



**TOWARDS EFFECTIVE LOCAL GOVERNMENT  
ENVIRONMENTAL HEALTH SERVICES: A POLICY  
IMPACT ANALYSIS APPROACH**

By

**Michael Hermanus Albertus Agenbag**

Thesis submitted in fulfilment of the requirements for the degree

**Doctor of Philosophy: Environmental Health**  
in the  
Faculty of Applied Sciences  
at the  
Cape Peninsula University of Technology (Cape Town)

**Supervisor:** Prof I.S. Human

**Co-supervisor:** Emeritus Prof De Wet Schutte

**Cape Town**  
May 2023

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## DECLARATION

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25 May 2023

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**Date (32 years)**

## ABSTRACT

Environmental health service (EHS) is the first line of defence in protecting the population against environmental risks. Hence it is mandated as a basic municipal service and fundamentally a human rights issue in the South African Constitution. However, despite the national government reporting significant progress, the municipal services sector continues to grapple with social, financial, administrative, and political factors that thwart the ethos of *Batho Pele* or *people first*. Unfulfilled expectations, flagging service delivery and infrastructure deterioration have resulted in community protests and increased litigation against municipalities. The study aimed to seek a path towards developing and testing a policy impact analysis tool for local authorities to recognise systemic, procedural, and relational incongruences. Also, it explores the impact these have on policy implementation and effective EHS delivery within the context of interlinking statutory mandates and dispersed governance among different categories of municipalities. A grounded theory based on an integrative literature review and culminating in a conceptual framework revealed four fundamental building blocks of effective service delivery. Functionaries, i) cognisant of their obligations and assigned authority as set out in the mandate, ii) to execute it according to the prescribed performance criteria with the iii) symbolic and active support of both political and operational leaders to iv) achieve the crucial benchmark of effectiveness namely a high level of community satisfaction. However, rather than merely clarifying the individual elements (Chapter 2) and plotting the EHS and sectoral mandates (Chapter 3), Luhmann's systems theory approach underscores the relational aspect of effective service delivery. The systems theory prompted the development of an action-oriented tool to assess policy and practice alignment in a dispersed governance setup and to identify areas requiring intervention. The insights from the grounded theory and the legislation mapping theoretically inform the retrospective policy

assessment. The analysis of determinants of policy impact (ADEPT) model was revised for the local context and tested in the field to retrospectively compare policy intent to actual implementation as a measure of achieving objectives. It gave voice to Environmental Health Practitioners (EHPs) from district municipalities and sector colleagues at six local municipalities in the Western Cape. They discussed their lived experience in interviews, focus groups and questionnaires. The results reinforce the interwovenness of structures, functions and obligations and how intergovernmental relationships influence alignment. In particular, the chasm between EHPs' professional mandate and training and how this is applied when they are excluded from preventative planning, providing, operating, and maintenance processes is revealed. Rather than each level of authority, institution or functionary independently contributing to effective service delivery, this relational aspect of effectiveness underlies effective service delivery and goal achievement. The revised ADEPT model proved helpful as a policy impact analysis tool for local authorities to recognise the systemic, procedural, and relational incongruences among environmental health services (EHS) and basic municipal services (BMSs) policy and practice alignment. The statistical and anecdotal evidence used to assess the policy impact determinants, namely policy goals, obligations, resources, and opportunities, clearly points to a perceived lack or integration of the different legal mandates governing environmental health, water provision, sanitation, and solid waste management, and the execution thereof. The study may prove valuable for scholars, educators, practitioners, and students in the environmental health (EH) and BMS sectors (e.g., engineering, water, sanitation, waste management and town planning). The study also shows that it could be helpful for public administration and management students as potential executive directors and municipal managers. It can contribute to a more holistic approach to support local government's professionalisation for effectively providing essential services with an emphasis on sustainability and prevention.



## ACKNOWLEDGEMENTS

### **I wish to thank:**

1. My supervisors Professor Izanne Human (Supervisor), and Professor (Emeritus) De Wet Schutte, as my co-supervisor, for their contribution and encouragement.
2. Professor Ryk Lues from Bloemfontein, who prepared me for the study by supervising my master's study in environmental health, for his subsequent support to critically reflect on my work and for encouraging me to stay on course. At a critical time in this process, when I was stuck in a quagmire of too much information, data, and texts, he provided clear guidance that helped me navigate the obstacles. Thanks to his extensive network, I was introduced to Erika Kruger who chopped, pruned, and curtailed my wordiness. Erika, your professional advice and support, philosophic training and journalistic short-hand skills made a huge difference in shaping my thesis to deliver it on time.
3. The 100-odd environmental health practitioners of the district municipalities and the eleven sectoral middle managers from the purposive selected local municipalities that offered their time to share their lived service delivery experiences. Their contribution was invaluable for testing the contextualised and revised ADEPT policy impact analysis model in a real-world context. The trust and frankness in sharing your experiences made all the difference in developing a tool that can improve our work life and, through that, the lives of citizens dependent on our services. I am also grateful to the municipal managers and the municipal health service managers who allowed their staff to participate in this essential study, as well as the secretariat at the municipalities that assisted with the logistical arrangements to meet with the municipal staff.
4. Mr Leon Crafford (Senior EHP) from Central Karoo DM and District Waste Officer, and Mr Eddie Hannekom, formerly heading the waste management portfolio in the Western

Cape government's Department of Environmental Affairs and Development Planning, for explaining the processes and challenges of professional registration of waste officers during telephonic interviews on 16 September 2021.

5. Mr Stanley Lekata of CPUT's postgraduate development support unit for his valuable assistance with advising me on the statistical analysis and interpretation of results.
6. Dr Laura Budler Kleinhans for her professional, and efficient final editing of this thesis and the accompanying journal article. Her flexible approach and quick responses to questions and constantly keeping me up to date with her progress put me at ease despite pressing deadlines.
7. Prof Wayne Babchuck from Lincoln University, Nabraska (USA) for his valuable input to my research proposal and choice of methodology. It was during our meeting at the 2018 African Doctoral Academy's summer school at the Stellenbosch University that I resolved to use grounded theory as the starting point in this exploratory research study.
8. Professor Erwin Schwella, Dean of the School of Social Innovation at Hugenote College in Wellington, South Africa, and Dr Renee Grotes from the Vrij University of Amsterdam during the PhD Athenaeum, hosted by the Stellenbosch University – School of Public Administration and Management from May 2018 to March 2019, for their input into my proposal.
9. Our colleagues at the research directorate, Ms Phathiswa Swaartbooi, who always went the extra mile to settle claims and to remind me about due dates or outstanding information; Dr Patricia Smith for understanding a scholar's challenges and going out of her way to make things happen; the research director, Prof Dina Burger for accepting my logistical research policy and procedure challenges to shape future practical support for researchers.

10. Prof Joseph Kioko, the Dean of our Faculty of Applied Sciences at CPUT, and our Head of Department, Dr Ntokoza Malaza for all the requisite approvals, their valuable support and guidance to make my dream come true.
11. Mrs Ana Bigara from Mangosuthu University of Technology's Department of Environmental Health, and Mrs Althea Whitaker from CPUT's Department of Public Administration and Governance making light my teaching load and for my other colleagues in the Environmental Health Programme that took on my administrative duties whilst I was on study leave during 2021.
12. Finally, my employer, Cape Peninsula University of Technology (CPUT), is acknowledged, for the support, financial contribution through the University Research Fund (URF), and the Improvement of Qualifications Programme (IQP). The latter is funded through the University Capacity Development Grant (UCDG) by the Department of Higher Education that allowed me to be on study leave during 2021.

## DEDICATION

This work is dedicated to:

First and foremost, my heavenly Father to whom I would like to bring all the glory for the opportunity, strength, health, dedication, and resources to take on this long-lived exploratory journey as a walk of faith.

To my wife Lida, and our daughters, Mariena, Maretha, and Franciska for their sacrifices, perseverance, and support through my lifelong education journey in preparation for this long-awaited dream that become a reality to make a valuable contribution to my profession. For my wife also for traveling with me during the interviews to assist with the logistical arrangements.

To our beloved profession, environmental health, that were since the Victorian times, treated as an afterthought, until a crisis forced decision-makers to temporarily invest in the preventive measures, to search for alternatives. Although I do not foresee that the crisis dependence will ever change, the insights from this study will hopefully introduce a discourse to drive preventive local government environmental health services within the biased decision-making landscape. In addition, I trust that the tools provided through this study will guide our environmental health professionals' leadership to navigate the decision-making biases to ensure effective, sustainable preventive environmental health services to our communities. In the context of the black box decision-making phenomenon, our communities suffer from executive leadership and administrative biases against preventive environmental health.

Local government environmental health services

## **Is prevention better than cure?**

### **How to fracture the glass ceiling (preventive biases)**

Dismantle each contributing element

If we cannot recognise the issues before us, we can't make a change

The glass ceiling will persist if we do not use our voices to change the discourse

It starts with you, building strong networks to overcome the invisible barriers

### **Die beiteljie [The little chisel]**

(NP van Wyk Louw [1906 – 1970])

“'n beitel moet kan klip breek as hy 'n beitel is-”

[a chisel that's a real cold-chisel can crack a boulder sheer-]



## TABLE OF CONTENTS

DECLARATION .....	i
ABSTRACT.....	ii
ACKNOWLEDGEMENTS.....	iv
DEDICATION.....	vii
TABLE OF CONTENTS.....	ix
LIST OF FIGURES .....	xv
LIST OF TABLES.....	xviii
APPENDICES .....	xx
GLOSSARY .....	xxii
CHAPTER ONE .....	1
INTRODUCTION .....	1
1.1 Introduction.....	2
1.1.1 Background.....	2
1.1.2 Environmental risks .....	3
1.1.3 Environmental risks in South Africa.....	4
1.1.4 Environmental health service as the first line of defence .....	6
1.1.5 Theories on effective service delivery .....	7
1.1.6 Relational aspects of public organisations.....	8
1.2 Problem statement.....	11
1.3 Aims and objectives.....	12
1.4 Scope of the study.....	14

1.5 Rationale .....	15
1.6 Conclusion .....	16
1.7 References.....	18
CHAPTER TWO .....	24
ESTABLISHING PREREQUISITES FOR EFFECTIVE LOCAL GOVERNMENT SERVICE DELIVERY AND FOR ENVIRONMENTAL HEALTH SERVICES IN PARTICULAR: AN INTEGRATIVE REVIEW .....	24
ABSTRACT.....	25
2.1 Introduction.....	27
2.2 Background.....	29
2.2.1 Local government in the South African context.....	30
2.2.2 Multi-level governance arrangements.....	31
2.2.3 Municipal Health Services (MHS).....	32
2.2.4 Basic municipal services.....	34
2.2.5 Intersecting local government service delivery functions .....	36
2.2.6 Integrated development planning: a development and performance management instrument .....	37
2.3 Challenges to effective environmental health service delivery in South Africa.....	39
2.3.1 Operational challenges.....	39
2.3.2 Challenge of dispersed governance .....	41
2.3.3 Perception challenges.....	43
2.4 Exploring effectiveness in the public sphere .....	47

2.4.1	Organisational effectiveness (OET) theory .....	48
2.4.2	Organisational effectiveness in a dispersed governance structure.....	49
2.4.3	Organisational effectiveness through reciprocal collaboration and communication.....	50
2.4.4	Network governance for organisational effectiveness.....	52
2.5	Methods.....	53
2.5.1	Grounded theory .....	53
2.5.2	Sampling for a grounded theory study.....	55
2.5.3	Integrative literature review within a grounded theory approach.....	55
2.5.4	Data analysis .....	58
2.5.5	Constructing a conceptual framework .....	59
2.5.6	Evaluation .....	62
2.6	Findings.....	63
2.6.1	Mandate cognisance.....	63
2.6.2	Inter-sectoral mandate execution .....	65
2.6.3	Planning and programming.....	66
2.6.4	Control .....	69
2.6.5	Resources .....	71
2.6.6	Leadership support.....	72
2.6.7	Community satisfaction .....	73
2.7	Discussion.....	75

2.7.1	Effective service delivery requires high levels of alignment, co-ordination, and balance among internal structures.....	76
2.7.2	Using systems theory to analyse the interplay among four fundamentals of effective service delivery .....	78
2.7.3	Luhmannian model of organisations as complex social systems.....	81
2.7.4	Decision-communications as the link in organisational systems.....	82
2.7.5	Regulating decision-communication in a system to ensure effectiveness .....	84
2.7.6	Implications for this study .....	93
2.8	Conclusions.....	97
2.9	References.....	99
CHAPTER THREE	.....	111
RELOOKING AT RECIPROCAL RELATIONSHIPS TO SUPPORT PREVENTATIVE HEALTH: THE INTERPLAY AMONG THE MANDATES OF MUNICIPAL HEALTH SERVICES AND SELECTED MUNICIPAL SERVICE SECTORS .....		111
ABSTRACT.....		112
3.1	Introduction.....	113
3.2	Background.....	115
3.3	Discussion.....	122
3.3.1	Unpacking municipal health services functionary and institutional mandates	125
3.3.2	Unpacking basic municipal services institutional and functionary mandates .	141
3.3.3	General scope of institutional and functionary mandates .....	166
3.4	Conclusion .....	171
3.5	References.....	174

CHAPTER FOUR.....	179
DEVELOPING AND TESTING A MODEL TO ANALYSE POLICY AND PRACTICE ALIGNMENT BETWEEN ENVIRONMENTAL HEALTH SERVICES AND BASIC MUNICIPAL SERVICES FOR EFFECTIVE PREVENTIVE HEALTH SERVICES IN DISTRICT MUNICIPALITIES .....	179
ABSTRACT.....	180
4.1 Introduction.....	182
4.2 Background.....	182
4.2.1 Local government environmental health services policy context.....	182
4.2.2 Policy analysis .....	185
4.2.3 Retrospective policy impact analysis (summative evaluation) in health care .	186
4.2.4 Analysis of Policy Impact Determinants Model (ADEPT) .....	187
4.2.5 Why the ADEPT model? .....	190
4.2.6 The case against the ADEPT model .....	191
4.2.7 Integrating the revised ADEPT model and the four fundamental elements for effective service delivery .....	193
4.2.8 Modifications and testing the revised ADEPT model .....	213
4.3 Methodology.....	214
4.3.1 Sampling methods.....	214
4.3.2 Data collection methods.....	217
4.4 Results and discussion .....	227
4.4.1 Goals .....	228
4.4.2 Obligations.....	236
4.4.3 Resources .....	272

4.4.4	Opportunities.....	293
4.5	Conclusion .....	306
4.5.1	Policy goals.....	306
4.5.2	Obligations.....	308
4.5.3	Resources .....	309
4.5.4	Opportunities.....	309
4.6	References.....	316
CHAPTER FIVE .....		328
CONCLUSION AND RECOMMENDATIONS .....		328
5.1	Introduction.....	329
5.2	Conclusion .....	330
5.2.1	Policy goals.....	331
5.2.2	Obligations.....	332
5.2.3	Resources .....	333
5.2.4	Opportunities.....	333
5.3	Recommendations.....	336
5.4	Limitations .....	341
APPENDICES .....		344

## LIST OF FIGURES

Figure 2.1: Fundamentals for the delivery of effective local government environmental health services (municipal health services).....	61
Figure 2.2: Examples of positive/reinforcing and negative/balancing feedback loops in the EHS context .....	86
Figure 2.3: Example of positive/reinforcing and negative/balancing feedback loops in the EHS context .....	88
Figure 2.4: Example of positive/reinforcing feedback loops within and between sub-units of a system in the EHS context.....	89
Figure 3.1: Branching tree conceptual overview of institutional and functionary mandate interplay among MHS and selected BMS sectoral departments as reference point to identify relevant pieces of legislation to test MHS and BMS sectors .....	121
Figure 3.2: Mapping legislation that informs institutional and functionaries’ mandates for MHS and BMS (e.g., water, sanitation, and solid waste) .....	124
Figure 3.1.1: MHS Institutional scope of functions.....	126
Figure 3.1.2: MHS Institutional scope of authority .....	130
Figure 3.1.3: MHS Functionary's scope of functions .....	135
Figure 3.1.4: MHS Functionary's scope of authority.....	136
Figure 3.1.5: MHS Functionary's professional scope of functions and authority.....	137
Figure 3.1.6: Overview of BMS institutional and functionary’s mandate - scope of functions and authority.....	141
Figure 3.1.7: BMS (water and sanitation) institutional - scope of functions.....	144
Figure 3.1.8: BMS (water and sanitation) institutional - scope of authority .....	148
Figure 3.1.9: BMS (water and sanitation) functionary’s - scope of functions.....	150
Figure 3.1.11: BMS (water and sanitation) functionary’s – professional scope of functions and authority.....	153
Figure 3.1.12: BMS (solid waste) institutional - scope of functions .....	156
Figure 3.1.13: BMS (solid waste) institutional - scope of authority.....	157
Figure 3.1.14: BMS (solid waste) functionary’s - scope of functions .....	162
Figure 3.1.15: BMS (solid waste) functionary’s - scope of authority .....	163

