack of availability of services to collect and dispose of such waste from the private sector:

> *Government agencies which are responsible for health waste disposal do not accept medical waste from private sector medical institutions even if paying money. Therefore, private health centres and laboratories give their medical*

> *waste to pradeshiya sabha collection service as general waste* [ID LGABPO 05:*
>
> Public Employee/Local Government].

Although the policy and laws emphasised only the collection of segregated waste, this was not successful.

### *Limited support from the citizens for implementing the 2007 NSWMP*

Around 25 per cent (n = 4/16) of the FG and 20 per cent (n = 6/30) of the interview participants stated that inadequate support from citizens was a reason for not reaching effective implementation of the 2007 NSWMP. Social values and cultural practices were cited by some interviewees and FG participants as reasons for the lack of cooperation from citizens. These reasons resulted in volumes of avoidable waste ending up in the environment, undermining the collection and segregation of waste, and ultimately, the failure of MSWM project implementation.

### *Limited support from the citizens – influence of social values*

As some respondents revealed, although nearly 50 per cent of MSW in Sri Lanka consisted of food waste, a considerable portion of that waste could have been avoided. Hotels and restaurants, as well as social gatherings at private places, were the main sources of avoidable food waste ending up in the environment due to consumption behaviours driven by social beliefs. As some participants explained, taking more than one serving in a public setting was socially unacceptable. Thus, guests tended to help themselves to more than enough food in the first instance, and uneaten portions were then disposed of:

> *Our culture also has an impact on this [avoidable waste add into LG waste*
>
> *collection]. We have a belief that self-serving food twice is shameful. Thus at*

*social gatherings we serve more than enough quantity of food at first serving,*

*even not able to eat* [CGPO05: Public Employee/Central Government].

### *Limited support from the citizens – Influence of citizens' behaviour*

Some participants explained that citizens had been informed by LGs about their by-laws on 'collecting only segregated waste'. However, as some participants from both the selected LGs [ID LGKAPO02, LGABPO01, LGKAPO03] highlighted, "some citizens do not sort garbage" and "still provide mixed waste to LGs".

As some participants revealed, reluctance to segregate waste due to the laziness of citizens and poor habits of failing to reuse resources, were the key reasons for mixed waste being provided to LGs. When polythene was mixed with food waste, LGs did nothing about the mixing of waste and disposed of it in open dumpsites:

> *Our people are lazy. That is why so many problems occur like this...For example,*
> *we carry out food wrapped in lunch sheets. Because you should wash the lunch*
> *box if you use it, and the lunch sheet can be rolled up and put somewhere* [ID
> FGW08: Focus Group Participant/Western Province].

The failure of the 'Sampath Piyasa' (recyclable waste collection centres) programme implemented by the Central Environmental Authority for the period 2008-2013 illustrated the unsupportive behaviour of citizens:

> *During the day time, the Sampath Piyasa was operated by employees of LG.*
> *People started to put all sorts of dirt on Sampath Piyasa at night. So, the*
> *government failed there* [ID CGPO05: Public Employee/Central Government].

Consequently, the Central Environmental Authority abandoned the 'Sampath Piyasa' programme.

The 2007 NWMP and the 2002 National Strategy for Solid Waste Management focused on enhancing private sector cooperation for implementing the 'reduce, reuse, recycle, and resource recovery' through the polluter-pays principle. However, the lack of government interest in enacting laws and establishing such a system resulted in inadequate support from the private sector for MSWM in Sri Lanka.

### *Alternatives to increasing citizens and private sector cooperation for MSWM*

Establishing village-level waste collection mechanisms and implementing market based strategies were common alternatives suggested by several participants to increase citizen and private sector support for MSWM. Some participants suggested establishing waste collection mechanisms at the village-level through LGs, field officers of divisional secretariats [the divisional level administrative office of the Central Government], and community organisations as the best solution for current MSWM issues:

> *Should create a mechanism to collect waste [non-degradable] through local government and divisional secretariats with the support of community organisations, such as village development organisations* [ID CGPR02: Elected Public Representative/Central Government].

As these participants further suggested, granting funds to community organisations for non-degradable waste collection, and linking these voluntary organisations with companies to return their packaging materials were essential conditions for achieving success.

Since LGs do not have the capacity to collect and recycle waste on a welfare basis, a few participants suggested implementing market-based strategies to manage private sector waste. A Central Government's public employee [ID CGPO05] explained that "the government should enact a law to implement polluter pay principle", as the absence of law is a key challenge to implement policy focus on market-based strategies.

***Alternatives to improve awareness of the actors involved in MSWM***

To reduce waste volumes from households many participants suggested implementing a 'sustainable waste management concept' that used basic strategies, including reducing, reusing, and repurposing goods:

> *A programme should be formulated to obtain public support for waste management activities. It should cover all aspects of waste management, including how to minimise waste and the importance of reuse* [ID FGW04: Focus Group Participant/Western Province].

Therefore, raising the awareness of citizens about the consequences of improper MSWM through community organisations and religious leaders was proposed by many participants:

> *We can implement awareness programmes through religious centres. We should convince people who release their garbage into the environment as a matter of shame and sin* [ID CGPR01: Elected Public Representative/ Central Government].

Some participants considered that starting these programmes from early childhood and continuing these into school education with practical sessions as a strategy to improve the environmental discipline of the public:

> *The country must implement awareness and training programmes from childhood until leaving the school* [ID CGPO06: Public Employee/Central Government].

As Sri Lanka has a large number of private-sector television and radio channels, a few participants suggested getting their support to disseminate information to raise public awareness about MSWM issues:

> *If the government takes action with 1–2-minute advertisements at peak time [on MSWM], in TV channels, it may have a significant effect on people* [ID FGS02: Focus Group Participant/Southern Province].

Although some participants suggested conducting awareness programmes, others argued that people were sufficiently aware of the consequences of improper MSWM, but they did not have alternatives to better manage their waste.

### 5.4.4   Challenges for recycling

Recycling was a key focus of the 2007 NSWMP to resolve MSWM issues in Sri Lanka. The policy supported the granting of incentives and facilities to entrepreneurs to encourage recycling However, some participants' opinions suggested that recycling was ineffective due to the government's lack of financial and technical support, and market issues related to recycled products. Furthermore, as some participants cited, difficulties in collecting recyclable waste materials also presented a challenge for recycling.

### Challenges for recycling – limited support from the government

As some participants explained, most recyclers operated their businesses with bank loans. The 2007 NSWMP focused on capacity building of recyclers, and the government imposed a special commodity levy (Cess tax) to assist recyclers. However, as a Central Government' public employee [ID CGPO05] highlighted, the collected tax was not used to develop the recycling sector, because "the treasury does not transfer the collected Cess tax to the relevant agencies, and the Central Government use it for different purposes".

The Central Environmental Authority or Ministry of Environment failed to follow the policy. As an entrepreneur [ID E02] highlighted, "none of the government or provincial agencies helps recyclers anyway. They are saying blatant lies".

As revealed by a few participants, maintaining a recycling centre according to required environmental standards was costly. Standard machinery and equipment were expensive, and there was extra effort and cost required to find materials. A Central Government public employee [ID CGPO05] explained these challenges saying that "the recycling industry is not a lucrative business and [there are] a lot of problems in the industry".

### Challenges for recycling – market issues

Market factors were another cause of recyclers leaving the industry. The key market obstacles highlighted by certain participants were the inability to compete with imported items:

*It is hard to compete with brand-new imported products. People can buy such*

*product at lower prices. But since we spend huge cost on these products we can't*

*sell our products at lower price* [ID E02: Recycler].

As a participant explained, customers' negative attitudes to recycled products was a challenge:

*People are less inclined to buy recycled goods because they are made through*

*waste* [ID CGPO05: Public Employee/Central Government].

Both factors collectively created less demand for recycled products compared to imported brand new products.

### *Challenges for recycling – lack of materials*

A few participants revealed that entrepreneurs were facing difficulties in obtaining required waste materials for their industry:

We required about 20 tons of shopping bags, 3 tons of biscuits and toffee

wrappings per month. But it is hard to get the required materials [ID E02:

Entrepreneur/Western Province]*.*

The lack of a system to collect such materials which met the required standards [e.g., not mixed with food waste], and the lack of a mechanism to connect recyclers and LGs, were the reasons for the difficulties in obtaining the required materials:

*Most recycling companies are not working properly. A key problem is that there*

*is no proper method to supply waste materials to recyclers* [ID CGPO05: Public

Employee/Central Government].

Therefore, as some participants explained, entrepreneurs asked intermediate collectors to collect recyclable waste materials through door-to-door visits, or from open dumpsites. Consequently, this unmet demand and supply for recyclable waste created an extra cost for recyclers.

Recycling was the only MSWM activity in operation in Sri Lanka that complied with international standards. However, some participants' opinions reflected that recycling was not a well-established sector, and recyclers tended to leave their businesses for two reasons: lack of government prioritisation of recycling, and market factors including price fluctuations and customer preferences for non-recycled products.

### *Alternatives to resolving issues in the recycling sector*

Most of the highlighted alternatives to mitigating challenges in the recycling sector were to provide government subsidies to recyclers, develop a system for collecting recyclable waste, and establishing links between LGs and recyclers. The participants' suggestions for establishing a system to collect waste and linking it to LGs have already been discussed in the section outlining the participants' suggestions for improving citizen and private sector support. Therefore, it will not be discussed further here.

As proposed by one of the participants (R01), a subsidy scheme should be implemented by the Ministry of Industry for infrastructure development for recycling, because they believe that the recycling sector should develop as an industry or a business:

> *Let the Ministry of Industry provides subsidies for infrastructure, support and all*
>
> *facilities for the recycling industry. Then they [recyclers] will be able to convert*
>
> *it [recycling] into a business* [ID R01: Researcher].

Apart from a few alternatives suggested by the participants to improve MSWM in Sri Lanka, including establishing village-level waste recycling centres, and separate units for MSWM in each LG, most of the suggestions were already included in the 2007 NSWMP. However, the participants' suggestions imply that the policy aspects pointed out by the participants had not been prioritised by the government, and therefore required more attention from all levels of government to achieve effective MSWM policy implementation.

## 5.5    PARTICIPANTS' OPINIONS ON THE STRENGTH OF THE 2007 NSWMP

Thirty-five per cent (n = 16/46) of all respondents (including 40 per cent (n = 12/30) of interviewees and 25 per cent (n = 4/16) of FG participants) mentioned the robustness of the 2007 NSWMP. Strengths fell into four main themes: guiding sustainable solutions for MSWM, directing improvements to governance practices, encouraging public and private sector involvement, and focusing on the capacity building of involved actors (Figure 5.5).
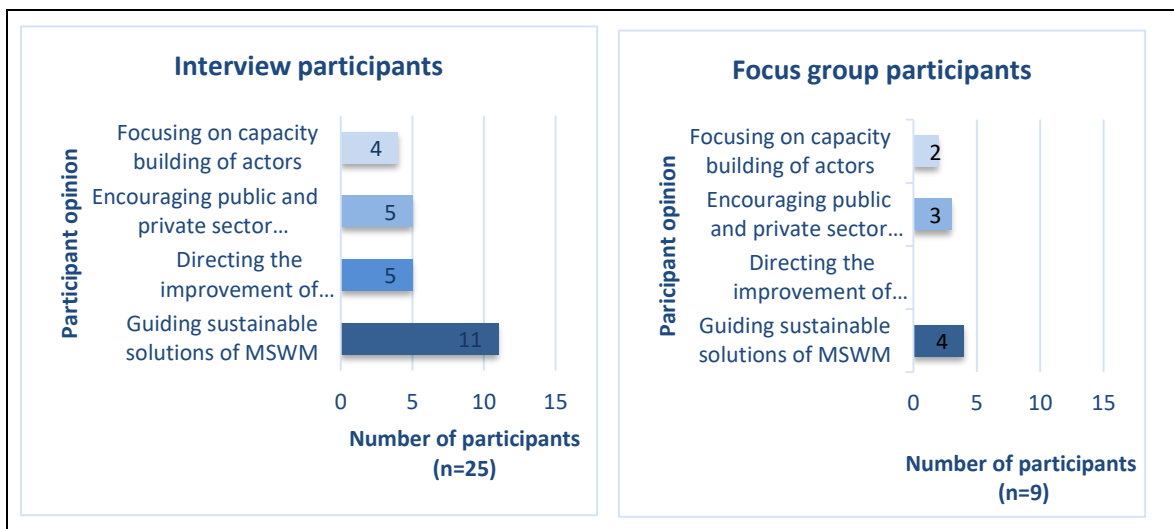


Figure 5.5: Interview participants' opinion on the strength of the 2007 NSWMP
Source: Field data collection, 2019/2020

As the 2007 NSWMP was based on internationally accepted standards, such as the 3R principles and environmental accountability, some respondents acknowledged 'guiding towards sustainable solutions' as a strength of the policy:

> Waste management hierarchy is an important tool used in the 2007 policy. *This policy aimed to increase environmental accountability and public safety. These are the key strengths of the policy* [ID PCPO01: Public Employee/Provincial Council].

> *According to the policy, waste should be managed using 3R principles, which provide strong foundation for sustainable waste management* [ID CGPO04: Public Employee/Central Government].

### *Encouraging public and private sector involvement in MSWM*

Of all respondents, 17 per cent (n = 8/46) acknowledged that the 2007 NSWMP emphasised greater involvement of actors to increase social responsibility for MSWM. This included 17 per cent (n = 5/30) of interviewees and 19 per cent (n = 3/16) of FG participants:

> *The policy aims to increase social responsibility of all actors involved in waste management, including waste generators, service providers and citizens* [ID CGPO04: Public Employee/Central Government].

> *This policy particularly emphasises the private sector and citizens' participation, because the private sector contribution is incredibly important to infrastructure development and to implement 3R principles. Further, without public support, any policy goal cannot be achieved* [ID CGPO01: Public Employee/Central Government].

***Focusing on capacity building of actors involved in MSWM***

Approximately 13 per cent of the total sample (n = 6/46) identified a focus on capacity

building of LGs, as a strength of the 2007 NSWMP. This included 13 per cent (n = 4/30) of

interviewees and 12 per cent (n = 2/16) of FG participants (Figure 5.5). Some participants

suggested that the 2007 NSWMP focused on a few aspects of capacity building, including

infrastructure development and increased resources for MSWM:

> *Infrastructure development, strengthening financial capacity, and improvement*
>
> *of reporting and evaluating system of LGs, are the areas focused on the 2007*
>
> *NSWMP* [ID CGPO05: Public Employee/Central Government].

***Directing the improvement of governance practices in MSWM***

As explained five interview participants, 11 per cent of the total sample (n = 5/46), the 2007

NSWMP guided improved governance in MSWM (Figure 5.5). According to these

participants, the policy provided guidance to improve three aspects of governance:

coordination, laws, and sub-sectoral policies.

According to a few participants, as the coordination of multiple actors was an

essential requirement for achieving success in policy implementation, the 2007 NSWMP

provide guidance for establishing a mechanism to coordinate all actors involved in MSWM:

> *The 2007 policy proposed establishing an institution as a national hub to*
>
> *coordinate actors and monitor policy implementation* [ID CGPO03: Public
>
> Employee/Central Government].

Some participants suggested that the 2007 policy recommended updating outdated laws to promote effective MSWM:

*Since legal instruments and procedures are complex and obsolete, the policy emphasised updating laws on solid waste management* (ID CGPO05: Public Employee/Central Government].

Participant opinions suggested that the 2007 NSWMP provided direction on sustainable solutions for MSWM by incorporating internationally-accepted approaches, including the waste management hierarchy. However, many participants highlighted the weaknesses of the 2007 NSWMP.

## 5.6    PARTICIPANTS' VIEWS ON THE WEAKNESSES OF THE 2007 NSWMP

Of the total sample, 70 per cent (n = 32/46) expressed their views on the weaknesses of the 2007 NSWMP. This included 70 per cent (n = 21/30) of the interviewees and 69 per cent (n = 11/16) of FG participants. Participants' views on the weaknesses of the 2007 NSWMP follow.

### Less focus on capacity building in the 2007 NSWMP

Of the total sample, 43 per cent (n = 20/46) explained that the 2007 NSWMP did not pay enough attention to improving LG and recyclers' capacity. This percentage consisted of 37 per cent (n = 11/30) of interviewees, and 56 per cent (n = 9/16) of FG participants (Figure 5.6).

Many participants explained that LGs suffered from inadequate resourcing and limited infrastructure due to a lack of policy focus on distributing resources to LGs:

*The policy [2007 NSWMP] did not focus on setting up a system for fair,*

*transparent and equal distribution of facilities among LGs* [ID LGABPR02: Elected

Public Representative/Local Government].

Local governments faced difficulties supplying MSWM services, because the 2007 NSWMP

failed to establish a system for physical resource distribution to LGs:
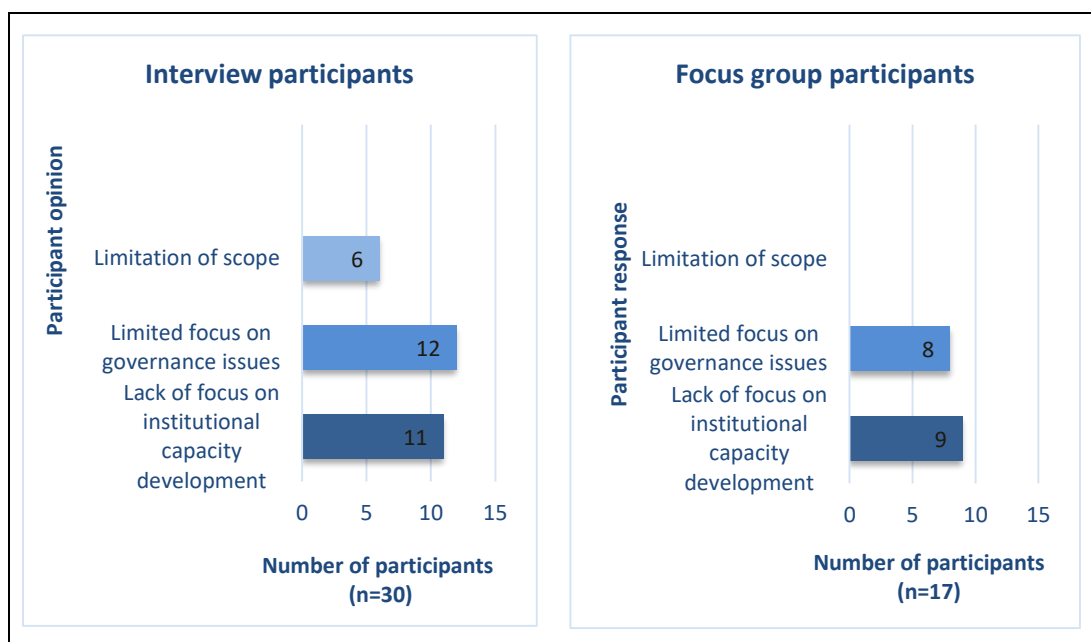


Figure 5.6: Participants' opinion on weakness of the 2007 NSWMP
Source: Field data collection, 2019/2020

Note: As some participants cited multiple ideas, the sum of the FG participants is higher than the
total number of participants (n=16).

*This policy did not pay attention to how local authorities earn or who will supply*

*required resources on what basis. It creates many challenges for local*

*governments, including providing efficient and effective waste collection*

*services as people expected* [ID FGS04: Focus Group Participant/Southern

Province].

According to respondents, this situation had a negative impact on LG, particularly those

with insufficient income to purchase the required resources. Moreover, some participants

considered that the focus on human resource development in the 2007 NSWMP was poor.

Therefore, issues of capacity building limited the effectiveness of the 2007 NSWM policy implementation.

### *Limited focus on governance issues in the 2007 NSWMP*

Of all respondents, 43 per cent (n = 20/46) identified lack of focus on governance issues as a weakness of the 2007 NSWMP. This percentage included 37 per cent (n = 12/30) of interviewees, and 50 per cent (n = 8/16) of FG participants (Figure 5.6). Participant responses coalesced around a few themes, including unclear lines of responsibility of the different actors involved in MSWM activities, a lack of focus on setting up a mechanism to coordinate within and between levels of government, and legal issues.

Many participants explained that a clear demarcation of responsibilities was essential for effective policy implementation, yet the 2007 NSWMP did not mention the responsibilities of the different actors involved in the MSWM, such as the various agencies from different levels of government and the private sector:

> *The 2007 policy does not specify the responsibilities of individuals or institutions.*
> *As such, waste management ultimately becomes irresponsible* [ID CGPO03:
> Public Employee/Central Government]*.*

Some participants acknowledged that due to the unclear lines of responsibility, overlap and avoidance of some tasks, such as infrastructure development, monitoring, and evaluation of the 2007 NSWMP implementation, became a normal phenomenon in MSWM.

The lack of policy focus to establish a system to coordinate across the levels of government resulted in deepening conflicts within government:

> *This policy didn't focus on creating any coordination mechanism. It is also a critical challenge for us. Many avoidable conflicts arose due to lack of coordination among levels of government* [ID LGABPR02: Elected Public Representative/Local Government].

Conflicts among different actors will be discussed in greater detail in Section 6.2.4.

### The limited scope of the 2007 NSWMP

Around 23 per cent (n = 6/30) of interview participants complained about the limited scope of the policy. Some participants explained that the 2007 NSWMP did not have a strong focus on electronic and medical waste. Therefore, these forms of waste were disposed of in open dumpsites, mixed with solid waste:

> *Other waste [such as industrial and hazardous waste] were not addressed by the 2007 policy. Thus, all waste is finally disposed of at open dumps* [ID CGPO05: Public Employee/Central Government].

Contrary to the above opinion, a few participants stated that the 2007 NSWMP did address health waste, but because of poor participation of the health sector implementing the policy, hazardous waste was dealt with in MSWM in many places. Thus, when mixed waste was provided to LGs, it was disposed of at open dumpsites.

## 5.7    CONCLUSION

This chapter examined how various factors contributed to the success and failure of different aspects of the 2007 NSWMP implementation in Sri Lanka.

Participant opinions suggested that MSWM has achieved some progress, including LG waste collection services and citizens' participation in waste segregation. However,

participants suggest that MSWM in Sri Lanka operates from the opposite philosophy to the waste hierarchy, which was the foundation of the 2007 NSWMP.

The low priority given to MSWM by the Central Government and the limited policy awareness of decision-makers at all levels of government overshadowed effective MSWM in Sri Lanka. Given this context, it appears that Central Government's actions have pushed LGs into rejecting accountability for ensuring a safe and healthy environment for their citizens.

Participants proposed several alternatives to improve MSWM operations in Sri Lanka. Most of their suggestions are included in the 2007 NSWMP, such as implementing a polluter-pays principle. A few novel ideas proposed by participants to resolve challenges in MSWM included establishing field-level waste collection mechanisms with the participation of all actors, and setting up a waste management unit with specific leadership in every LG.

Several key challenges of the 2007 NSWMP implementation discussed in this chapter are linked with governance issues. Therefore, the next chapter discusses the research participants' views on governance issues in the MSWM sector in Sri Lanka.

# Chapter 6: Governance Issues of Municipal Solid Waste Management in Sri Lanka

## 6.1    INTRODUCTION

The empirical findings presented in the previous chapter shows that some government agencies attempted to improve the Municipal Solid Waste Management (MSWM) through a few steps, including public-private-partnership for infrastructure development and innovative approaches (e.g. digital apps) introduced by Local Governments (LG). However, most of these attempts and the implementation of the key components of the 2007 National Solid Waste Management Policy (NSWMP), such as waste collection and allocation of adequate resources to MSWM operational system were failed.  Policy implementation theories explain that good governance directs to achieve intended institutional goals by providing efficient and effective services to the public (Bano, 2019), because it has possibilities for directing government towards maximum resource utilisation, effective public-private-partnerships, and reducing political and bureaucratic influence in policy implementation.

This chapter aims to understand why the 2007 NSWMP implementation failed in Sri Lanka. Discussing how governance concerns affect MSWM operations helps in gaining a better understanding of the challenges posed by diverse interests of various actors in the implementation of a range of policy aspects.

Based on the core principles of good governance (accountability, transparency, responsiveness, effectiveness and efficiency, the rule of law, equity, inclusiveness,

participation, and consensus-orientation), this chapter analyses the most pressing MSWM governance issues highlighted by the research participants. The participants were asked specific questions about the effectiveness of MSWM (see Appendix 3.4 for interview schedules). Around 63 per cent (n=29/46) of the research respondents revealed that governance issues contributed to their evaluation of current MSWM as 'ineffective or very ineffective'. Furthermore, responses to the questions formed a theme around matters of governance. This chapter presents the outcomes of the thematic analysis. There are three main topics under discussion: the role of politics; corruption; and matters directly related to the administration of the MSWM system from finance to monitoring and evaluation.

## 6.2    EFFECTS OF POLITICAL INTEREST AND INTERFERENCE ON THE 2007 NSWMP IMPLEMENTATION

Effective policy implementation is made possible by good governance practices. Necessary good governance conditions for policy implementation include maintaining transparency in all facets of policy implementation, fair decision-making, implementation based on existing laws and regulations, and the elimination of political interference. As policy implementation is a multi-actor process, consensus among actors is also required to create the conditions for good governance to enable policy implementation.

Politicians in Sri Lanka have a high level of influence over many aspects of MSWM, particularly in relation to financial control. For example, the Central Government has the power to make resource allocation decisions that affect Local Government (LG) procurement.

According to the research findings, political leaders use their power and influence to interfere in law enforcement, and to show political favouritism and patronage in the way resources are distributed to LGs. This creates conflict within and between political parties on infrastructure development. These issues are taken up in the following sections.

### 6.2.1 Effects of political interests on administrative processes of the MSWM policy implementation

The perceptions of the participants in this study, and the physical evidence of poor MSWM in Sri Lanka can be linked to governance challenges. Frequent cabinet reshuffles and power turnover within all levels of government responsible for MSWM policy implementation cause delays.