Figure 4.1: Illustrating two categories of municipalities in the two-tiered dispersed government arrangement responsible for delivering EHS/MHS (DM) and BMS (LM). Each has its own political system that is interrelated and interdependent (Chapter 2; David Easton's Systems Analysis of Political Life, 1965; Nisa <i>et al.</i> , 2021; Ayuningtyas <i>et al.</i> , 2021) .....	209
Figure 4.2: Handheld (A) and virtual version (B) of the Schutte Scale used for EHP FG interviews, and the Microsoft Teams interview with MHS top management, respectively .....	225
Figure 4.3: Example of MHS Top Management's virtual responses to the importance and satisfaction with their listed needs to do their work properly .....	226
Figure 4.4: Policy goals analysis using word clouds from legislative Acts of Parliament and norms and standards regulating MHS, water, sanitation, and solid waste, illustrating key words informing the goals of the legislation (see Chapter 3, Figure 3.2 for legislation evaluated in Atlas.ti 9).....	229
Figure 4.5: Impetus to the sectoral department's service delivery objective setting .....	256
Figure 4.6: Role players involved in sectoral participants planning for water, sanitation, and solid waste service delivery goal setting .....	258
Figure 4.7: EHP responses (n=116) per category regarding the planning, programming, and control collaboration between the BMS sectoral and MHS units at LMs and DMs, respectively (Source: Appendix P).....	263
Figure 4.8: Current planning, programming and control aligned collaboration between MHS and BMS sectors - EHP perspective (Appendix P).....	264
Figure 4.9: MHS and BMS sectoral participants' view of the importance of using planning, programming, and control to mitigate EH risks at source (P-Index values: difference between Importance and Satisfaction from a potential of 10).....	269
Figure 4.10: The radar graph provides a dispersed impression of the experiences among the three levels of the EHPs (Appendix J provides additional supporting information about the issues listed in the graph).....	279
Figure 4.11: Different EHP levels' ideal circumstances to deliver their functions appropriately for their institutional and functionary mandates, depicted as a percentage (Appendix K bar graph summarises the issues and lists all issues raised by the various groups coded into emergent themes) .....	281
Figure 4.12: P-Index of overall EHP needs (functional, middle management & MHS top management: FGs 1-11) (Appendices L, M & N detail the reasons for the EHP needs) .....	283
Figure 4.13: P-Index showing the functional EHP, MHS middle management and MHS top management difference in emphasis between each category of EHP needs as flagged to do their job properly .....	284

Figure 4.14: Overview of Western Cape DMs annual per household spending on MHS for the MTEF periods 2018/19, 2019/20 and 2020/21, respectively. The solid vertical line shows the 2020/21 financial year's LGES indicative allocation from National Treasury to the DMs (South Africa, DoF, 2020).....290

Figure 4.15: Network diagram showing the relationships between organisational capacity issues and MHS needs, analysed in Atlas.ti 9 .....292

## LIST OF TABLES

Table 3.1: Exploratory overview of the interplay among MHS and the water and sanitation sector's institutional scope of functions and scope of authority to execute the MHS, water and sanitation legislative institutional and functionary mandates.....	132
Table 3.2: Exploratory overview of the interplay among MHS and the water and sanitation sector's functionary scope of functions and scope of authority to execute the MHS, water and sanitation legislative institutional and functionary mandates.....	139
Table 3.3: Local government (municipal) functions listed in Schedules 4B and 5B that should be rendered to the extent stipulated in s156(1), (2) and (5) of the constitution .....	142
Table 3.4: Exploratory overview of the interplay among MHS, and the domestic solid waste sector's institutional scope of functions and scope of authority in support to execute the MHS, waste legislative institutional and functionary mandates .....	159
Table 3.5: Exploratory overview of the interplay among MHS and the domestic solid waste sector's functionary scope of functions and scope of authority to execute the MHS and waste legislative institutional and functionary mandates .....	164
Table 4.1: Summary of interplay between the ADEPT variables and policy output, outcomes, and impact determinants.....	189
Table 4.2: Revised Rütten <i>et al.</i> 's (2010: 325) ADEPT base model to assess policy impact of MHS and BMS sectoral policy arrangements in support of preventive health at a local government context .....	194
Table 4.3: Summary of number of EHPs and Focus Groups per DM.....	218
Table 4.4: Number of focus groups, with their targeted number and actual number of participants per DM.....	228
Table 4.5: Selective list of conceptual associations for sectoral legislation .....	230
Table 4.6: EHP & sectoral local government work experience - showing commitment and obligation.....	237
Table 4.7: Professional registration status of EHPs, water/sanitation and waste sectoral respondents.....	238
Table 4.8: EHPs' professional registration status - CPD compliance .....	241
Table 4.9: EHPs' delegated authorisation – have ID card.....	243
Table 4.10: Process Controller professional registration compliance .....	245
Table 4.11: The use of the statutory collaborative planning instruments to set service delivery targets by MHS authorities and sectoral departments for the 2018/19-2020/21 MTEF period.....	249

Table 4.12: Matrix summarising key elements that informed EHPs and sectoral departments collaborative objective settings using the IDP/SDBIP, WSDP and IWMP as planning instruments during the 2018/19-2020/21 MTEF period.....	251
Table 4.13: Environmental health risk profile (MHS authority) and sectoral interaction.....	254
Table 4.14: Significance of the different categories of EHP cadres and sectoral participants' views regarding the importance of planning, programming, and control to mitigate determinants of health at its origin (Test – ANOVA – Tukey HSD – multiple comparison) .....	271
Table 4.15: Functional level EHP-to-population ratio per DM, and their community service placement history, focusing on the last three financial years (MTEF period 2018/19-2020/21).....	274
Table 4.16: Strengths and weaknesses of all levels of EHPs based on their current work experience ( <i>If you think about your work as an EHP, what comes to mind?</i> ) .....	277
Table 4.17: MHS costing benchmark founded in the 2020/21 MHS current budgets, with an indicative costing for ODM (budget info not available) .....	289
Table 4.18: EHPs' and sectoral participants' perceptions about their daily working conditions to ascertain if they have a positive or negative attitude towards their work environment (Source: EHPs and Sectoral questionnaires) .....	295
Table 4.19: EHPs' current, past, and future views of EHS delivery at their work settings...	297
Table 4.20: EHPs' experiences regarding cooperation between MHS and sectoral departments responsible for water, sanitation, and domestic solid waste in the two-tiered local government arrangement (Source: Appendix R: Aligned collaboration- MHS & Sector, Current [FGs 1-11]).....	298
Table 4.21: Leadership eagerness to support allocation of funds for MHS statutory obligations in terms of s152 and 153 of the constitution .....	301
Table 4.22: Leadership support for MHS operational level interventions (programmes).....	302
Table 4.23: EHPs' perspectives on community satisfaction with MHS, water, sanitation and solid waste output to satisfy a community's basic needs (Q45).....	303
Table 4.24: EHPs' category knowledge about activities in their jurisdictions indicating community dissatisfaction with EH risks and poor basic municipal services.....	304

## APPENDICES

Appendix A: Western Cape Province contextualising the different categories of municipalities .....	345
Appendix B: Example of ILR Concept Matrix.....	346
Appendix C: Purposive selection of six Local Municipalities in the Western Cape Province for face-to-face interviews with their sectoral water, sanitation, and waste units .....	347
Appendix D: Questionnaire for sectoral departments.....	349
Appendix E: Questionnaire - Municipal Health Authorities – All Environmental Health Practitioners.....	362
Appendix F: EHP focus group interviews – needs analysis .....	382
Appendix G: Focus group interview – alignment of MHS and sectoral (water/sanitation, and solid waste) planning, programming, and control.....	386
Appendix H: Focus group invitations to all District Municipalities.....	389
Appendix I: Participant consent.....	391
Appendix J: Issues raised by different EHP levels during their focus group sessions reflecting on their current work experiences (FGs 1 – 11).....	392
Appendix K: Issues raised by different EHP levels during their focus group sessions reflecting as a percentage of their ideal MHS circumstances to do their work properly (FGs 1 – 11) .....	411
Appendix L: EHP Needs and reasons for needs (issue) - Functional Level EHPs (FGs 1-6).....	422
Appendix M: Middle Management EHPs Focus Groups 7 - 10: Needs and reasons for needs (issue) (FGs 7-10).....	433
Appendix N: MHS Top Management: Needs and reasons for being an issue (Group 11)....	443
Appendix O: Sectoral responses – role-players in planning (Q-17).....	446
Appendix P: Aligned collaboration: Current MHS levels perception regarding sector aligned planning, programming, and control – reflected as a percent: (FGs 1 – 11).....	454
Appendix Q: Chi-square test – Top management and political commitment / support for MHS budget and operational programmes .....	467
Appendix R: Chi-square test - EHP categories’ satisfaction with the current MHS and BMS outputs to satisfy the community’s basic needs in support of preventive health outcomes .....	468
Appendix S: Chi-square table – Critical values comparative table .....	469

Appendix T: Ethical clearance – Cape Peninsula University of Technology Research Ethics Committee .....	470
Appendix U: Letter of support from Western Cape Department of Health.....	472
Appendix V: Letter of support from South African Local Government Association (SALGA) .....	473

## GLOSSARY

<b>ADEPT</b>	Analysis of Policy Impact Determinants e.g., goals, obligations, resources, and opportunities (Chapter 4).
<b>AGA</b>	Associated Group Analysis
<b>BMS</b>	Basic municipal services mean a municipal service that is necessary to ensure an acceptable and reasonable quality of life and, if not provided, would endanger public health or safety or the environment” (South Africa, 2000: section 1)
<b>Black box</b>	Refers to the opaque space, within the political system in which demands are converted to decisions to be executed by the functionaries (Easton, 1957: 384) (Chapter 4).
<b>CoGTA</b>	Department of Cooperative Governance and Traditional Affairs
<b>CLT</b>	Construal level theory
<b>CPD</b>	Continued professional development
<b>Determinants of Health</b>	<p>Social justice is a matter of life and death. It affects the way people live, their consequent chances of illness, and their risk of premature death.</p> <p>The poorest of the poor have high levels of illness and premature mortality. In all countries, at all levels of income, health and illness follow a social gradient.</p> <p>The high burden of illness responsible for appalling premature loss of life arises to a large extent because of the conditions in which people are born, grow, live, work, and age. In turn, poor and unequal living conditions are the consequence of poor social policies and programme, unfair economic arrangements, and bad politics.” (WHO, 2008)</p>
<b>FG</b>	Focus group
<b>DoH</b>	Department of Health (refers to the national level, except where otherwise stated)
<b>DORA</b>	Division of Revenue Act
<b>DORB</b>	Division of Revenue Bill
<b>DM</b>	District Municipality (i.e., Category C municipality)

<b>Effective</b>	<p>Effective refers to something that provides one with the results that one wants. Effective could also be described as successful in producing a desired or intended result.</p> <p>In the case of government’s service delivery mandate, an effective public sector can deliver quality services to the country’s people (South Africa, NPC, 2012).</p>
<b>EHP</b>	Environmental Health Practitioner
<b>EH</b>	Environmental health
<b>EHS</b>	Environmental health service
<b>HPCSA</b>	Health Professions Council of South Africa
<b>LM</b>	Local municipality (i.e., Category B municipality)
<b>IDP</b>	Integrated Development Plan – Is a 5-year strategic plan that all categories of municipalities must have to direct their objectives. The SDBIP is the annual plan, linked to the budget to implement the annual objectives to achieve the IDP objectives over the 5-year period.
<b>IGR</b>	Intergovernmental relations
<b>KPI</b>	Key Performance Indicator
<b>Leadership</b>	In the context of this study, it refers to political and administrative (managerial) leadership
<b>MM</b>	Municipal Manager
<b>MHS</b>	Municipal Health Services rendered in South Africa by metropolitan and district municipalities as defined in the National Health Act, 2003 (Act 61 of 2003). MHSs consists of a list of EHSs, that should be interpreted in the context of the ‘Scope of the Profession of Environmental Health’, as described in Government Notice No. R. 698 of 26 June 2009.
<b>Municipal Services</b>	means a service that a municipality in terms of its powers and functions provides... for the benefit of the local community... (South Africa, 2000: section 1).
<b>MTEF</b>	Medium Term Expenditure Framework –Government’s financial planning commitments over a three-year period to fund the municipalities IDP objectives.
<b>NDP</b>	National Development Plan

<b>OET</b>	Organisational effectiveness theory
<b>PC</b>	Process Controller
<b>P-index</b>	Basic needs priority index – For background of the basic needs priority index, see Schutte, D. W. 2018. <i>The basic needs theory for community development</i> . Unisearch.
<b>Preventive Environmental Health</b>	Most causes of ill health could be located at a local government level where people live, work, and recreate. BMS are provided at the local government level which is the origin or source of environmental health risks, created by individuals, corporate institutions, and local government themselves. EH has the responsibility to identify and prevent these associated environmental health risks at its origin to prevent the occurrence and spread of diseases, death, and disability that could require secondary and tertiary health care.
<b>SALGA</b>	South African Local Government Association
<b>SCM</b>	Supply chain management
<b>SDBIP</b>	Service Delivery Budget Implementation Plan - The SDBIP is the annual plan, linked to the budget to implement the annual objectives to achieve the IDP objectives over the 5-year period. The SDBIP contains the KPIs that direct the functionaries daily, weekly, and monthly tasks to achieve the institutional objectives.
<b>SDGs</b>	Sustainable Development Goals are international targets being set by the United Nations Development Programme (UNDP) to create a path towards global prosperity, human well-being, and a healthy planet. While the millennium development goals (MDGs) mainly focused on access to among others, basic services such as water sanitation, the SDGs look beyond that and considers the functionality and quality of these basic and other critical services to sustain healthy and economically productive people (WHO, 2015).
<b>WHO</b>	World Health Organization
<b>WSA</b>	Water Service Authority
<b>WSP</b>	Water Service Provider



## **CHAPTER ONE**

### **INTRODUCTION**

## **1.1 INTRODUCTION**

### **1.1.1 Background**

For millions of South Africans, the introduction of the post-apartheid constitution of South Africa in 1997 (Act 108 of 1996) sparked expectations of a better life. People anticipated having easy access to basic services which they had been denied by the previous government. This, they believed, would improve their living, working and recreational conditions and spaces. Their hope was based on the constitution's obligation of the state to specifically address the inherited service delivery deficit. The constitution further explicitly tasks local government to take responsibility for provision and maintenance of essential services. Such services are listed in Schedules 4B and 5B of the Constitution and of particular interest to this study, include the following: potable water provision, sewage collection and disposal, refuse collection and removal, municipal health services, control of public nuisances, municipal roads, and storm water drainage (South Africa, 1996). It is further expected of local government to prioritise and ensure service sustainability for the sake of a safe and healthy environment and an improved quality of life. Ultimately this is only realised when local government institutions and the employees of such institutions consistently prioritise the community's needs when managing, governing, planning, and budgeting for these services (South Africa, 1996; 2000; South Africa, NPC, 2012).

This emphasis on fulfilling basic needs for improved health is in line with the World Health Organization's (WHO) Sustainable Development Goals (SDG) for health (WHO, 2015; 2017). The aim is to ensure healthy lives and promote wellbeing for all at all ages. While the emphasis in SDG 3 is on universal health coverage, it also accentuates the essential role of sectoral departments. This is reinforced by the WHO's broad definition of health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity"

(WHO, 2021: 3). Expressed this way, being healthy thus depends on advancements in all other SDG targets – poverty reduction, education, nutrition, gender equality, clean water and sanitation, sustainable energy, and safer cities – that require health in all policies (McQueen *et al.*, 2012; WHO, 2014a; 2017; 2022; Synnevåg, Amdam & Fosse, 2018). The organisation has identified around 50 SDG indicators that specifically measure a population’s health traits, including life expectancy, infant mortality, maternal mortality as well as air pollution, water, sanitation, and poisoning mortality rates (WHO, 2017; 2022). These are divided into seven thematic areas namely i) reproductive, maternal, new-born and child health; ii) infectious diseases; iii) noncommunicable diseases and mental health; iv) injuries and violence; v) universal health coverage and health systems; vi) environmental risks; and vii) health risks and disease outbreaks (WHO, 2018).

Although all seven themes are relevant for local authorities, the last two, environmental and health risks, are important for this study as these include the dangers of unsafe drinking water, inadequate sanitation management and unhygienic living conditions as causes of death (WHO, 2018; 2022).

### **1.1.2 Environmental risks**

Environmental risks contribute significantly to the global burden of disease. These risks are defined as “all the physical, chemical and biological factors external to a person, and all related behaviours, but excluding those natural environments that cannot reasonably be modified”. A considerable number of deaths are attributable to modifiable environmental risks (23% of all deaths, and 26% of deaths among children under five) (Prüss-Ustün *et al.*, 2016: 3). Furthermore, according to the report from Prüss-Ustün *et al.* (2016: XI), *Preventing diseases Through Healthy Environments*, 101 diseases or injuries out of 133 “had significant links with the environment”.

These statistics most likely underestimate the influence of environmental health risks, particularly in Africa, for several reasons: under reporting, scant research reporting, new risks emerging regularly and the time between exposure and presenting symptoms (WHO, 2014b; Prüss-Ustün *et al.*, 2016; Joubert, Mantooth & McAllister, 2020). The highest number of deaths per capita because of factors in the environment such as infectious diseases and noncommunicable diseases was reported for sub-Saharan Africa (Joubert *et al.*, 2020: 1-2). Scholars also point to the devastating effects of COVID-19 on communities characterised by poverty, inadequate housing, weak infrastructure, unhygienic conditions, and a lack of access to safe drinking water and food, highlighting the need for a multi-sectoral risk management approach to mitigate such conditions (Maipas *et al.*, 2021). The WHO (2020: 5) blame the environmental health related diseases on uneven development and the impact of human action on the environment. It also raises ethical and human rights issues for future generations while the current conditions continue to disproportionately affect the marginalised communities. Therefore, the WHO appeal for a new approach that consider the holistic actions with consequences to support long-term equity. The WHO also call on stakeholders to engage in evidence-based approaches in public health to mitigate the environmental health and other related challenges.

### **1.1.3 Environmental risks in South Africa**

Despite reports from national government showing significant progress in providing for people's basic needs since 1996 – an increase in access to potable water from 62% to 88.2%; basic sanitation from 52% to 82.1%, and household refuse removal improving by 2% from 56.1% to 58.8% (Stanton, 2009; Stats SA, 2020) – the South African Medical Research Council paints a different picture. Its environment and health research unit list risks such as poor air quality, a lack of access to quality water and sanitation, waste collection and disposal and

inadequate and unsafe housing (Cleary, 2020). While such factors make up about 16% of all deaths (South Africa, DoH, 2013), conditions like tuberculosis, HIV/AIDS and the 2020 COVID-19 pandemic exacerbate the problem (South Africa, DoWS, 2020a; 2020b; Gashaw, Hagos & Sisay, 2021; Siegel & Mallow, 2021). Due to poor essential services delivery and unsatisfactory living conditions, diarrhoea remains one of the top causes of death for children under five years (Norman, Bradshaw, Schneider, Joubert *et al.*, 2020; South Africa, 2013; Hemson, 2016; UNICEF/WHO, 2019; WHO, 2022). This view was reinforced by the 2012 WHO Director-General, Dr Margaret Chan, cautioning countries to prioritise secure and sustainable service delivery or run the risk of negating any gains made by countries to increase access to basic services like water and sanitation (WHO/UNICEF, 2012).

Official numbers notwithstanding, the South African population seem to hold a less positive view. Despite the legal mandates and political undertakings, the combination of unfulfilled expectations, flagging service delivery and general deterioration of infrastructure, has seen regular occurrences of community demonstrations and litigation against municipalities, municipal managers as well as political leaders (Booyesen, 2007; Meyer & Venter, 2014; South Africa, CoGTA, 2014; 2017; 2020; Matebesi, 2017; South Africa, DoWS, 2017a; 2017b; 2018; Lancaster, 2016; Alexander *et al.*, 2018; Breakfast, Bradshaw and Nomarwayi, 2019; SAFLII, 2020a; SAFLII, 2020b; Fransman, 2021). An example of such cases involves a local municipality (LM) in the Eastern Cape. In the case of *Makana Unity League v Makana Municipality* (1869/2019) High Court (ECG 4 March 2020, unreported), it was stated that despite numerous service delivery complaints related to water provision, sanitation and waste disposal, the municipality failed to respond timely or adequately. The court ruled that both the political and organisational leadership were to be held accountable (May & Agenbag, 2021: 102). The Makana mayor and the municipal manager were held personally responsible for

paying the legal costs. They were charged with failure to enforce legal compliance when municipal employees chose to ignore earlier court orders to remedy the situation at the municipal solid waste site.

In their 2008 report, *Closing the gap in a generation: health equity through action on the social determinants of health*, the WHO's Commission on Social Determinants of Health (CSDH) refers to a triad of factors that underlies social injustices and ultimately the death of people (WHO, 2008): i) inadequate social policies and programmes; ii) inequitable economic circumstances; and iii) injurious politics including poor governance and corruption (WHO, 2008; Marmot *et al.*, 2008; Marmot & Bell, 2012). This unfavourable combination has a direct influence on effective essential service delivery. The WHO commission also acknowledges that community pressure groups are key to forcing governments to address inequities (WHO, 2008).

#### **1.1.4 Environmental health service as the first line of defence**

The first line of defence in protecting the population against environmental risks is environmental health services (EHS) (Listorti & Doumani, 2001). Generally, EHS is referred to as a basic municipal service (BMS), but in South Africa, since 2002 it has been categorised as municipal health services (MHS) (South Africa, 2003; MDB, 2005; South Africa, DoF, 2006). The legal responsibility and obligation of EHS in the context of MHS is to prevent ill health in the community by mitigating environmental health risks at their origin (May & Agenbag, 2021). As such, environmental risk management is woven into several MHS functions including water quality monitoring; food control; waste management; health surveillance of premises; surveillance and prevention of communicable diseases; vector control; environmental pollution control; disposal of the dead; and chemical safety (South Africa, 2003). Effective service delivery thus depends on close collaboration and co-ordination

among sectoral departments responsible for providing, operating, and maintaining, among others, the water, sanitation, and solid waste infrastructure (Listorti & Doumani, 2001; South Africa, DoH, 2009; 2013; May & Agenbag, 2021).

Despite its constitutional mandate, the South African municipal services sector continues to grapple with failure to achieve its main objective of providing basic services such as safe water, sanitation, and waste removal in a sustainable way (SAHRC, 2018; South Africa, DoWS, 2018; 2020a; 2020b; May & Agenbag, 2021; Fransman, 2021). It is not unreasonable to consider this a violation of people's fundamental human rights (South Africa, 1996; 2013; South Africa, DoF, 2006; Norman *et al.*, 2007; Stanton, 2009; South Africa, DoH, 2013; SAHRC, 2018; May & Agenbag, 2021). Finding a way out of this quagmire of social, financial, administrative, and political factors that influence basic service delivery and which have brought about an unsustainable and overburdened system is essential. More than just socioeconomic considerations, it is a moral duty placed on political and civil society by the constitution in the ethos of *batho pele* or *people first*.

### **1.1.5 Theories on effective service delivery**

Much has been written about the general causes and fallout of local authority service delivery deficits and its consequences for the institutions, communities, political role players and social fabric of South African society. Studies abound that interrogate service delivery protests and community discontent; the social, political, financial, and historical factors for it; the impact of poor governance; a culture of non-payment; and causes and effects of inadequate skills and resources (Norman *et al.*, 2007; Booysen, 2007; Kroukamp & Lues, 2008; Stanton, 2009; Meyer & Venter, 2014; Rosen, 2015; Matebesi, 2017; South Africa, DoWS, 2017a; 2017b; Fransman, 2021; May & Agenbag, 2021).

Several scholars have also explored system factors that render an organisation effective or not including “infrastructure (facilities, equipment, etc.), structure (job design, skills, etc.) and processes for delivering a service” (Parmenter, 2012; Colwell & Joshi, 2013; Goldstein *et al.* 2002, in Lodorfos, Kostopoulos & Kaminakis, 2015: 1). According to Stanton (2009), service delivery challenges are not the result of inadequate financial or other resources. Rather, she attributes challenges primarily to systemic and procedural deficits. Thus, to identify and address system shortcomings and improve effective service delivery, assessing an organisation’s performance from devising a strategy to implementation is key to rectifying service delivery challenges (Parmenter, 2012; van Helden & Reichard, 2013; Viñuela & Zoratto, 2015; Cox, Van Der Staaij & Van Stolk, 2018; Olivier & Martins, 2018; Van der Hoek, Groeneveld & Kuipers, 2018; Verburg *et al.*, 2018; Johnsson *et al.*, 2021). One of the newer but more controversial ‘solutions’ for improving efficacy that has come to the fore is to apply business management practices and norms in public organisations, known as New Public Management (NPM). While the jury is still out on the success thereof, critics say NPM is incongruent with public values of impartiality and equity (Lapuente & Van de Walle, 2020).

Other scholars have taken a micro perspective of organisations, probing psychological and structural behaviour drivers such as leadership style, management practices, organisational and employee commitment and perceived organisational support (Aselage & Eisenberger, 2003; Wood, Noseworthy & Colwell, 2013; Roemer & Harris, 2018; Verburg *et al.*, 2018; Asif & Rathore, 2021).

### **1.1.6 Relational aspects of public organisations**

Researchers also explicitly probe the relational aspects of public organisations due to the fact that “contemporary societies are, arguably, more interdependent and plural than ever before ... thanks to globalisation and technological advances” (Mintzberg, 2015 in Eriksson, Andersson,

Hellström, Gadolin & Lifvergren, 2020: 791). Bryson *et al.* (2017: 641) describe society as a “polycentric, multi-nodal, multi-sector, multi-level, multi-actor, multi-logic, multi-media, multi-practice place” which is amplifying the complexity of managing public service organisations. While NPM is based on a production model emphasising efficient input and output processes, performance and accountability, complex multi-management organisations, of which EHS is one, require a more relational approach (Eriksson *et al.*, 2020). One such approach is ‘public service logic’ (PSL). This model, rather than borrowing from the manufacturing industry, looks at service management and the role of multiple social systems in collaborative organisational relationships to improve effectiveness and to “achieve collective impact” (Eriksson *et al.*, 2020: 792). Most relevant to this study is the contention that PSL acts as a counterbalance to NPM’s system of dispersed accountability to increase co-ordination, which according to Eriksson *et al.* (2020: 793), “has often been blamed for fragmented public services”.

Nationally and internationally, the concept of intergovernmental relations (IGR) has become ubiquitous in organisational and public administration theory. Consequently, it is also frequently promoted in policy documents to enhance effectiveness (Makoti & Odeku, 2018; Malan, 2012; Hofisi, 2022). IGR refers to cooperative interactions and collaboration among state divisions at all levels, and in South Africa it is a constitutional obligation (South Africa, 1996; 2000; Malan, 2012; Hofisi, 2022). The aim is to create a network that co-ordinates the actions and decisions of all institutions working towards a particular goal e.g., supplying water, sanitation, and solid waste services. It reaches across national, provincial, and local levels encompassing all applicable legislation, regulations, directives, and mandates. The intention is to ensure compliance, effective communication, collective decision-making, careful budgeting,

coherent execution, and conflict circumvention (Malan, 2012), all with the final goal of enhancing the life quality of the citizens.

To measure the actual performance of programmes emanating from the policies to achieve service delivery, a *retrospective, or summative evaluation* (i.e., impact evaluation) should be conducted. Focusing on the outcome of policies, it explores the “impact it (brings) to the real-life conditions” (Herman, Morris & Fitz-Gibbon, 1987, in Rabie & Cloete, 2018: 276). Various authors are of the view that a retrospective evaluation also functions as a public accountability measurement to show the extent to which policies support and guide service delivery, efficiency, and effectiveness (Atkinson & Wellman, 2003; Görgens & Kusek, 2010; Valadez & Bamberger, 1994, in Rabie & Cloete, 2018). The purpose of a retrospective (summative) policy evaluation, therefore, is to ascertain whether the intended policy or programme objectives have been achieved or not (Rabie & Cloete, 2018). When considering the South African, as well as the Western Cape’s burden of disease related to environmental health conditions (Vos *et al.*, 2020; Western Cape, DoH, 2020; Achoki *et al.*, 2022), and the widespread service delivery protests (Alexander *et al.*, 2018; Ngcamu, 2019), questions are raised about the effectiveness of municipalities in achieving policy targets. Although various theory-based impact analyses exist (White, 2009; UNICEF, 2014; White & Raitzer, 2017; Rabie & Cloete, 2018), Nisa *et al.* (2021: 1319) indicated that the latest policy evaluation studies emphasised the move towards “theories of action evaluation” that refer to the analysis of how closely the policy is implemented as envisaged. The policy impact evaluation tool selected for this study, the ADEPT model, that analyse the policy impact determinants, e.g., goals, obligations, resources, and opportunities, is in accordance with the latest theories of policy evaluation. Although the ADEPT model is gauging the policy intent against the actual implementation at a population level to assess if the policy intent is achieved, it also goes further by highlighting areas that require intervention in the future policy development,

implementation, and assessments (Rütten, Gelius and Abu-Omar, 2010; Cheung *et al.*, 2010; Trezona, *et al.*, 2018; Omotoye, 2019; Pogrmilovic, O'Sullivan, Milton, Biddle & Pedisic, 2019; Hunga *et al.*, 2022).

The ADEPT model offers a practical approach that is theory based, robust, flexible, and tried and tested in various fields (Rütten *et al.*, 2010; Cheung *et al.*, 2010; Trezona *et al.*, 2018; Hunga *et al.*, 2022; Omotoye, 2019). Nonetheless, while the ADEPT model appears ideal for the task, some adjustments are necessary to use it in the local government context.

## **1.2 PROBLEM STATEMENT**

Government has a clear mandate to render basic municipal services to citizens through local government. At the same time, the officials are responsible for executing such services within a multi-sectoral dispersed local government arrangement. The service delivery protests point to a lack of essential services such as water, sanitation and waste management that fall within the professional scope of work of the EHPs. Essential services are critical for preventing and managing diseases, as witnessed during the COVID-19 pandemic, where communities without sustainable essential services required urgent temporary interventions to navigate the pandemic. While environmental health services (EHSs) are at the frontline of essential service delivery, identifying and mitigating EH risks, raises a question about EHS delivery's effectiveness in resolving conditions threatening citizens' quality of life and their health at the origin (May & Agenbag, 2021).

This notion of reciprocal collaboration and communication contributing to effective service delivery is of particular relevance for EHS and the people responsible for this function. At an operational level, environmental health practitioners (EHPs) are tasked with managing community health and mitigating ill health at the source. They perform their functions within a complex and multi-sectoral management set-up (South Africa, DoH, 2009; 2013; Fisher,

2017; May & Agenbag, 2021). This requires a high level of co-ordination and in the words of Von Schirnding (2000, cited in May & Agenbag, 2021: 19),

*multisectoral action is no more a 'nice to have add-on factor' to a long list of health and environment strategies to successfully solve health and environmental problems facing us today. It is, she says, indeed necessary and maybe the only way.*

### **1.3 AIMS AND OBJECTIVES**

The study proposes and tests a *retrospective (summative)* policy impact analysis model to assess the alignment between policy intent and the EHPs' and sector colleagues' lived experiences. The gap between the policy objectives and the officials' perceptions of organisational effectiveness and the levels of organisational collaboration could be used by municipalities to address ineffective service delivery. Locating the intersections to clarify the expectations and collaboration required among the DMs responsible for MHS and the LMs in providing water, sanitation, and solid waste services within the dispersed local government arrangement helps identifying the areas for revision of the original ADEPT model and to collect relevant data to test the revised model. Identifying and describing the legal mandates pinpoint the parameters, obligations and responsibilities that guide the provision of the services. As such, it provides a reference point for designing and testing the current MHS and BMS sector policy responses against policy impact determinants – goals, obligations, resources, and opportunities as variables of the ADEPT model (analysis of determinants of policy impact). Therefore, this study seeks a path towards developing and testing a revised Analysis of the Determinants of Policy Impact (ADEPT) model as a suitable policy impact analysis tool. The following aims and objectives are set in support of the development and testing of the revised ADEPT model:

- elucidate the fundamentals that underlie effective service delivery;
- map the formal policies and sanctioning legislation;
- clarify EHP functions and obligations and those of related sectors and institutions;
- identify the alignment, contingencies and touch points of horizontal and vertical lines of operations and decision-communication involving EHS and related sectors in MHS and BMS, as well as levels of authority at district, provincial, and national levels;
- explore the experience of EHPs regarding collaboration, cooperation, and communication with sector colleagues, direct and executive management, political leadership, and communities.
- flag systemic and procedural impediments at the interface between MHS and BMS that impact effective EH service delivery in the two-tiered local government system with its dispersed governance set-up;
- assess EHPs' and sector colleagues' cognition of effective EH service delivery and their perceptions of their lived experiences; and
- develop a tool for municipalities to assess policy intent and impact to support preventive health outcomes at the origin of the determinants of health, i.e., at a municipal level.