***Obstacles to the 2007 NSWMP implementation process***

> *In Sri Lanka, cabinet reshuffles are frequent. We have plans, projects, and programmes to implement the policy focus. The problem is that when a cabinet change, we have to stop everything and prepare new plans based on the minister's interest. Sometime before we implement the project, another parliamentarian is appointed as a minister* [ID CGPO05: Public Employee/Central Government].

As the top bureaucratic leadership of the ministries and semi-autonomous agencies responsible for the 2007 NSWMP implementation underwent a period of transition in parallel with cabinet changes, the situation would become more challenging. Bureaucratic leaders took time to adopt the policy, particularly when people were appointed from outside the Sri Lanka Administrative Service:

*The implementation process is hard. Because, most cabinet shuffles or power turnout result in changes in the secretaries to the ministries and higher-level bureaucratic positions. The situation worsens when the President appoints a secretary to the ministry outside the public administration service, such as academics* [ID CGPO06: Public Employee/ Central Government].

As a few participants further explained, after every cabinet change, higher level officers at the ministries spent several months making the political and bureaucratic leaders aware of the policy, plans, and programmes.

### 6.2.2 Effects of political interference on law enforcement

Some participants cited interference at all levels of political leadership in law enforcement as another key reason for the failure of the 2007 NSWMP. The Central Environmental Authority had legal responsibility for regulating and enforcing the law against inappropriate waste dumping by LGs, but the authority was reluctant to implement the law.

The President of Sri Lanka used discretional power granted by *The Constitution* to appoint the chairperson of the Central Environmental Authority. The essential requirement for appointing someone to the chair of the Central Environmental Authority is to be a highly active supporter of the ruling political party. LG political leaders requested the chairperson of the Central Environmental Authority to stop enforcing environmental laws against non-compliant LGs:

*Local governments approach the chairman of the Central Environmental Authority through political leadership [Minister of the Environment]. Local-level politicians ask for more time to do things [dispose of the waste following the environmental laws], and not penalise local government. As a result, the Central*

*Environmental Authority does not take action against local governments' illegal*

*waste dumping* [ID R1: Researcher].

Consequently, this led to ineffective waste disposal by LGs and the continuation of open dumping without complying with the *National Environmental Act No. 42 of 1980* and its amendments. The Central Government undermined its accountability for ensuring environmental protection and human wellbeing. This shows a lack of Central Government interest in implementing fair and impartial law in MSWM.

Some participants revealed that political favouritism or clientelism influenced the enforcement of laws (or not) in Sri Lanka which has affected MSWM at the local-level:

*Law is silenced because of politicians' decisions [not enforcing laws]. They advise*

*officers not to enforce the law when it is a disadvantage for someone in their*

*circle* [ID FGS01: Focus Group Participant/Southern Province].

By way of example, some participants stated that, clientelism was evident in the failure of law enforcement to bring justice to the Meethotamulla garbage dump collapse. Some participants claimed the Presidential Committee investigating the collapse identified the culprit as the Commissioner of the Colombo Municipal Council. The law had not been enforced due to the influence of political leaders within the Colombo Municipal Council:

*I often asked the [Western Provincial] Governor to dismiss the Municipal*

*Commissioner, considering the facts revealed about his scandals. The Governor*

*dismissed the commissioner in view of these allegations. The Mayor of Colombo*

*Municipal Council reinstated him because of political favouritism* [ID CGPR01:

Elected Public Representative/Central Government].

Personal and political interests of politicians at all levels of government provided opportunities for corrupt practices, accepted low-quality waste collection and disposal services, and allowed government actors to avoid accountability.

### 6.2.3 Effects of political favouritism and conflict on resource allocation

A number of participants identified favouritism of national-level political leaders for distributing resources to LGs as a key factor in the failure of MSWM operations. Although Sri Lanka is a devolved country, it does not have a system to allocate resources to LGs for MSWM. As resource allocation is a centralised matter. National-level politicians have more opportunities for favouritism and political patronage. A Central Government participant (CGPO03) explained the challenging situation they faced when selecting LGs to distribute resources:

> *The Minister provided a list of his favourite 65 local governments. The Deputy*
>
> *Minister also provided the names of 45 others based on personal interests. Both*
>
> *of them requested the provision of machines to local governments on their lists,*
>
> *somehow. There were 110 local governments in two lists [but only 100*
>
> *machines]. Also, we had our priority list, which was prepared using our data set.*
>
> *As public officers we are in a dilemma in implementing decisions* [ID CGPO03:
>
> Public Employee/Central Government].

As CGPO03 explained, the selection process was "extremely politicised". Consequently, some LGs received more resources than they required, while others were left out despite needing the resources:

> *I checked the information regarding the 110 institutions [names provided] by the*
>
> *Minister and Deputy Minister. I revealed that some institutions already had two*

*or three of these devices. But some of they have not used those machines* [ID

CGPO03: Public Employee/Central Government].

This political patronage resulted in inequities in compactor machines and vehicle distribution, which led to an inability to perform MSWM tasks for some LGs, including waste collection and disposal.

According to some participants, when different political parties governed at the three levels of government, higher tiers of government made critical decisions that negatively affected LG performance. As some LG participants explained, the Central Government and provincial councils refused to help LGs elected from different political parties:

*Neither [Central] Government nor provincial council support us to get such facilities [vehicles and machineries] because we are elected from the opposition party. This is their political hypocrisy* [ID LGABPR02: Elected Public Representative/Local Government].

A few participants revealed that provincial political leaders used provincial financial provisions to control and discriminate against LGs elected from outside the dominant political party. When there was a political rivalry between provincial councils and the LGs, provincial councils used their control over finances to control LGs. During 2015-2019, most provincial councils were governed by the United Peoples' Freedom Alliance (UPFA); however, a majority of LGs elected in 2018 were from the Sri Lanka People's Front (SLPF). In this context, provincial councils avoided releasing LGs' collected revenues which had been allocated for use for utility services, including MSWM. The Ambalangoda Pradeshiya Sabhawa is an example:

> *When the Yahapalana government [coalition government of UPFA and the United National Front] was ruling the country, we didn't receive what we earned because politically, we are representing Pohottuwa [Sri Lanka People's Front]. Since 2018 we didn't receive a single cent until this month [December 2019]. Provincial council transferred LKR02 million [AU$ 16,129] after 4½ years because the current President was elected from our political party [ID LGABPR02: Elected Public Representative/ Local Government].*

These political conflicts also affected human resource allocations to LGs. Approval from the provincial council to fill vacancies for MSWM for some LGs, this was denied. According to a few participants, political conflict between provincial councils and LGs were the reason for not granting, or delaying, approval.:

> *We had to wait many years to receive approval to fill vacancies during the last government [2015-2019 coalition government]. Sometimes we did not get that approval due to conflict among political parties* [ID LGABPO03: Public Employee/Local Government].

However, provincial council participants denied the above-cited claim:

> *We received many requests to fill the vacancies. However, sometimes we rejected them based on circulars issued by the Central Government* [ID PCPO03: Public Employee/Provincial Council].

These examples demonstrated that although MSWM was a decentralised matter, the actions of the upper levels of government negatively influenced the LG MSWM operational system and performance.

In addition to the hindrance of resource allocation, intergovernmental tensions sometimes led the Central Government to taking LG resources. For example, in 2018 land belonging to the Kaduwela Municipal Council that was used for parking waste collection vehicles, was acquired by the Urban Development Authority of the Central Government. According to a few participants, the reason for this land grab was political conflict between the Central Government and the LG - the Kaduwela Municipal Council:

> *The Ministry of Megapolis has gazetted our land as an asset of the Urban Development Authority. They encroached [acquired] it because the Municipal Council and the Central Government represented two [political] camps. The Minister of Megapolis and Western Development wanted to control us politically* [ID LGKAPR01: Elected Public Representative/Local Government].

These examples show that political conflict profoundly influenced the implementation of the 2007 NSWMP in Sri Lanka. When LGs suffered from finance and human and other resource issues, they had to stop or limit their waste collection and management processes, such as composting. Consequently, LGs were unable to fulfil their duty for sustainable MSWM, and responsiveness to citizens' demands for a clean and safe living environment.

### *Effects of political interference on the selection of project locations*

Higher-level politicians often selected project locations favouring their voters. According to participants, during the 2015-2019 coalition government, the Central Government established nine mega-scale projects to resolve MSWM issues. One of the projects was a composting facility a rural agricultural area from where the former President (2015-2019) of Sri Lanka was elected. Research findings show that the selection was based on political favouritism:

*We helped to set up a large factory at Sungavila [Lankapura] to recycle waste [composting] … I opened the factory as the chief guest* [ID CGPR01: Elected Public Representative/Central Government].

Some participants considered that the opening of the compost project was unnecessary as the project was not needed. It was only opened to appeal to voters in the area. As a result of this political patronage, other areas requiring a recycling factory lost their opportunity.

### 6.2.4 Effects of political conflict on infrastructure development

Conflict between levels of government, and within and between the political parties also hindered efficiency and effectiveness of MSWM service delivery, and interfered with the accountability of government actors in policy implementation. Such conflicts caused delay in ongoing or proposed MSWM infrastructure development projects.

Due to a clash of interests and conflicts between political parties many infrastructure projects that had the potential to resolve MSWM problems have been abandoned, delayed to completion, and failed to reach project objectives. According to participants, some LGs and provincial councils took action against the Central Government's infrastructure development projects. Such actions included passing resolutions and organising public protests. Many participants highlighted their experiences with a number of infrastructure development projects, including sanitary landfilling projects at Aruwakkalu in North-Western Province, and the Waga and Dompe projects in Western Province:

*The Aruwakkalu project was due to be completed by 2019. However, political conflicts extended the project [up to 2021]. We had to withdraw project proposal on Waga Sanitary land filling project in 2008 due to political influences of*

*opposition parties, local governments, and different groups [pressure groups]*

[ID CGPO06: Public Employee/Central Government].

During 2015-2019, Wanathawilluwa and Puttalam Pradeshiya Sabhas were opposed to constructing the Central Government's Aruwakkalu sanitary landfilling project in their area due to disputes between political parties. The Wanathawilluwa Pradeshiya Sabhawa did not grant approval to construct the Aruwakkalu project until 2019, when the President Gotabaya Rajapaksa (the candidate of the political party that held the power of Wanathawilluwa Pradeshiya Sabha) was elected:

> *The Wanathawilluwa Pradeshiya Sabhawa passed a resolution for not granting*
>
> *approval for the [Aruwakkalu] project construction. But these local authorities*
>
> *were silenced after the last presidential election* [ID CGPO04: Public Employee/
>
> Central Government].

After the president was elected, Wanathawilluwa Pradeshiya Sabhawa allowed the construction to take place:

> *The chairman of Wanathawilluwa Pradeshiya Sabhawa says that we don't have*
>
> *a problem now, and we played a political game* [ID CGPO06: Public Employee/
>
> Central Government].

Moreover, some participants claimed that many proposed MSWM infrastructure development projects, including sanitary landfills, and waste-to-energy projects, were abandoned by the Central Government and donor agencies due to public protests driven by political interests. According to several Central Government participants, politicians' desire to gain political power, and citizens' lack of experience with resource recovery

projects or sanitary landfills, were key factors in the abandonment of many proposed MSWM projects:

> *Since the 1990s, the government abandoned several infrastructure projects due to political interference. When we try to set up infrastructure, opposition party leaders resist it and provoke people claiming that the government would establish another mega-scale open dump site. Then people began to protest against the initiative* [ID CGPO04: Public Employee/Central Government].

As some Central Government participants explained, although Central Government officers had explained the reality of the projects, such attempts failed because opposition party politicians campaigned repeatedly by warning voters that another open dump site would go forward under a continuation of the existing government:

> *We [officers] explained everything to people when the first protest occurred. Then people become quiet. After that, those politicians entered the scenario, saying that if you vote for me, I will not allow construction here* [ID CGPO05: Public Employee/Central Government].

These examples demonstrate that political leaders were more concerned with preserving their political power than fulfilling the national requirement of resolving MSWM problems.

### *Effects of internal conflict on the government on infrastructure development*

Lack of infrastructure was a critical challenge for LGs to perform their MSWM responsibilities. Internal conflict among ruling party members was a key reason identified by many participants for a lack of MSWM infrastructure. As explained by some participants, the leaders of the United National Front (a main political party of the 2015-2019

government) faced internal conflict over party leadership. This conflict affected the completion of the Aruwakkalu sanitary landfilling project. Furthermore, the political leaders of the Colombo Municipal Council did not support this initiative, despite the fact that it was designed to address the council's MSWM issue:

> *[The highest level politician of United National Front] said that the Minister of Megapolis [from same political party] should not be involved in fixing waste issues. Then he [the above-cited highest level politician] told Mayor of Colombo Municipal Council that you don't need to acquire the Aruwakkalu project. Therefore, Colombo Municipal Council did not acquire the project though they had a massive problem in waste disposal* [ID CGPO05: Public Employee/Central Government].

As some participants explained further, instead of dumping waste at Aruwakkalu sanitary landfill, the Colombo Municipal Council decided to dump waste on the land allocated to the Kerawalapitiya waste-to-energy project in the Western Province. However, after a few months, the Kerawalapitiya land was full and exceeding its limits so the Colombo Municipal Council stopped collecting waste, and consequently, people began to dump their mixed waste on roadsides and in other public places. This situation continued for a few weeks.

### *Effects of activities of social leaders, pressure groups, and media on MSWM*

Other groups that represented the citizens' voice, such as pressure groups and religious leaders, influenced government decisions on infrastructure development in various ways, through suing the government and conducting media conferences. The media influenced public opinion by informing people and the government about the effects of government decisions or policy on the environment and citizens. As some participants explained, electronic and printed media

played a vital role in acting against government projects on MSWM infrastructure development:

> *Nearly 90 per cent of the media reports criticised the infrastructure development*
> *projects. In the same time, they are weeping about Meethotamulla dumpsite*
> *collapse. But they did not tell the truth to the citizens* [ID CGPO06: Public
> Employee/Central Government].

According to some participants, several pressure groups and NGOs, including environmental protection groups, the People's Movement Against Meethotamulla Dumpsite, trade unions, and the Inter-University Students Federation conducted continuous protests against both the continuation of open dumpsites and the construction of infrastructure:

> *The government faced endless protests. They [pressure groups] opposed both*
> *open dumping and infrastructure development [ID CGPO06: Public Employee/*
> *Central Government].*

These protests presented obstacles to resolving Sri Lanka's MSWM issues. A provincial council participant (PCPR01) offered the following explanation for the protests:

> *Various groups protest against government decisions on establishing*
> *infrastructure because many proposed projects had possibility to create*
> *hazardous for human and the environment [ID PCPR01: Elected Public*
> *Representative/Provincial Council].*

On many occasions, government decisions on infrastructure development were considerably influenced by the legal activities of NGOs:

> *Still, we should appear in the Puttalm Magistrate Court as the accused party of*
> *some cases filed by the organisation called 'Clean Puttalm' against the*

*Aruwakkalu project. We had to reconsider some project component due to these*

*protests and legal process [ID CGPO06: Public Employee/Central Government].*

Many participants revealed that religious leaders, including Buddhist and Catholic priests, used their influence by organising and participating in protests, issuing media statements, and making citizens aware of environmentally-harmful infrastructure development projects.:

*We had to revise our decision due to influence of religious leaders and*

*environmental activists, because religious leaders are highly influencing actors*

*in shaping voting behaviour in Sri Lanka [ID CGPR01: Elected Public*

*Representative/Central Government].*

### 6.2.5  Conclusion – effects of political interests and influences on the 2007 NSWMP implementation

'Political factors', including political interests, patronage, favouritism, and interference, created a complicated environment in which to implement the 2007 NSWMP. Political and personal interests and intergovernmental conflicts of political leaders at all levels of government hindered MSWM operations in three ways: causing delays in decision-making and implementation on infrastructure development, unfair resource allocation to LGs, and stopping the enforcement of environmental and administrative laws.

These challenges were linked to a lack of good governance practices in the policy implementation process, including a lack of transparency in decision-making and resource allocation to LGs. Most of the conflicts occurred due to limited accountability and the absence of communication among the different layers of government. The lack of the rule-of-law led to LGs continuing open dumping which was against the policy goals of resource recovery and a sustainable MSWM.

Lack of Central Government accountability in providing efficient and effective MSWM services created room for different non-government actors, including pressure groups, religious leaders, NGOs, and the media, to become increasingly involved in the policy implementation process. Consequently, such influences had positive effects on policy implementation because, on a few occasions, the government had to reconsider and modify their decisions in favour of the citizens and the environment.

## 6.3 EFFECTS OF CORRUPTION AND THE MAFIA ON THE 2007 NSWMP IMPLEMENTATION

Corruption is present in the Sri Lankan governing system. This section discusses corruption in MSWM, and how it affected MSWM activities.

### 6.3.1 Effects of national and provincial level corruption on the 2007 NSWMP implementation

Corruption had a significant impact on the policy priorities of LGs MSWM operational system improvement. Several participants explained how corruption posed significant obstacles to infrastructure development and appropriate utilisation of funds to enhance the physical resources of LGs. According to some participants, politicians and bureaucrats from the Central Government engaged in grand corruption, including influence peddling, bribery, pay-to-play for granting approval for mega-scale projects, purchasing costly capital items, and halting legal enactments and costly bids on MSWM activities.

### *Influence of corruption in MSWM project approval*

Some participants mentioned particular circumstances in which several investors submitted their proposals to the Central Government to start waste recovery projects, but abandoned them due to influence peddling and bribery demands to gain approval for the projects from higher-level politicians. For example, before the collapse of the Meethotamulla dumpsite, around seven proposals for waste recovery and recycling projects were submitted to the Central Government. However, due to bribery demands by politicians for receipt of large portions of shares or profit from the proposed projects, none of these projects commenced. Another example involved a Canadian investor who left in the middle of the negotiation process due to bribary:

> *A ruling party politician of the defeated government in 2015 directly asked the investor to set up a company and give 50 per cent of the company shares to that minister. Then the investor left the project and went back* [ID CGPR02: Elected Public Representative/Central Government].

Pressure was applied to investors not only by politicians who submitted project proposals but by politicians' family members and relatives, who were also involved in bribery and corruption:

> *A Japanese investor came to Sri Lanka to invest in a resource recovery project. He had requested a ten-minute meeting with a provincial politician. The coordinating secretary of the politician asked bribery to arrange a meeting … When he came to relevant ministry of the Central Government, 65 per cent of the project's profit was demanded by the Minister. The investor left the country* [ID CGPO05: Public Employee/Central Government].

The prevalence of corrupt practices made public-private partnerships for MSWM very challenging. It is difficult to invest in, and obtain approval for mega-scale MSWM projects in Sri Lanka. LGs have no alternatives but to dispose of their waste at open dumpsites.

*Effects of corruption in procurements for MSWM*

The Central Government made various procurements for MSWM, including purchasing vehicles, machines, equipment, as well as stabilisation of failing dumpsites. Politicians and bureaucrats used such procurements to earn illegal money. For example, Central Government politicians and officers purchased unnecessary machinery because it allowed them to earn illegal commissions. In 2019, when the Central Government's Ministry of Provincial Council and Local Government imported nine Kawashima composting machines to distribute to nine provinces. Following this import, the same ministry planned to purchase more Kawashima composting machines without assessing need. Machines were not purchased according to requirements, but rather for their commission:

> *The decision to import more Kawashima machines is based on greed of commissions rather than actual necessity. As a result, another 20 to 30 million rupees [AU$161,290 – 241,935 in 2019 prices] will be distributed among them [those involved in the purchasing process] as commissions* [ID CGPO05: Public Employee/Central Government].

> *There was serious political pressure [on officers], more than necessary to distribute machines and equipment through the Pilisaru project. One reason for the failure of the Pilisaru project was the deviation from the preliminary objectives by spending more on machinery and equipment without considering the [other] requirements* [ID R01: Researcher].

It appears that national and provincial level politicians also earned illegal money through LG procurements. This was particularly so for municipal councils obtaining services or goods from the private sector:

> *A contract to supply chemicals to control flies in the Meethotamulla garbage dump was around LKR80 million (AU$643,951 in 2019 price). Colombo Municipal Council was contracting out a service worth around LKR70 million (AU$563,457 in 2019 price)* [ID CGPO05: Public Employee/Central Government].

Politicians were prohibited from obtaining government contracts so they registered companies under their relatives' names:

> *In many cases, due to corrupt practices of politicians and officers, LGs authorised contracts with significantly higher costs than the real value of the service given by the contractors. In some instances, officers were influenced by the politicians to approve such corrupt procurements, but some officers do such corruption since they also gain benefit through these practices* [ID CGPO05: Public Employee/Central Government].

In such situations, the suppliers reduced the quality of the services to gain higher profits:

> *Officers are helpless. Thus officers are reluctant take action against such contractors, because politicians are behind the contractors* [ID CGPO05: Public Employee/Central Government].

These situations created financial challenges for MSWM.

***Effects of corruption in enacting laws to implement the polluter-pays principle***

Key principles of the 2007 NSWMP, such as the application of market-based methods and producer responsibility for managing recyclable waste were adversely affected by the corruption of national-level bureaucrats who avoided enacting legislation the polluter-pays principle for MSWM. Although the participants did not have evidence, they guessed that a deal between politicians and bureaucrats from the Central Government and the private company:

> *During the process of enacting the law, a representative of a multinational company, which the proposed law will highly impact, visited a highest level bureaucrat of the ministry. The highest level officer took action to stop the process suddenly. The company maybe talked to our officer and made a deal to stop the process* [ID CGPO05: Public Employee/Central Government].

Various corrupt practices of national and provincial-level political and bureaucratic leaders created challenging conditions for investors. The government missed opportunities to gain effective participation from the private sector.

## 6.3.2 Effects of LG corruption on the 2007 NSWMP implementation

At the local-level through outsourcing of LG MSWM activities grand-level corruption and bribery by politicians and bureaucrats was a key reason for low-quality service delivery. Municipal councils have outsourced MSWM activities, including waste collection and transportation, final disposal, and road sweeping. Moreover, many LGs have outsourced machines, equipment, and chemicals to handle dumpsites. This outsourcing opened up opportunities for fraudulent transactions in MSWM:

Participants claimed that corrupt LG bureaucrats enabled fraudulent transactions:

*The government officials in LGs are extremely corrupt. Therefore, it could be these officers fraudulently approved tenders with very high costs for outsourcing MSWM services* [ID CGPO06: Public Employee/Central Government].

When offering contracts to private companies there is some evidence that decision-makers and bureaucrats neglected the recommendations of technical committees. LG officers and politicians were receiving bribes from the companies which offered the tenders:

*Every month, xxxx [the company who received contract of MSWM] comes and gives around [LKR] 100,000 - 1,000,000* [approximately AU$805 - 8,050 in 2019 price] *to every elected public representative of the [Colombo] Municipal Council as a bribe ... Besides, the Municipal Commissioner is paid billions* [ID CGPR01: Elected Public Representative/Central Government].

The private sector was corrupt in several ways, including releasing collected waste into the open environment, violating agreements with LGs, adding false information in dumpsite recording systems with the support of LG employees, and misusing licences provided by LGs and the Central Environmental Authority to dispose of waste.

*The private truck that loaded waste only transported it around 100m and dumped waste on land adjacent to the transfer station [part of municipal council land]. Employees of the yard, the contractor, watchman, and truck driver, were all involved in the fraud over the years. Also, a former [higher level bureaucrat of the municipal council] was involved in the scam* [ID LGKAPR02: Public Employee/Local Government].

With the knowledge of LG employees, contractors, inaccurately filled out the daily waste record books. They entered higher quantities of dumped waste. An inflated volume of waste would require more vehicles used to transport collected waste to dumpsites, more machines, more labour, and more materials used in final disposal. Consequently, private companies earned illegal money through MSWM:

> *Manual records of the Kerawalapitiya dumpsite showed around 1,700 tonnes of waste is dumped daily. After setting up the weight bridge [scale], we found only 700 tonnes of waste was dumped daily. The workers just included one digit [1] in front of the actual figure* [ID CGPR01: Elected Public Representative/Central Government].

LG would pay based on the data available in the dumpsite's record books. A lack of a digitised system for data entry for accounting systems at LG offices allowed for corruption to take place. Although auditing was conducted and:

> *Though government auditors check the accounts, there are lots of loopholes in local government accounting systems, which make it difficult to find corruption due to the unavailability of computerised systems* [ID LGKAPO03: Public Employee/Local Government].

Although LGs spent public money to provide efficient and effective MSWM services through outsourcing, the absence of a method to cross-check data from a single system created obstacles to achieving policy objectives.

***Effects of petty corruptions in LGs on the 2007 NSWMP implementation***

A key petty corrupt practice in LGs, particularly in municipal councils, was the approval of over-time payments for employees in waste collection without them doing extra work:

*We all finish waste collection around 2.30pm - 3.30pm. After that, we usually rest for around two hours because we don't have to do anything here [officially, their work shift is over by 4.30pm]* [ID LGKAPO02: Public Employee/Local Government].

*Employees who usually work on tractors finish their duties around 2.00pm - 3.00pm. Then they go back home or stay there [office] without any commitments, but they are paid overtime until 6.00pm* [ID LGKAPR02: Elected Public Representative/Local Government].

Labourers, supervisors, and bureaucrats were involved in such fraud, deliberately increasing MSWM costs. One participant (LGPR02) revealed that in 2018 the Kaduwela Municipal Council spent LKR39,889,887 (AU$336,138) on salaries and over-time payments for employees in the waste management sector. Of this amount, 31 per cent (LKR12,542,249 or AU$105,689) was spent on over-time and holiday payments; however, considerable amounts of money were spent on overtime payments without work being done. As LGs misused public money, they were losing the opportunity to manage municipal waste sustainably.

Although the law deemed waste to be a resource for LG, employees in some LGs earned illegal money through selling non-degradable waste to private collectors:

*The yard employees have been selling collected non-degradable waste items such as bottles, iron sheets, paper, and cardboard to the private collecting shop near the compost yard* [ID LGKAPR02: Elected Public Representative/Local Government].