To achieve these aims, the following objectives have been set:

- **Objective 1:** To contextualise local government EHS and develop a grounded theory to identify and conceptualise fundamentals for effective municipal service delivery and EHS specifically.
- **Objective 2:** To map and describe mandated arrangements among selected BMS sectors and MHS to demonstrate BMS and MHS configuration, integration and articulation that support effective EHS delivery.

- **Objective 3:** To develop and test a customised retrospective policy impact analysis model to assess how MHS and BMS policy impact determinants support alignment between MHS and BMS sectoral departments for effectively rendering local government EHS.

#### 1.4 SCOPE OF THE STUDY

The objectives of the study required a mixed-methods approach.

*Chapter 2:* An integrated literature review is conducted exploring theories of organisational systems and effectiveness in the public sector. This served as the data collection process for developing a conceptual model on which to base a grounded theory of the fundamentals of effective service delivery.

*Chapter 3:* Based on the theory that effective service delivery depends on institutions and functionaries' mandate cognisance, and leadership support to effectively implement the mandates to elicit community satisfaction, relevant legislation, policies, and mandates related to EHS are mapped. The aim was to identify touch points, contingencies, and intersections necessary to improve mandate cognisance and implementation.

*Chapter 4:* Having a clearer picture of the legal landscape, Chapter 4 discusses the process of revising an existing retrospective (summative) policy impact analysis model (ADEPT) for the local context. It was also tested in the field to establish its useability for future EHS and BMS policy impact analysis to influence policy decisions and practices to support effective preventive health at the source. Although concerns and dissatisfactions with service delivery effectiveness are not limited to a specific area, it was not feasible to conduct this study at all local municipalities in the country due to financial, time and resource constraints.

*Chapter 5:* The final chapter is a summary and interpretation of the data gained from all three sections of this study in response to the problem statement: what constitutes effective service

delivery and what can a policy impact analysis tell us about the gaps between policy intent and practice.

## 1.5 RATIONALE

The first line of defence in protecting the population against EH risks is EHS. Effective EHS delivery depends on close collaboration and co-ordination among sectoral departments responsible for providing, operating, and maintaining, among others, the water, sanitation, and solid waste infrastructure. However, it is primarily when community are threatened by ruinous events that EHS contribution to people's quality of life is valued. That is when decision-makers actively involve EHPs in deliberations, at least until the emergency dissipates.

The inherent flaw in this approach is that the strategy implemented to deal with the EH emergency had not necessarily involved the EHPs during the design, planning, programming, and control phases. Rather than focusing on prevention and relying on EHP expertise before disaster strikes, the institution must deal with the fall-out of flawed decision-making at the planning stage. One of the factors that is key to this type of decision-making behaviour in a context of preventing, planning for and dealing with environmental health crises is the psychological distance between the decision-maker and the threat (Wood *et al.*, 2013). Not working and witnessing risks in the community, not considering a threat to be imminent or underestimating its impact all influence the decision-making processes (Easton's 'black box') (Easton, 1957; Bang, 2020). This is reinforced by protracted administrative and operational procedures. The time lag between routine monitoring and identification of EH risks to enforcing compliance and eliminating risks can be significant. This is also exacerbated by ineffectual IGR and weak collaboration among sector departments (water, sanitation, and waste management) and law enforcement, flawed leadership support and political interference.

It is this chasm – between what EHPs can actually contribute in LMs and the relegation of their professional expertise to solving problems rather than preventing them – that has motivated this study. It prompted the search for an action-oriented tool to assess EHS and BMS policy and practice alignment in a dispersed governance set-up and to identify areas requiring intervention.

The ADEPT model developed by Rütten, Gelius and Abu-Omar (2010) emerged as a suitable theory-based but practical approach to compare policy intent to actual implementation as a measure of achieving objectives. More importantly, it can be applied to identify areas that require intervention or that have to be included in future policy development, implementation, and assessments processes (Rütten *et al.*, 2010; Cheung *et al.*, 2010; Trezona *et al.*, 2018; Omotoye, 2019; Pogrmilovic *et al.*, 2019; Hunga *et al.*, 2022).

While this study was undertaken to explore the current contribution of EHS to environmental health and safety, it also explored the potential contribution value of EHPs in partnership with sectoral participants to prevent ill health at the source. Identifying the gaps between current and possible practices and identifying where interventions are needed required a model to be devised that could expedite effective service delivery and a better life for all.

## **1.6 CONCLUSION**

This chapter has provided a map of the thesis starting with contextualising environmental health service delivery in South Africa considering community dissatisfaction with the effectiveness of basic municipal services related thereto. It also explored organisational and effectiveness theory and in particular, organisations as relational and decision-making systems.

In particular, this aspect of an organisation was linked to IGR and the current approach in integrating the EHS function horizontally with sector departments and vertically with the multi-level management set-up in South African local government. The background information sets the scene for proposing and testing a policy impact analysis model based on a conceptual model of what effective service delivery is. The aim of the policy analysis was to identify the gaps between current and possible best practices in EHS delivery as well as interventions needed. This was done by exploring EHPs and sector colleagues' lived experiences and perceptions of organisational effectiveness and the levels of organisational collaboration which could be used by municipalities to realise effective EHS delivery for mitigating but also preventing risks.

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## CHAPTER TWO

### ESTABLISHING PREREQUISITES FOR EFFECTIVE LOCAL GOVERNMENT SERVICE DELIVERY AND FOR ENVIRONMENTAL HEALTH SERVICES IN PARTICULAR: AN INTEGRATIVE REVIEW

This chapter is partially published in the journal:  
*Journal for New Generation Sciences (JNGS – 2022 Vol. 20 No. 2)*  
<https://journals.co.za/doi/epdf/10.10520/ejc-newgen-v20-n2-a4>

## ABSTRACT

The first line of defence in protecting the population against risks of disease is environmental health services (EHS). As a basic municipal service, these services are key in preventing, managing, and resolving conditions threatening citizens' quality of life and their health at the origin. Yet, dissatisfaction with the effectiveness of local authorities' service delivery in South Africa has aroused public protests and increased litigation since 2004. In the context of the broader aim of this study of environmental health practice in five Western Cape district municipalities, namely, to analyse the intelligibility of legislative goals and communication as policy impact determinants that support organisational goal acceptance and goal commitment, this chapter serves as a steppingstone in the process. It reports on the process of developing a grounded theory from identifying factors that establish effective basic service delivery within the context of interlinking statutory mandates and dispersed governance among different categories of municipalities in local government. Four fundamental building blocks were identified through an integrative literature review and expanded into a conceptual framework showing that effective service delivery in local authorities relies on the obligation and professional commitment of the institution and the functionaries personally. However, it is also a tool to measure whether the goals have been achieved as set out in a formal and legal mandate. Functionaries i) cognisant of their obligations and assigned authority as set out in the mandate, ii) execute it according to the prescribed performance criteria with the iii) symbolic and active support of both political and operational leaders to iv) achieve the crucial benchmark of effectiveness – a high level of community satisfaction. The interconnectedness among these fundamentals and sub-elements of effectiveness and its implications for environmental health services (EHS) in a complex, multi-level management organisation is interrogated using a systems-theory lens. The grounded theory methodology helped develop a detailed model of the

fundamentals of service delivery effectiveness and the sectoral interwovenness with virtuous and vicious feedback loops. The feedback loops affect the diversions in Luhmannian decision-communication and distance construal level biases that encourage or threaten alignment, collaboration, communication, and network governance. The decision-communications are related to mandate cognisance, execution, leadership support and community satisfaction. Determining the fundamentals for effective service delivery was done in preparation for subsequent research in Chapter 3, establishing a clear picture of the interplay among legislative mandates between MHS and BMS. MHS and BMSs are delivered in the complex, two-tier local government structure that should support sustainable preventive health interventions at the origin of the determinants of health.

**Keywords:** Environmental health, basic services, determinants of health, cognitive bias, local government

## 2.1 INTRODUCTION

The proliferation of community protests in South Africa since 2004 is a sign of the population's disenchantment with their hard-won democracy which is currently being threatened by inadequate service delivery and high levels of corruption (Wasserman, Chuma & Bosch, 2018; Reddy & Brümmer, 2021). Some commentators go as far as to label these community protests "a form of bottom-up resistance" due to the spontaneous and unforced nature thereof (Wasserman *et al.*, 2018). Although not the only reason, these rallies are ascribed primarily to inadequate service delivery. This study therefore argues that identifying the fundamental building blocks for effective municipal service delivery and establishing prerequisites in the context of the local government preventive health outcomes will go a long way towards improving the quality of life of South Africans.

This study takes a closer look at what constitutes an effective EHS supplying potable water, sanitation and solid waste services in five Western Cape district municipalities (DM) and local municipalities (LM) under them: **West Coast DM** (Matzikama LM, Cederberg LM, Bergrivier LM, Saldanha Bay LM, Swartland LM); **Cape Winelands DM** (Witzenberg LM, Drakenstein LM, Stellenbosch LM, Breede Valley LM, Langeberg LM); **Overberg DM** (Theewaterskloof LM, Overstrand LM, Cape Agulhas LM, Swellendam LM); **Garden Route DM** (Kannaland LM, Hessequa LM, Mossel Bay LM, George LM, Oudtshoorn LM, Bitou LM, Knysna LM); and **Central Karoo DM** (Laingsburg LM, Prince Albert LM, Beaufort West LM) (Appendix A). The aim of this chapter is to identify factors that establish effective basic service delivery within the context of interlinking statutory mandates and dispersed governance among different categories of municipalities in local government. However, rather than predefining what these factors are, an inductive process is followed in which literature serves as the data source to

develop a theory. This is achieved by way of a simplified grounded theory (GT) method based on the question: *What is necessary for effective preventive environmental health services?*

To set the scene, the first section gives an overview of where EHS fit into the local government landscape in South Africa and how multi-level, or dispersed governance arrangements are assigned and assign obligations. The current state of service delivery effectiveness and both the authorities' and communities' views thereof are also briefly described. Thereafter, the study is contextualised by exploring what constitutes effectiveness as proposed by organisational effectiveness and organisational networking theory.

In the methodology section, the tools and procedures followed to create a conceptual framework that describes the prerequisite components for effective preventive environmental health services, namely an integrative literature review, are explained. These results are then analysed using the Schutte-dendrogram technique (Schutte, 2006) and a visual depiction of the conceptual framework is generated.

This is followed by a thorough discussion of the framework as a whole and its individual components in relation to aspects of theory. The theories include theories on systems, organisations, and effectiveness in organisations in the context of local government delivering services in a two-tier system with interlinking statutory mandates and dispersed governance.

In conclusion, the outcomes of this inquiry into the preconditions for delivering effective preventive environmental health services and the conceptual framework are contextualised to explain their functions and the interplay among components in a service delivery system as preparation for subsequent research endeavours in this study, as described in Chapters 3 and 4.

## 2.2 BACKGROUND

The first line of defence in protecting the population against environmental risks is environmental health services (EHS) (Listorti & Doumani, 2001). As one of the basic municipal services (BMS), EHS are responsible for preventing, managing, and resolving conditions causing disease in the community. As pointed out in Chapter 1, fulfilling this obligation requires collaboration between institutions, within the two-tiered local government arrangement of several municipal health service (MHS) functions. The following is a list of such functions, supervising water quality; controlling food safety, environmental pollution, and waste management; monitoring health and safety of premises; surveillance and preventing communicable diseases; regulating the disposal of the dead; and chemical safety (Listorti & Doumani, 2001; South Africa, 2003; MDB, 2005; South Africa, DoF, 2006; South Africa, DoH, 2013; May & Agenbag, 2021). As MHS and BMS are deemed basic needs (MDB, 2005; South Africa, DoH, 2013; Richard & Thomson, 2017), fulfilling these functions is the practical manifestation of a social contract between the state and the people to improve their quality of life and to respect their fundamental human rights (South Africa, 1996). It is therefore not an overestimation to assert that one of the main reasons why the state and associated institutions exist is to provide public services to the citizens (South Africa, 1996; Cloete & Thornhill, 2012). Such institutions and their functionaries are duty-bound to perform their tasks within a legal framework of good governance and intent to “aim for greater effectiveness, efficiency, accountability and transparency” (Sayeed, 2016: 43).

In the context of this study, this is particularly important in relation to BMS obligations, all of which have been shown to be key determinants of health (Listorti & Doumani, 2001; South Africa, 1996; MDB, 2005; WHO, 2008; Richard & Thomson, 2017).

### 2.2.1 Local government in the South African context

South Africa consists of nine provinces, each with its legislative functions and powers (South Africa, 1996). Local authorities resort under this category of governance. Each local authority is classified into one of three types of municipalities: category A is the metropolitan municipalities; category B, the local municipalities; and category C, the district municipalities. There are currently eight category A municipalities, 226 category B municipalities, and 44 category C municipalities (South Africa, 1996: s153; South Africa, 2000: s1; South Africa, GCIS, 2019). Metropolitan municipalities (category A) are responsible for executing the full complement of local government functions listed in schedules 4B and 5B of the Constitution (South Africa, 1996). While part A of the schedules deals with the responsibilities of the national and provincial spheres of government, part B covers the functional mandates of the local sphere of government (i.e., municipalities). This includes municipal planning; municipal health services (MHS); water and sanitation services limited to potable water supply systems and domestic wastewater and sewage disposal systems; stormwater management systems in built-up areas; municipal public transport; trading regulations; municipal public works; pontoons, ferries, jetties, piers, and harbours, excluding the regulation of international and national shipping and matters related thereto. The schedule 5B functions entail beaches and amusement facilities; billboards and the display of advertisements in public places; cemeteries, funeral parlours, and crematoria; cleansing; control of public nuisances; control of undertakings that sell liquor to the public; facilities for the accommodation, care, and burial of animals; fencing and fences; licensing of dogs; licensing and control of undertakings that sell food to the public; local amenities; local sport facilities; markets; municipal abattoirs; municipal parks and recreation; municipal roads; noise pollution; pounds; refuse removal, refuse dumps and solid waste disposal; public places; street trading; street lighting; traffic and parking. Sections 155(b) and (c) specify a two-tiered, dispersed governance arrangement

between category B and C municipalities based on geographical and functional jurisdictions, requiring these entities to share executive and legislative responsibilities when executing the local government functions listed in the schedules, collaboratively achieving constitutional and institutional objectives (South Africa, 1996). The functions underlined above are those that are directly or indirectly linked to MHS and BMS shared between LMs and DMs within the two-tiered local government arrangement, and which inform the focus of this study.

### **2.2.2 Multi-level governance arrangements**

The multi-level governance arrangements between category B and C municipalities take on different shapes. Between three to nine Category B or LMs may fall under the jurisdiction of each district or category C municipality. The Western Cape province, where the focus of this study falls, has one category A municipality, namely the City of Cape Town (CoCT), five DMs and 24 LMs. In this province, the number of LMs per DM ranges from three to seven (Western Cape Government, 2019). In Chapter 3, a comprehensive overview of the various categories of municipalities in the Western Cape province is provided.

Although the three categories of municipalities are given autonomy and executive authority to execute their s156 Constitutional powers and functions within each jurisdiction, the interrelatedness and interdependence among system constituents demand effective reciprocal relations. Guidance for such interactions is based on the principles of cooperative government and intergovernmental relations, as stipulated in ss40-41 of the constitution (South Africa, 1996).

These observations are of particular importance for this study as several sets of responsibilities are shared among different categories of municipalities. Metropolitan or category A municipalities are tasked with all the functions listed in schedules 4B and 5B, whilst local or

category B municipalities and district municipalities (category C) share responsibilities in a complex two-tiered local government arrangement (South Africa, 1998) guided by the division of municipal powers and functions, as stipulated in s156 of the constitution and outlined in the *Municipal Structures Act* (Act 117 of 1998). Similarly, the MHS function is a district municipality function, while other services fall under the gambit of the local municipality: water and sanitation services; refuse removal, refuse dumps and solid waste disposal; cleansing; and control of public nuisance functions with regards to the provision and maintenance of infrastructure and delivery of the services.

This study examines five category C or DMs in the Western Cape – West Coast DM (DC 1); Cape Winelands DM (DC 2); Overberg DM (DC 3); Garden Route DM (DC 4); and Central Karoo DM (DC 5) – to investigate the provision of effective basic municipal service (BMS) delivery within the context of interlinking statutory mandates with the aim to establish the fundamental aspects that underlie effective service provision between the LMs and DMs. A detailed analysis of the relationship among these categories of municipalities and the split of their powers and functions is presented in Chapter 3. It is, however, prudent to briefly clarify the reasoning which brought the author to the methodology followed in this chapter.

### **2.2.3 Municipal Health Services (MHS)**

As indicated earlier, the MHS is a local government function, and in particular, that of district municipalities (DMs). The *National Health Act* (61 of 2003) (NHA) defines the term ‘MHS’ and lists nine broadly defined environmental health functions: water quality monitoring; food control; waste management; health surveillance of premises; surveillance and prevention of communicable diseases; vector control; environmental pollution control; disposal of the dead;

and chemical safety. This mandate is reinforced by Regulation 698 of 2009, as amended (South Africa, DoH, 2009), delineating the scope of the profession and tasks of the environmental health practitioner (EHP) to be conducted in collaboration with functionaries whose explicit obligation it is. Both documents clarify that the main purpose of MHS is to ensure compliance enforcement that will mitigate any environmental health risks where they originate. For that, MHS is dependent on close collaboration with sectoral departments responsible for providing, operating and maintaining water, sanitation and solid waste infrastructure and related services of the LMs in the Western Cape (South Africa, DoH, 2013).

While the NHA allocates the MHS function to metropolitan (category A), and district municipalities (category C) (South Africa, 1998; 2003), the Municipal Demarcation Board (MDB) responsible for delineating municipal boundaries and their powers and functions classifies the local government services listed in Schedules 4B and 5B of the South African Constitution according to the level of indispensability of these services (South Africa, 1996; MDB, 2005). Category 1 services are considered high importance and *must* be delivered; category 2 is of moderate importance and *should* be delivered; whilst category 3 services are of low importance and *could be* delivered should funds be available (MDB, 2005). Apart from cleansing and control of public nuisances allocated to the category of service that *should* be delivered, all other BMS including water provision and sanitation and solid waste services with MHS are classified as category 1, or high importance services, that must be provided (MDB, 2005). The nice-to-haves linked to MHS in category 3 refer to building regulation, local tourism promotion and childcare facilities. Inadequate service delivery of services specifically in category 1 has serious implications for effective preventive environmental health services (MHS) (Listorti & Doumani, 2001; WHO, 2008; South Africa, DoH, 2013). Not supplying clean water and sufficient sanitation and solid waste services creates cumulative environmental health risks. This in turn puts more pressure on the local municipality while simultaneously

reducing quality of life by compromising citizens' health and wellbeing (May & Agenbag, 2021).

To achieve the preventive health outcomes, it is critical that the sectoral services are well run and efficiently maintained. It is important that the operations of the MHS and the sectoral departments at LMs, such as planning, programming, and control, are aligned and properly managed to achieve the preventive health policy impact in the communities as envisaged in s152 of the constitution (South Africa, 1996; South Africa, DoH, 2013).

An example of this overlap of function and responsibility is that the environment health practitioner (EHP), in partnership with LM sectoral departments, is to monitor water quality and availability, whilst also mapping all water and pollution sources that could influence water quality (South Africa, DoH, 2013). Environmental health practitioners are also sanctioned to enforce the laws and regulations to manage water quality and to ensure healthy community water supplies. They are responsible for conducting regular water and wastewater surveillance. In addition, EHPs are expected to participate in planning, designing, and managing water supply systems during the planning stages (South Africa, DoH, 2009; 2013; 2015).

At an operational level, the MHS units at the DM level are dependent on the sectoral departments at the LM, responsible for the provision, operation, and maintenance of the BMS to achieve the basic need objectives for a healthy environment to prevent ill health at the origin, as envisaged in s152 of the constitution (South Africa, 1996).

#### **2.2.4 Basic municipal services**

The *MSA Systems Act* (32 of 2000) defines *basic municipal services* (BMS) as,

*those services that is necessary to ensure an acceptable and reasonable quality of life and, if not provided, would endanger public health, (South Africa 2000: s1)*

It serves as an overarching term for the phrase *basic services*; as such it is a priority for municipalities to achieve their developmental objectives as stated in s152 of the constitution (South Africa, 1996).

In general, while DMs are responsible for the MHS function as a schedule 4B local government function, including water quality monitoring and waste management, other MHS related schedule 4B and 5B functions, such as water and sanitation services and refuse collection, transportation and disposal are typically allocated to LMs (category B). BMS functions include the provision, operation and maintenance of water, sanitation, and solid waste facilities. In the case of the five DMs under discussion, the collaboration and integration of the planning, programming, and control functions with the LMs within their jurisdictions are essential for preventive health services at a local government level.

The significance of BMS is underscored by the World Health Organization's (WHO) sustainable development goals (SDGs), and in particular, SDG 3 related to health outcomes (see Chapter 1), identifying these services as determinants of health. Determinants of health are those factors in the immediate and broader environment that impact individual or community health and wellbeing including social, economic, and personal characteristics and behaviours (see Chapter 1). Relevant to this study are the causes related to the physical environment, specifically the factors influenced by local government functions of BMS, water, sanitation and refuse removal services. Health and wellbeing are also influenced by the robustness of governance in an organisation responsible for mitigating health risks (Listorti & Doumani, 2001; WHO, 2008; May & Agenbag, 2021).

Although SDG 3 is explicitly focused on health, at least 10 other SDGs have an indirect impact on health outcomes. For example, unsafe drinking water, unsafe sanitation, and a lack of hygiene, all significant causes of death, are grouped under the SDG dealing with environmental risks (WHO, 2018: 4, 10). Also, SDG 6, specifically dealing with water and sanitation, and

SDG 16 on governance issues are recognised as influencing health outcomes (WHO, 2008). Water and sanitation are also a priority SDG to be addressed in meeting the 2030 SDGs for reducing the burden of disease, addressing poverty, and growing the economy (WHO, 2014a). Recently, the focus has shifted from merely *supplying* basic services to emphasising the *quality* and *sustainability* of water provision, sanitation, and solid waste services as important predictors of positive health outcomes. Well-maintained BMS by the LMs are critical to reduce the burden of disease and to flourish the economy (WHO, 2015). This is reinforced by the *2018 WHO World Health* report identifying water, sanitation, and solid waste services as global public health concerns, along with the *2030 Agenda for Sustainable Development* (WHO, 2018; WHO, 2020).

### **2.2.5 Intersecting local government service delivery functions**

Although MHS and BMS are directly or indirectly involved in policies and programmes that aim to mitigate ill health at source, this study is limited to investigating only the local government sectoral departments responsible for potable water, sanitation, and domestic solid waste. Such services are considered basic need priorities and key determinants of health (Richard & Thomson, 2017; South Africa, 1996; South Africa, DoH, 2013; MDB, 2005; WHO, 2008; 2018; 2020). On the MHS level, eight metros and 44 DMs are responsible for rendering local government EHS with various roles and responsibilities allocated to the different institutions (South Africa, 1998: s84; South Africa, 2003: s32). This includes nine environmental health-related functions – with water quality monitoring, waste management, environmental pollution control – that also intersect with the BMS functions of water, sanitation, and refuse collection and disposal.

The provision of water and sanitation as part of BMS are provided by Water Services Authorities (WSA) responsible for ensuring the provision of water services, and Water Service

Providers (WSP) that supply water services in a specific jurisdiction, i.e., within each LM jurisdiction. Any category of municipality can be appointed a WSA or WSP. However, in the Western Cape, all LMs act as both WSA and WSP. The *Water Services Act* (1997) defines *water services* as water supply services (abstraction, conveyance, treatment, and distribution of potable water) and sanitation services (collection, removal, disposal or purification of human excreta, domestic wastewater, and sewage effluent) (South Africa, 1997).

On the LM level, domestic solid waste management forms part of the BMS and includes constitutionally listed waste-related functions such as cleansing, public nuisances' control, refuse removal, refuse dumps and solid waste disposal management. According to MDB report (2005), refuse removal, refuse dumps and solid waste disposal are shared responsibilities of the LM and the DM, whereas cleansing and the control of public nuisances are solely LM functions. The *Municipal Structures Act* (1998) Section 84(1) contends that DMs are responsible for managing and regulating the waste disposal strategy while simultaneously operating regional waste facilities serving several LMs in each jurisdiction (South Africa, 1998).

#### **2.2.6 Integrated development planning: a development and performance management instrument**

After the 1994 democratic election, the legal tool used in South Africa to manage and integrate municipal planning from the national, provincial, and local spheres of government was called integrated development planning (IDP). It provides an overarching and coherent framework for development, guiding municipal operational, tactical, and strategic planning as well as budgetary and other decision-making processes. The aim is to ensure effective service delivery

that improves the quality of life for all people living in an area. Each LM and DM is obliged to devise a five-year IDP strategy that involves all stakeholders who might influence or benefit from development in the area and this plan must be reviewed annually (South Africa, 1998; 2000; ETU, 2011).

The requirement for such IDPs and performance management systems to hold management accountable to prioritise the basic needs of communities applies to all categories of municipalities and encompasses all municipal functions from corporate and financial services to technical services, including water management, sanitation, solid waste and MHS (South Africa, 1998; 2000).

Besides comprehensive planning for internal functions and outcomes, the MDB (2005) stipulated in s153 of the constitution the importance of integrated development planning for high priority institutional functions that support citizens' basic needs such as MHS, water, sanitation, and solid waste (South Africa, 1996). Although all categories of municipalities are legally obliged to have IDPs, the DMs are responsible for formulating a district IDP encompassing all the LMs in its jurisdiction, as stated in s84(1) of the *Municipal Structures Act* (South Africa, 1998). The aim is to facilitate integrated planning between the authorities within DM jurisdiction to navigate the two-tiered local government arrangement and to serve as an entry point to direct projects and funding from the national and provincial spheres to local government (South Africa, 1998; 2000). The latest strategy to resist the tendency to slip into silo mode in municipal planning and service delivery has been the District Development Model (DDM) devised by the Presidency in 2019, emphasising the district level IDP as an anchor for realising the district's basic needs (South Africa, CoGTA, 2020).

## 2.3 CHALLENGES TO EFFECTIVE ENVIRONMENTAL HEALTH SERVICE DELIVERY IN SOUTH AFRICA

### 2.3.1 Operational challenges

Although the purpose of any government is predominantly to provide BMS, the growing frustration among communities in South Africa about inadequate essential services reveals dissatisfaction with the government's performance (Booyesen, 2007; South Africa, NPC, 2012; Lancaster, 2016; Alexander *et al.*, 2018; SAHRC, 2018). These persistent service delivery protests, subsequent litigation, and the unfavourable municipal performance reports by the Auditor-General have pressured the government to reconsider the current service delivery system. Among others, the authorities flagged the following shortcomings: (i) **flawed governance** due to political and administrative polarisation, fraud and factionalism; the inability of inter-governmental relations (IGR) model to co-ordinate effective and integrated planning and execution among the three spheres of government; (ii) **inadequate financial management**, control and accountability; iii) **snowballing service delivery backlogs** due to mismanagement of funding for infrastructure improvement projects; and (iv) **strained labour relations** that undermine day-to-day operations and financial and operational planning (South Africa, CoGTA, 2017). In his 2019 Presidency Budget Speech, President Cyril Ramaphosa admitted the challenge of confronting the silo approach to service delivery and poor coherence in planning and implementation and the subsequent inability of LMs to effectively provide effective sustainable services (South Africa, Presidency, 2019).

Since 2009, the Department of Cooperative Governance and Traditional Affairs (CoGTA) has initiated programmes to improve municipal service delivery. This includes the 2009 *Local Government Turn-around Strategy* (LGTAS), the 2014 *Back to Basics (B2Bs)* programme, and more recent *District Development Model* (2019) (Kroukamp, 2016; South Africa, CoGTA,

2020). Yet, none of these national programmes considers the MHS function when assessing BMS, despite the national government classification of MHS as a function of local government and a basic need as well as being considered part of BMS (e.g., Category 1: high importance) (South Africa, 2003; South Africa, DoF, 2006). As a result, MHS is still regarded as an add-on that is typically attended to and supported in crises. Therefore, the silo approach in BMS delivery between interrelated sectoral departments does not fulfil the envisaged collaboration between institutions and sectoral departments. The implication for MHS is that the requisite funding and leadership support for the environmental health programme are not optimised in preventive health interventions at the origin of the determinants of health (May & Agenbag, 2021).

Although the Constitution (1996) obliges national and provincial governments to strengthen and support the capacity of municipalities to run their own affairs, little support has been forthcoming to support MHS or to align it with BMS delivery to meet the basic needs of citizens (DBSA, 2007; SALGA, 2018). In December 2015, as part of its commitment to improve EHS in the 52 MHS authorities' metros and DMs, the National Department of Health (NDoH), introduced the first formal document on norms and standards for EHS, entitled *National Environmental Health Norms and Standards for Premises and Acceptable Monitoring Standards for Environmental Health Practitioners* (South Africa, 2003: s32; South Africa, DoH 2015). In 2016, the first norms and standards audit of DMs in South Africa, conducted by the NDoH found that 33% (n=17) of the 52 MHS authorities (i.e., eight metros and 44 DMs) systems were insubstantial and unable to render MHS at the most basic level (South Africa, DoH, 2016; Makhafola, Cele & Mokgalagadi, 2017). The list of shortcomings includes the following: (i) misalignment between MHS budgets and priorities; (ii) operational planning poorly structured and not focused on priority areas; (iii) not rendering a complete MHS services complement; and (iv) incoherent articulation among planning instruments of DMs, LMs and

the district health system such as the municipal IDPs, their Service Delivery Budget Implementation Plans (SDBIPs) and the District Health Plans (DHPs).

It was also highlighted that MHS is not properly promoted to the communities and the institutions such as LMs. While significant improvements were noted in the DM scores in overall performance with the follow-up audit, similar concerns were emphasised by the DoH (South Africa, DoH, 2016; Makhafola *et al.*, 2017). Subsequently, the DoH urged various role-players, such as CoGTA and the provincial governments, to implement systems to monitor the MHS to ensure adherence to the legislative mandates and the delivery of the full MHS package (South Africa, 2003; South Africa, DoH, 2015; 2016). Yet SALGA's 2018 *MHS Status Quo Report* suggests that funding received from National Treasury for MHS is inadequate, which hampers municipalities. As a result, they are unable to provide MHS in accordance with the norms and standards (SALGA, 2018).

### **2.3.2 Challenge of dispersed governance**

Much has been written on policy implementation in a system in which governance is dispersed among levels of authority and the consequences of ineffective service delivery (Marcus Jenkins & Henry, 2016; Hudson, Hunter & Peckham, 2019).

Marcus Jenkins and Henry (2016: 709) define *dispersed governance* as “spreading the control, responsibilities, and services ‘horizontally’ across agencies”. In their study of the role of policy support programmes to prevent policy failure and ensure effective implantation, Henry and partners (2016: n.p.) refer to the challenge of assuring consistency of implementation when formulating policy at different levels of government, and in particular when the “subnational level has some separate degree of political authority”. Implementation is highly dependent on local context and the “messy engagement of multiple players with diverse sources of

knowledge” (Davies *et al.*, 2008, in Hudson *et al.*, 2019: n.p.). This is further exacerbated by policy makers at high levels avoiding face-to-face contact with the public and therefore avoiding active involvement at the intersections of organisational and community needs. At the bottom tier, overlooking even slight deviations from the official mandate by one or more functionaries reshapes and redirects policy intention (Hudson *et al.*, 2019).