Reasons for the illegal selling of non-degradable waste included the lack of a systematic method in LGs to sell, reuse, or recycle such items, inadequate storage facilities at LGs, inaccurate recording of volumes of collected recyclable waste, and lack of LG supervision.

Recyclable waste was one source that could increase LGs' income. In 2018 the Kaduwela Municipal Council earned LKR 392,904 (AU$3,168), selling non-degradable waste items collected through waste fairs. If the council sold a daily collection of recyclable waste, their income would be higher, adding some resourcing to MSWM.

Citizens also make a small contribtuioin to door-to-door waste collectors:

> *Sometimes people give us money. It's not a bribe. We take what they gladly give. We do not ask for money. If they offer, we also accept [ID LGKAPO02*: Public Employee/Local Government]

Although some LG employees said that citizens offered money or materials to show appreciation for their service, others explained that waste collectors "received such gifts as bribes".

Some participants claimed that nobody wanted to resolve the MSWM problem because of the illegal benefits gained by many actors involved in the process:

> *Waste management issues in Sri Lanka are like cancer or a beggars' wound. Because if the wound is healed, the beggar cannot ask for money from the people. If this issue is resolved, many corrupt politicians and bureaucrats will lose their illegal income* [ID PCPR01: Elected Public Representative/Provincial Council].

The above-cited statement summarised the significant factors involved in the failure of the 2007 NSWMP in Sri Lanka: a lack of support and absence of accountability of political and bureaucratic leaders to manage MSWM in a sustainable way. This view implies that increasing LG MSWM operational system capacity, effective utilisation of available resources, more resource recovery, and reduction of open dumping, were difficult goals to meet.

### 6.3.3 Effects of mafia on the 2007 NSWMP implementation

In this research, mafia is defined as small groups of people who engage in criminal activities, known as 'Paathala Kandyam' (underworld groups) in Sri Lanka. The activities of these groups influenced the 2007 NSWMP implementation, particularly in the main cities. According to several participants, the two main influences of mafia gangs were: unlawfully controlling LG dumpsites, and influencing contractors who supplied outsourced services to LG MSWM:

> *Colombo garbage [dumpsites located in Colombo district] means the underworld. These dumpsites are controlled by underworld groups. No-one is allowed to touch the Colombo garbage* [ID CGPR01: Elected Public Representative/Central Government].

Using extortion, mafia groups pressured contractors who supplied outsourced services for MSWM. This situation was explained by a participant who described mafia influence on contractors for the removal of garbage from the Bloumendhal garbage dumpsite in Colombo district:

*The member of the underworld gang spoke to the contractor and said that, 'Don't*

*touch that garbage. If you want your contract, you must pay [this amount of] money*

*to a leader of the mafia group monthly'* [ID CGPR01: Elected Public Representative/

Central Government].

Some participants revealed that such incidents happened in several places. In such cases,

contractors would leave the job, reduce the quality of the work, or submit a tender with a

higher cost. However, according to some participants' perceptions, despite many

politicians and employees at all levels of government being linked with mafia groups, the

government did not take action to control the situation.

### 6.3.4   Conclusion – effects of corruption and mafia on MSWM

The participant view reflects that widespread corrupt practices created several challenges

for effective MSWM in Sri Lanka. First, it hindered the two essential components

emphasised by the 2007 NSWMP: infrastructure development and reducing open dumping.

Second, corruption created obstacles to increasing the private sector's contribution to

MSWM. Third, it had an adverse impact on the quality of LGs' waste collection and disposal

services. Fourth, these corrupt practices prevented the use of available finance and other

resources of LGs for effective policy implementation.

The personal interests of politicians and bureaucrats and a lack of transparency and

weakness in scrutiny mechanisms at all levels of government led widespread corruption in

the implementation of the 2007 NSWMP.

## 6.4 EFFECTS OF ADMINISTRATIVE ISSUES ON THE 2007 NSWMP IMPLEMENTATION

Administrative bottlenecks created by rigid rules and lack of integration presented significant challenges for MSWM operations in Sri Lanka. This section discusses the consequences of these administrative issues.

### 6.4.1 Effects of financial and administrative regulations on the 2007 NSWMP implementation

Among several issues created by financial regulations, some participants highlighted that not being permitted to use the LG revenue earned from waste for the improvement of the MSWM operational system and maintaining a separate account for MSWM as key challenges. Furthermore, lengthy and complex administrative procedures for filling staffing vacancies and acquiring land for waste disposal were cited as administrative obstacles that prevented the implementation of the 2007 NSWMP.

For example, if LGs needed to repair machines and vehicles, the required procedure was to obtain quotes from at least three government-registered service providers and obtain approval from the technical committee of the LG for the repair. Local governments would be challenged in an audit inquiry if they did not follow the financial regulations. Due to the laborious process, LGs were reluctant to obtain repairs even though broken down machinery and vehicles hindered the performance of MSWM:

> *Responding to audit inquiries is a headache* [ID LGKAPO03: Public Employee/Local Government].

As implied in the above statement, the vehicle fleets of LGs were always under-resourced. This affected collection services. Complex financial accounting systems had a direct impact on LG MSWM services.

***Effects of administrative rules and regulations on the 2007 NSWMP implementation***

LGs needed to follow a lengthy and time-consuming process to fill permanent or casual staffing vacancies. The process for filling vacancies required manual paperwork and the approval of several agencies at the provincial councils and the Central Government. This process of authorisation required at least six to seven months. For example, in the Ambalangoda Pradeshiya Sabhawa one post has been vacant for 8 years. Until LGs received permission to fulfil vacancies, most had no way to effectively address MSWM workloads.

Acquiring land from the Central Government for waste dumping and composting was another lengthy complex process. One example was a land acquisition request sent from 2016 by the Ambalangoda Pradeshiya Sabhawa to the Central Government. This proposal was not fulfilled until the end of 2019.

While financial and administrative rules and regulations were introduced to maintain good governance practices some of these rules and regulations have created obstacles to the implementation of the 2007 NSWMP.

## 6.4.2 Effects of coordination issues on the 2007 NSWMP implementation

According to many of the participants, the lack of a systematic mechanism to coordinate various actors created significant challenges to effective MSWM in Sri Lanka. Various institutions from the central, provincial, and local governments, the private sector, NGOs, and community organisations were involved in the MSWM process. Coordination across

levels of government and non-government actors is an essential factor in delivering efficient services.

Central Government officers used a few strategies to coordinate levels of government, citizens, and the private sector, but participants in this study were of the opinion these were not effective:

> *Coordination among institutions is extremely poor. Even coordination within the ministry [Ministry of Environment] is also lacking. It makes the failure to implement current policy* [ID R01: Researcher].

Poor coordination delayed the implementation of projects, created conflict among actors, and an overlapping of functions.

### Current coordination methods and their limitations in MSWM

According to a few participants, the Central Government established the National Solid Waste Management Support Centre (NSWMSC) as a national hub for MSWM. It acted as a coordination institution of the Central Government's Ministry of Public Administration, Home Affairs, Provincial Councils, and Local Government to connect with provincial councils and LGs, but it did not coordinate other institutions. Some of the provincial council participants described it as irregular and chaotic:

> *We always try to connect with relevant Central Government institutions, such as Central Environmental Authority. But they neglect us, and we don't have a way to connect with them* [ID LGABPR02: Elected Public Representative/Local Government].

Another option for government officers was to use personal networks to avoid obstacles to official MSWM work. For example, as CGPO02, a Central Government' public employee revealed, when required to exchange opinions or obtain quick responses from other levels of government, bureaucrats would use their personal connections and friendships developed through their professional life or higher education.

Limitations to using personal connections, including political influence for delaying the work or to not give support, administrative limitations such as provincial laws, and conflicts among levels of government.

### Creation of unfavourable conditions for implementing the 2007 NSWMP

The lack of coordination across levels of government resulted in severe challenges to constructing projects for infrastructure development. An example of this was the Aruwakkalu sanitary landfill project. The North-Western Provincial Council, and the Wanathawilluwa and Puttalam Pradeshiya Sabhas created unfavourable conditions and delayed project implementation, inlcuding passing a resolution to refuse approval for the project:

> *Dealing with the Provincial Council [North-Western] was a critical challenge [to the Central Government] because there was no mechanism to coordinate the institutions* [ID CGPO02: Public Employee/Central Government].

Moreover, as a few participants highlighted, many infrastructure development projects proposed by the Central Government did not commence on time due to coordination issues, including delaying of approvals and difficulties in building consensus among stakeholders on project components or site selection:

*As the government does not have an established system to coordinate institutions, it created various obstacles to starting the project, including delaying approval and the inability to bring all project stakeholders into one platform to discuss issues in the project. The Central Environmental Authority took one year (2016/17) to grant approval for the project conducted by the Ministry of Megapolis and Western Development* [CGPO06: Public Employee/ Central Government].

The lack of a proper coordination mechanism created problems of responsiveness, as the government avoided serving citizens and responding to public demand within a reasonable timeframe. Furthermore, this resulted in inefficient and ineffective service delivery because of interruptions to the implementation of recycling, resource recovery, and composting projects.

### *Creation of challenges for planning and decision-making in the 2007 NSWMP implementation*

A lack of coordination hindered planning and decision-making in MSWM activities at different levels of government due to a lack of circulation of relevant information among actors involved in the MSWM process. As the Central Environmental Authority played a vital role in the regulatory functions of MSWM, receiving relevant information was essential for effective decision-making and planning.:

*A simple example is the ministry has prepared a report related to solid waste. But, the Central Environmental Authority is unaware of that report until we told the Director [Solid Waste Management Unit/Central Environmental Authority] about the report* [ID R01: Researcher].

The absence of a coordination mechanism among institutions under the same ministry interrupted the distribution of crucial information on MSWM.

There were coordination issues within LGs too. Although LGs used an internal hierarchy to coordinate decision-makers and waste-handlers, this was not always effective. LG decision-makers were not receiving the required information and feedback from the waste-handlers to enable them to make effective decisions on MSWM. The Ambalangoda Pradeshiya Sabhawa was one example cited by a few participants:

> *After being sworn in the Chairman, on several occasions, we [compost yard workers] requested a ten-minute meeting to talk about our issues because we do not have any other way to communicate with him. Now almost two years have passed. But we did not get a chance to meet him [ID LGABPO01: Public Employee/Local Government].*

Consequently, issues in the compost yard, including finding a buyer to sell segregated recyclable waste and establishing a systematic way to sell compost, were not yet resolved.

### Creation of conflict among actors involved in the 2007 NSWMP implementation

Without a national-level coordination mechanism, many agencies at different levels of government played various roles in MSWM. Therefore, conflicts arose among the actors. In one example from 2015-2019, the Ministry of Megapolis and Western Development engaged in MSWM activities, such as developing infrastructure through their Solid Waste Management Unit, and implementing training and awareness programmes on MSWM for LG employees. However, MSWM was not a matter under the ministry's purview. Therefore,

many LGs, such as the Colombo and Kaduwela Municipal Councils, had conflicts with the Ministry of Megapolis and Western Development:

> *Anybody can do anything in solid waste management because there is no national-level institution to handle interfering by Central Government's ministries into our [LGs'] activities. They [Ministry of Megapolis] intentionally work to grab our power and resources on waste management* [ID LGKAPR01: Elected Public Representative/ Local Government].

### 6.4.3 Effects of monitoring and evaluation on the 2007 NSWMP implementation

Participants cited poor monitoring and evaluation at all levels of government as a reason for the lack of effectiveness of current MSWM practices. As revealed by a number of participants, although LGs had some supervision and scrutinisation methods for MSWM, they did not have an evaluation system, outside of simple day-to-day supervision.

The lack of evaluation of policy implementation was a critical challenge in identifying weaknesses and issues in the 2007 NSWMP.

*Available supervision and scrutinisation methods for LG MSWM activities*

According to many of the participants, LGs used some internal supervision and reporting systems to maintain the day-to-day activities of MSWM. Supervisors were responsible for reporting the progress of MSWM to each LG council through the commissioner or secretary of the LG. As described by some participants, MSWM supervision was one among various responsibilities of the public health inspector and management assistants. For example, some of the responsibilities of the public health inspectors were control of communicable and non-communicable diseases, inspection and approval of sanitary facilities for building

construction, MSWM, and food safety in hotels and restaurants. However, their MSWM supervision roles were not performed well:

> *Public health inspectors are responsible for supervising daily waste collection and the compost yard. But they can't do it regularly, because they also responsible for many other duties* [ID: LGABPO03: Public Employee/Local Government].

Moreover, several methods were used to scrutinise LG MSWM activities, including auditing, council debates, questioning opportunities, and council committee meetings at each level of government. An example of this was the LGs' environmental committee which discussed MSWM activities. However, in general, these methods were predominantly used to investigate misconduct or unlawful activities:

> *If they [members of the LG's council] find misconduct or a problem, it becomes a matter for debate* [ID LGKAPO05: Public Employee/Local Government].

As LGs received Central Government funding for their activities, they were required to submit their annual performance reports to the Parliamentary Accounts Committee, which oversaw progress. Moreover, LGs needed to submit their monthly, quarterly, and annual progress reports to the Provincial Commissioner of Local Government. However, as some participants explained, these reports were limited to financial and activity target achievements, but did not focus on field-level issues or qualitative information. Some participants also highlighted that auditors paid most of their attention to financial matters rather than work activities. Therefore, it was challenging to identify MSWM performance issues of LGs.

Of the interview participants, 63 per cent (n = 19/30) revealed that LGs did not have effective monitoring and evaluation systems for current MSWM. These participants highlighted a lack of human resources as a significant factor influencing the lack of monitoring and evaluation. Some participants also highlighted three interconnected factors: the absence of proper planning, limited reporting, and an inadequate database for MSWM, as the root causes of the dearth of monitoring and evaluation of LGs.

Some participants stated that overall monitoring and evaluation of the 2007 NSWMP was a responsibility of the Ministry of Environment and Wildlife Resource, but that had not been performed well as a reason for the lack of monitoring and evaluation at the national-level:

> *Monitoring and evaluation was suppressed or missed due to limited human resources, and our [Ministry of Environment's] excessive workload* [ID CGPO05: Public Employee/Central Government].

According to some participants, although the country had a national policy, strategies, and guidelines for MSWM, there was a gap in action plans in LG. With the exception of some LGs in Western Province, most LGs across the country did not have mid-or long-term action plans for MSWM:

> *We [Ambalangoda Pradeshiya Sabhawa] do not have a specific action plan for waste management. We include suggested activities into the [annual] budget proposal* [ID LGABPO03: Public Employee/Local Government].

As explained by one of the provincial public employee (PCPO01), by the end of 2019 only 26 of 49 LGs in Western Province had a five-year action plan (2019-2023). There were several reasons for this:

> *Local Governments' political leadership do not understand the importance of action plans. Public employees also are sometimes too lazy to do new work. Furthermore, it is a bit difficult for them to prepare action plans because many local governments do not have accurate data on waste* [ID PCPO01: Public Employee/Provincial Council].

Therefore, although LGs had undertaken some activities, it was difficult to measure their progress.

As some participants revealed, the lack of a systematic recording systems was a key reason preventing effective evaluation in MSWM. Due to a lack of facilities for measuring waste volumes, most LGs lacked accurate data on MSWM, including the volume of collected waste, waste used for composting, and recycling:

> *We [Ambalangoda Pradeshiya Sabhawa] do not monitor [measure] a quantity of collected waste because we do not have measuring facilities* [ID LGABPO04: Public Employee/Local Government].

Some municipal councils, such as Kaduwela, used a digital recording system with waste weighing machines to record in and out waste volume (Figure 6.2), but according to many participants, these machines were not in continuous use. This was often done to prevent LGs from calculating the actual cost of MSWM and the income received from selling waste:

> *After some time, the employees who work in waste yards intentionally break these machines. Therefore, the electronic weighing system does not continue in*

*many waste yards* [ID CGPR01: Elected Public Representative/Central Government].

*Local governments do not have accurate waste data particularly collected and disposal waste volume. Therefore, it is hard to calculate income or actual expenditure on MSWM. Because all depend on false data recorded in stock books* [ID CGPO06: Public Employee/Central Government].

Most expenditure, including costs for waste transportation, final disposal, and other treatment processes, and the progress of their activity should be measured according to collected waste volume.



Figure 6.1: Waste bridge at Kaduwela Municipal Council
Source: Researcher, 18<sup>th</sup> December 2019, 10.30 am

As explained by some participants, in addition to failing to accurately measure and record the volume of collected garbage, the LG system for recording MSWM expenditure was chaotic due to weaknesses in the accounting system. Therefore, it was difficult to calculate actual expenditure and income for MSWM:

*Since they [LGs] do not have a separate budget line for waste management, LGs include MSWM expenditure in the health budget line. I don't think that it is an effective way to monitor and evaluate waste management activities* [ID CGPO01: Public Employee/Central Government].

The health budget line of LGs included nine sub-budget lines, with many relating to MSWM including administration, disease prevention, and health education. As a few participants explained, LGs included budgets for different MSWM activities into these sub-budget lines, e.g., MSWM awareness programmes could be included in health education. Since MSWM income and expenditure was included in other budget lines, LGs could avoid responsibility if any issues arose:

*If there is a problem in the health sector, they [LG] say that the money has been spent on garbage. If the problem is waste management, they say that those expenditures have been for health activities. In the end, both have not happened. But money has been spent* [ID CGPO03: Public Employee/Central Government].

### Effects of a lack of monitoring and evaluation on the 2007 NSWMP implementation

Due to a lack of monitoring and evaluation LGs could not identify the weaknesses and issues in MSWM activities. Therefore, several tasks undertaken by LGs continued without any progress over the years. An example was the failure of the achievement of waste reduction targets. As a Central Government participant (CGPO06) stated, although the Colombo Municipal Council recruited 56 community development officers to reduce waste, this completely failed due to lack of monitoring and performance evaluation:

*The task given to these officers was to organise the community and reduce the waste volume through awareness programmes … However, from January to December [2018], not a single kilo [of waste] was reduced [in Colombo Municipal Council]* [ID CGPO06: Public Employee/Central Government].

As further explained by the participant, although officers filled in the forms, including information about the awareness programmes and other activities conducted and no-one checked the effects of their contribution to reducing waste volumes. Therefore, although the government bore the high cost of MSWM, the efficiency and effectiveness of MSWM and accountability for public money was neglected.

Some participants provided examples of resource wastage by citing the misuse of compost barrels distributed to households by LGs, aiming to reduce degradable waste volume added to open dumpsites. The Kaduwela Municipal Council distributed around 4,000 compost bins to households over the last decade, but, LGs did not monitor or evaluate the results of the programme:

*No-one followed up on the [compost] barrels provided. They were given for free, so people often use them for other purposes, such as plant flowers* [ID CGPO03: Public Employee/Central Government].

As compost barrels were supplied at concession prices or free of charge, LGs had to spend around LKR 3,500 - 4,600 (AU$29 - 38) per bin. Yet, these barrels were not used for composting. As households with compost bins continued to place their degradable waste in the LG waste collection, it became apparent that the programme objectives had failed.

### 6.4.4 Conclusion – effects of administrative issues on MSWM the 2007 NSWMP implementation

This research has revealed that the current MSWM in Sri Lanka was operating without the essential elements emphasised by the 2007 NSWMP as required for effective policy implementation. These limitations included the absence of a system to coordinate actors between levels of government, and a lack of communication methods to exchange information among actors involved in MSWM. Weak monitoring and evaluation at all levels of government presented a challenge to the identification and resolution of problems in MSWM operations and to reduce resource wastage. Furthermore, existing administrative and financial regulations offered little assistance to LGs performing their MSWM responsibilities.

### 6.6 CONCLUSION

Through examining the diverse interests of various actors and governance issues, this chapter has provided an overview of how various factors affected the implementation of various components of the 2007 NSWMP.

Participants suggested that the government's inability to apply a number of good governance principles resulted in the ineffective implementation of the 2007 NSWMP. A lack of transparency at all levels of government decision-making and action driven by the personal and political interests of political and bureaucratic leaders, such as the acquisition of illegal benefits, impeded the government's ability to maintain accountability to provide efficient and effective MSWM service delivery. The government's inability to use the potential of the private sector to enhance infrastructure development due to corruption

was an example of this. A lack of coordination and communication between different levels of government hindered effective policy implementation by creating disputes and conflicts on implementation projects, programmes, and policy-decisions at different levels of government.

This chapter has illustrated that under the current governing system in Sri Lanka with elements of political favouritism, deeply rooted corruption, disputes led by the vested interests of political leaders, and rigid and unsupportive regulations to perform LG responsibilities, the 2007 NSWMP has been unable to overcome the challenges involved in MSWM operations.

From the participants' point of view, the modernisation of the MSWM operational system and continuous monitoring and performance evaluation would provide a remedy for LG corruption. To enhance transparency and accountability in LG tasks, some participants suggested introducing a separate budget line for MSWM to replace the current chaotic system.

Theoretically, since the 2007 NSWMP was based on internationally recognised principles and approaches, it should have sufficiently addressed key problems in Sri Lanka's MSWM; however, the efficacy of the implementation process was hampered by existing weaknesses in the governance system, and the neglect of good governance practices. Therefore, unless the governing issues are resolved, any policy that addresses the MSWM issues in Sri Lanka will not be successful. The following chapter will analyse the research findings discussed in Chapters Five and Six using the Multiple Streams Framework and the literature on policy implementation. In doing so, it will ensure that the findings can be

contextualised and highlight the unique contribution of the thesis to the broader public

policy literature.

# Chapter 7: Analysis

## 7.1    INTRODUCTION

The empirical results of chapters 5 and 6 presented a detailed overview of the research findings regarding participants' evaluation of the Municipal Solid Waste Management (MSWM) system and governance of the system as it was at the time of the field work in 2019/2020. These very detailed chapters will be analysed here drawing attention to the significance of the findings. In the Sri Lankan case of MSWM, the absence of clarity over responsibilities at different levels of government, a limited political and bureaucratic support, complexity of institutional and legal frameworks has presented significant challenges.

This chapter identifies the factors that play a role in the successful implementation of MSWM policies within a complex, decentralised governance system in Sri Lanka. The chapter also discusses key insights in relation to the multiple streams framework, considering some of the emerging challenges (between policy formulation and implementation phases) and suggestions ways to improve policy implementation from these perspectives.

First, the chapter explores factors relating to decentralisation and implementation of the 2007 National Solid Waste Management Policy (NSWMP) within four sub-sections considering institutional, political, resources and psychological factors.  It then turns to analysing the implementation phase of the MSWP policy from each of the five streams of the Multiple Streams Framework (problem, policy, politics, process, and programme

streams). For each stream key enabling or limiting factors is explained and the role of specific actors and their performance during the implementation phase is analysed. The chapter concludes by reflecting upon the challenges between phases of policy formulation and implementation.

## 7.2    INFLUENCE OF THE DECENTRALISATION IN THE 2007 NSWMP IMPLEMENTATION

This research argues that the design and practical issues of decentralisation create severe challenges in implementing public policies in developing countries. The core assumptions of decentralisation theories are rejected by the findings of this research. It refutes that decentralisation addresses challenges associated with governance and weak public service delivery by reducing central control over local planning (Bardhan, 2002; Ding & Yang, 2021), and addressing unequal resource distribution, and mitigating bureaucratic red-tape (Litvack et al., 1998; Rondinelli, 1981). Moreover, decentralisation theories suggested that decentralisation can facilitate a reduction of corruption by enhancing public and private sector participation and effective accountability mechanisms in policy implementation (Andriyana & Hogl, 2019; Conyers, 2007; Ghuman & Singh, 2013; Mehrotra, 2006). However, the research findings here for this Sri Lankan case study of MSWM contradicts this assumption. Negative effects of decentralisation can be associated with institutional, political, resource, and behavioural factors. Each is explained in the following discussion.

### 7.2.1    Decentralisation - Institutional factors

Rondinelli (1981) and others (e.g. Abd Manaf et al. (2009)) have argued that

1. The availability of an effective coordination and communication mechanism between the various agencies is a key factor contributing to effective implementation of

decentralised policy because it enables reciprocal interaction, information exchange, cooperative activities, and conflict resolution.

2. The absence of explicitly delineated functions, responsibilities, and roles between different agencies, and a lack of concise and ambiguous laws and directives to establish relationships among various levels of government can lead to implementation failure of policies.

3. Strong political commitment and support from the Central Government leaders to the transfer of planning, decision-making, and managerial authority to decentralised agencies is essential for effective policy implementation.

The findings of this study are in agreement with the above cited arguments. Here, research findings demonstrated an absence of a coordination mechanism between vertical and horizontal levels of government. This resulted in long delays in implementation, followed by abandonment, and failure of programmes and projects, as well as disputes between the levels of government (see Chapters 5.6 and 6.4.2).

The research findings show that unclear demarcation of roles, responsibilities, and functions resulted in overlapping functions, such as who was responsible for infrastructure development and resource distribution to LGs. Alternatively, some responsibilities and tasks were avoided, including the monitoring and overall supervision of policy implementation (see Chapter 5.6).

### 7.2.2 Decentralisation - Political factors

The findings of this research are agreed with the argument of Rondinelli (1981, p. 142), who stated that an essential condition for effective policy implementation is strong political

commitment and support from government leaders to transfer planning, decision-making, and managerial authority to decentralised agencies.

This research argues that two political factors are responsible for the failure of decentralised MSWM policy implementation in Sri Lanka. Inadequate commitment, support, and political patronage or bias of the Central Government's political leaders in programme selection, resource distribution to LGs and law enforcement explain challenges in policy implementation. Political interference and favouritism has been shown to be responsible for the failure of several MSWM projects, whose locations were selected based on political bias (the detail is discussed in previous chapters).

### 7.2.3 Decentralisation - Resource factors

This research argues that inadequate resourcing at the LG level is a significant factor responsible for ineffective policy implementation. Both LGs studied for this research suffered due to severe financial, physical, and human resource limitations (see Chapter 5.4.2).