In the context of this study, the propensity to exacerbate environmental health risks due to ineffective and flawed service delivery by sectoral role players such as the WSPs and cleansing departments located within category B municipalities is high. Despite being located within the same organisational unit, the LM, some functions fall outside the direct control of MHS. For example, sewage spillages due to failing infrastructure from a lack of maintenance and supply chain management breakdowns are common occurrences in South Africa (Listorti & Doumani, 2001; Stanton, 2009; May & Agenbag, 2021). The extent of the problem is evident in that approximately 16% of all deaths are related to environmental conditions caused by ineffective service delivery and unsatisfactory health and safety conditions within communities (South Africa, DoH, 2013; Hemson, 2016; WHO, 2018; May & Agenbag, 2021). According to its mandate, EHPs are obliged to regularly monitor and identify risks associated with water, sanitation, and solid waste (South Africa, DoH, 2009; 2015; 2016). These results are to be made available to sector departments responsible for operating and maintaining BMS infrastructure. However, too often these departments, disregarding such reports as conjectural, fail to prioritise health risk prevention when planning and devising policies (Listorti & Doumani, 2001; Agenbag, 2012; May & Agenbag, 2021). Without deliberate and committed alignment, various governance dynamics impact the effectiveness and subsequent sustainability of preventive MHS (May & Agenbag, 2021).

The divisions of municipal powers and functions within the two-tiered local government system bring an asymmetric approach in terms of implementation of certain BMS, such as

water, sanitation, waste, and pollution control, that are typically allocated to category B municipalities. This ushers in its own governance complexities for facilitating effective, preventive MHS at the local level (Stanton, 2009; May & Agenbag, 2021).

### **2.3.3 Perception challenges**

Preventative health services in South Africa, as in other parts of the world, battle operational and financial problems. The understanding of where EHS division fits into the LM structure and its exact functions and obligations has historically been misunderstood by colleagues and municipal management (Rosen, 2015; Whiley, Willis, Smith & Ross, 2019).

Generally, EHS is associated with environmental crises, disasters, emergencies, catastrophes, epidemics, and other calamities befalling a community. This has been the case since the Victorian era in Britain when EHS originated (see Chapter 1) (Rosen, 2015; Whiley *et al.*, 2019). The reasons however, stretch beyond the historical context. Also, certain terminology and prevalent attitudes ('prevention is not a priority'; 'other priorities are more important'; 'it is not an immediate threat') surrounding EHS suggest that it is only relevant during ruinous events.

Researchers exploring the influence of perceptions on EH-related services have determined that people's psychological biases, in particular discounting the severity of preventive work like risk monitoring, mitigation, and maintenance, influence the views of functionaries and politicians of EHS.

According to Johnson and Levin (2009), whereas in an ideal world, decision-makers are rational beings that accurately and objectively weigh costs, benefits and probabilities of policies, but in reality, human reasoning is flawed, and our judgements biased. Psychological biases, they posit, stem from an evolutionary origin to ensure survival. However, the modern

world has developed into a complex, fast-moving, sophisticated, technologically driven, urbanised and industrialised matrix in which such ‘psychological short-cuts’ can wreak havoc. The authors identified five psychological biases that,

*downplay the probability and danger of environmental change, and their role in it, while increasing their perceived incentives to maintain the status quo, and to blame problems on others.* (Johnson & Levin, 2009: 1593)

These biases are termed positive illusions, cognitive dissonance, the fundamental attribution error, prospect theory and in-group/out-group bias (Johnson & Levin, 2009). Although the authors discussed systematic psychological biases in the context of environmental degradation and climate change, it is argued that bias also accounts for policy failure and flawed decision-making by politicians and functionaries leading to ineffective service delivery in the sphere of EHS and BMS.

Also, of importance for this exploration of the elements of effective service delivery is the role of apathy towards distant and hypothetical disasters such as children dying in dysfunctional pit latrines, cholera, dysentery, listeriosis and COVID-19 outbreaks that are associated with an absence of appropriate facilities, maintenance, and hygienic conditions.

Such future hazards, however threatening, are significantly less real to people than their immediate and personal experiences (low psychological distance events) when viewed in the context of the construal level theory (Wood, Noseworthy & Colwell, 2013). This correlation between psychological distance and the level of thought abstraction when making decisions about objects, actions and events, is known as construal level theory (CLT). While the authors discussed CLT of ethical decision-making in the context of environmental degradation and climate change, in this study it is applied to policy failure and flawed decision-making by politicians and functionaries leading to ineffective service delivery in the sphere of EHS and BMS at the municipal level.

According to Wood *et al.* (2013), four types of psychological distance can negatively influence managerial decision-making: i) whether the decision will be actualised in the future; ii) whether it affects the in-group or out-group; iii) whether it occurs close to or far from where the decision-maker is located; and iv) whether it is more or less likely to happen (feasibility). Application of this model can serve to predict when and why people perceive the consequences of their actions. “As psychological distance increases”, they explain, the “level of abstractivity by which decision-makers mentally represent the consequences of their actions increases proportionally” (Wood *et al.*, 2013: 516). If events (in the case of EHS, calamitous events) are deemed psychologically *near*, officials see this as a concrete possibility that requires attention. Paying attention to rich and explicit contextual detail, they see direct implication for action. If, however, such events are viewed as psychologically distant, people construe it as abstract, neglecting contextual detail and seeing less need for action (Trope & Liberman, 2010, in Wood *et al.*, 2013: 516). The notion that “managers will mentally represent phenomena in accordance with their psychological proximity” underlies their decision-making processes.

In applying the construal theory to local government decision-making, four forms of psychological distance can influence effective service delivery. *Hypothetical distance* refers to how likely or unlikely events are anticipated to happen. In general, people tend to approach less likely events less concretely than they would more likely events (Wood *et al.*, 2013). According to Wood *et al.* (2013), hypothetical distance has received the least attention from researchers, yet it is key to this study. For example, this could explain why EHPs are considered during disasters yet excluded from planning and operational decisions which could prevent the disaster. Closely linked is a time-based psychological distance bias, *temporal distance*, referring to ‘now versus later’, suggesting that we tend to think of future events more abstractly while immediate events are viewed in more concrete ways. What lies ahead, therefore, has less impact on our thought processes than the ‘here and now’. Not noting negative consequences

clearly may push responsibilities and decisions further down the line, such as preventive measure and maintenance activities. *Spatial distance* also affects the construal of events. Remote locations are viewed more abstractly and in a less detailed manner than proximate places. In a multi-level and dispersed governance system in which decisions are devolved across many levels of authority, locations of service delivery may be perceived as ‘far away’ and therefore assessed in less concrete ways. This is also linked to *social distance*, referring to the typical ‘us-and-them’ reasoning pattern: people tend to process decisions that pertain to “the ‘out-group’ more abstractly, and those that pertain to the ‘in-group’ more concretely” (Wood *et al.*, 2013: 517).

The influence of psychological distance on managerial decision-making is key in a world where,

*strategic horizons are longer (temporal), decisions are more centralised (spatial), operations are global (social), and the future is increasingly uncertain (hypothetical). Hence, today’s managers must cope with an unprecedented level of abstractivity in their decision-making.* (Wood *et al.*, 2013: 517)

The 2017 listeriosis outbreak, the 2020 COVID-19 pandemic that exposed communities devoid of sustainable water and sanitation for decades, and the shocking recent instances of children dying in school pit latrines all illustrate the repercussions of delaying preventive interventions resulting in service failures tainted with incongruence caused by psychological distance bias (Johnson & Levin, 2009; Wood *et al.*, 2013; SAHRC, 2018; South Africa, DoWS, 2020a; 2020b).

In the context of these challenges, EHS suffered from the lack of timeous support and served only as crises, dependent for temporal support until the crisis was mitigated.

## 2.4 EXPLORING EFFECTIVENESS IN THE PUBLIC SPHERE

*Effectiveness* refers to producing the result that is intended, delivering a successful result and achieving a desired effect (Merriam-Webster online dictionary). In any organisation, whether public or private, effectiveness refers to the organisation's ability to utilise resources to achieve its aims (Islam *et al.*, 2020). As no standard theory of organisational effectiveness (OET) exists, Daft (2010, in Islam *et al.*, 2020: n.p.), describes it as the depending on an array of "organisational and departmental level variables" to evaluate whether multiple goals, both official and operative, are attained. Evaluating effectiveness in the public sector is even more fraught as its organisational goals are "politically influenced, more difficult to measure and more conflicting than in private organisations" (Islam *et al.*, 2020: n.p.). According to Pee and Kankanhalli (2016, in Islam *et al.*, 2020), a public sector organisation using only performance indicators as measurement is inadequate and inaccurate. Not only do public and private organisations have dissimilar goals and customers-bases, but they are also structured differently. Whereas the private sector "seeks effectiveness on a short-term basis (annual profit) ... (the) public sector organisations may receive the results of their investments over a longer period" (Mihaiu, Opreana, & Cristescu, 2010, in Islam *et al.*, 2020: n.p.).

In the case of a government's service delivery mandate, an effective public sector should deliver quality, safe and sustainable services to the country's citizens with mechanisms for achievement as local government structures, including MHS and BMS (South Africa, 1996; 1998; 2003; South Africa, NPC, 2012). Such mandates are entrenched in the constitution and other legislation as an instruction or mandate for institutions. These mandates are delegated to employees to execute (South Africa, 1996; Cloete & Thornhill, 2012).

### **2.4.1 Organisational effectiveness (OET) theory**

Organisational effectiveness theory (OET), originating from the machine-thinking of the industrial age and post-World War II scientific and business management models, measures whether an organisation is reaching goals such as productivity, profit and performance (McCann, 2004). A new approach to OET has emerged with the application of general systems theory (GST) to social sciences. Individuals, divisions or groups within the organisation, and the organisation itself, are considered an interdependent and integrated whole – a change in one part of this dynamic and complex arrangement affects all other parts simultaneously (McCann, 2004). Investigations into OET have tended to be empirical studies measuring effectiveness according to organisational structures, processes, and outputs.

Though OET was a popular topic of study from the 1960s, by the end of the previous century it had fallen out of favour, possibly due to diverse definitions of the construct and a more organic approach to organisations as systems. According to McCann (2004), since then, research on OET has centred on the agility of organisations, groups, and employees in aligning and realigning with one another and the often-tumultuous organisational ecology. OET, according to Olivier and Martins (2018), forms the hub of all organisational models including that of governmental departments and local authorities.

In their study to validate a conceptual OET model for a South African metropolitan municipality, Olivier and Martins (2018: 1) conclude that an effective organisation of this nature demonstrates a “harmonious balance between various internal structural features ... [manages to] achieve its mandated goals and deliver the required services to its inhabitants, thus ensuring customer satisfaction”. This same service delivery mandate applies to other local government spheres including MHS and BMS (South Africa, 1998; 2003; South Africa, DoH,

2013; May & Agenbag, 2021). However, according to Islam and colleagues (2020), measuring OET in the public sphere is problematic for several reasons: political influence; its structure; a different customer-base; and a lag in investments. Performance indicators alone then do not provide a true rendition of overall OET.

Several factors have been identified that influence organisational effectiveness (OE): a primary one is worker performance and productivity. However, other factors also play a role such as financial performance or budgetary cognisance, management and employee experience, accountability, organisational strategy and performance, and tools and technology. Titus and Hoole (2021) categorise an organisation's approach to gauging OE depending on who is doing the evaluation (e.g., economists use financial performance and budgetary compliance measurements, and social scientists look at behavioural factors). The latter often includes aspects such as motivation, ethical behaviour, and trust. In their model, the authors include factors such as sustainability, reputation, leadership, and organisational wellbeing but also sociocultural and historical context. Although these are more nebulous and therefore more difficult to measure, they are vital in monitoring OE, especially in a complex society like South Africa with environmental, political, economic, technological, cultural, and societal drivers such as poverty, corruption, and inequality (Titus & Hoole, 2021; Reddy & Brümmer, 2021).

#### **2.4.2 Organisational effectiveness in a dispersed governance structure**

Effectiveness in a dispersed governance configuration such as in multinational companies and governmental structures has received recent attention (Bevir, 2010). The concept of governance itself is ubiquitous and in a state of flux (Bevir, 2010). Whereas in the past governance was associated primarily with state authority, the advance of neoliberal multinational corporates operating in different jurisdictions has expanded the concept. Moreover, theories including

policy network theory and effectiveness theory have heightened the influence of other interests and role players for developing and overseeing policy implementation and practices (Bevir, 2010). According to Bevir (2010: 2),

*current patterns of governance combine people and institutions across different policy sectors and different levels of government (local, regional, national, and international).*

This is also the case in the public sector even if functionaries are sanctioned by legislation and guided by structures different than private companies (Bevir, 2010). The influence of informal organisational cultures and societal pressures are encouraging the marketisation of the public sector to resemble the private sector organisations “by way of things such as performance pay, customer service, and output-based budgeting” (Bevir, 2010: 9).

Additional factors relevant to this study that must be considered when assessing OET are organisational climate, structure, leadership, communication styles, and use of knowledge: both creating and sharing (Nooshinfard & Nemati-Anaraki, 2012; Islam *et al.*, 2020).

### **2.4.3 Organisational effectiveness through reciprocal collaboration and communication**

The notion of reciprocal collaboration and communication is of relevance for EHS and the people responsible for this function. At an operational level, Environmental Health Practitioners (EHPs) are tasked with managing community health and mitigating ill health within a complex and multi-sectoral management set-up (South Africa, DoH, 2013; Fisher, 2017; May & Agenbag, 2021). This requires high level co-ordination and, according to Von Schirnding (2000, in May & Agenbag, 2021: 19), “multisectoral action is no more a 'nice to have add-on factor' to a long list of health and environment strategies to successfully solve health and environmental problems facing us today”. It is, she says, indeed necessary and maybe the only way.

As far back as 1958, organisational theorists March and Simon (in Kenis & Raab, 2020) described an *organisation* as a system of coordinated action among individuals and groups whose biases, knowledge, skills and attitudes differ. According to the authors, these characteristics need to be coordinated for the survival of the organisation. The functioning of modern-day organisations in a highly integrated world, both relationally across borders and technologically, is becoming increasingly complex. It requires specialism, knowledge networks and technological connectivity. This applies to public and private sector organisations. One of the approaches to assuage the complexity is to create a goal-oriented organisational network (Kenis & Raab, 2020). This is evident in several fields, including public services. Organisational networks, according to Kenis and Raab (2020: 111) are,

*systems of coordinated action among (in the case of organisational networks) organisations but also groups and individuals who differ on multiple dimensions and where conflict is converted into cooperation and where the mobilization of resources and the coordination of effort is key for achieving the network goals and make the network sustainable.*

When comparing the field of study, namely the delivery of effective EHS in the two-tier local government system in South Africa, to the Kenis-Raab-description of a goal-directed organisational network, the similarities are clear. Local government is structured: (i) as a multi-agent system (national, provincial, metros, DMs and LMs); (ii) with identifiable boundaries (clearly demarcated areas of responsibilities or mandates for each level of local government); (iii) with specific system-level goals (e.g., different categories of municipalities); and (iv) its constituent agents' efforts are expected to make a contribution (Kenis & Raab, 2020). An organisation's design, they posit, is key to how well it performs; that design depends on how it specifies, regulates, and coordinates people, teams, and departments. Effective organisational networking depends on network resilience, innovative performance, efficiency, and the satisfaction of organisation member needs (Loukis *et al.*, 2016).

While networking among individuals in an organisation is valuable, more attention is being paid to how intra- and inter- goal-oriented organisation networks are formed and structured, how they function, how effective they are and how they are governed (Loukis *et al.*, 2016). They refer specifically to the role networks play in public sector to provide services and enable policymaking through inter- and intra-organisation as well as community collaboration. Intra-organisational networks are reciprocal, complex, dynamic, socio-technical arrangements that contribute to building knowledge, information, and policy development hubs (Loukis *et al.*, 2016). In relation to this study, it refers to levels of authority from governmental ministries to provinces, to municipalities (DMs and LMs) to their respective internal departments. It can also refer to geographic regions within the municipality jurisdiction.

#### **2.4.4 Network governance for organisational effectiveness**

According to Loukis and colleagues (2016: 8), the governance of such networks is a “critical variable that strongly influences their performance and effectiveness” and involves “communication, decision-making, power-sharing and co-ordination mechanisms”. This is influenced by the cultural, normative, and regulative structures as well as accessibility to information and communications technology (Klievink & Janssen, 2014, in Loukis *et al.*, 2016). The role of socio-technical networks in the realm of transnational public and private organisations and those tackling global public health issues and environmental emergencies have been studied. But understanding lower-level organisational networks and the influence thereof on effective service delivery in the community still requires attention (Dawes, Gharawi & Burke, 2012; Loukis *et al.*, 2016).