This research argues that there were four resource constraints affecting LGs ability to implement the 2007 NSWMP in Sri Lanka. First, LGs had very limited authority of to access land necessary for implementation of policy initiatives (see Chapter 6.4.1). Second, there was suffocating control by the Central Government and provincial councils over LG funding (see Chapters 4.2.1 and 5.4.2). Third, complex and lengthy administrative and financial rules, regulations and procedures prevented necessary acquisition of staff for effective MSWM. LGs were required to follow lengthy and complex processes to fill staff vacancies, even though there was an urgent need for staff who could implement the

MSWM policy (see Chapter 6.4.1). Fourth, national level political leaders' interference on resource allocation created challenges for successful implementation of the 2007 NSWMP (see Chapter 6.2.3).

### 7.2.4 Decentralisation – Behavioural and psychological factors

A key assumption of decentralisation is that it promotes effective and efficient service delivery by reducing corruption and resource wastage in policy implementation (Dick-Sagoe, 2020; Ivanyna & Shah, 2011). However, findings of this research refute these theories. First, the rent-seeking behaviour of actors involved in the policy implementation, including all levels of government and the private sector undermined the chances of the policy (see Chapter 6.3.2). Second, negative attitudes and behaviour of political leaders to facilitate in effective implementation of a decentralised policy were illustrated by the recentralisation of power. Third, a lack of trust among citizens towards political and bureaucratic leaders resulted in abandonment of several initiatives.

As demonstrated by the research findings, although LG used privatisation as a strategy to deliver efficient, effective, and quality MSWM to the citizens by reducing the government costs, it resulted in increasing the cost elsewhere and was corrupt (see Chapter 6.3.2).

Although the Government of Sri Lanka used its decentralised approach to implement MSWM policy, the transfer of functions in the absence of adequate resourcing and without a clear delineation of power, the potential benefits of decentralisation in MSWM policy implementation have been undermined.

## 7.3    FIVE STREAMS DURING THE 2007 NSWM POLICY IMPLEMENTATION PHASE

This research is primarily focused on the implementation phase of the policy process (see the left side of Figure 7.1). The policy process has five phases, implementation being the fourth. There are also five critical junctures providing a transition from one policy phase to the next (see the right side of Figure 7.1). This analysis is focused on the space between critical juncture three and four (see the horizontal rectangle marked in purple in Figure 7.1). The problem stream (blue thread), policy solution stream (red thread), politics stream (green thread), process stream (black thread), and programme stream (yellow thread) each hold a different position in this fourth phase.
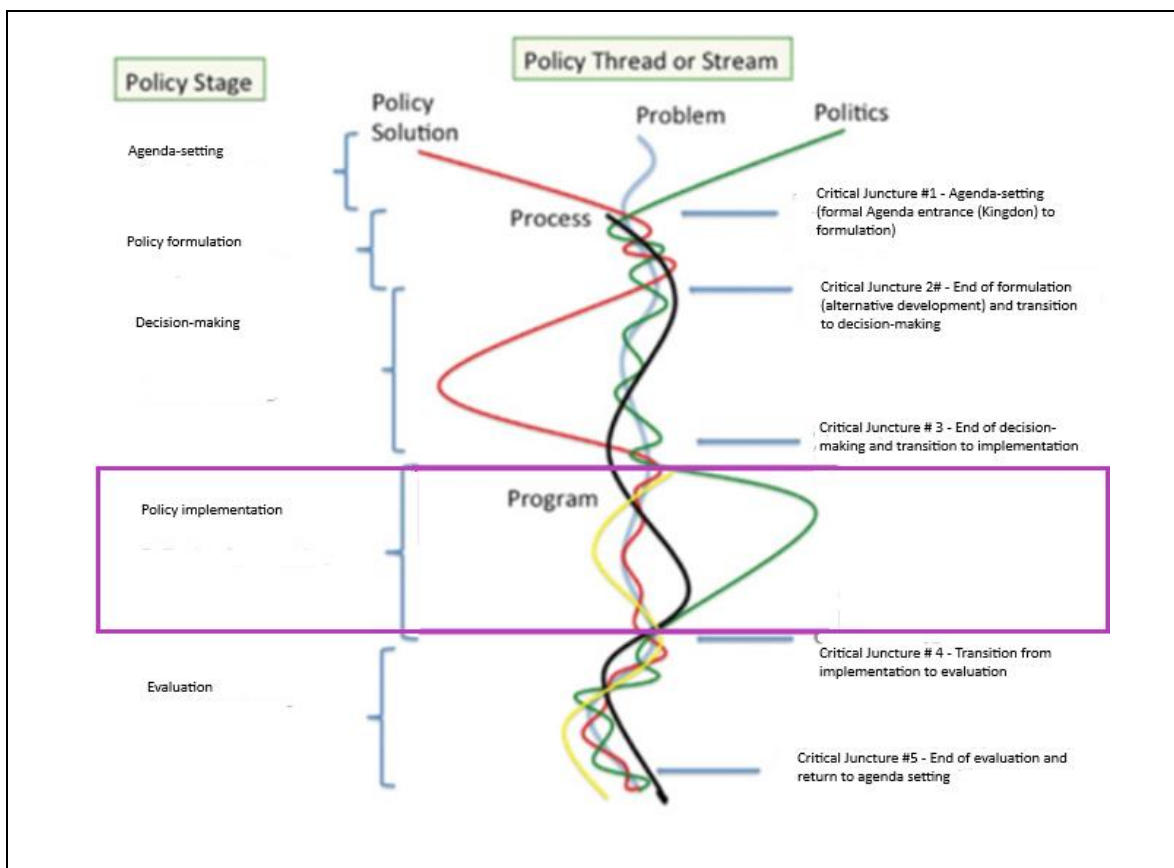


Figure 7.1:  Five Streams Model of the policy process

Source: Howlett (2018)

According to the MSF, the politics stream (green thread) separates from all the other streams during policy implementation (see Figure 7.1) and implementation responsibilities should be delegated to bureaucrats (Howlett, 2018).

However, the findings of this research demonstrate that politics does not end when implementation begins. The abuse of power and channelling of public resources by political leaders who partake in political patronage towards devoted supporters ensures that the politics stream remains closely entwined with the others streams in the Sri Lankan context.

Howlett (2018) did explain that in corrupt or highly politicised countries, some actors from the politics stream tend to continue to be active by exerting influence and creating obstacles to programme design and designers. The research findings of this study have provided empirical evidence to support Howlett's (2018) argument on this point. Howlett though, did not fully elaborate the reasoning behind the involvement and influence of political actors in the programme stream. Political favouritism and political leaders' desire to earn illegal benefits (Dávid-Barrett & Fazekas, 2020) and to exert political patronage over loyal followers has been found to result in poor resource allocation to other agencies and actors involved in the implementation process (Ajulor, 2018; Grindle, 1980).

This research has shown that in devolved governance systems, when political power is concentrated, good governance can be compromised. Furthermore, if the governance system is also characterised by corruption, opportunities for self-interested individuals to affect policy implementation exist. This research demonstrates that coalitions formed by powerful political and bureaucratic leaders to advance their personal or political interests

within the programme stream of the policy implementation phase contributed to the failure of the implementation of the 2007 NSWMP.

### 7.3.1 Policy implementation – the problem stream

This research argues that the challenges of coordination and communication across the complex institutional frameworks within the devolved governance system, significantly shaped the defining of problems during the implementation phase. The research has also demonstrated that a few unexpected actors shaped the problem stream due to the challenges of aligning purpose in this highly politicised and corrupted governance system.

***Factors involved in shaping the problem stream***

While the MSF does not explain the role played by coordination in shaping the problem stream in a devolved context, vertical and horizontal coordination played a significant role in the defining of problems, because it allowed for the sharing of information between and within levels of government (Rodríguez-Pose & Muštra, 2022). Coordination also allows actors in the upper levels of government to gain a deeper understanding of the challenges of implementation at the local level (Thuku et al., 2020).

Professionalism, knowledge of policy problems, and common interests are key factors that unite actors within epistemic communities (Gough & Shackley, 2001; Haas, 1992; Howlett, 2018). The research findings agreed with Howlett (2018, p. 15) who argues that knowledge is the 'glue' that unites actors within the problem stream.

*Actors involved in the problem stream of the 2007 NSWMP implementation*

The research findings here show that problem stream actors in various policy sub-systems were linked internally by their professional expertise and familiarity with MSWM issues (e.g., bureaucrats at different levels of government and NGOs) and citizens' experiences (e.g., a pressure group formed by victims of the Meethotamulla dump collapse). These actors' knowledge contributed to the shaping of the problem stream.

According to the MSF, the problem stream consists of epistemic communities that include scientists, academic experts, government officers, political party members, and others depending on the case (Howlett, 2018; Howlett et al., 2017; Mukherjee & Howlett, 2015). The research findings show that several unanticipated actors, were involved in defining and articulating policy problems. These actors included, the Supreme Court, a few NGOs working on environmental issues, religious leaders, and various pressure groups also significantly shaped the problem stream (see Section 6.2.4). The role of non-government actors becoming more prominent and increasing transnational interactions are reasons for why new actors enter into these epistemic communities (Mai'a, 2013).

Knowledge of the problems, aspects of professionalism, the common interests of the actors, and citizens' experiences have played a significant role in shaping the problem stream in the implementation of the 2007 NSWMP in Sri Lanka.

### 7.3.2 Policy implementation – the policy solution stream

Actors from different policy sub-systems, including bureaucrats from several Central Government and donor agencies, connected and formed groups through various activities related to implementation. However, the policy solution stream was fragmented within Sri

Lanka's devolved governance system due to a lack of coordination and consultation between levels of government. Many solutions introduced by the Central Government were unsuccessful due to a lack of endorsement by the other levels of government.

***Factors involved in shaping the policy solution stream***

In theory, in the policy solution stream actors connect through a range of activities, including policy articulation, development, publicity, and implementation of a particular model of governance or socio-technical infrastructure (Béland et al., 2018; Howlett, 2018; Mukherjee & Howlett, 2015; Simons & Voß, 2018).

This part of the theory was not fully supported by this study. Actors from a few Central Government agencies, donor agencies, the private sector, and NGOs were connected through articulating, promoting, and implementing some policy solutions during the implementation phase.

However, due to institutional complexity and a lack of coordination in the governance system, neither Central Government actors nor the actors between the levels of government were well-connected. Consequently, a lack of consultation and a fragmented situation in the policy solution stream emerged across levels of government. Provincial and LG policy actors' suggestions were rarely considered in the national-level policy solution stream. Consequently, policy solutions received either less support or rejection by LGs and citizens leading to implementation failure.

The MSF suggests that heterogeneous networks of policy consultants, academia, administrators, policy scientists, business, civil society, and think- tanks[14] deliberately create groups to materialise their policy solutions and engage in competition to promote and market a particular tool or combination of tools for governance to policy-makers (Howlett, 2018).

The research findings support this contention. For example, a few NGOs, including the Centre for Environmental Justice, several pressure groups (e.g., the People's Movement against Meethotamulla Dumpsite), and religious leaders deliberately formed groups to publicise and compete with government actors to achieve their policy solutions, such as formulating a sustainable MSWM policy. However, non-government actors did not get the opportunity to promote their policy tools. Non-government actors had to submit their petitions to the court to achieve their policy goals. This indicates a closed policy context not open to citizens.

Although actors from the policy solution stream were connected and grouped within different policy sub-systems, a lack of consultation and coordination between levels of government and the closed policy context significantly shaped the policy solution stream leading to implementation failure.

### 7.3.3   Policy implementation – the politics stream

During the implementation of the 2007 NSWMP, the politics stream was more profoundly active than the theory suggests should be the case. Consequently, the streams

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[14] Discussed further in Section 2.2.5.

(programme, process, policy solution, and problem) were influenced significantly by the politics stream.

This research demonstrates that corruption, and a politicised governance system driven by the personal and party interests of the political leaders, and a lack of cooperation between levels of government allowed the politics stream to dominate the implementation process. The theory suggests that national mood and power shifts of political institutions play a role in shaping the politics stream (Béland & Howlett, 2016). This contention is supported here: the Meethotamulla garbage dump collapse shaped both the national mood and the politics stream.

### *Competition and conflicts of interest between political actors in the implementation phase*

The MSF suggests that actors from the politics stream are continuously involved in implementation activities and compete to adopt and implement their policy solutions (Howlett, 2018).

During the implementation of the 2007 NSWMP a range of publicly visible and less visible competitive actions, antagonisms, and disputes occurred within the politics stream with actors jostling for the adoption of their preferred policy solutions (see Sections 6.2 and 6.3).

In a multi-level governance system, different government agencies usually engage in policy implementation, with each agency carrying 'particular interests, ambitions and traditions that affect the implementation process and shape the outcomes' (Howlett, 2018, p. 16).

Competition and conflict existed between levels of government for several reasons, including political rivalry, resource acquisition, passing of blame for failure, and rewards for implementation success. One consequence of such competition was the resistance of acceptance other levels of government decisions and programmes (see Section 6.2.4). Diverse political interests of various levels of government have been obstacles to achieving key policy goals.

On the flipside of this point, the research findings showed that when the Central, provincial, and local governments were governed by different political parties, the upper levels of government were reluctant to offer their support to LGs (see Section 6.3.2). This demonstrates the limitations of devolution, clear legal provisions to release funds to LGs magnified by a lack of good governance were the key reasons for conflicts.

In this highly politicised and corrupt regime, various groups formed by political leaders within the same political party or government were able to influence the political stream and policy implementation. These groups were based on personal and political interests, including protecting political statutes, political patronage for loyal groups, and focusing on illegal earnings rather than policy objectives (see Sections 6.2 and 6.3). These complex coalitions extended from the Central Government to LGs, leading to competition and conflict among actors jostling to ensure the implementation of their preferred choices (see Section 6.2.2).

This corrupt, highly politicised, administrative system allowed several unexpected political actors to act continuously to reveal implementation issues and to force a resolution. This context created competition between government actors and coalitions of

non-government actors formed by national interests. These non-government actors included affected citizens, religious leaders, community organisations, pressure groups, and NGOs. These coalitions continuously competed with members of the politics stream to fix implementation failures in MSWM (see Section 6.3). Some NGOs and pressure groups filed lawsuits against the Central Government's decision to establish MSWM infrastructure, that threatened lives and livelihoods (see Chapter 6.2.4).  The interests and unwavering support of political leaders at all levels of government were essential factors in achieving successful policy implementation. A complex competitive environment based on the personal and political interests of political leaders at all levels of government resulted in a lack of prioritisation of, and limited support to achieve, the 2007 NSWMP objectives. A complex milieu of non-government actors was competing with political leaders from the government to demand effective policy implementation.

### 7.3.4   Policy implementation - the process stream

The following four factors significantly shaped the process stream: the absence of clarity of responsibilities of agencies in a complex governance system, the limitations of devolution particularly the lack of coordination between levels of government, the poor institutional capacity of the different levels of government, and the conflicts of interest of political and bureaucratic leaders at different levels of government.

***Factors involved in shaping the process stream in policy implementation***

Howlett (2018) argues that in different phases of the policy-making process, including implementation, the process stream creates sets of tasks and events that lead to policy outputs. The findings of this research demonstrate that three sets of implementation tasks,

procedures, and rules were created by bureaucrats and political leaders from different levels of government with low levels of coordination. The first set of tasks and rules were set by Central Government agencies in relation to national-level responsibilities, such as infrastructure development, overall monitoring, evaluation, resource distribution to LGs, and regulatory functions carried out by the field officers of the Central Government and LGs. A lack of clarity of the responsibilities and the absence of coordination between Central Government agencies created several implementation challenges due to overlapping national-level responsibilities that allowed task avoidance to occur. Despite this, the responsibility for monitoring and coordination within the Central Government, as well as between the levels of government, was neglected due to a lack of clarity on the responsibilities of each party. Consequently, this situation led to a complete lack of provision of infrastructure in most locations (see Section 5.4.2).

The second set of tasks were part of the remit of the provincial councils, including regulating LG MSWM and training LG waste handlers. The research findings show that provincial councils with specific institutions for MSWM were more proactive in the process stream than those that did not have specific institutions (see Section 6.4.3). For example, the Western Provincial Council had a five-year (2019-2023) provincial action plan prepared by the Western Provincial Waste Management Authority. However, the Southern Provincial Council did not have a separate institution and provided no evidence for the development of a plan.

Third, LGs were tasked to implement MSWM responsibilities within their legal and geographical jurisdictions, including waste collection and reduction, depending on available resources and the personal interests of the bureaucrats and political leaders

involved in the process stream. For example, the limited institutional capacity of LGs hampered the preparation of mid- and long-term action plans for MSWM (see Section 6.4.3), while many LGs' short-term plans were confined to waste collection and open-dumping tasks that were included in their annual budget proposals (ID PCPO01: Public Employee/Provincial Council). Therefore, the action plans and implementation tasks of many LGs did not meet the international standards outlined in the policy, leading to ineffective implementation.

Howlett (2018) argued that the process stream is shaped by coalitions that compete to follow the most appropriate process, ranging from consultation with citizens to consideration of the best administrative practices for implementing policies. There was a lack of evidence in the case to support the above contention. However, the research findings revealed that many political leaders and bureaucrats in the different levels of government were often connected according to their personal interests in illegal earning. A lack of good governance practices in the highly-politicised and corrupt governance system created an opportunity to prioritise tasks that brought illegal benefits rather than best administrative practices. For example, 'contracting out' is a recognised public sector method to reduce unnecessary financial burden, service delivery issues, and corruption. However, the research findings unveiled that politicians and bureaucrats within these LGs tend to exploit this practice as a means for engaging in corruption rather than utilising it to increase effectiveness of policy implementation (see Section 6.4.2). Therefore, in a highly-politicised and corrupt governance system, the influence of the network of political leaders and bureaucrats seeking illegal benefits was a significant obstacle to shaping the process stream towards effective policy implementation.

The factors involved in shaping the process stream differed by level of government. A lack of coordination across levels of government, unclear responsibilities of the different implementing agencies, and the personal interests of political and bureaucratic leaders significantly shaped the process stream at all levels of government. In addition, the resource limitations faced by LGs were a major factor in shaping the process stream at the local level. The following section analyses the programme stream during the implementation of MSWM in Sri Lanka.

### 7.3.5 Policy implementation - the programme stream

This research argues that five factors were predominantly involved in shaping the programme stream leading to ineffective implementation of the 2007 NSWMP. These factors included the conflicts of interest of multiple actors, corruption and politicisation led by a lack of good governance, the limitations of devolution, institutional complexity, issues in the legal framework, and. The research findings revealed that the persistent involvement of diverse interests of multiple actors added complexity to the 2007 NSWMP implementation.

***Effects of the politics stream actors' influences on policy implementation***

As suggested in the MSF, members of the politics stream can be continuously active within the programme stream and influence programme design and designers. This is more visible in corrupt or highly-politicised or client focused administrations (Howlett, 2018). The findings of this research strongly support this contention. The research findings highlighted that programme designers were strongly influenced by political leaders from local to

national-levels to change programme components for personal or political interests, including to earn illegal benefits and to retain status.

The capacity building of LG MSWM operational systems was another example of a policy aspect severely affected by the interests of Central Government political leaders (see Section 6.2.3).

In a corrupt and politicised governance system, a single or a few powerful individual political leaders (e.g., the President, the Prime Minister, and ministers) who acted according to their personal interests wielded significant influence to shape the programme stream and paralyse or compromise the entire policy implementation process. The Constitution allows for significant concentration of power in the President, and this was a key reason for this situation. The situation was magnified by the absence of good governance practices, including transparency and the rule of law.

Law enforcement to achieve policy objectives was also affected by mutual protection and support of political leaders and bureaucrats to fulfil personal interests, lack of good governance, and the absence of coordination between levels of government.

***Effects of citizens and social activist groups' interest in shaping the programme stream***

Several other groups of actors in the politics stream, including pressure groups formed by citizens affected by LGs' improper waste disposal, religious leaders, community organisations, and NGOs have been continuously involved in shaping the programme stream and policy implementation. In a few cases, the influence of such actors was able to force government decisions towards improved implementation.

*Effects of limitations of devolution on shaping the programme stream*

This research found that the limitations of devolution resulted in MSWM responsibilities being devolved without the allocation of adequate resources. In addition, LG resources were controlled by the Central Government and provincial councils, which significantly shaped the programme stream leading to ineffective policy implementation. These challenges were magnified by a lack of coordination and the absence of consultation between levels of government.

The research findings revealed that although MSWM responsibilities were delegated to LGs, there were no laws established to create a mechanism to provide the required resources to LGs on a fair and equitable basis. Moreover, the Central Government and provincial councils used administrative and financial procedures and the process they had built up from the establishment of the provincial councils to control LG resources (see Section 6.4.1). For example, a lack of human resources was a key limitation of most LGs. However, LGs were not able to fill either permanent or casual vacancies for waste collectors and drivers due to the Central Government suspending the filling of primary-level vacancies under Management Service Circular 01/2020. This resulted in ineffective waste collection, segregation, and final disposal.

This research finding is similar to Hemidat et al. (2022), who argued that transferring functions to LGs without allocating sufficient funds, materials, and infrastructure is a key impingement factor for effective policy implementation. In assessing the impact of devolution on healthcare and education in Pakistan, Nayyar-Stone et al. (2006) established a similar argument, pointing out that service delivery at lower levels of government tends

to fail in devolved contexts due to control of human resources by the upper levels of government.

The programme stream was negatively affected by the lack of intergovernmental consultation on policy solutions and processes, and programme streams. Local governments and provincial councils were resistant to support some key programmes of the Central Government, leading to ineffective implementation (See Chapter 6.2.4).

***Effects of institutional and legal complexity on shaping the programme stream***

The findings of this research have demonstrated that a complex institutional framework with a lack of clarity of the various agencies' responsibilities and the complex legal frameworks were critically involved in shaping the programme stream and the implementation process. The implementation process is further complicated by the fragmented tasks created by the various Central Government agencies which involved in shaping the process stream.

The Constitution, 14 Acts and Ordinances of the Central Government, provincial specific statutes (laws), LG by-laws, and a number of administrative and financial regulations were involved in the 2007 NSWMP implementation in Sri Lanka. For example, the constitutional provisions on the responsibilities of provincial councils and the Central Government were not clear. Because the Constitution included MSWM under 'matter of Environment' in the concurrent list, the power and responsibilities of MSWM were allocated to both the Central Government and provincial councils. Again LG matters, including MSWM, were devolved to the provincial councils by the Constitution. Since the

power, responsibilities, and functions of levels of government overlap, this created challenges in implementing the policy.

There were no Central Government laws that focused on ensuring effective policy implementation, instead the focus was on punishing citizens (see Sections 4.2.1 and 4.2.3). Additionally, some administrative and financial laws had a significant influence on the programme actors in the LGs, because some of these laws have delayed the acquisition of necessary resources for effective policy implementation.

Resonant with the MSF, this research has identified that the different interests of various actors at different levels of government significantly shaped the programme stream. A few powerful political leaders dominated the programme stream and blocked activities and actors that were essential to achieving policy objectives, such as private sector involvement in infrastructure development. Lack of support and the personal and political interests of most political and bureaucratic leaders at all levels of government led to the rejection of government accountability for providing a safe and clean environment for the citizens to live in. The limitations of devolution were deeply involved in shaping the programme stream and its ineffective implementation.

A complex institutional framework with lack of clarity on the tasks of different agencies and levels of government significantly influenced the problem, policy solutions, politics, processes, and programme streams, and undermined the implementation of the 2007 NSWMP. The challenges of effective implementation were exacerbated by the limitations of devolution, particularly a lack of intergovernmental coordination and good governance in a highly politicised and corrupt governance system. These implementation

challenges magnified a lack of political and bureaucratic support, corruption, conflicts of interest between different actors, and a lack of resources for LGs to implement the policy.

## 7.4    EMERGING CHALLENGES BETWEEN THE POLICY FORMULATION AND IMPLEMENTATION PHASES

Although this research investigated the implementation phase of the 2007 NSWMP in Sri Lanka, the findings offered some insights into policy formulation (see the phase between the first and second critical junctures in Figure 7.1), and the decision-making phases (see the phase between the second and third critical junctures in Figure 7.1).

### *Obstacles created by political factors in the decision-making phase*

The momentum for decision-making is created when the politics stream links with the process stream (Howlett et al., 2015). In 2018, bureaucrats and the Minister of the Mahaweli Development and Environment submitted the draft National Waste Management Policy to the Office of Board of the Cabinet Ministers (see Section 6.2.1). The drafted policy was approved by the Board of Cabinet Ministers in 2019, but nothing happened.

According to Howlett et al. (2015), slow evaporation (possible policy options may not arise or political interest will decrease), gradual erosion (eroded boundaries of a stream spill over into other streams and change policy outcomes), and blockage (the policy process cannot continue due to legal or other obstacles) are key factors that disrupt the policy process. Furthermore, unexpected flooding (unanticipated events influence the policy process) and deliberate change to a new course (political actors change policy direction) also alter or halt the policy process (Howlett et al., 2015). The findings of this case study is

supported with Howlett et al. (2015) contention, in two ways. First, the approval of the drafted policy has been significantly delayed due to the occurrence of 'unexpected flooding', as the national mood has been changed by a series of unanticipated political incidents. Second, a change of government power due to unexpected presidential elections held on 16th November 2019 and a simultaneous change of the Board of Cabinet Ministers, both led to stopping the 2019 National Waste Management Policy. This serves as an illustration of how the introduction of deliberate change to a new policy might impact the policy process.

The reluctance to give recognition to the previous government's policy initiatives was the main factor revealed in this research for the lack of interest of the new government to carry forward the already approved policy. Therefore, this research argues that in a highly politicised governance system, the final destination of a formulated policy is substantially affected by the political interests of the political leaders of the Central Government.

## 7.5    EMERGING PATTERNS OF THE FIVE STREAMS DURING THE POLICY IMPLEMENTATION

The analysis of the 2007 NSWMP implementation in Sri Lanka revealed a few patterns. The politics stream was profoundly more activated than the MSF suggested would be likely, and the programme, process, and problem streams were significantly influenced by the politics stream. The complex institutional and legal framework and the unclear responsibilities of the Central Government agencies and various levels of government significantly shaped the programme and process streams. The programme, process, problem, and policy solution streams were less coordinated across the levels of government due to the limitations of

devolution. Incomplete implementation in the corrupt and politicised governance system forced the actors in the politics stream (citizens, pressure groups, NGOs, and religious leaders) to continue to act to demand resolution of the issues by the government.