## 2.5 METHODS

Ethical clearance for the study was obtained from the Cape Peninsula University of Technology's (CPUTs) Research Ethics Committee (Appendix T), while letters of support for the study were obtained from the Western Cape Department of Health (Appendix U) and the South African Local Government Association (SALGA) (Appendix V), respectively.

This study follows a pragmatic approach to research methodology by selecting the most suitable tool to mine data. Several approaches are adopted to achieve the aim of the study, to develop a policy impact assessment model that gauges the effectiveness of local government environmental health services in five Western Cape district municipalities.

In this chapter, the goal is to establish the preconditions for effective service delivery, applying the principles of a simplified Straussian grounded theory to explore what the literature considers as constituents of effective service delivery in a complex, two-tiered and multi-sectoral landscape, characterised by dispersed governance.

### 2.5.1 Grounded theory

Grounded theory, according to Strauss (1987, in Lomborg & Kirkevold, 2003) is about encountering what there is by asking four questions: Does it fit? Is it relevant? Is it workable? Is it modifiable? The answers to these questions serve as criteria according to which the quality of the theory is assessed (Lomborg & Kirkevold, 2003). The answer to the first question regarding theory *fit* helps narrow the concepts related to the topic as they emerge from the data as opposed to pre-determined theoretical perspectives. *Relevance* refers to the usefulness of the theory in the area of study it is supposed to explain; and *workability* signifies its usability and cogency. The theory should be able to “predict, explain, and interpret what is happening in the area of study” (Lomborg & Kirkevold, 2003: 191). *Modifiability* allows for flexibility in the

theory should it need to accommodate new data “generating qualifications to the theory” (Lomborg & Kirkevold, 2003: 191).

True to the nature of grounded theory (GT), instead of predefining the prerequisites and then testing them against results, the inductive reasoning process starts with a single question: *What is necessary for effective preventive environmental health services?*

In this case, the literature is the data source to explore the question as a means to develop a conceptual framework that reveals what is necessary for effective preventive environmental health services. Although not proving or disproving a hypothesis based on a particular theory, this method does more than merely describe a phenomenon. The aim is to develop a substantive theory from the raw data obtained from relevant scholarly and grey texts (Charmaz & Thornberg, 2020).

Reliability and validity of a study such as this rely heavily on an author’s ability to avoid contaminating the emerging theory. The researcher must continuously strive to set aside “personal and project-specific perspectives, their prior knowledge and experience and theoretical assumptions” (Kruger, 2021: 162). While Glaser, one of the original proponents of GT, advises researchers to avoid contaminating the developing theory by consulting literature, Corbin and Strauss (1990) suggest the inclusion of an early literature review (in Chun Tie, Birks & Francis, 2019). The Straussian approach requires an awareness of pre-existing theories when generating a theory (Chun Tie *et al.*, 2019). The authors argued that it is useful for cultivating theoretical sensitivity, supplying secondary data, raising questions and steering the theoretical sampling process (Chun Tie *et al.*, 2019). According to Thornberg (2012), it is acceptable, even useful, to toggle between the data set and existing literature to compare, construe and identify patterns that best explain the data. He calls this ‘informed GT’ but sets a caveat that the researcher is rigorous in remaining open-minded, critical, non-committal and

self-reflective to ensure that “extant literature [does] ... not strong-arm the data in a particular direction”. It should rather act as a,

*heuristic tool to inform, to create associations and to draw attention to potential patterns that will, in the final analysis, assist in identifying one hypothesis among many that better explain the data set under investigation* (Thornberg, 2012, in Kruger, 2021: 6).

### **2.5.2 Sampling for a grounded theory study**

Grounded theory makes use of purposeful sampling to identify and select information-rich ‘cases’ to interview, or in this study, texts to survey that relate to the explored topic. Whereas this typically occurs prior to starting the research process, in GT it occurs as the data collection advances until saturation is reached. To initiate the process, a small number of cases are selected based on a set of criteria. The sampling method for this study can be described as theoretical sampling as the researcher consulted new texts based on what has been found in texts already probed. This iterative procedure of moving back and forth between sampling, data collection and analysis aims at revealing categories and their elements to explain interrelationships, continuing until saturation is reached and no new information is forthcoming; then, a theory begins to emerge (Glaser & Strauss, 2006).

### **2.5.3 Integrative literature review within a grounded theory approach**

While following the GT approach, the researcher had to find a structured and efficient way of identifying suitable texts. Various authors (Torraco, 2016; Snyder, 2019; Elsbach & Knippenberg, 2020; Alvesson & Sandberg, 2020) regard an integrative literature review (ILR) as a creative way of collecting data since it is not necessary to cover all articles published on a topic. Rather, the process links perspectives and insights from different fields or research traditions to generate new insight about a phenomenon.

The aim of this literature review is to identify the prerequisites for effective environmental health service delivery and to use the data to build a conceptual framework. As explained, this serves as a precursor to developing a policy impact analysis of the governance arrangements between the local government environmental health services and the sectoral departments, as explored in Chapter 4.

The ILR was conducted in two stages. The first step was to identify terms and phrases that apply to the research topic, and which could be used in an electronic search engine. These were selected after exploring literature related to definitions of effective service delivery as a starting point to collate relevant academic and grey texts. The introductory list consisted of the following words and phrases: effective service delivery, environmental health, public health, public sector, local government, and effectiveness. During the initial literature search, the author used *Google Scholar* and *EBSCOhost* to identify both peer-reviewed scholarly articles and grey texts to develop a broad basis from which to explore the topic of effective local government service delivery. Predictably, primarily documents written in English emerged. The sources were organised in Excel spreadsheets using the concept matrix strategy (Torraco, 2005). Each spreadsheet was marked with the search engine name for ease of reference e.g., *Google Scholar*, and *EBSCOhost*, respectively.

To establish whether the selected manuscripts included recommendations for effective local government service delivery, the list of articles was screened, using specific key search words: *elements; fundamentals; preconditions; predictor; prerequisites; determinants; variables; barriers; solutions; interventions to barriers; problems; interdisciplinary; multidisciplinary; multi-sectoral; multisectoral; multi-level; effective; local government; municipality; district/regional/ national government; environmental health; basic services; mandate; resources; planning, control; performance management; and community (citizen) satisfaction.* The presence of each word was recorded using colour-coding, evaluated for relevance, and

correlated with the research question: *What is necessary for effective preventive environmental health services?* See Appendix B for the concept matrix used for capturing the relevant literature.

Once the article was considered useful, relevant, and valid, metadata of the literature were recorded in the respective spreadsheets. The administrative metadata covered the topic of the article, the article type, abstract, author(s) and the name of the publication. A note was also made about the accreditation status of journal articles, the geographic location of the study, study design, whether the study is substantiated by theory and whether the goal was specifically to develop a model or framework for effective service delivery.

Thereafter followed a cursory online scan of each of the selected literature involving reading the headings, keywords, and the abstracts to determine relevance of topic and to gauge whether it meets the language and the credibility criteria (the journal's history, reputation, and integrity). Only publications that follow best practices and adhere to peer review process made the grade (Suiter & Sarli, 2019).

As mentioned before in GT, data collection and data analysis do not follow one after the other, but simultaneously: texts identified as relevant for further investigation and deep reading were scrutinised and constantly compared, with relevant texts added. This process of constantly comparing data while still mining additional texts honed the data set and readied for a more refined search using the terms *effective, local government, environmental health, mandate, multi-sectoral* and *interdisciplinary*. The second search was conducted using a Boolean search with three key operators: *AND, OR* and *NOT*. While an *AND* narrows a search as the results are required to contain both words, the *OR* operator expands the search as it allows results with at least one of the search terms. A *NOT* operator excludes posts containing the keyword (Hansen, Schneiderman, Smith & Himelboim, 2020). For the Boolean search, the following

was entered: “*effective*” AND “*local government or city or municipal or public sector OR local authority*” AND “*service delivery or service delivery models or service delivery process*” AND “*multi-sectoral*”.

#### **2.5.4 Data analysis**

As the ILR was a tool within a GT study, data analysis began as soon as the first data were collected and recorded in the database. Although the data analysis aspect of ILR itself has not been considered robust, Snyder (2019) suggests that being accurate, comprehensive, and transparent in documenting the process of analysis improves reliability. Torraco’s (2005) suggestion that the researcher follow accepted conventions and research regimes when clarifying methodology for ILR has been adhered to.

Relevant articles and other texts containing the terms and phrases were revealed by colour-coding in the spreadsheets. Simultaneously, the list of categories was reviewed, added to and honed. In GT, the formulated question is a starting point and additional questions emerging from the process are posed to continue mining information until saturation (Chun Tie *et al.*, 2019).

A constant comparative analysis is used in GT for coding and category or theme development (Chun Tie *et al.*, 2019). As soon as the ILR commenced, texts containing relevant words and phrases were entered into databases and colour-coded for comparison among texts. As the study progressed, codes were collapsed into categories. Not only were single words and phrases compared with one another, but also different categories and new data are compared with existing codes.

According to Chun Tie *et al.* (2019), this recursive processes in data collection and analysis involves inductive and deductive thinking and yields concepts that are progressively theoretical in nature. Combined with theoretical sampling, constant comparative analysis, “raises the

conceptual levels of data analysis and directs ongoing data collection or generation” (Chun Tie *et al.*, 2019: 4). As the proposed outcome of this phase was to develop a conceptual framework for effectiveness in EHP service delivery, the suitability of GT for this study is confirmed.

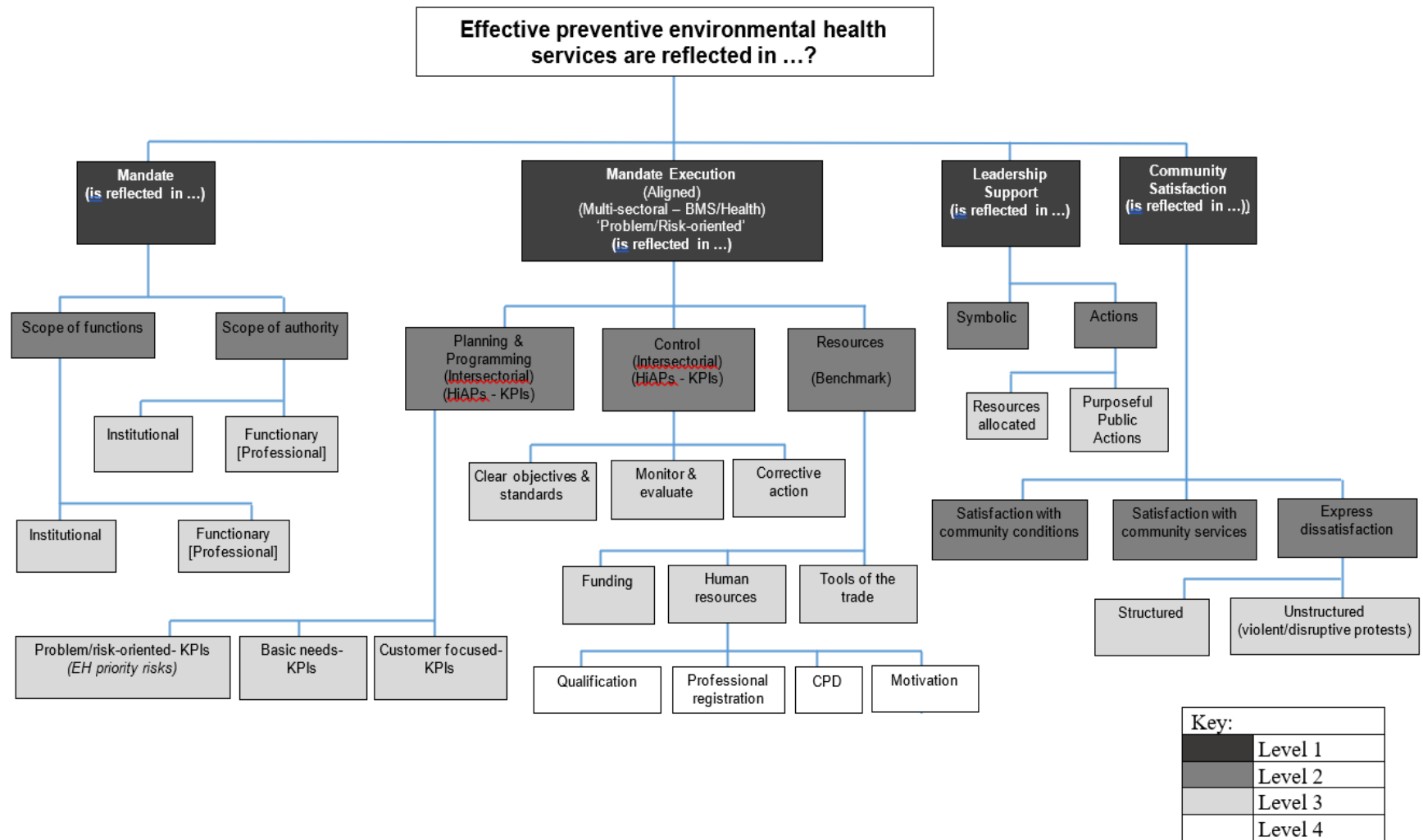
Themes were consolidated and merged and the following fundamentals of effective public service delivery were identified: (i) mandate recognition and cognisance; (ii) inter-sectoral mandate execution; (iii) leadership support; and (iv) community satisfaction (South Africa, 1996; Prabhu & Robson, 2000; Thornhill, 2006; Bekink, 2006; WMO, 2010; Nigro, 2012; Spiegel, Alegret, Clair, Pagliccia, Martinez, Bonet & Yassi, 2012; Cloete & Thornhill, 2012; WHO, 2014a; Ferreira & Groenewald, 2016; Kroukamp, 2016; Synnevåg, Amdam & Fosse, 2018; Ndevu & Muller, 2018). These are described in the findings section of this chapter.

### **2.5.5 Constructing a conceptual framework**

Once the four main themes had been identified, the author embarked on the next phase – developing a conceptual framework using the Schutte-dendrogram technique (Schutte, 2006), a tool selected for its efficacy and systematic approach to explore a topic, identify main and sub-components, and give a clear and comprehensive overview. Its inductive reasoning process was used to arrange and expand the various attributes identified as promoting effective inter-sectoral service delivery in the local government sector. Toward defining the characteristics for effective environmental health service delivery, the research question – *What is necessary for effective preventive environmental health services?* – was formulated to dissect the different associated attributes. This phrase was repeated until saturation was reached (Schutte, 2006; Merriam & Tisdell, 2016).

The following broad themes emerged from this process: i) *mandate cognisance* is denoted by the scopes of authority and functions of both the institutions and functionaries; ii) *mandate execution* by operational factors such as planning, control and budget management; iii)

*leadership support* by the symbolic and actual direction and support; and v) *community satisfaction* in the citizens' views of the conditions in which they live, the service delivery and how they express their views thereof. Using the dendrogram technique, several associated support elements in four levels were identified which further clarified the four themes. These aspects related to effectiveness of service delivery were unpacked until saturation was reached. The framework, discussed in the section 2.5, is illustrated in Figure 2.1.



**Figure 2.1: Fundamentals for the delivery of effective local government environmental health services (municipal health services)**

### 2.5.6 Evaluation

Evaluating the quality of the grounded theory (GT) method differs from standard quantitative and qualitative research, yet often the same tools and techniques are applied. Having ‘methodological self-consciousness’ says Charmaz (2017, in Charmaz & Thornberg, 2020: n.p.) and being aware of one’s own assumptions are key. Charmaz’s four criteria for GT studies are useful when assessing validity and reliability. She lists credibility, originality, resonance, and usefulness as ways to appraise a GT study.

*Credibility* depends on the amount and richness of data as it creates opportunities for asking probing questions, making systematic comparisons, and conducting a rigorous analysis. Although Charmaz and Thornberg (2020) warn against relying on lists in favour of deep engagement with the method and data, the amount of data necessitated the use of spreadsheets to collate literature on effectiveness of service delivery in local government. However, this decision was buttressed by meticulous assessment of personal assumptions and methodological choices to counteract the weakness of inductive approaches, namely the inability to prove validity in the same way as deductive or hypothesis-based research. Rigor in collecting and coding data while persistently assessing whether all parts of the theory fit together to explain the data strengthens internal consistency and validity (Miles & Huberman, 1994, in Gasson, 2003). To fulfil the *originality* criterion, a study has to offer new insights and a conceptual framework of a problem, as has been the case with combining the ILR and Schutte-dendrogram. Four distinct elements necessary for effective service delivery emerged from the process. *Resonance* results from the researcher selecting appropriate data collection methods that accurately and comprehensively relay the data when constructing concepts. In this case, the ILR proved suitable for exploring the literature as matrix. The fourth criterion is *usefulness*. Although a GT cannot be considered objective, it must be confirmable. The theory that has

been constructed has revealed patterns, processes and practices that influence service delivery effectiveness. Furthermore, it has opened opportunities for further research (generalisability). Although this chapter describes but one phase in the research process, even as a stand-alone study, it has the potential to benefit scholars and functionaries in local government as they reconsider their perception of EHS and service delivery.