The five streams metaphor suggests that the politics stream is separate from the policy solution, problem, process, and programme streams during implementation (see Figure 7.1). However, the research findings revealed that the politics stream converged with the programme, process, policy solution, and problem streams and was strongly active in the policy implementation phase (see Figure 7.2). On most occasions, the personal and political interests of political and bureaucratic leaders at all levels of government substantially shaped the politics, programme, and process streams leading to ineffective implementation. When different political parties governed the three tiers of government, political leaders at the different levels of government were less supportive of each other in implementing the policy in order to secure their political status. The lack of accountability of political leaders to provide efficient and effective services was magnified by political confrontation and political leaders' focus on elections. These were the key reasons involved in this situation.
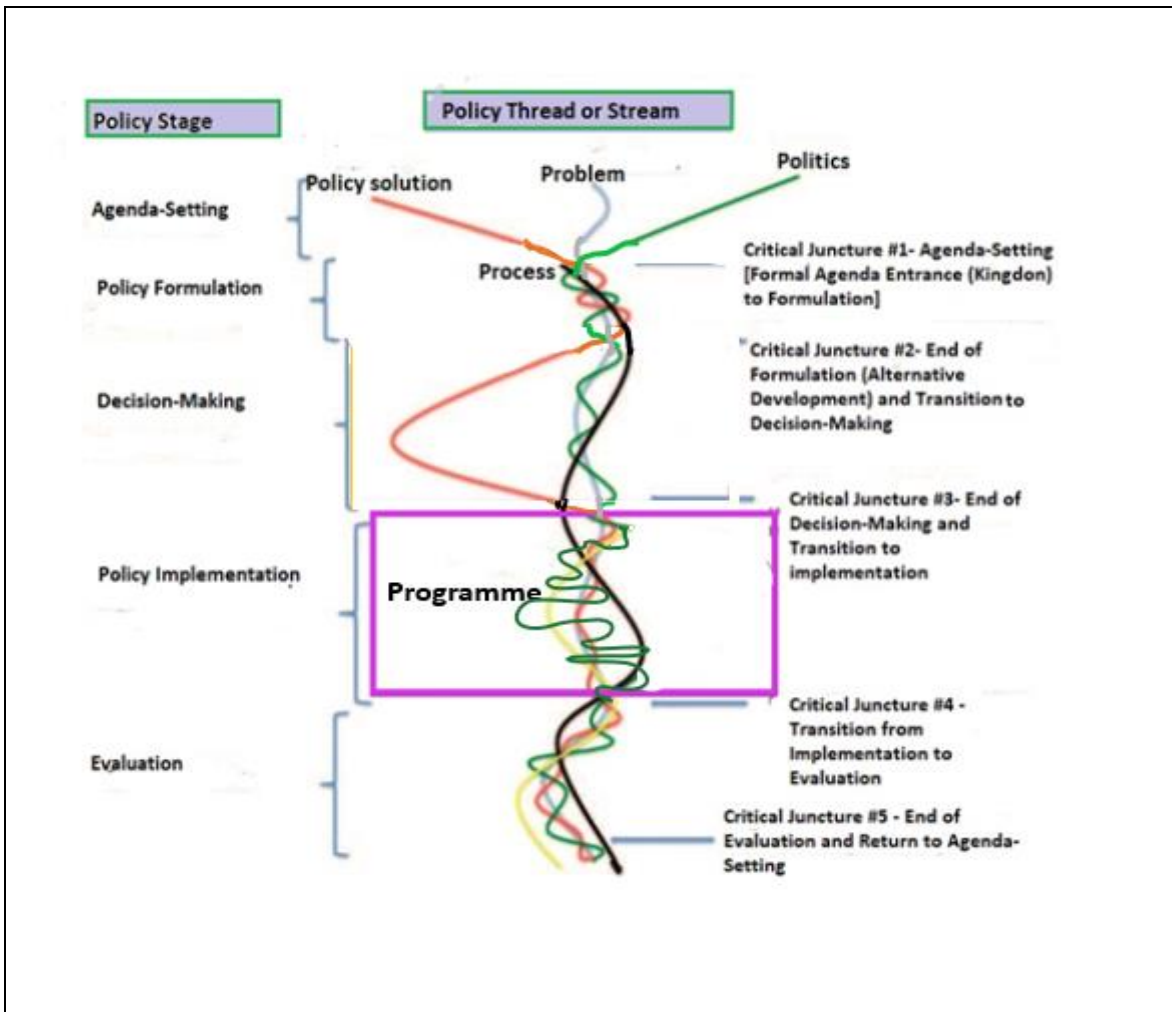
Figure 7.2: Flow of Five Streams during the implementation of the 2007 NSWMP in Sri Lanka

Source: Researcher prepared using Howlett (2018)

The significant pattern that emerged through the analysis was that actors from the programme, process, problem, and policy solution streams were less connected across levels of government and collaborated rather poorly.

The challenges posed by ineffective policy implementation, particularly in relation to human rights and environmental protection, allowed space for several unanticipated non-government actors to become involved in, and to shape, the politics, programme, problem, and policy solution streams. These actors attempted to rectify the ineffective implementation through protests and legal action against the government.

The change in power due to the unexpected presidential election, and the conflicts of interest of national-level political leaders, were identified as the key reasons involved in the stagnation of the problem, policy solution, politics, and process steams before reaching the implementation phase of the 2019 NSWMP.

Several factors from different perspectives, including governance, decentralisation, legal issues, and personal interests have shaped the five streams during the implementation phase of the 2007 NSWMP in Sri Lanka. The following section focuses on a range of alternatives for improvement of the MSWM policy implementation.

## 7.6    ALTERNATIVES FOR THE IMPROVEMENT OF POLICY IMPLEMENTATION

Complex issues in the implementation of the 2007 NSWMP demonstrated that various policy and governance aspects need to be addressed to achieve better outcomes in future MSWM in Sri Lanka. The rapid increase in annual waste generation and the current economic and political crisis in the country will sharpen the complexity of issues in MSWM operations in Sri Lanka. The empirical evidence and the analysis of the research clearly show that although the 2007 NSWMP is in line with the globally accepted principles and nationally viable approaches, governance issues, including politicisation, corruption, and issues in decentralisation hindered the effective implementation. Therefore, the alternative should be more focused on governance issues. Nevertheless, any alternative in the governance system.

Regardless of the alternative proposed, the responsibility and accountability of introducing and executing it rests upon the political leaders who abuse the authority bestowed upon them by the citizens. Consequently, a robust civil society movement is vital

to ensure the success of these alternative measures. In order to achieve this objective, it is imperative to establish a network within civil society that can effectively engage and garner support from proactive individuals, and strengthen the existing alternative forces.

Although, the under-resourcing of LGs and recyclers was a key challenge highlighted by the participants for effective MSWM policy implementation, the current economic crisis in the country (in 2023) will prevent more resource allocation for some years. Although establishing public-private partnership projects for infrastructure development was a viable strategy for sustainable MSWM, it appears to be a fraught option. Experience has demonstrated that the confidence of the private sector in working with government has been eroded by the corrupt, highly politicised, and ineffective governance system. Furthermore, the current economic crisis in Sri Lanka will not allow the government to invest in such mega-scale projects for several years. Therefore, viable policy, legal, and governance options are discussed below.

### 7.6.1 Policy and legal alternatives

Introducing a recall system[15] for elected public representatives and public employees at all levels of government is a key strategy that could be used to reduce corruption (Whitehead, 2020). This system would allow voters to recall their elected public representatives (and bureaucrats in some countries) prior to the ending of their term through specific procedures, if they engage in wrong doing (Welp & Whitehead, 2020). Several countries,

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[15] This is a direct democratic tool that can be used by the electorate for removing elected public representatives (and public employees in some countries). This tool allows the electorate, outside the normal election cycle, to demand a referendum or election to decide whether their elected public representative(s) (and public employees) are suitable to continue to hold their positions furthermore by signing a petition.

including Switzerland, USA (19 states and several LGs and regions in the USA), and a number of LGs in the Philippines use this strategy to prevent corruption in the public sector (Jovanovska, 2019). Moreover, control of the constitutional power of the President of Sri Lanka that was granted to appoint higher-level public officers (*Article 52 of the Constitution*) is an alternative to reduce corruption, as this will help to break up unethical relationships between political leaders and bureaucrats that lead to massive corruption at various levels of government. However, these changes in the governance system would need to be initiated and approved by the existing corrupt political leaders. Therefore, strong pressure from civil society to change the loopholes in the governance system is a more likely mechanism to secure these changes.

Corruption at all levels of government was a key factor in the ineffective implementation. Available legislation, such as the *Bribery Act No. 19 of 1994* and the *Penal Code*, provide enough legal authority to control corruption in policy implementation, but these were not functioning well at the time of the data collection due to the weakness of the implementation mechanism. Moreover, the *Right to Information Act No.12 of 2016* aims to maintain transparency in public sector activities, including decision-making and implementation. Transparency International Sri Lanka (2019) revealed that this law did not function well due to several institutional issues and a lack of public awareness. A few alternatives suggested by Transparency International Sri Lanka (2019) are applicable to combatting corruption in MSWM in Sri Lanka. These alternatives include empowering information officers at relevant agencies at all levels of government, and increasing the awareness of bureaucrats, public employees, and citizens on the *Right to Information Act*.

Conflicts between levels of government and within Central Government agencies were a significant challenge for effective policy implementation, including infrastructure development. A lack of clarity on the responsibilities within and between the different levels of government, the lack of coordination, and consultation between levels of government, and the political interests of political leaders were the key reasons for these conflicts. The appropriate method for clarifying responsibilities for the different levels of government is a constitutional amendment, but this is a complex, costly, and long-term process and previous experiences on *The Constitutional* reforms proved that existing political leaders were not willing to do it. Therefore, establishing a national-level apex body with representation from the Central Government and all provincial councils (political leaders and responsible bureaucrats) to coordinate and negotiate between and across levels of government would be an appropriate alternative. The potential governance structure might comprise several divisions or units, each staffed with professionals specialising in various facets of the Integrated Solid Waste Management Framework, including technical, environmental and health, financial and economic, socio-cultural, institutional, policy, and legal issues. To mitigate political involvement, the appointment of the chief executive position should be appointed by the Constitutional Council. Considering the economic crisis in the country, a viable interim option would be to strengthen an existing national-level agency for this task. This apex body should have the power and responsibility to coordinate all stakeholders, have decision-making power on infrastructure development, and be able to approve project proposals, distribute resources among LGs, and monitor the MSWM policy implementation in Sri Lanka. This might also reduce corruption and political patronage and allow the resolution of the overlapping of tasks and

avoidance of responsibilities by Central Government agencies. Although not exactly the same, options with some similar features have been used in Spain to build intergovernmental relationships for effective policy implementation. These alternatives have included sectoral ministers' conferences, bilateral cooperation commissions, and conferences of presidents of the Central and regional governments (Aja & Colino, 2014).

As a significant portion of MSWM consisted of biodegradable waste (estimated at 62 per cent), the most appropriate alternative was to reduce the biodegradable waste volume of LG waste collection. Therefore, a mechanism should be introduced to dispose of biodegradable waste within households. Providing compost barrels for households or biogas units for clusters of households would be viable options. As discussed in Section 2.5.3, KerDus community on the island of Java, and parts of Wales reduced food waste volume through community participation in compost. These are just some of the success stories in this space (Hidayati et al., 2021; Parker, 2020). Introducing a volume-based waste fee system for households and commercial entities, and enacting laws to restrict food waste disposal at open dumps or landfills, are key policy suggestions to reduce LGs' waste volume. As the research findings have revealed, inaccurate waste quantity data entry in manual data entry books was a key method used to earn illegal money by LG politicians, bureaucrats, the private sector, and public employees. As standard plastic waste bags provided by LGs are produced for specific waste quantities, a volume-based-waste approach would also relieve such corruption in the LGs. South Korea provides the best example of a considerable reduction of waste volume through a volume-based waste fee system and by enacting laws prohibiting the dumping of food waste (Min & Rhee, 2014).

Increasing the recycling rate using several strategies is a policy option for improving MSWM in Sri Lanka. These strategies could include enacting laws and establishing a mechanism to implement extended producer responsibility, incentives for recyclers, and a money deposit system to collect recyclable waste. Germany and South Korea are examples of countries that have increased waste recycling through an extended producer responsibility system (see Section 2.5.3). Many countries, including Germany and the United Kingdom, have used a money deposit system to collect recyclable packaging waste. With these initiatives, recycling rate in Germany have increased from 15 per cent in 1991 to almost 62 per cent in 2011 (Žmak & Hartmann, 2017). Providing low-rate interest loan facilities through banks and technical support for recyclers could also assist in improving the capacity of the recycling sector. Alternatively, some developing countries, including Indonesia and Thailand have successfully implemented a waste-banking system as a strategy to collect recyclable and reusable waste. These banks also provide people with extra income earnt through recyclable waste. This initiative can motivate people to collect and redistribute recyclable and reusable waste (Asteria et al., 2017; Pradiko et al., 2021). Therefore, establishing a waste-banking system with the support of LGs, community organisations, and recyclers is another strategy aimed at reducing the recyclable waste volume from households without access to waste collection services.

## 7.6.2 Other alternatives

A lack of transparency in procurement was another significant factor contributing to corruption. Therefore, as suggested by Transparency International Sri Lanka (2019), the implementation of an e-governance system for procurement and an open access information system in public agencies at different levels of government could be

alternatives. The Brazilian 'Comprasnet' system was an example of reducing corruption through the e-procurement system (Shim & Eom, 2008).

The manual accounting system used by LGs led to corruption in MSWM. Therefore, instead of manual accounting system of LGs, the application of a digitised accounting system could be another alternative for reducing corruption in MSWM in LGs. Karnataka State in India was able to reduce corruption at Gram Panchayat (village councils or lowest level of local governments) through the 'Pancha Tantra' online accounting system. In addition to the digitalised income and expenditure of gram panchayat, this system allows upper levels of government to monitor the functions of Gram Panchayat. Furthermore, the 'Pancha Tantra' online system enhanced transparency by enabling citizen access to information about gram panchayat's income, expenditure, and performance (Sodhi, 2021).

The complex challenges in the effective implementation of the 2007 NSWMP in Sri Lanka should be addressed through different perspectives. Therefore, this section has outlined several appropriate and viable alternatives from different perspectives, including policy, legal, and governance. The following section concludes the chapter.

## 7.7    CONCLUSION

This chapter has analysed the research findings presented in Chapters Five and Six using both decentralisation and the MSF (five streams). The research findings were supported by the MSF's contention of conflicts of interest of different actors within the politics, programme, problem, and policy solution streams that shape the streams and policy implementation. Resonant with the MSF, this research has demonstrated that actors from the politics stream strongly influenced the programme stream and the implementation.

Moreover, actors from the politics stream were very active within the problem, policy solution, and process streams, creating an unusual pattern in the five stream flow during the implementation phase in this highly politicised and corrupt governance system.

The MSF does not elaborate on the role played by complex institutional and legal frameworks, limitations in devolution, the absences of coordination and consultation, and a lack of clarity over the responsibilities of agencies and levels of government in shaping the streams and implementation. The involvement of resources, good governance, and power differentiation between actors to shape the streams and policy implementation also have a lesser focus in the MSF. The findings of this research have demonstrated that the above-cited factors significantly contributed to the shaping of the politics, programme, policy solution, and process streams and the policy implementation.

The next chapter will conclude the thesis by highlighting the significant empirical findings, and the theoretical and practical significance and limitations of the research. It also discusses the areas for further research that have emerged through this research.

# Chapter 8: Conclusion

## 8.1    INTRODUCTION

This study set out to investigate the effectiveness of Sri Lanka's national policy for solid waste management through two different theoretical lenses. It has identified that theories of decentralisation do not easily fit Sri Lanka's context and that the Multiple Streams (five-streams) framework works for all but some aspects of the Sri Lankan system. This topic is of considerable importance as MSWM is an unresolved global challenge, but especially so for developing countries. This policy focus in a decentralised country context has not yet been attempted. The thesis asked two key questions: How effectively did the government implement the 2007 NSWMP and what were the key challenges to this implementation?

This conclusion draws the study to a close by offering a synthesis of the outcomes of the empirical research so as to confirm achievements of the original objectives and to show-case how this study has broader relevance beyond Sri Lanka. It also addresses limitations, some that lay beyond the control of the study and the researcher, and some that relate to the study's design.  Investigations into how to manage MSWM do not end with this study. It serves as a useful addition to the body of knowledge, but avenues for extending what has begun here are addressed by this chapter.

## 8.2    KEY EMPIRICAL FINDINGS

The main empirical findings are presented in Chapters 5 and 6 and the analysis of them in Chapter 7. This section synthesizes these empirical findings to answer the study's two research questions.

The 2007 NSWMP did not achieve its goal of reducing open-dumping, increasing waste recovery and public-private-partnerships for infrastructure development.

The root causes of the implementation failure derived from the flawed governance system rather than from the 2007 NSWMP itself, because it had clear goals, was based on internationally recognised principles, and included recommendations to follow socio-economically and technically feasible approaches. The complex array of institutional and legal frameworks in the devolved governance system, together with a lack of coordination within the Central Government and between the levels of government, created significant challenges for effective implementation. Previous research on decentralised policy implementation in some other countries, such as Indonesia, Kenya, Malaysia, and Cambodia show similar results (Hemidat et al., 2022; Kituku et al., 2020; Spoann et al., 2018). Similar to other developing countries with devolved governance context, such as Pakistan and Iraq (Al-Mawlawi & Jiyad, 2021; Nayyar-Stone et al., 2006), Sri Lanka's LG became more vulnerable as either the Central Government or the provincial councils had not taken action to resolve the inherited weaknesses of the limited capacity of the MSWM operational system.

Theories highlighted that decentralisation can be used as an effective remedy for resolving issues in governance, ineffective service delivery, and unfair resource distributions between the levels of government in developing countries (Accominotti et al., 2010; Bardhan, 2002; Ding & Yang, 2021; Wekwete, 2007). The research findings did not substantiate this claim. Although Sri Lanka used all types of decentralisation on MSWM, these practices have failed to meet the basic conditions for effective decentralisation, including strong commitment and support from political and bureaucratic leaders. Instead

of resolving issues, decentralisation has exacerbated MSWM challenges in Sri Lanka, because lack of coordination and consultation between the levels of government created conflicts among actors. These negative influences on decentralised policy implementation further aggravated by re-centralisation approaches of upper levels of government, such as LG resources being acquired by the Central Government. Therefore, although new policies will be introduced in future, they will not be successful unless the governance structure is changed to overcome major weaknesses in governance, such as lack of coordination, and unclear responsibilities of implementing agencies.

The establishment of a national-level apex body will provide solutions for several issues in design and the practical issues of decentralisation because it will create a platform for all levels of government to coordinate, discuss, consult, and resolve disputes before implementing proposals.

The concept of good governance suggests that application of good governance principles into governance process, such as participation of all actor, transparency in decision-making results in combat corruption and fraudulent practices in policy implementation and public service delivery (Helao, 2015), Corruption and politicisation of the governance system had a significant influence on the enactment and enforcement of laws, including polluter-pays and the regulation of MSWM. This also hindered the employment of the private sector potential for improving infrastructure development to achieve the policy aims of reducing open dumping while increasing waste recovery. Political influence had a notable influence on infrastructure development projects. This extended to site selection for the Central Government's projects, altering the implemented project components without assessment or considering the feasibility of the project components,

and resulted in the failure of projects. Conflicts within and between political parties led by political interests had a significant influence on delaying or abandoning several infrastructure development projects. This has had a notable negative effects on MSWM implementation. The absence of good governance in the 2007 NSWMP implementation are the reasons for implementation failure. The research findings supported by Ramirez (2021), who argue that absence of transparency in decision-making and lack of partnerships create negative effect in policy implementation. Further, political interference create adverse impact on accountability, efficiency, effectiveness and transparency in policy implementation (Qhobosheane, 2018).

Unless strong and strict measures are taken to remedy the politicisation and corruption in the governance system, no policy will be able to implemented effectively. Limitation of the President's power to appoint higher-level officials, and introducing a recall system for elected public representatives and public employees, as implemented in many states of the USA, is a key strategy that could be used to reduce the negative effects of the personal and political interests of politicians and bureaucrats involved in the MSWM policy implementation. However, to introduce these options requires long-term reforms backed by political support. Establishment of an open information system for all levels of government as employed in India, Brazil, the United Kingdom, and many other countries may help to reduce corruption and political influence in MSWM policy operations.

The key strategy to implement the 'government's forgotten good governance is to be established or strengthen the existing civil societies or citizens' movements that advocate for the application of good governance in policy implementation. That could be done through information and knowledge sharing via social media and other digital and

conventional mean as appropriate to access different niches of social groups. Introducing a recall system for elected public representatives and public employees, as implemented in many states of the USA, is a key strategy that could be used to reduce the negative effects of the personal and political interests of politicians and bureaucrats involved in the MSWM policy implementation.

This research significantly contributes to academic understanding in complex governance contexts in developing countries by demonstrating that politics does not end when implementation begins as suggested by the MSF (five streams). While the MSWM policy might have been sound, the governance process in Sri Lanka interrupted its intentions. The failure of the 2007 NSWMP implementation attributed to the inadequate support and commitment from political and bureaucratic leaders, who were primarily driven by personal and political party interests.

## 8.3    SIGNIFICANCE OF THE STUDY

This research has both academic and practical significance and makes an original contribution to bridging the knowledge gap in policy implementation in four ways, as discussed in Section 8.3.1. Several practical implications of the research will be discussed in Section 8.3.2.

### 8.3.1    Theoretical implications of the study

This research has refuted core assumptions of decentralisation theory, such as decentralisation can be provided solution for policy implementation issues and weak public service delivery in developing countries (Bardhan, 2002; Conyers, 2007). Although, decentralisation theory suggest that it enables LGs to address local requirements (Merrell,

2022) and reduce misconduct by promoting public participation in different phases of policy implementation (Ghuman & Singh, 2013), this research refused them due to design and practical issues of decentralisation. A limited intergovernmental coordination, lack of clear demarcation of responsibilities, the absence of strong commitment and support from political and bureaucratic leaders and transfer the responsibilities without allocating required resources and power resulted in negative effects on the 2007 NSWMP implementation. Psychological factors, including rent-seeking behaviour of actors also significant factor that create negative effect on decentralised policy implementation. Therefore, this research demonstrated that without having fundamental prerequisites, any type of decentralisation will not be able to facilitated in effective policy implementation. Therefore, this research confirms and enhance the existing knowledge on decentralisation in developing countries.

Moreover, this research provides previously unavailable empirical evidence to understand the root causes of MSWM operational failure in Sri Lanka, including the complexity of the institutional and legal arrangements, politicisation, and corruption.

The five streams framework applied here to understanding policy implementation, suggests the five streams: the problem, policy solution, politics, process, and programme streams, continue after the decision-making phase. This study affirms the applicability of the MSF (five streams). When policy transits from decision-making phase to the implementation, the programme stream joins with other streams: the programme, policy solutions, politics, and process streams and shape the implementation phase. The analysis reflected that even in a highly politicised, corrupt, and devolved governance system these streams are continuously flow throughout the implementation.

In contrasting the MSF (five streams), political dynamics persist beyond the front phases of policy cycle (agenda-setting, formulation, and decision-making), ultimately resulting in the implementation failure. In a highly politicised and corrupt governance system, the voices and actions of other actors, including various epistemic communities and instrumental constituencies, were highly influenced, and suppressed, by political leaders. The findings of this study reflect that actors within and across the different policy sub-systems connected and created informal groups to enable personal profit, or to engage in political patronage throughout the policy implementation process. However, they were reluctant to connect across government and private sector for the best available policy solutions, appropriate administrative practices and regulations, and the most viable projects and programmes. Hence, several unanticipated non-government actors were vigorously active during the implementation through a range of activities to rectify the ineffective implementation. All these actions of political actors pushed the politics stream closer to the programme, process, policy, and problem streams (see rectangle drawn in purple in Figure 7.2).

This research has demonstrated a number of factors that contributed to the shaping of the five streams and the implementation which were not elaborated upon by the MSF. The administrative fragmentation, role of a coordination mechanism across levels of government and intergovernmental consultation in a devolved context, complex institutional and legal frameworks, and the power differentiation of actors were these factors. The findings demonstrated that a few unexpected actors significantly shaped the politics, programme, problem, and policy solution streams and the implementation.

### 8.3.2 Practical implications of the research

This research has identified several factors that hindered the 2007 NSWMP implementation across all levels of government. Therefore, the research findings are useful for decision-makers at all levels of government to revisit their implementation failures and change strategies toward effective policy implementation. Furthermore, the suggested alternatives will assist in resolving governance issues identified through the research, such as corruption, political bias and influence, and a lack of accountability of government actors involved in the policy implementation. Furthermore, addressing issues in coordination across all levels of government will help to resolve disputes among the different levels of government and the many system challenges of MSWM, including unfair resource distribution and a lack of consultation on policy decisions and project planning. Suggested alternatives for reducing waste volume being added to LG waste collection will assist in achieving effective implementation at the local level by reducing cost and effort for MSWM. It also allows effective utilisation of waste as a resource at the household level.

Most of the identified factors for the policy failure are not unique for MSWM policy implementation, but are also applicable to the implementation of many other policies in Sri Lanka. Furthermore, these research findings are applicable to different countries that have similar governance settings and challenges, particularly in the Asian and African contexts. Therefore, the results of this research will be helpful to many countries for improving their policy implementation. However, this research has a number of limitations, as summarised in the next section.

## 8.4      LIMITATIONS OF THE STUDY

A number of limitations beyond the control of the researcher have had an impact on this research. Analysing the policy implementation issues in a politicised and corrupt governance system was a serious challenge. The respondents, particularly the bureaucrats and public employees at all levels of government, were reluctant to discuss governance issues due to possible threats to their lives and career aspirations, and the fear of losing their jobs. On the other hand, revealing corruption and political games in policy implementation will also create many challenges and threats for the researcher.

At the beginning of the research, the fieldwork was scheduled from November 2019 to January 2020; however, the unanticipated presidential election in November 2019 and the unusual power shuffle within the parliament affected the data collection process. The pre-election environment prevented contact with public employees for research as many were busy with official election duties or their personal political agendas. The post-election environment was a transition period that impacted the jurisdictions of ministries and administrative positions. Therefore, both the pre-and post-election settings created a difficult environment within which to collect data.

A few practical limitations also limited the study. Due to time and financial limitations, information was not directly collected from citizens. However, citizens' voices and perceptions were represented to some extent through participants in the focus groups who represented community organisations, NGOs, and pressure groups. Donor agencies have contributed a lot in to improve the MSWM in Sri Lanka, however, the role of the donor agencies was not focused on this study due to time limitation. Moreover, the literature

revealed media as being a significant factor in policy implementation, but the role of the media was not addressed due to the time limitation and the scope of the study. Furthermore, due to the limited capacity of the researcher, this research only covered the Central Government, two provincial councils, and two LGs. Although the third tier of government consists of municipal councils, urban councils, and pradeshiya sabhas (rural councils), this research covered only municipal councils and pradeshiya sabhas, because urban and municipal councils have more similarities in terms of resource availability, but also in their legal and administrative aspects.

## 8.5    RECOMMENDATIONS FOR FURTHER RESEARCH

This research has shown evidence for the influence of the power differentiation between actors in shaping the politics and programme streams and policy implementation, but limited evidence on shaping of the problem, policy solution, and process stream. Therefore, it would be useful to focus on how power differentiation and the checks and balances system were involved in the shaping of the five streams and the policy-making process in different governance contexts.

The research findings revealed only limited evidence of the shaping of the process stream during the implementation phase. Therefore, it would be useful to study the factors involved in shaping the process stream to fill the theoretical gap in the implementation literature.

The research findings revealed relatively minimal, but significant evidence of role of culture and sub-cultures, including political culture in shaping the policy implementation.

It would be beneficial to research the impact of cultural elements in determining policy implementation in developing countries.

Furthermore, the research findings revealed corruption to be a key factor in the implementation failure of the 2007 NSWMP in Sri Lanka. Corruption is ubiquitous across the governance systems and the many contexts involved, so the solutions will be complex and will need to be context-specific. Therefore, corruption studies may assist in advancing the development of mechanisms to limit or avoid policy implementation failures in many sectors in Sri Lanka as well as in many other countries.

Providing a base for future research on the circular economy, the research findings revealed a few challenges in the recycling sector, including limited market opportunities. Future research should focus on finding potential markets for recycled and used materials by examining customers' perceptions of, and their willingness to engage with, recycled or second-hand products within different social, economic, and ethnic contexts. Furthermore, examining the compatibility and challenges of MSWM policies with different sub-sectoral policies, including, trade, industry, and vocational training, could be another fruitful research area.

A few of the research findings, such as the emerging trend toward using eco-friendly production, show the potential of sustainable waste management. Therefore, further research should focus on promoting eco-friendly production in Sri Lanka, because the waste volume is estimated to double by 2050 with a significant contribution of non-degradable waste. The research findings revealed that around 350 open dumpsites were operated by LGs in Sri Lanka, with most being located in environmentally-sensitive areas.

As the effects of improper MSWM on life on land and under water in highly biodiverse Sri Lanka are unknown, these should also be key areas for future research. According to the available literature, it was estimated that around 62 per cent of MSW consists of food waste, including post-harvest losses. Therefore, future research should focus on identifying the factors involved in food waste generation, and methods to reduce food waste to achieve the Sustainable Development Goal of 'Zero Hunger' in Sri Lanka.

The Sri Lankan case of MSWM also provides fertile ground for the future study of the role of social and digital media in waste management policy implementation. The potential to promote sustainable waste reduction methods through social media, and the influence of social media on waste management are other research areas to be focused on in future.

## 8.6    CONCLUSION

No matter how perfect a policy is in theory, its implementation can be compromised by politicisation and corruption led by 'government's forgotten good governance principles', particularly the accountability, transparency, consensus-orient, rule of law, and responsiveness in developing countries. Additionally, administrative-fragmentation, a complex legal and institutional framework shaped by issues in decentralisation, such as the limited coordination and consultation across the actors, and a lack of clear demarcation of responsibilities, functions, and power between the actors exacerbate the challenges leading to implementation failure.

Implementing the 2007 NSWMP in Sri Lanka was ineffective and became a crisis for humans and the natural environment, and indeed, a severe burden for the government(s). Nevertheless, the 2007 NSWMP was not the cause of the implementation failure; instead,

the highly politicised, corrupt, administratively-fragmented, and institutionally and legally complex governance system was responsible for the MSWM policy implementation failure.

The 2007 NSWMP implementation in Sri Lanka showed that decentralisation made the entire policy implementation process highly politicised, and created many opportunities for corruption. Together with the unnecessary complexity in the governance system, this led to ineffective implementation. Lack of coordination and consultation across government, the absence of good governance, and the lack of resources in LGs significantly hindered the effectiveness of MSWM policy implementation. No MSWM policy will be able to be implemented successfully until these issues are resolved.

The establishment of a national-level coordination mechanism with provincial participation, an open access information system, and a recall system for elected public representatives and bureaucrats were some key alternatives suggested to resolve governance issues in MSWM. Mega-scale infrastructure for sustainable MSWM and resourcing were the key suggestions for resolving MSWM issues in Sri Lanka; however, the current economic situation and broken trust of the private sector on public-private-partnerships activities of the government will not allow this option. Therefore, this research suggests several other steps to improve future MSWM operations, including the introduction of a volume-based fee system, and simultaneously providing facilities for composting within households, establishing village-level collection centres with the support of community organisations and the private sector, and setting up an open information system for LGs.

Importantly, unless there is strong support and commitment from political leaders, it will be difficult to implement the aforementioned alternatives, including a recall system and provide an adequate resources and infrastructure to resolve MSWM operational system challenges. Therefore, to resolve the deep-rooted issues in governance, including corruption and politicisation, there should be a strong commitment by political and administrative leaders as well as pressure from the citizens of Sri Lanka.

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# Appendices

## APPENDIX 3.1: LETTER OF INTRODUCTION AND IT'S TRANSLATED VERSION INTO THE

### SINHALESE LANGUAGE

**Flinders Government**

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Adelaide SA 5001

Tel: +61 8 8201 2074
Cassandra.star@flinders.edu.au

CRICOS Provider No. 00114A

20 August 2019

## LETTER OF INTRODUCTION

Dear Sir/Madam,

This letter is to introduce Mahamadachchi Komalee Nadeeka Damayanthi, who is a PhD student in the College of Business, Government and Law at Flinders University, Adelaide, South Australia. She will produce her student card, which carries a photograph, as proof of identity.

She is undertaking research leading to the production of a thesis or other publications on the subject of "Challenges of Effective implementation of Public Policies in Devolved Context: An Investigation into Waste Management in Sri Lanka".

She would like to invite you to assist with this project by agreeing to access the database of the institution related to waste management and permitting interviews with employees engaged in waste management.

Be assured that any information provided will be treated in the strictest confidence and none of the participants will be individually identifiable in the resulting thesis, report or other publications.

Any enquiries you may have concerning this project should be directed to me at the address given above or by telephone on +61 8 8201 2074 or e-mail cassandra.star@flinders.edu.au

Thank you for your attention and assistance.

Yours sincerely


Dr Cassandra Star
Associate Professor of Public Policy
Flinders Government
College of Business, Government and Law


*This research project has been approved by the Flinders University Social and Behavioural Research Ethics Committee in South Australia (Project number 8486). For queries regarding the ethics approval of this project, or to discuss any concerns or complaints, please contact the Executive Officer of the committee via telephone on +61 8 8201 3116 or email human.researchethics@flinders.edu.au*

2019 අගෝස්තු 20

## හඳුන්වාදීමේ ලිපිය

ප්‍රිය මහත්මයාණනි/මහත්මියණි,

මෙම ලිපිය දකුණු ඕස්ට්‍රේලියාවෙහි, ඇඩිලේඩ් නගරයෙහි ෆ්ලින්ඩර්ස් විශ්වවිද්‍යාලයෙහි ව්‍යාපාර, රාජ්‍ය සහ නී විද්‍යාලයෙහි ආචාර්ය උපාධිය හදාරනු ලබන ශිෂ්‍යාවක වන මහමඳාච්චි කොමාලි නදීකා දමයන්ති හඳුන්වා දීම සඳ නිකුත් කරනු ලැබේ. ඇයගේ අනන්‍යතාව තහවුරු කිරීම සඳහා ජායාරූපය සහිත ඇයගේ විශ්වවිද්‍යාල ශිෂ්‍ය හැඳුනුම්ප ඇය විසින් ඉදිරිපත් කරනු ඇත.

ඇය විසින් නිබන්ධය හෝ වෙනත් ප්‍රකාශන සඳහා උපකාරී වන **'දේශපාලන බලතල පැවරීමේ සන්දර්භයක් තුළ ප්‍රතිපත් ඵලදායීව ක්‍රියාත්මක කිරීමේ අභියෝග: ශ්‍රී ලංකාවේ සන අපද්‍රව්‍ය කළමනාකරණ ප්‍රතිපත්තිය පිළිබඳ විමසුමක්'** ය තේමාව ඔස්සේ පර්යේෂණයක නියැලී සිටින්නීය.

එම මාතෘකාවට අදාළ නොයෙක් පැතිකඩ ආවරණය වන පරිදි තොරතුරු ලබාදීමට සම්මුඛ සාකච්ඡා/ඉලක්කග කණ්ඩායම් සාකච්ඡා සඳහා සහභාගීව සහයෝග්‍ය ලබා දෙන මෙන් ඇය විසින් ඔබගෙන් ඉල්ලා සිටී. මෙහිදී සම්මු සාකච්ඡා සඳහා පැයකට වඩා වැඩි කාලයක් ගත නොවන අතර ඉලක්කගත කණ්ඩායම් සාකච්ඡා සඳහා පැය දෙක පමණ කාලයක් ගතවනු ඇත.

ලබාදෙන සියලු තොරතුරුවල රහස්‍යභාවය දැඩිව සුරකින බවටත් නිබන්ධයෙහිදී, වාර්තාවලදී හෝ අනෙකුත් ප්‍රකාශනවල තොරතුරු ලබාදුන් කිසිවෙකුගේ පෞද්ගලික අනන්‍යතාව හෙළි නොකරන බවටත් සහතික වේ. අවශ්‍ය ඕනෑම අවස්ථාවෙ ඔබගේ සහභාගීත්වය නතර කිරීමටත්, පිළිතුරු සැපයීමෙන් වැළකී සිටීමටත් ඔබට සම්පූර්ණ නිදහස පවතී.

සම්මුඛ සාකච්ඡා පටිගත කිරීමට අපේක්ෂිත හෙයින්, ඔබගේ නම හෝ වෙනත් අනන්‍යතාවක් හෙළි නොකර කොන්දේසියට යටත්ව නිබන්ධය, වාර්තා හෝ වෙනත් ප්‍රකාශනයක් සඳහා උපයෝගී කර ගැනීමට ඔබගේ සම්මු සාකච්ඡාව පටිගත කිරීමට හෝ එය ලේඛනයක් බවට පරිවර්තනය කිරීමටත්, එකී කොන්දේසිවලට යටත්ව පර්යේෂණ අනෙකුත් පර්යේෂකයින්ට එම තොරතුරු පරිහරණය කිරීමටත් මේ සමග අමුණා ඇති එකඟතාව පළකිරීමේ පත්‍රික ඔස්සේ සඳහා ඇය ඔබගේ එකඟතාව අපේක්ෂා කරන්නීය.

මෙම ව්‍යාපෘතිය සම්බන්ධයෙන් කිසියම් ගැටලුවක් වේ නම් පහත සඳහන් ලිපිනය හෝ දුරකථන අංක **+61 8 8201 20** හෝ **cassandra.star@flinders.edu.au** යන විද්‍යුත් තැපැල් ලිපිනය ඔස්සේ මා අමතන මෙන් කාරුණිකව ඉල්ල සිටිමි.

මේ සම්බන්ධයෙන් වන ඔබගේ අවධානය සහ සහයෝගය සම්බන්ධයෙන් ස්තුතිවන්ත වෙමි.
ඔබගේ විශ්වාසී,

ආචාර්ය කැසෙන්ඩ්‍රා ස්ටාර්
රාජ්‍ය ප්‍රතිපත්ති පිළිබඳ සහාය මහාචාර්ය
ෆ්ලින්ඩර්ස් රාජ්‍ය අධ්‍යයන අංශය
ව්‍යාපාර, රාජ්‍ය සහ නීති විද්‍යාලය

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මෙම අධ්‍යයන ව්‍යාපෘතිය දකුණු ඕස්ට්‍රේලියාවේ ෆ්ලින්ඩර්ස් විශ්වවිද්‍යාලයේ සමාජීය සහ වර්ත්‍යාත්මක පර්යේෂණ පිළිබඳ ආචාර ධර්ම කමිටුව විසින් අනුමක කර ඇත (ව්‍යාපෘති අංකය 8486). සමම ව්‍යාපෘතියේ ආචාර ධර්ම අනුමත

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## INFORMATION SHEET

## (Interviews)

**Title:** Challenges of effective policy implementation in a devolved context: An investigation into waste management policy in Sri Lanka

**Researcher(s)**

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**Description of the study**

This study is part of the project titled **Challenges of effective policy implementation in a devolved context: An investigation into waste management policy in Sri Lanka.** This project will investigate the factors affecting implementing failures of the waste management policy in Sri Lanka and what are the appropriate methods need to be used to operate policy effectively. Also, this study will examine the voice and participation of the public in implementing waste management policy. This project is supported by Flinders University, College of Business, Government and Law.

**Purpose of the study**

This project aims:

1. To explore the factors contribute to improper implementation of solid waste management policy.

2. To explore the nature of the relationship among various actors and levels involved in waste management and the effects of such relationships on the policy implementation.
3. To identify and suggest implications for improving policy execution, particularly concerning solid waste management.

**What will I be asked to do?**

You are invited to attend a one-on-one interview with a researcher who will ask you a few questions regarding your views about waste management policy and policy implementation in Sri Lanka. Participation is entirely voluntary. The interview will take about 40-60 minutes. The interview will be audio recorded using a digital voice recorder to help with reviewing the results. Once recorded, the interview will be transcribed (typed-up) and stored as a computer file, and will only be destroyed if the transcript is checked by the participant.

**What benefit will I gain from being involved in this study?**

The sharing of your experiences will help in understanding the factors affecting the failure of implementation of waste management policy in Sri Lanka and how could be effectively implemented the policy. Therefore, your experiences and opinions will be helpful to find a way to fill the implementation gap. In the long term, you may gain benefit having the opportunity to enjoy a clean and safe environment through proper waste management policy implementation in the country.

**Will I be identifiable by being involved in this study?**

We do not need your name. Any identifying information will be removed, and your comments will not be linked directly to you. All information and results obtained in this study will be stored in a secure way, with access restricted to relevant researchers.

**Are there any risks or discomforts if I am involved?**

This project is designed to be risk-free. Therefore, you don't need to worry about your involvement in this project

**How do I agree to participate?**

Participation is voluntary. You may answer 'no comment' or refuse to answer any questions, and you are free to withdraw from the interview at any time without effect or consequences. A consent form accompanies this information sheet. If you agree to participate please read and sign the form and send it back to the researcher.

**How will I receive feedback?**

On project completion, outcomes of the project will be given to you via email or post if you would like to see them.
Thank you for taking the time to read this information sheet, and we hope that you will accept our invitation to be involved.

*This research project has been approved by the Flinders University Social and Behavioural Research Ethics Committee in South Australia (Project number 8486). For queries regarding the ethics approval of this project, or to discuss any concerns or complaints, please contact the Executive Officer of the committee via telephone on +61 8 8201 3116 or email human.researchethics@flinders.edu.au*

තොරතුරු පත්‍රිකාව

(සම්මුඛ සාකච්ඡා)

**මාතෘකාව: දේශපාලන බලතල පැවරීමේ සන්දර්භයක් තුළ ප්‍රතිපත්ති එලදායීව ක්‍රියාත්මක කිරීමේ අභියෝග: ශ්‍රී ලංකාවේ සන අපද්‍රව්‍ය කළමනාකරණ ප්‍රතිපත්තිය පිළිබඳ විමසුමක්**

**පර්යේෂක**

කොමාලි නදීකා දමයන්ති මහමදාච්චි මිය
ව්‍යාපාර, රාජ්‍ය සහ නීති විද්‍යාලය
ෆ්ලින්ඩර්ස් විශ්වවිද්‍යාලය
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**ප්‍රධාන අධීක්ෂක**

සහාය මහාචාර්ය කැසෙන්ඩ්‍රා ස්ටාර්
ව්‍යාපාර, රාජ්‍ය සහ නීති විද්‍යාලය
ෆ්ලින්ඩර්ස් විශ්වවිද්‍යාලය
දු.ක.: +61 8 8201 2074

**සහාය අධීක්ෂක**

සහාය මහාචාර්ය බෙවර්ලි ක්ලාක්
ව්‍යාපාර, රාජ්‍ය සහ නීති විද්‍යාලය
ෆ්ලින්ඩර්ස් විශ්වවිද්‍යාලය
දු.ක.: +61 8 8201 2760

**අධ්‍යයනය පිළිබඳ විස්තර**

මෙම අධ්‍යයනය 'දේශපාලන බලතල පැවරීමේ සන්දර්භයක් තුළ ප්‍රතිපත්ති එලදායීව ක්‍රියාත්මක කිරීමේ අභියෝග: ශ්‍රී ලංකාවේ සන අපද්‍රව්‍ය කළමනාකරණ ප්‍රතිපත්තිය පිළිබඳ විමසුමක් ' නැමැති ව්‍යාපෘතියේ කොටසකි. ශ්‍රී ලංකාවේ සන අපද්‍රව්‍ය ප්‍රතිපත්තිය ක්‍රියාත්මක කිරීම අසාර්ථකවීම සඳහා බලපා ඇති සාධක විමර්ශනය කිරීමත්, එම ප්‍රතිපත්තිය එලදායීව ක්‍රියාත්මක කිරීම සඳහා උපයෝගී කරගත හැකි වඩාත් උචිත ක්‍රමවේද පිළිබඳ සොයා බැලීමත් මෙම ව්‍යාපෘතිය තුළින් සිදුකිරීමට අපේක්ෂිතය. එමෙන්ම, සන අපද්‍රව්‍ය ප්‍රතිපත්තිය ක්‍රියාත්මක කිරීමේදී මහජන හඬ සහ දායකත්වය පිළිබඳව විමර්ශනය කිරීම ද මෙම අධ්‍යයනය තුළින් සිදුකෙරේ. ෆ්ලින්ඩර්ස් විශ්වවිද්‍යාලයේ ව්‍යාපාර, රාජ්‍ය සහ නීති විද්‍යාලයේ සහාය මත මෙම අධ්‍යයනය සිදු කෙරේ.

**අධ්‍යයනයේ අරමුණු**

මෙම ව්‍යාපෘතියේ අරමුණු වන්නේඃ

1. සන අපද්‍රව්‍ය කළමනාකරණ ප්‍රතිපත්තිය නිසි පරිදි ක්‍රියාත්මක නොවීම සඳහා බලපාන සාධක ගවේෂණය කිරීම

2. සන අපද්‍රව්‍ය කළමනාකරණය සඳහා මැදිහත්වන විවිධ මට්ටම් සහ ක්‍රියාකාරීන්ගේ විවිධ අභිලාෂයන්හි ස්වරූපය සහ එය ප්‍රතිපත්ති ක්‍රියාත්මක කිරීම සඳහා බලපාන ආකාරය ගවේෂණය කිරීම

3. සන අපද්‍රව්‍ය කළමනාකරණය විශේෂිත සැලකිල්ලට ගනිමින් ප්‍රතිපත්ති ක්‍රියාත්මක කිරීම වැඩිදියුණු කිරීමට අදාළ කරුණු හඳුනා ගැනීම සහ යෝජනා කිරීම.

## කුමක් සිදු කිරීමට මගෙන් විමසනු ලබයිද?

ශ්‍රී ලංකාවේ අපද්‍රව්‍ය කළමනාකරණ ප්‍රතිපත්තිය සහ ප්‍රතිපත්තිය ක්‍රියාත්මක කිරීමේදී පවතින අභියෝග පිළිබඳ පර්යේෂකයා විසින් ඉදිරිපත් කරනු ලබන ප්‍රශ්න කිහිපයකට ඔබගේ අදහස් දැක්වීම සඳහා සම්මුඛ සාකච්ඡාවකට සහභාගීවීමට ඔබට ඇරයුම් කෙරෙනු ඇත. එහිදී සහභාගීත්වය සිදුකිරීම සම්පූර්ණයෙන්ම ස්වේච්ඡාවෙන් සිදු කෙරෙන කාර්යයක් වේ. සම්මුඛ සාකච්ඡාව විනාඩි 40-60 අතර කාලයක් පැවැත්වෙනු ඇත. සාකච්ඡාව විද්‍යුත් හඬ පටිගතකිරීමේ යන්ත්‍රයක් මඟින් පටිගත කෙරෙන ඇත. සාකච්ඡාව පටිගත කිරීමෙන් පසුව එය පරිගණකගත කොට පරිගණක ලේඛන ගොනුවක් වශයෙන් ගබඩා කරනු ලැබීමට අපේක්ෂිතය. පරිගණක ගත සම්මුඛ සාකච්ඡාව, එයට සහභාගී වූ පුද්ගලයා විසින් පරීක්ෂා කොට එකඟතාව පළකිරීමෙන් අනතුරැව පමණක් හඬ පටය මකා දෙනු ඇත.

## මෙම අධ්‍යයනයට සහභාගීවීම තුළින් මා ලබන ප්‍රතිලාභ මොනවාද?

ඔබගේ අත්දැකීම් හුවමාරු කර ගැනීම තුළින් ශ්‍රී ලංකාවේ අපද්‍රව්‍ය කළමනාකරණ ප්‍රතිපත්තිය ක්‍රියාත්මක කිරීම අසාර්ථක වීම සඳහා බලපාන සාධකත්, ප්‍රතිපත්ති ඵලදායීව ක්‍රියාත්මක කළ හැක්කේ කෙසේද? යන්න අවබෝධ කරගැනීමටත් හැකියාව ලැබෙනු ඇත. එම නිසා ඔබගේ අත්දැකීම් සහ අදහස් ප්‍රතිපත්ති ක්‍රියාත්මක කිරීමේ දුර්වලතා මඟ හැරීමට අදාළ යෝජනා සකස් කිරීම සඳහා ඉවහල් වනු ඇත.

## මෙම අධ්‍යයනයට සහභාගීවීමෙන් මාගේ අනන්‍යතාව හෙළිවේද?

අනන්‍යතාව හෙළිකෙරන කිසිදු තොරතුරක් අධ්‍යයනය ප්‍රතිඵල වාර්තා කිරීමේදී හෙළි නොකෙරේ. ඔබගේ ආයතනය හඳුනාගත හැකි වුවත් ඔබ විසින් ඉදිරිපත් කරන අදහස් සෘජුවම ඔබට සම්බන්ධ කර අධ්‍යයනයේදී වාර්තා නොකරනු ඇත. මෙම අධ්‍යයනයෙන් රැස්කර ගන්නා සියලු තොරතුරු අධ්‍යයනයේ පර්යේෂකයින්ට පමණක් ලබාගත හැකි වන පරිදි රහසිගතව සුරැකේ.

## මාගේ සහභාගීත්වය හේතුවෙන් කිසියම් අවධානමකට හෝ අපහසුතාවකට ලක්වීමට සිදුවේද?

ඔබ සමඟ සිදු කරන සම්මුඛ සාකච්ඡාව ඔබගේ ආයතනය තුළදී සිදු කෙරෙන හෙයින් ආයතනයේ අනෙකුත් සේවකයින් මෙම අධ්‍යයනයට ඔබ සහභාගී වූ බව හඳුනා ගැනීමේ හැකියාව පවතී. යම් අපහසුතාවක් පිළිබඳ ඔබට හැඟී යන්නේ නම් හෝ යම් අවදානමක් ඔබ අත්විඳින්නේනම් හෝ එවැන්නක් සිදුවේයැයි අපේක්ෂා කරන්නේ නම් හෝ කරුණාකර ඒ පිළිබඳව ඔබගේ වෛද්‍යවරයා හෝ වෙනත් වෛද්‍ය වෘත්තිකයෙක් සමඟ සාකච්ඡා කරන්න.

## සහභාගීවීම සඳහා මා එකඟතාව දක්වන්නේ කෙසේද?

සහභාගිත්වය ස්වේච්ඡා පදනමින් සිදුවන්නකි. ඔබගෙන් අසනු ලබන ඕනෑම ප්‍රශ්නයකට අදහසක් නොමැත යනුවෙන් පිළිතුරු දීමට හෝ පිළිතුරු නොසපයා සිටීමට හෝ අවශ්‍ය ඕනෑම අවස්ථාවක සම්මුඛ සාකච්ඡාවෙන් ඉවත්වීමට හෝ හැකියාව පවතී. මේ තුළින් ඔබට අහිතකර ප්‍රතිඵලයක් හෝ අපහසුතාවක් සිදු නොවනු ඇත. මෙම තොරතුරු පත්‍රිකාව සමඟ එකඟතාව පළ කිරීමේ පත්‍රිකාව ලබාදෙනු ඇත. ඔබ සහභාගීවීමට එකඟනම් එම පත්‍රිකාව කියවා අත්සන් කර පර්යේෂකයාට නැවත ලැබීමට සලස්වන්න.

**සාකච්ඡාවේ ප්‍රතිපෝෂණයක් මා වෙත ලැබෙන්නේ කෙසේද?**

ඔබ ව්‍යාපෘතියේ නිමවුම පිළිබඳ දනගැනීමට කැමැත්තේනම්, ව්‍යාපෘතිය නිම කිරීමෙන් පසුව, විද්‍යුත් තැපැල් හෝ සාමාන්‍ය තැපෑලෙන් ඒ පිළිබඳව ඔබ දැනුවත් කෙරෙනු ඇත.

මෙම තොරතුරු පත්‍රිකාව කියවීම සඳහා ඔබගේ කාලය වැයකිරීම වෙනුවෙන් ස්තුතිවන්ත වන අතර අධ්‍යයනය සඳහා සහභාගීවීමට සිදුකළ අපගේ ආරාධනාව ඔබ විසින් පිළිගනු ඇතැයි අපේක්ෂා කරමු.

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## INFORMATION SHEET

## Focus Group Discussions

**Title:** Challenges of effective policy implementation in a devolved context: An investigation into

waste management policy in Sri Lanka

### Researcher(s)

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### Description of the study

This study is part of the project titled **Challenges of effective policy implementation in devolved context: An investigation into waste management in Sri Lanka.** This project will investigate the factors affecting implementing failures of the waste management policy in Sri Lanka and what are the appropriate methods need to be used to operate policy effectively. Also, this study will examine the voice and participation of the public in implementing waste management policy. This project is supported by Flinders University, College of Business, Government and Law

### Purpose of the study

This project aims:

1. To explore the factors contribute to improper implementation of solid waste management policy.

2. To explore the nature of the relationship among various actors and levels involved in waste management and the effects of such relationships on the policy implementation.

3. To identify and suggest implications for improving policy execution, particularly concerning solid waste management.

**What will I be asked to do?**

You are invited to attend a focus group discussion with a researcher who will ask you a few questions regarding your views about challenges of waste management policy implementation in Sri Lanka and public participation, involvement of NGOs, interest groups and civil society organisation in waste management. Participation is entirely voluntary. The discussion will take about 2 hours. The discussion will be audio recorded using a digital voice recorder and take notes to help with reviewing the results. Once recorded, the discussion will be transcribed (typed-up) and stored as a computer file, and will only be destroyed after 5 years of the completion of the project.

**What benefit will I gain from being involved in this study?**

The sharing of your experiences will help in understanding the factors affecting the failure of implementation of waste management policy in Sri Lanka and how could be effectively implemented the policy. Therefore, your experiences and opinions will be helpful to find a way to fill the implementation gap. In the long term, you may gain benefit having the opportunity to enjoy a clean and safe environment through proper waste management policy implementation in the country

**Will I be identifiable by being involved in this study?**

We do not need your name. Since this is a focus group discussions other participants will listen your opinions and views. However, when transcribing the information any identifying information will be removed. All information and results obtained in this study will be stored in a secure way, with access restricted to relevant researchers.

**Are there any risks or discomforts if I am involved?**

Other focus group members may be able to identify your contributions even though they will not be directly attributed to you. The researcher anticipates few risks from your involvement in this study, however, given the nature of the project, some participants could experience emotional discomfort. If you have any concerns regarding anticipated or actual risks or discomforts, please raise them with your general practitioner or relevant health professional.

**How do I agree to participate?**

Participation is voluntary. You may contribute or refuse to contribute to the discussion at any point. A consent form accompanies this information sheet. If you agree to participate please read and sign the form and send it back to the researcher.

**Recognition of Contribution / Time / Travel costs**
If you would like to participate, in recognition of your contribution and participation time, you will be provided with a $20.00 (LKR 2500.00) voucher. This voucher will be provided to you after the completion of the focus group discussion

**How will I receive feedback?**

On project completion, outcomes of the project will be given to you via email or post if you would like to see them.

Thank you for taking the time to read this information sheet, and we hope that you will accept our invitation to be involved.

*This research project has been approved by the Flinders University Social and Behavioural Research Ethics Committee in South Australia (Project number 8486). For queries regarding the ethics approval of this project, or to discuss any concerns or complaints, please contact the Executive Officer of the committee via telephone on +61 8 8201 3116 or email human.researchethics@flinders.edu.au*

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ඉලක්කගත කණ්ඩායම් සාකච්ඡා

**මාතෘකාව: දේශපාලන බලතල පැවරීමේ සන්දර්භයක් තුළ ප්‍රතිපත්ති ඵලදායීව ක්‍රියාත්මක කිරීමේ අභියෝග: ශ්‍රී ලංකාවේ සන අපද්‍රව්‍ය කළමනාකරණ ප්‍රතිපත්තිය පිළිබඳ විමසුමක්**

**පර්යේෂක**
කොමාලි නදීකා දමයන්ති මහමදාච්චි මිය
ව්‍යාපාර, රාජ්‍ය සහ නීති විද්‍යාලය
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ව්‍යාපාර, රාජ්‍ය සහ නීති විද්‍යාලය
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ව්‍යාපාර, රාජ්‍ය සහ නීති විද්‍යාලය
ෆ්ලින්ඩර්ස් විශ්වවිද්‍යාලය
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**අධ්‍යයනය පිළිබඳ විස්තර**

මෙම අධ්‍යයනය 'දේශපාලන බලතල පැවරීමේ සන්දර්භයක් තුළ ප්‍රතිපත්ති ඵලදායීව ක්‍රියාත්මක කිරීමේ අභියෝග: ශ්‍රී ලංකාවේ සන අපද්‍රව්‍ය කළමනාකරණ ප්‍රතිපත්තිය පිළිබඳ විමසුමක් ' නැමැති ව්‍යාපෘතියේ කොටසකි. ශ්‍රී ලංකාවේ සන අපද්‍රව්‍ය ප්‍රතිපත්තිය ක්‍රියාත්මක කිරීම අසාර්ථකවීම සඳහා බලපා ඇති සාධක විමර්ශනය කිරීමත්, එම ප්‍රතිපත්තිය ඵලදායීව ක්‍රියාත්මක කිරීම සඳහා උපයෝගී කරගත හැකි වඩාත් උචිත ක්‍රමවේද පිළිබඳ සොයා බැලීමත් මෙම ව්‍යාපෘතිය තුළින් සිදුකිරීමට අපේක්ෂිතයි. එමෙන්ම, සන අපද්‍රව්‍ය ප්‍රතිපත්තිය ක්‍රියාත්මක කිරීමේදී මහජන හඬ සහ දායකත්වය පිළිබඳව විමර්ශනය කිරීම ද මෙම අධ්‍යයනය තුළින් සිදුකෙරේ. ෆ්ලින්ඩර්ස් විශ්වවිද්‍යාලයේ ව්‍යාපාර, රාජ්‍ය සහ නීති විද්‍යාලයේ සහාය මත මෙම අධ්‍යයනය සිදු කෙරේ.

**අධ්‍යයනයේ අරමුණු**

මෙම ව්‍යාපෘතියේ අරමුණු වන්නේ:

1. සන අපද්‍රව්‍ය කළමනාකරණ ප්‍රතිපත්තිය නිසි පරිදි ක්‍රියාත්මක නොවීම සඳහා බලපාන සාධක ගවේෂණය කිරීම

2. සන අපද්‍රව්‍ය කළමනාකරණය සඳහා මැදිහත්වන රජයේ විවිධ මට්ටම් සහ ක්‍රියාකාරීන්ගේ අභිලාෂයන්ගේ ස්වරූපය සහ එය ප්‍රතිපත්ති ක්‍රියාත්මක කිරීම සඳහා බලපාන ආකාරය ගවේෂණය කිරීම

3. සන අපද්‍රව්‍ය කළමනාකරණය විශේෂිත සැලකිල්ලට ගනිමින් ප්‍රතිපත්ති ක්‍රියාත්මක කිරීම වැඩිදියුණු කිරීමට අදාළ කරුණු හඳුනා ගැනීම සහ යෝජනා කිරීම.

**කුමක් සිදු කිරීමට මගෙන් විමසනු ලබයිද?**

ශ්‍රී ලංකාවේ අපද්‍රව්‍ය කළමනාකරණ ප්‍රතිපත්තිය ක්‍රියාත්මක කිරීමේදී පවතින අභියෝග, සහ අපද්‍රව්‍ය කළමනාකරණයේදී මහජනතාව, රාජ්‍ය නොවන සංවිධාන, ආශා/බලපෑම් කණ්ඩායම්, සිවිල් සංවිධාන දක්වන

සහභාගීත්වය පිළිබඳ පර්යේෂකයා විසින් ඉදිරිපත් කරනු ලබන ප්‍රශ්න කිහිපයකට ඔබගේ අදහස් දැක්වීම සඳහා ඉලක්කගත කණ්ඩායම් සාකච්ඡාවකට සහභාගීවීමට ඔබ ආරාධනා කෙරෙනු ඇත. එහිදී සහභාගීත්වය සිදුකිරීම සම්පූර්ණයෙන්ම ස්වේච්ඡාවෙන් සිදු කෙරෙන කාර්යයක් වේ. සාකච්ඡාව පැය දෙකක පමණ කාලයක් පැවැත්වෙනු ඇත. සාකච්ඡාව විද්‍යුත් හඬ පටිගතකිරීමේ යන්ත්‍රයක් මගින් පටිගත කෙරෙන අතර ප්‍රතිඵල සමාලෝචනය පහසු කිරීම සඳහා සාකච්ඡාව පැවැත්වෙන අතරතුර කරුණු ලිබිතව සටහන් කරගනු ඇත. සාකච්ඡාව පටිගත කිරීමෙන් පසුව එය පරිසනකගත කොට පරිසනක ලේඛන ගොනුවක් වශයෙන් ගබඩා කරනු ලැබීමට අපේක්ෂිතය. ව්‍යාපෘතිය අවසන් කර වසර පහකට පසුව එම ලිපි ගොනුව විනාශ කෙරෙනු ඇත.

## මෙම අධ්‍යයනයට සහභාගීවීම තුළින් මා ලබන ප්‍රතිලාභ මොනවාද?

ඔබගේ අත්දැකීම් හුවමාරු කර ගැනීම තුළින් ශ්‍රී ලංකාවේ අපද්‍රව්‍ය කළමනාකරණ ප්‍රතිපත්තිය ක්‍රියාත්මක කිරීම අසාර්ථක වීම සඳහා බලපාන සාධකත්, ප්‍රතිපත්ති එලදායීව ක්‍රියාත්මක කළ හැක්කේ කෙසේද? යන්න අවබෝධ කරගැනීමටත් හැකියාව ලැබෙනු ඇත. එම නිසා ඔබගේ අත්දැකීම් සහ අදහස් ප්‍රතිපත්ති ක්‍රියාත්මක කිරීමේ දුර්වලතා මග හැරීමට අදාළ යෝජනා සකස් කිරීම සඳහා ඉවහල් වනු ඇත.

## මෙම අධ්‍යයනයට සහභාගීවීමෙන් මාගේ අනන්‍යතාව හෙළිවේද?

අනන්‍යතාව හෙළිකෙරන කිසිදු තොරතුරක් අධ්‍යයනය ප්‍රතිඵල වාර්තා කිරීමේදී හෙළි නොකෙරේ. මෙය ඉලක්කගත කණ්ඩායම් සාකච්ඡාවක් වන හෙයින් අනෙකුත් සහභාගී වන්නන් ඔබගේ අදහස් සහ මතවාදවලට ඇහුම්කන් දෙනු ඇත. කෙසේ වුවද සාකච්ඡාව පරිසණික ගත කිරීමේදී අනන්‍යතාව හඳුනාගත හැකි සියලු තොරතුරු ඉවත් කෙරෙනු ඇත. මෙම අධ්‍යයනයෙන් රැස්කර ගන්නා සියලු තොරතුරු අධ්‍යයනයේ පර්යේෂකයින්ට පමණක් ලබාගත හැකි වන පරිදි රහසිගතව සුරැකේ.

## මාගේ සහභාගීත්වය හේතුවෙන් කිසියම් අවධානමකට හෝ අපහසුතාවකට  ලක්වීමට සිදුවේද?

ඉලක්කගත කණ්ඩායම් සාකච්ඡාවට සහභාගීවන අනෙකුත් සාමාජිකයින් සෘජුව ඔබ සමග සම්බන්ධ නොවුනද, ඔබගේ දායකත්වය ඔවුන්ට හඳුනාගත හැකිවනු ඇත. ඔබගේ මැදිහත්වීම තුළ සුළු අවධානම් සහගත තත්ත්වයක් පර්යේෂකයා විසින් අපේක්ෂා කරනු ලබයි. කෙසේ වුවද, අධ්‍යයනයේ ස්වභාවය අනුව සහභාගිවන්නන්ගෙන් ඇතැම් අයෙකු චිත්තවේගී අපහසුතාවන්ට ලක්විය හැක. ඔබ කිසියම් සත්‍ය අවධානම් සහගතභාවය හෝ අපහසුතා හෝ සිදුවිය හැකියයි අපේක්ෂිත තත්ත්වයක් පවතීනම් කරුණාකර ඒ සම්බන්ධයෙන් ඔබගේ වෛද්‍යවරයා හෝ වෙනත් වෛද්‍ය වෘත්තිකයෙක් සමඟ සාකච්ඡා කරන්න.

## සහභාගීවීම සඳහා මා එකඟතාව දක්වන්නේ කෙසේද?

සහභාගීත්වය ස්වේච්ඡා පදනමින් සිදුවන්නකි. ඔබට සාකච්ඡාවේ ඕනෑම අවස්ථාවක සහභාගීවීමට හෝ සහභාගීවීම ප්‍රතික්ෂේප කිරීමට හැකියාව පවතී. මෙම තොරතුරු පත්‍රිකාව සමඟ එකඟතාව පළ කිරීමේ පත්‍රිකාව ලබාදෙනු ඇත. ඔබ සහභාගීවීමට එකඟනම් එම පත්‍රිකාව කියවා අත්සන් කර පර්යේෂකයාට නැවත ලැබීමට සලස්වන්න.

**කාලය කැපකිරීම, ගමනාගමන වියදම් සහ සහභාගීත්වය ඇගයීම**

ඔබ මෙම සාකච්ඡාව සඳහා සහභාගිවීමට කැමැත්තේනම්, ඔබගේ දායකත්වය සහ කාලය කැපකිරීම වෙනුවෙන් රුපියල් 2500.00 (ඕස්ට්‍රේලියානු ඩොලර් 20.00) වටිනාකම සහිත කාගිල්ස් ත්‍යාග වවුචරයක් ඉලක්කගත කණ්ඩායම් සාකච්ඡාව අවසානයේ ඔබවෙත ලබාදෙනු ඇත.

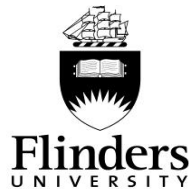**සාකච්ඡාවේ ප්‍රතිපෝෂණයක් මා වෙත ලැබෙන්නේ කෙසේද?**

ඔබ ව්‍යාපෘතියේ නිමවුම පිළිබඳ දැනගැනීමට කැමැත්තේනම්, ව්‍යාපෘතිය නිම කිරීමෙන් පසුව, විද්‍යුත් තැපැල් හෝ සාමාන්‍ය තැපැලෙන් ඒ පිළිබඳව ඔබ දැනුවත් කෙරෙනු ඇත.

මෙම තොරතුරු පත්‍රිකාව කියවීම සඳහා ඔබගේ කාලය වැයකිරීම වෙනුවෙන් ස්තුතිවන්ත වන අතර අධ්‍යයනය සඳහා සහභාගීවීමට සිදුකළ අපගේ ආරාධනාව ඔබ විසින් පිළිගනු ඇතැයි අපේක්ෂා කරමු.

**APPENDIX 3.3: CONSENT FORMS AND IT'S TRANSLATED VERSION INTO THE SINHALESE**

   **LANGUAGE**



**CONSENT FORM FOR PARTICIPATION IN RESEARCH**
**(Interview)**

| Challenges of effective policy implementation in devolved context: An investigation into waste management in Sri Lanka |
|---|

I …...................................................................................................................................
being over the age of 18 years hereby consent to participate as requested in the letter of introduction for the research project with the title listed above.

1.  I have read the information provided.

2.  Details of procedures and any risks have been explained to my satisfaction.

3.      I agree to audio recording of my information and participation.

4.      I am aware that I should retain a copy of the Information Sheet and Consent Form for future reference.

5.      I understand that:
    a)      I may not directly benefit from taking part in this research.
    b)      Participation is entirely voluntary and I am free to withdraw from the project at any time; and can decline to answer particular questions.
    c)      While the information gained in this study will be confidential and published as explained, on the basis that the interview will be undertaken in my place of employment, anonymity cannot be guaranteed.
    d)      Whether or I participate or not, or withdraw after participating, will have no effect on my current employment
    e)      I may ask that the audio recording be stopped at any time, and that I may withdraw at any time from the session or the research without disadvantage.

6.      I understand that <u>only</u> the researchers on this project will have access to my research data and raw results; unless I explicitly provide consent for it to be shared with other parties

**Participant's name………………………………….………………….........................**

**Participant's signature………………………………………Date…………………...**

I certify that I have explained the study to the volunteer and consider that she/he understands what is involved and freely consents to participation.

**Researcher's name………………………………….…………………….................**
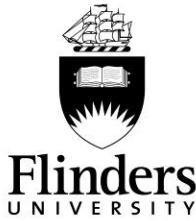
## පර්යේෂණයට සහභාගීවීම සඳහා කැමැත්ත ප්‍රකාශ කිරීමේ පත්‍රිකාව
### (සම්මුඛ සාකච්ඡා)

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**දේශපාලන බලතල පැවරීමේ සන්දර්භයක් තුළ ප්‍රතිපත්ති එලදායීව ක්‍රියාත්මක කිරීමේ අභියෝග: ශ්‍රී ලංකාවේ සන අපද්‍රව්‍ය කළමනාකරණ ප්‍රතිපත්තිය පිළිබඳ විමසුමක්**

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..................................................................................................... වන

මා වයස අවුරුදු 18 සම්පූර්ණ කර ඇති අතර හඳුන්වාදීමේ ලිපියෙන් ඉල්ලා ඇති අන්දමට ඉහත සඳහන් ව්‍යාපෘතිය සඳහා සහභාගීවීමට මාගේ කැමැත්ත ප්‍රකාශ කර සිටිමි.

1. සපයා ඇති තොරතුරු මා විසින් කියවන ලදී

2. ක්‍රියාවලිය පිළිබඳ තොරතුරු සහ පවතින අවධානම් සම්බන්ධව මා තෘප්තිමත් වන අන්දමට පැහැදිලි කරන ලදී.

3. මා විසින් ලබාදෙන තොරතුරු සහ මාගේ සහභාගීත්වයේ හඬ පටිගත කිරීමට මා එකඟවෙමි.

4. අනාගත අවශ්‍යතා වෙනුවෙන් තොරතුරු පත්‍රිකාවේ සහ කැමැත්ත ප්‍රකාශ කිරීමේ පත්‍රිකාවෙහි පිටපත් තබා ගතයුතු බවට මා දැනුවත්ව සිටිමි.

5. පහත සඳහන් කරුණු සම්බන්ධයෙන් මා දැනුවත් බව ප්‍රකාශ කරමි.
    - අ) මෙම පර්යේෂණයට සම්බන්ධවීම හේතුවෙන් මාහට සෘජු ප්‍රතිලාභ නොලැබෙන බව.
    - ආ) සහභාගීත්වය සම්පූර්ණයෙන් ස්වේච්ඡාවෙන් සිදුවන අතර අවශ්‍ය ඕනෑම අවස්ථාවක ව්‍යාපෘතියෙන් ඉවත්වීමටත්, විශේෂිත ප්‍රශ්නවලට පිළිතුරු නොදී සිටීමටත් හැකියාව පවතින බව.
    - ඇ) පැහැදිලි කර ඇති අන්දමට මෙම අධ්‍යයනයෙන් රැස්කර ගන්නා තොරතුරුවල රහස්‍යභාවය සුරකමින් ප්‍රකාශන සිදු කරන අතරම මාගේ සේවා ස්ථානයේදී සම්මුඛ පරීක්ෂණය සිදු කෙරෙන බැවින් රහස්‍යභාවය සහතික කළ නොහැකි බව.
    - ඈ) මාගේ සහභාගීවීම හෝ නොවීම හෝ සහභාගීවීමෙන් පසුව මාගේ සහභාගීත්වය ඉවත් කර ගැනීමෙන් හෝ මාගේ වර්තමාන රැකියාවට බලපෑමක් නොවන බව.
    - ඉ) ඕනෑම අවස්ථාවක හඬ පටිගත කිරීම නතර කරන මෙන් ඉල්ලා සිටීමට මට හැකියාව පවතින බවත්, මට අවශ්‍ය ඕනෑම අවස්ථාවක අවාසියකින් තොරව පර්යේෂණයෙන් හෝ සැසියෙන් ඉවත්වීමට හැකි බවත්.

6. අනෙකුත් පාර්ශව සමග තොරතුරු හුවමාරු කර ගැනීමට මා විසින් පැහැදිලි එකඟතාවක් ලබාදෙන තෙක් මෙම ව්‍යාපෘතියේ මාගේ පර්යේෂණ දත්ත සහ මූලික ප්‍රතිඵල සඳහා ප්‍රවේශවීමේ හැකියාව පර්යේෂකයින් වෙත පමණක් හිම්වන බව දනිමි

සහභාගී වන්නාගේ නම ...............................................................................................

සහභාගීවන්නාගේ අත්සන...............................................දිනය........................

# CONSENT FORM FOR PARTICIPATION IN RESEARCH

## (Focus Group)

> Challenges of effective policy implementation in devolved context: An investigation into waste management in Sri Lanka

I …..........................................................................................................................

being over the age of 18 years, hereby consent to participate as requested in the focus group for the research project with the title listed above.

1.  I have read the information provided.
2.  Details of procedures and any risks have been explained to my satisfaction.
3.  I agree to audio recording of my information and participation.
4.  I am aware that I should retain a copy of the Information Sheet and Consent Form for future reference.
5.  I understand that:
    a) I may not directly benefit from taking part in this research.
    b) Participation is entirely voluntary and I am free to withdraw from the project at any time; and am free to decline to answer particular questions.
    c) While I can withdraw from participation at any time I cannot withdraw the information I have provided or ask that the recording be stopped.
    d) While no identifying information will be published, due to the nature of focus groups anonymity <u>cannot</u> be guaranteed.
    e) Although participation <u>will not</u> be anonymous, I should protect the identity of participants and confidentiality of all discussions that occur within the group to minimise risks to participants.
6.  I understand that <u>only</u> the researchers on this project will have access to my research data and raw results; unless I explicitly provide consent for it to be shared with other parties

**Participant's name……………………………………….…….…………………...**

**Participant's signature………………………………………Date…………………...**

I, the researcher certify that I have explained the study to the volunteer and consider that she/he understands what is involved and freely consents to participation.

**Researcher's name……………………………………………….........................**

**Researcher's signature……………………………..…………Date…………..………**

NB:    ~~Two signed copies should be obtained.~~

![Flinders University logo]

## පර්යේෂණයට සහභාගීවීම සඳහා කැමැත්ත ප්‍රකාශ කිරීමේ පත්‍රිකාව
### (ඉලක්කගත කණ්ඩායම් සාකච්ඡා)

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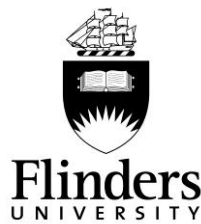
දේශපාලන බලතල පැවරීමේ සන්දර්භයක් තුළ ප්‍රතිපත්ති එළඳැයීව ක්‍රියාත්මක කිරීමේ අභියෝග: ශ්‍රී ලංකාවේ ඝන අපද්‍රව්‍ය කළමනාකරණ ප්‍රතිපත්තිය පිළිබඳ විමසුමක්

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......................................................................................................................... වන මා

වයස අවුරුදු 18 සම්පූර්ණ කර ඇති අතර හඳුන්වාදීමේ ලිපියෙන් ඉල්ලා ඇති අන්දමට ඉහත සඳහන් ව්‍යාපෘතිය සඳහා සහභාගීවීමට මාගේ කැමැත්ත ප්‍රකාශ කර සිටිමි.

1. සපයා ඇති තොරතුරු මා විසින් කියවන ලදී

2. ක්‍රියාවලිය පිළිබඳ තොරතුරු සහ පවතින අවධානම් සම්බන්ධව මා තෘප්තිමත් වන අන්දමට පැහැදිලි කරන ලදී.

3. මා විසින් ලබාදෙන තොරතුරු සහ මාගේ සහභාගීත්වයේ හඬ පටිගත කිරීමට මා එකඟවෙමි.

4. අනාගත අවශ්‍යතා වෙනුවෙන් තොරතුරු පත්‍රිකාවේ සහ කැමැත්ත ප්‍රකාශ කිරීමේ පත්‍රිකාවෙහි පිටපත් තබා ගතයුතු බවට මා දැනුවත්ව සිටිමි.

5. පහත සඳහන් කරුණු සම්බන්ධයෙන් මා දැනුවත් බව ප්‍රකාශ කරමි.
    අ) මෙම පර්යේෂණයට සම්බන්ධවීම හේතුවෙන් මාහට සෑදු ප්‍රතිලාභ තොලැබෙන බව.
    ආ) සහභාගීත්වය සම්පූර්ණයෙන් ස්වේච්ඡාවෙන් සිදුවන අතර අවශ්‍ය ඕනෑම අවස්ථාවක ව්‍යාපෘතියෙන් ඉවත්වීමටත්, විශේෂිත ප්‍රශ්නවලට පිළිතුරු නොදී සිටීමටත් හැකියාව පවතින බව.
    ඇ) අවශ්‍ය ඕනෑම අවස්ථාවක අධ්‍යයනයට සහභාගීවීමෙන් මාහට ඉවත්වීමට හැකි අතරම මා විසින් සපයන ලද තොරතුරු ඉල්ලා අස්කර ගැනීමට හෝ පටිගත කිරීම නතර කරන ලෙස ඉල්ලීමට හැකියාවක් නොමැති බව.
    ඈ) ප්‍රකාශකයට පත්කිරීමේදී තොරතුරු සැපයුවන්ගේ අනන්‍යතාව හඳුනාගත නොහැකි නමුත් ඉලක්කගත කණ්ඩායම් සාකච්ඡාවල ස්වභාවය හේතුවෙන් රහස්‍යභාවය පිළිබඳ සහතික කළ නොහැකි බව.
    ඉ) සහභාගීත්වය රහස්‍ය කරුණක් නොවන නමුත්, සහභාගීවන්නන්ගේ අවධානය අවම කිරීම සඳහා සහභාගීවන්නන්ගේ අනන්‍යතාව පිළිබඳ තොරතුරු සහ සාකච්ඡාව තුළින් හෙළිවූ කරුණුවල රහස්‍යභාවය සුරැකිය යුතු බව

6. අනෙකුත් පාර්ශව සමඟ තොරතුරු හුවමාරු කර ගැනීමට මා විසින් පැහැදිලි එකඟතාවක් ලබාදෙන තෙක් මෙම ව්‍යාපෘතියේ මාගේ පර්යේෂණ දත්ත සහ මූලික ප්‍රතිඵල සඳහා ප්‍රවේශවීමේ හැකියාව පර්යේෂකයින් වෙත පමණක් හිමිවන බව දනිමි

සහභාගී වන්නාගේ නම .......................................................................

සහභාගීවන්නාගේ අත්සන.....................................දිනය.....................

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**APPENDIX 3.4: INTERVIEW SCHEDULES**

**A) Interview Schedule for bureaucrats/public employee (the Central Government, provincial councils, and local governments)**

1. Can you please tell me in what capacity are you involved in municipal waste management?

   a. prompts: [how long have been performing the role? Did you play different roles in different levels of   government or different institutions related to waste management]

2. In your opinion, how effective is the current management of municipal waste in Sri Lanka?

| Very ineffective | ineffective | Neutral | Effective | Very Effective |
|:---:|:---:|:---:|:---:|:---:|
| ○ | ○ | ○ | ○ | ○ |

   2.1 Can you explain the reasons for your answer?

3. As you are aware, Sri Lanka is in the process of implementing its new (2019) Policy. I'd like to ask to you to reflect about the 2007 Policy which is being replaced.

   3.1. In your opinion, what were the strengths of the 2007 national waste management policy? [prompts: current policy not new one]

   a.   In your opinion, what were the weaknesses of the national 2007 waste management policy? [prompts: current policy not new one]

4.  I'd like to ask you a few questions about new (2019) policy.

   b.   Did you have any involvement in producing the 2019 policy?
   c.   If yes, what was your input.
   d.   If no, are you aware of the new policy?
   e.   If you know about the new policy, in what ways do you think will it improve upon the 2007 Policy?

5. In developing the new waste management policy (2019) how successful do you think the Sri Lankan government was in engaging a variety of groups and individuals?

| Very unsuccessful | successful | Neutral | Successful | Very successful |
|:---:|:---:|:---:|:---:|:---:|
| ○ | ○ | ○ | ○ | ○ |

   a.   Please explain the reasons for your answer
   b.   prompts: (was it effective process and improve the policy, were broad range of groups involved? Which groups meaningfully engaged? what are the influence of engagement on policy outcomes, what are influence of lack of engagement on policy outcomes)

6. How did you ensure that the legislation would be accepted and passed?

a. prompts: [did you have power and access to resources, how was provincial councils consent achieved?]

7. How effective was the translation of the 2007 national waste management policy into practice?

| Very ineffective | ineffective | Neutral | Effective | Very Effective |
|:---:|:---:|:---:|:---:|:---:|
| ○ | ○ | ○ | ○ | ○ |

   a. Please explain the reasons for your answer.

   b. Prompts: [how has the national policy been applied at the national-level, regulations, officer order, circulars]

8. What are the factors have the most influence on decision-making on to make policy on national waste management?

   a. Prompts: [groups-interest of political, administrative, public, media, interest group/capacity on the outcomes-resources, technology, legal provisions)

   b. How it affects on decision-making?

9. What challenges national government face when operationalising the national waste management policy?

   a. Prompts: reuse, reduce and recycling?

   b. Prompts: [what are their key difficulties, interest of different groups- party politics, administrative, public, media, interest groups, private sector, resource, technology, legal provisions, co-ordination, decisions on implementation)

10. What is the current evaluation method for national municipal waste management policy?

   a. Do you think that it is effective (Yes/No)?

   b. Please explain reasons for your answer

11. What would you change to improve more effective implementation of the policy at your level?

12. Is there anything critical to municipal waste management or policy that we have not discussed?

   a. If yes, please describe

Thank you for your valuable time spent for my research

Transcription will send after one month for your review and acceptance.

B) **Interview Schedule for elected public representatives (the Central Government, provincial councils, and local government)**

1. Can you please tell me in what capacity are you involved in waste management?

1.1  How long have you been performing this role?

2. In your opinion, how effective is the current management of municipal waste in Sri Lanka?

| Very ineffective | ineffective | Neutral | Effective | Very Effective |
|:---:|:---:|:---:|:---:|:---:|
| ○ | ○ | ○ | ○ | ○ |

   2.1 What makes you think so?

3. Do you think that the Sri Lankan government meaningfully engaged the public (listened and responded to the public) in developing the waste management policy (2019)? (please scale of 1-5)

| Not at all | Poorly engaged | Neutral | engaged | Highly engaged |
|:---:|:---:|:---:|:---:|:---:|
| ○ | ○ | ○ | ○ | ○ |

   2.1 Please describe the reasons for your answer.

4.   Do you think that the Sri Lankan government meaningfully engaged the other actors in developing the waste management policy (2019)?
     a.  Prompts: [provincial councils, local government, interest groups/ private sector, think tanks]
     b.  If yes, in what way did the government do this?
     c.  If not, why do you think the government did not engage the other actors?

5.  What are the factors have the most influence on decision-making on national waste management policy?
     a.  Prompts: [groups on the outcomes-interest of political, administrative, public, media, interest group/capacity on the outcomes-resources, technology, legal provisions)
     b.  How it affects on decision-making?

6.  How well is the national waste management policy (2007) translated into practice? (please scale of 1-5)

|  Very ineffective | ineffective | Neutral | Effective | Very Effective |
|:---:|:---:|:---:|:---:|:---:|
| ○ | ○ | ○ | ○ | ○ |

    a.   Please explain reasons for the answer.

8. What aspects of the national waste management policy have been integrated into provincial level policy/programs/regulations?

9. Do you think that the intent of the national policy is applied at the provincial/local-levels?

    a. what strategies/ programmes are in place provincially/locally that reflect the national policy?

10. What factors influence the practice of national waste management policy 2007 in Sri Lanka?

    a. prompts: [interest of different groups- party politics, administrative, public, media, interest groups, private sector, capacity-resource, technology, legal provision co-ordination,)

11. What is the current evaluation method for national municipal waste management policy?

    a.   Do you think that it is effective (Yes/No)?

    b.   Please explain reasons for your answer

12. What would you change to ensure the most effective policy at your level?

13. Is there anything critical to municipal waste management or policy that we have not discussed?

    a.   If yes, please describe

Thank you for your valuable time spent for my research

Transcription will send after one month for your review and acceptance.

C) **Interview Schedule for Researchers**

1. How long you have been engaging in waste management issues?

- Prompts: [area covered, experiences and contribution]

2. On a scale of 1-5, How appropriate is the current national policy (2007) for waste management?

| Very ineffective | ineffective | neutral | effective | Very effective |
|:---:|:---:|:---:|:---:|:---:|
| ○ | ○ | ○ | ○ | ○ |

- Can you please describe the reason for your answer?

2. Are you aware of the new national waste management policy drafted/introduced in 2019?

- Yes/No (if the answer is 'no' please move to question 3)
- If yes, what are the positive features of the new national waste management policy as compared to the policy it is replacing?
- If yes, what are the negative features of the new national waste management policy as compared to the policy it is replacing?

5). Do you think that the Sri Lankan government meaningfully engaged think tanks and researchers in developing the waste management policy 2019 (please scale of 1-5)

| Not at all | Poorly engaged | Neutral | engaged | Highly engaged |
|:---:|:---:|:---:|:---:|:---:|
| ○ | ○ | ○ | ○ | ○ |

- Please describe the reasons for your answer.

6. In your opinion, did the policymakers have enough power and access to resource for building a coalition of supporters and secure legislation actions related to national policy in 2007?

- Yes/No
- how it effects on the national policy (2007)?

7. What are the factors influence for decision-making on this issue?

- Prompts: [interest of different groups-politics, administrators, public, private, interest groups, international organisations/capacity and availability of resources/ extremal factors-socio-economic, cultural/legal and policy conflict)

8. In your opinion, on a scale of 1-5, how well is the current national waste management policy (2007) implemented?

| **Entirely inappropriate** | **Inappropriate** | **Neutral** | **Appropriate** | **Entirely appropriate** |
| :---: | :---: | :---: | :---: | :---: |
| ○ | ○ | ○ | ○ | ○ |

- please explain the reasons for your answer

9. What were the key factors influenced the policy implementation?

- Prompts: [interest of different groups-politics, administrators, public, private, interest groups, international organisations/capacity and availability of resources, conflict or blurred areas of policy and legal provisions and issues related to the rule of law/ extremal factors-socio-economic, cultural/other]

10. What are the methods used for policy evaluation?

- On a scale of 1-5, how is the appropriate current methods?

| **Entirely inappropriate** | **Inappropriate** | **Neutral** | **Appropriate** | **Entirely appropriate** |
| :---: | :---: | :---: | :---: | :---: |
| ○ | ○ | ○ | ○ | ○ |

- Please explain the reasons

11. In your opinion, what could be done to improve waste management practices at the local-level?

12. Do you have anything to share regarding waste management which we didn't discuss earlier?

- Yes/No
- If yes, please describe

Thank you for your valuable time spent for my research

Transcription will send after one month for your review and acceptance.

D) **Interview Schedule for Entrepreneurs (recycling/upcycling and reducing waste)**

1.  How long you have been engaged in the enterprise related to waste recycling /upcycling & reducing?

> a. [prompts: what type of waste use, quantity of waste use per month, environmental effects)
>
> b. why you engage in this enterprise?

2. In your opinion, on a scale of 1-5 (where 1= entirely inappropriate and 5 = Entirely appropriate) how appropriate is the current national policy (2007) for waste management in Sri Lanka?

| Entirely inappropriate | Inappropriate | Neutral | Appropriate | Entirely appropriate |
|:---:|:---:|:---:|:---:|:---:|
| ○ | ○ | ○ | ○ | ○ |

> a. Please explain the reasons for your answer.

3. Do you aware of the new national policy drafted/introduced in 2019?

- Yes/ No
- If yes, how do you feel the positive features of the policy, as compared to the policy it is replacing?
- What are the negative features of the policy, as compared to the policy it is replacing?

1.  Do you think that the government of Sri Lanka meaningfully engaged the private sector when prepare national waste management policy in 2019? (please rate on scale 1-5)

| Not at all | Poorly engaged | Neutral | engaged | Highly engaged |
|:---:|:---:|:---:|:---:|:---:|
| ○ | ○ | ○ | ○ | ○ |

> a. Please describe the reasons for your answer.

5. How well the national waste management policy is translated into practice specially related to reduce and recycling? (please rate on scale 1-5)

| worst | poor | average | good | Very good |
|:---:|:---:|:---:|:---:|:---:|
| ○ | ○ | ○ | ○ | ○ |

> a. Please describe the reasons for your answer?

6.  How do you feel, the involvement of central government institutions (which having responsibilities of waste management) on your business? (Please rate on Scale 1-5)

| **Highly positive** | **positive** | **Neutral** | **negative** | **Highly negative** |
|:---:|:---:|:---:|:---:|:---:|
| ○ | ○ | ○ | ○ | ○ |

- Please describe the reasons for your answer
- Prompts: [Central Environmental Authority/Ministry of Megapolis/Ministry of Environment]

7.  How do you feel, the involvement of provincial institutions related to waste management on your business? (Please rate on Scale 1-5)

| **Highly positive** | **positive** | **Neutral** | **negative** | **Highly negative** |
|:---:|:---:|:---:|:---:|:---:|
| ○ | ○ | ○ | ○ | ○ |

- Please describe the reasons for your answer
- Prompts: [provincial waste management authorities, provincial ministry of environment]

8.  How do you feel, the involvement of local government on your business? (Please rate on Scale 1-5)

| **Highly positive** | **positive** | **Neutral** | **negative** | **Highly negative** |
|:---:|:---:|:---:|:---:|:---:|
| ○ | ○ | ○ | ○ | ○ |

- Please describe the reasons for your answer
- Prompts: [business approval and registration, material, tax, market]

9. How do you feel, the support of public on your business? (Please rate on Scale 1-5)

| **Highly positive** | **positive** | **Neutral** | **negative** | **Highly negative** |
|:---:|:---:|:---:|:---:|:---:|
| ○ | ○ | ○ | ○ | ○ |

- Please describe the reasons for your answer
- Prompts: [material supply, attitudes, market]

10. Do you experience challenges/ obstacles participating in this industry?

- Yes/No
- If yes, what are the challenges?

o   Prompts: [technology, resources, legal and policy, institutional procedures and co-ordination problems, political interest

- How it affect on your enterprise?

11. Do you have any suggestion/opinion to way that need to be improvement of waste management practices in Sri Lanka?

- Yes/No
- If yes, please explain the reasons for the answer.

12. Do you have anything to share regarding reduce and recycle/upcycle of waste which didn't discuss earlier?

- Yes/ No
- If yes, please describe.

Thank you for your valuable time spent for my research

Transcription will send after one month for your review and acceptance.

E) **Research Questions for focus group discussions**

1. In your opinion what extent effective is the current management of municipal waste in Sri Lanka?

2. What are the positive features of the national waste management policy (2007)?

    a. Prompts [current policy]

3. What are the negative features of the national waste management policy (2007)?

    a. Prompts [current policy]

4. What are the barriers to effective application of the municipal waste management policy (2007)?

    a. Prompts: [reduce, reuse, recycling]

    b. Prompts: [what are the key difficulties, interest of different groups- party politics, administrative, public, media, interest groups, private sector,capacity-resource, technology, legal provisions, co-ordination, decisions on implementation)

5. What have been the most useful aspects of the national waste management policy in helping provincial governments/local governments manage waste?

    Prompts: [e.g. Reuse, reduce and recycling?]

6. I would like to ask questions about new policy drafted in 2019. According to your experiences, has government been inclusive in designing the new policy in 2019?

    a. Prompts [What is your role? was it effective process and improve the policy? in what ways it improves?]

    b. Prompts: [were broad range of groups involved? Which groups meaningfully engaged? what are the influence of engagement on policy outcomes, what are influence of lack of engagement on policy outcomes)

7. What will be the barriers to effective application of the municipal waste management policy (2019)?

    a. Prompts: [Interest of groups of people-political, administrative, public, private sector/capacity-availability of resources, technology, legal and policy conflicts/media)

8. How do you explain the government response on peoples' demand on waste management problem?

     a.   Prompts: (protests, court cases, request related to dumpsite collapse, site selections)

9.   What will need to most change to achieve to 2019 policy goals?

     a.   Prompts: [to meet the acute short-term challenges in line with medium- and long-term sustainable solutions up to 2030]

10. Is there anything critical to municipal waste management or policy that we have not discussed?

     a.   If yes, please describe

Thank you for your valuable time spent for my research

Transcription will send after one month for your review and acceptance.

**APPENDIX 3.5: INTERVIEW TIME SCHEDULE**

| Serial No. | Interview date | Interview time | Research ID | Position | Gender |
|---|---|---|---|---|---|
| 01 | 20/11/2019 | 5.15 p.m. to 6.17 p.m. | PCPO01 | Bureaucrat (provincial council) | Male |
| 02 | 21/11/2019 | 3.07 p.m. to 4.05 p.m. | E1 | Entrepreneur | Male |
| 03 | 23/11/2020 | 4.35 p.m. to 5.50 p.m. | E2 | Entrepreneur | Male |
| 04 | 30/11/2019 | 11.15 a.m. to 12.20 p.m. | LGABPO01 | Public employee (local government) | Female |
| 05 | 02/12/2019 | 10.45 a.m. to 11.30 a.m. | CGPO02 | Bureaucrat (Central Government) | Male |
| 06 | 02/12/2019 | 12.35 p.m. to 1.50 p.m. | CGPO06 | Bureaucrat (Central Government) | Male |
| 07 | 03/12/2019 | 11.20 a.m. to 11.55 a.m. | LGKAPO01 | Public employee (local government) | Male |
| 08 | 03/12/2019 | 1.10 p.m. to 1.55 p.m. | LGKAPR01 | Elected pubic representative (local government) | Male |
| 09 | 04/12/2019 | 12.05 p.m. to 12.48 p.m. | LGKAPO03 | Public employee (local government) | Male |
| 10 | 04/12/2019 | 4.03 p.m. to 5.10 p.m. | LGKAPO04 | Public employee (local government) | Male |
| 11 | 5/12/2019 | 2.00 p.m. to 2.50 p.m. | R01 | Researcher | Male |
| 12 | 6/12/2019 | 3.45 p.m. to 4.38 p.m. | LGKAPO02 | Public employee (local government) | Male |

| 13 | 09/12/2019 | 10.25 a.m. to 11.15 a.m. | LGABPO03 | Public employee (local government) | Male |
|----|------------|--------------------------|----------|-----------------------------------|------|
| 14 | 12/12/2019 | 8.35 a.m. to 9.20 a.m. | CGPR02 | Elected public representative (Central Government) | Male |
| 15 | 13/12/2019 | 10.25 a.m. to 11.41 a.m. | CGPO05 | Bureaucrat (Central Government) | Female |
| 16 | 15/12/2019 | 2.43 p.m. to 3.32 p.m. | LGABPO04 | Bureaucrat (local government) | Female |
| 17 | 17/12/2019 | 9.24 a.m. to 10.10 a.m. | LGABPO02 | Public employee (local government) | Male |
| 18 | 17/12/2019 | 3.12 p.m. to 4.10 p.m. | PCPR01 | Elected public representative (provincial council) | Male |
| 19 | 17/12/2019 | 7.35 p.m. to 8.42 p.m. | LGKAPR02 | Public employee (local government) | Male |
| 20 | 20/12/2019 | 12.10 p.m. to 1.00 p.m. | LGKAPO05 | Public employee (local government) | Male |
| 21 | 23/12/2019 | 3.15 p.m. to 4.10 p.m. | LGABPR02 | Elected pubic representative (local government) | Male |
| 22 | 24/12/2019 | 2.30 p.m. to 3.45 p.m. | CGPR01 | Elected public representative (Central Government) | Male |
| 23 | 27/12/2019 | 11.45 a.m. to 12.37 p.m. | LGABPO05 | Public employee (local government) | Male |
| 24 | 28/12/2019 | 2.10 p.m. to 3.10 p.m. | LGABPR01 | Elected pubic representative | Female |

| | | | | (local government) | |
|---|---|---|---|---|---|
| 25 | 02/01/2020 | 8.35 a.m. to 9.30 a.m. | CGPO04 | Bureaucrat (Central Government) | Female |
| 26 | 03/01/2020 | 1.00 a.m. to 2.15 p.m. | CGPO03 | Bureaucrat (Central Government) | Male |
| 27 | 09/01/2020 | 3.10 p.m. to 4.25 p.m. | PCPO02 | Bureaucrat (provincial council) | Female |
| 28 | 10/01/2020 | 11.30 a.m. to 12.32 p.m. | PCPO03 | Bureaucrat (provincial council) | Male |
| 29 | 11/01/2020 | 8.15 p.m. to 9.25 p.m. | PCPR02 | Elected public representative (provincial council) | Male |
| 30 | 13/01/2020 | 12.15 p.m. to 1.30 p.m. | CGPO01 | Bureaucrat (Central Government) | Male |

Note: Both bureaucrats and public employee considered as a one category of interview participants. Therefore, this category of participants referred to as 'public employee' in the in-text citation.

**APPENDIX 4.1: CONSTITUTIONAL PROVISIONS RELATED TO MSWM**

| Year | Provisions |
|---|---|
| 1978 | Chapter VI<br><br>Directive Principles of State Policy and Fundamental Duties<br><br>27. (2) The State is pledged to establish in Sri Lanka a Democratic Socialist Society, the objectives of which include –<br><br>(14) The State shall protect, preserve and improve the environment for the benefit of the community.<br><br>28. The exercise and enjoyment of rights and freedoms are inseparable from the performance of duties and obligations and accordingly it is the duty of every person in Sri Lanka –<br><br>(d) to preserve and protect public property and to combat misuse and waste of public property;<br><br>(f) to protect nature and conserve its riches. |
| 1987 (13th Amendment) | **List I-Provincial Council List of 9th Schedule**<br><br>4. Local Government –<br><br>4:1 Local authorities for the purpose of Local Government and village administration, such as Municipal Councils, Urban Councils and Pradeshiya Sabhas, except that, the constitution, form and structure of local authorities shall be determined by law;<br><br>4:2 Supervision of the administration of Local Authorities established by law, including the power of dissolution (subject to such quasi-judicial inquiries into the grounds for dissolution and legal remedies in respect thereof, as may be provided by law and subject to provisions relating to audit as may be provided by law);<br><br>4:3 Local Authorities will have the powers vested in them under existing law. Municipal Councils and Urban Councils will have the powers vested in them under the Municipal Councils Ordinance and the Urban Councils Ordinance, Pradeshiya Sabha will have the powers vested in them under existing law. It will be open to a Provincial Council to confer additional powers on local authorities but not to take away their powers;<br><br>**List II-Reserved List of 9th Schedule**<br><br>National Policy on all Subjects and Functions. |
| 1987 (13th Amendment) | 154G(1) Every Provincial Council may, subject to the provisions of the Constitution, make statutes applicable to the Province for which it is established, with respect to any matter set out in List I of the Ninth Schedule (hereinafter referred to as "the Provincial Council List").<br><br>154G(5)(a) Parliament may make laws with respect to any matter set out in List III of the Ninth Schedule (hereinafter referred to as "the Concurrent List") after such consultation with all Provincial Councils as Parliament may consider appropriate in the circumstances of each case. (b) Every Provincial Council |

| | may, subject to the provisions of the Constitution, make statutes applicable to the Province for which it is established, with respect to any matter on the Concurrent List, after such consultation with Parliament as it may consider appropriate in the circumstances of each case. |
|---|---|

Source: *The Constitution* of the Democratic Socialist Republic of Sri Lanka, 2021

**APPENDIX 4.2: RESPONSIBILITIES GIVEN TO DIFFERENT ACTORS BY ACTS AND**

**ORDINANCES**

| Year | Legal document | Relationship with MSWM |
|------|----------------|------------------------|
| 1862 | Nuisance Ordinance No. 15 of 1862 and amended No. 62 of 1939 and No. 57 of 1946 | Grants power to the Department of Police and public health inspectors to raids illegal waste/wastewater dumping on roads, in waterways, or public places, arrest illegal waste dumpers, and file lawsuits. Grants power to courts to impose a fine and or imprisonment. |
| 1887 | Penal Code Ordinance Number 11 of 1887 (last amended in 2006) | Gives powers to Department of Police to arrest persons who commit illegal waste disposal and file lawsuits. |
| 1939 | Urban Council Ordinance No. 61 of 1939 | Gives responsibility and power to urban councils to manage municipal solid waste and enact by-laws on municipal solid waste management. |
| 1939 | Police Ordinance No.21 of 1939 | Gives powers to police officers to take into custody without a warrant, any person who dumps waste into public places, file lawsuits against illegal waste dumpers. |
| 1946 | Municipal Council Ordinance No. 29 of 1947 | Gives responsibility and power to Municipal Councils to manage municipal solid waste and enact by-laws on municipal solid waste management. |
| 1973 | Common Amenities Board Law No 10 of 1973 and amended No 24 of 2003 | Grants power and responsibility to the Common Amenities Board to establish committees to run day-to-day activities related to waste management in housing schemes. |
| 1978 | Constitution of the Democratic Socialist Republic of Sri Lanka | Explains directives of principles of state policy, (to protect, preserve and improve the environment), and fundamental duties of the citizens. The power and responsibilities of waste management belong to both Central Government and Provincial Councils. |
| 1979 | Code of Criminal Procedure Act No.15 of 1979 | Grants power to court to issue orders for cessation of dumping of waste in dumpsite, if it is likely to cause conflagration or explosion. |
| 1980 | National Environmental Act No.47 of 1980 | Established and Grants power and responsibility to the Central Environmental Authority for regulating waste management activities throughout the country. |
| 1987 | Pradeshiya Sabhas Act No. 15 of 1987 | Gives responsibility and power to Pradeshiya Sabhas to manage municipal solid waste and enact by-laws on municipal solid waste management. |
| 1987 | Provincial Councils Act No. 42 of 1987 | Grants power to Provincial Ministries of Local Government, and Provincial Local Government |

| | | Commissioner and his/her staff, to implement national and provincial policies on MSWM. |
|---|---|---|
| 2000 | Agrarian Development Act No. 46 of 2000 | Grants power and responsibility to the Department of Agrarian Development to file lawsuits against a person who, or institution that, dumps waste into paddy lands without permission of the Commissioner of Agrarian Development. |
| 2007 | Prevention of Mosquitoes Breeding Act No. 11 of 2007 | Grants power to Police Officers and public health inspectors to enter the premises, without a warrant, to search dengue breading places at house/institutional premises, and file lawsuits against owners of the premises if dengue breeding places are found. |
| 2008 | National Thoroughfares Act No. 40 of 2008 | Grants power to the Road Development Authority and Police to enforce laws against illegal waste dumpers who dump waste or wastewater on roads, national highways, or footpaths, or spills water, oil, or wastewater  and oil, while transporting these fluids in a vehicle on public roads or national highways. |
| 2008 | Conservation Levy Act No. 26 of 2008 | Imposes a tax on imported plastic and polythene and provides a fund to promote the recycling industry in the country. |

Source: Researcher, 2020