## 2.6 FINDINGS

As indicated, the data analysis process revealed four main attributes for effective service delivery within a multi-sectoral setting: (i) mandate recognition and cognisance; (ii) inter-sectoral mandate execution; (iii) leadership support; and (iv) community satisfaction (South Africa, 1996; Prabhu & Robson, 2000; Thornhill, 2006; Bekink, 2006; WMO, 2010; Nigro, 2012; Spiegel *et al.*, 2012; Cloete & Thornhill, 2012; WHO, 2014a; Ferreira & Groenewald, 2016; Kroukamp, 2016; Bryson & Edwards, 2017; Synnevåg *et al.*, 2018; Ndevu & Muller, 2018). The four fundamentals are discussed individually in this section and the emergent theory in the Discussion section.

### 2.6.1 Mandate cognisance

The literature explains the basis of effectiveness as having clear goals and directives expressed in a mandate depicting levels of authority and functions (Islam *et al.*, 2020; Titus & Hoole, 2021).

In the ILR, the terms *mandate*, *legislative decree* or *legal authority* appeared in 11 sources (Budge & Hofferbert, 1990 [Article]; May, 1993 [Article]; McDonald, Mendes & Budge, 2004 [Article]; Stanton, 2009 [Thesis]; Eberhard, 2007; Modisha & Mtapuri, 2013 [Article]; Bello, Martin & Kasim, 2017 [Article]; Frazier, Wood & Peterson, 2020 [Article]; Moloto, Mkhomazi & Worku, 2020 [Conference]; Craig, 2017 [Thesis]; Ngumbela, 2022 [Article].

The use of the term *mandate* is ubiquitous in political and organisational texts on all levels: in the private sphere from multinationals to non-governmental organisations as well as in the public sphere. Governmental mandates flow downstream from the highest authority. In South Africa, that would be from its constitution, to national, provincial, and local authorities. Such mandates originate from government policy framework, often augmented by international accords, e.g., the United Nations Sustainable Development Goals (SDGs) and the 'WHO's health policies (HiAPs) and initiatives (WHO, 2014a; WHO, 2015). This also applies to EHS as MHS and BMS, as these functions are dealt with in 14 sections and two schedules of the constitution. It is expanded and described in ensuing acts of parliament and regulations such as the *Municipal Structures Act* (1998) and the NHA (2003) (South Africa, 1998; 2003; South Africa, DoH, 2009; 2013; 2015).

In any organisation, a mandate or document formally laying out directives and obligations has two main components. The first component is the *scope of the functions* or that which an organisation, department or individual is obliged to do and achieve. The second is the *scope of the authority* or level of agency that has been allocated to execute the functions. These two elements should be clear and explicit for both the institution, in this case the municipality, and for its functionaries (officials) (Bekink, 2006; Cloete & Thornhill, 2012; Ferreira & Groenewald, 2016). For this study, a comprehensive overview of the different mandates assigned to agencies in the local authority sphere is provided in Chapter 3.

Using the Schutte-dendrogram technique, these two factors were further explored by asking what related elements reflect effective EHS delivery. On the second level, relating to the *scope of functions* prescribed in a mandate, the literature indicates that it can be separated into the tasks allocated to the institution (municipality) and those allocated to the individual employee (Environmental Health Practitioners or EHP).

The second element, the *scope of authority* to execute the mandate directs the level of sanction authorising institutions and its functionaries to enforce legislation and to execute the functions. This aspect creates a principal-agent relationship between the national executive power and local authorities. For example, in South Africa, for the food control function, municipalities must be authorised by the National Minister of Health as the principal to execute the tasks prescribed in the *Foodstuffs, Cosmetics and Disinfectants Act* (South Africa, 1972: s23). In turn, once the municipality as agent has received the green light, it assumes the role of principal by sanctioning the EHP (professional functionary) as 'Inspectors' (agents) to execute the said Act (South Africa, 1972: s10).

### **2.6.2 Inter-sectoral mandate execution**

Typical of a multi-level management system, executing the mandate requires alignment of objective setting, planning programming, control, collaboration, and communication, as well as an intersectoral policy. This theme appeared in 10 of the articles (Hemphill, McGreal, Berry & Siobhan Watson, 2006; Mele, Pels & Polese, 2010; Spiegel *et al.*, 2012; McQueen, David, Wismar, Lin, Jones, Davies & WHO, 2012 [Book]; Rantala, Bortz & Armada, 2014; Turkson, 2020; Ryan, Franklin, Burkle, Smith, Aitken, Watt & Leggat, 2017; Ehnert, Kern, Borgström & Gorissen, 2018; Synnevåg *et al.*, 2018; Frazier *et al.*, 2020; Chiesa, Tomassone, Savic, *et al.*, 2021).

Effectively delivering services, in particular EHS that involve several different departments, requires the application of the various administrative and managerial functions such as objective setting, planning, programming and control (Ferreira & Groenewald, 2016; Van der Linde, 2017). Though various authors emphasise the importance of contextualising integrated planning to provide clear direction for leadership and subordinates in all sectors to achieve the goals of the institution, contextualised execution is critical to satisfy the needs of the citizens

and to ensure an institution's sustainability (Listorti & Doumani, 2001; Ferreira & Groenewald, 2016; Kroukamp, 2016; Synnevåg *et al.*, 2018). Inter-sectoral mandate execution, in turn, requires (i) aligned planning and suitable key performance indicators (KPIs) (Parmenter, 2012); (ii) aligned programming or scheduling of tasks; and (iii) aligned control, which is dependent on (iv) sufficient and appropriate resources to perform the daily tasks (Spiegel *et al.*, 2012; Parmenter, 2012; Ferreira & Groenewald, 2016; Rasanathan, Bennett, Atkins, Beschel, Carrasquilla, Charles *et al.*, 2017). It is evident from the literature that operational managers and their subordinates primarily perform tasks on the execution level, while reporting their progress to top management and political leadership (Cloete & Thornhill, 2012; Ferreira & Groenewald, 2016). This increases governance complexity, as each role-player has a psychological bias that impacts service delivery effectiveness (Johnson & Levin, 2009; Wood *et al.*, 2013; Colwell & Joshi, 2013).

### **2.6.3 Planning and programming**

Literature searches suggest that *planning* encompasses five overlapping segments from when a strategy is developed to the point of implementation: policy planning, strategic planning, administrative planning, programme planning and operational planning (Sundnes, 2014; Ferreira & Groenewald, 2016; Schiller & Kenworthy, 2017; Junussova, 2020; Bryson & Edwards, 2017; George, 2021). According to Bryson and Edwards (2017: n.p.) the first phase, strategic planning, is comprised of a toolbox of “concepts, procedures, tools, and practices meant to help decision makers and other stakeholders address what is truly important for their organisations and/or places”. It refers to deliberate, disciplined actions to reach decisions and plan programmes in alignment with the organisation's vision and values and according to the authority and functions established in the mandate. In this study, rather than focusing only on performance as a measure of effectiveness, the tentative mini theory that emerged from the

data indicates a correlation with what Bryson and Edwards (2017) refer to as *intermediate influences* such as visioning, social values, participation, situated learning, communication, conflict management, effective leadership, organisational capacity, and resource management. According to the authors, in the public sector in particular, increased performance does not necessarily flow from strategic planning (Bryson & Edwards, 2017). One reason is the complexity of operationalising performance in the public sector, specifically in multi-level management systems such as the one in which municipalities operate. National, provincial and municipalities and sub-units have the same overall mandate – effective service delivery – but each one highlights different aspects, has different purposes, and applies different measures of performance. Furthermore, a multiplicity of direct and indirect links exists between strategic planning and performance, including the intermediate outcomes mentioned earlier (Bryson & Edwards, 2017).

Not only does the act of planning determine, in advance, the objectives the institution wants to achieve, but also sets specific priorities and timeframes; determines costing and funding sources; acquires appropriate approvals; establishes partnerships and staffing complements; and identifies responsible departments and officials (Bryson & Edwards, 2017). It also binds everyone to the common goal (Ferreira & Groenewald, 2016). Planning promotes cooperation among departments and anchors leadership commitment (Ferreira & Groenewald, 2016; Synnevåg *et al.*, 2018). According to Ferreira and Groenewald (2016), when officials know what is expected of them, they can work together across departments to achieve the objectives of the institution. Synnevåg *et al.* (2018) flag planning as a critical tool to anchor leadership commitment by creating an urgency to focus resources and to achieve institutional objectives. Synnevåg *et al.* (2018) argue that the ‘anchoring’ of administrative and political leadership is critical for the successful execution of the basic needs mandate. Therefore, to overcome the silo-approach in BMS delivery, institutionally integrated risk-oriented planning, programming,

and control with ‘winning KPIs’ (Parmenter, 2012) are critical tools to integrate EHS priority risks with BMS sectoral department plans and operational programmes. Planning forms the foundation for control and subsequently sets the performance targets for management. As stated, if the KPIs set during the planning phase do not measure the right aspect, the institution will not achieve its objectives. This is evident in community responses as people express frustration with municipal service delivery (Parmenter, 2012; Radebe, Vyas-Doorgapersad & Grobler, 2015; Viñuela & Zoratto, 2015; Breakfast, Bradshaw & Nomarwayi, 2019).

*Programming*, also called scheduling or action planning, is the process of operationalising the strategic plans and guiding employee activities towards achieving specific milestones, thereby effectively delivering services. An example from EHS illustrates this notion. After the EHS department identified a recurrent sewage spillage risk, the Engineering department puts plans in place to upgrade the sewage reticulation network in the area. Thereafter, it is the task of the EHP to monitor risk mitigation routinely at the site to assess whether the problem has been solved in a sustainable way. In the EHS context, aligning planning and programming requires (i) developing a problem/risk-orientation regarding environmental health risks, (ii) centring on basic needs; and (iii) being customer-focused (Von Schirnding, 1995; South Africa, 1996; South Africa, DoH, 2013; May & Agenbag, 2021).

Collaboration and communication when planning and programming in a multi-level management system with dispersed governance, as in the case of EHS, is key. In many ways, EHS acts as a conduit between the health sector at a local level and BMS. Communicating by way of appropriate KPIs contained in the strategic and operational plans can increase the frequency and quality of interaction among functionaries, departments, authorities, and administrative and political decision-makers while simultaneously mitigating perception challenges such as psychological biases that influence effective service delivery.

#### 2.6.4 Control

The purpose of organisational control practices is to make sure that employees have access to the detailed content of their mandate. They must be cognisant of *what* and *how* to do what is expected of them (mandate); the standards against which the task should be performed (performance standards); the consequences should their performance fall short; and the remedies available to encourage effective performance (control) (Ferreira & Groenewald, 2016; Steyn, Carruthers, Dekker, du Plessis, Kruger, Kuschke, Sparrius, van Eck & Visser, 2017).

Organisational control generally requires that (1) standards be specified, (2) performance is monitored and measured, (3) performance is compared to the standards, (4) corrective action is taken, and (5) management and employees are rewarded or not, depending on the extent to which standards are met (Ferreira & Groenewald, 2016). It is a continuous and cyclical process aimed at influencing subunits and employees to act in ways that achieve organisational goals and objectives (Verburg, Nienaber, Searle, Weibel, Den Hartog, Rupp, 2018). Control practices include formal documents such as legal or company mandates, while informal controls are based on norms and peer pressure. Verburg *et al.* (2018) identify three different control targets: i) *outcome* controls for reaching goals and results; ii) *process* controls focused on compliance with procedures; and iii) *normative* controls to encourage value congruence among employees. They explain that the purpose of control practices is to “ensure that employees are provided with information on relevant performance standards, to correct deviant behaviour, and to stimulate effective performance” (Verburg *et al.*, 2018: 182).

Organisational control is a continuous process guided by clear KPIs that measure employees' actual work performance against organisational objectives and planned programmes (Parmenter, 2012; Johnsson, Pepper, Price & Richardson, 2021). At an operational level, managers and supervisors are crucial in ensuring implementation of control measures.

However, they, likewise, may be influenced by their own cognitive and psychological biases (Prabhu & Robson, 2000; Johnson & Levin, 2009; Colwell & Joshi, 2013). Spitzer (2007: 16) explains that “people will do what management inspects (measures), not necessarily what management expects”. The same applies to senior management who, despite serving in a position to directly influence the evaluation process, are themselves influencing what is being measured. Often the result is superficial tick-box type administrative compliance issues instead of service outcomes that impact communities (Meyer, 2014; Radebe *et al.*, 2015; Parmenter, 2012; Johnsson *et al.*, 2021).

Planning, a tool to facilitate managerial and political anchoring, forms the basis for control (Ferreira & Groenewald, 2016; Steyn, Carruthers, Dekker *et al.*, 2017; Synnevåg *et al.*, 2018). But some authors caution that planning on its own, without contextual considerations, could result in a dysfunctional silo-based process (Meyer, 2014; Radebe *et al.*, 2015; Parmenter, 2012). Parmenter (2012) argues that measuring the correct things can achieve behavioural alignment of staff and management. Even the most well-planned strategy and clear KPIs linking day-to-day performance to strategic objectives can lead to policy deviation if it fails to measure the right things and diverts senior management focus from the real issues (Meyer, 2014; Radebe *et al.*, 2015; Parmenter, 2012; South Africa, CoGTA, 2017). To facilitate accurate and appropriate control, Ferreira and Groenewald (2016: 414) suggest tracking the following four steps: (i) setting clear objectives and standards during the planning process; (ii) ensuring that actual performance is measured against the set criteria; (iii) pinpointing any and all deviations; and (iv) providing clear guidance on corrective actions. Clearly, KPIs are important but even more important is ensuring that these indicators measure the right things. This is key in aligning multi-sectoral goal setting and control processes to mitigate risks of

disease in the community by setting institutional “Winning KPIs” that have “most or all of the KPI characteristics” (Parmenter, 2012: 143-144).

### **2.6.5 Resources**

Once tasks and obligations have been clarified in a mandate and performance criteria have been set, the mandate has to be executed. This requires sufficient and appropriate resources: funding, material and human resources with knowledge, skills, and expertise (Ferreira & Groenewald, 2016). Though the general perception is that there are never sufficient resources available, certainly one requires a minimum to perform any operations available (Burke, 2006; Steyn, Carruthers, Dekker *et al.*, 2017).

To determine whether sufficient financial resources have been allocated, a benchmark such as the Local Government Equitable Share (LGES) allocation for local government environmental health services can establish if the bare minimum financial resources are available (Ferreira & Groenewald, 2016; South Africa, DoF, 2006; 2018; SALGA, 2018; May & Agenbag, 2021). Considering that the constitution obliges local government to provide basic services (sections 152 and 153) to their communities, the constitution makes provision for an ‘equitable share’ allocation of the nationally raised revenue (section 214) that is applied to local government for funding basic services and related administrative support (South Africa, 1996; Reschovsky, 2003; South Africa, DoF, 2006; 2018; Ajam, 2021).

Having adequate resources, however, does not guarantee the effective provision of services. The findings of the 2018 South African Local Government Association (SALGA) report illustrate this point, noting that several municipalities responsible for local government EHS spent less than 30% of their Equitable Share (ES) grants for this purpose, while 48% of MHS

managers could not recall what their ES allocations were (SALGA, 2018). These statistics underscore the role of leadership in effective mandate execution (Fundamental 3: Leadership support). Such information serves as a key indicator of the leadership commitment towards the function.

### **2.6.6 Leadership support**

Formal hierarchical differentiation, according to Berson and Halevy (2014), helps organisations coordinate the actions of employees in interdependent organisational networks. Several data sources (n=10) emphasise the role of leadership commitment and leadership support for effective mandate execution, both symbolically and in leaders' actions (Prabhu & Robson, 2000 [Article]; Colwell & Joshi, 2013 [Article]; Wood *et al.*, 2013 [Article]; Tsouros, 2013 [Article]; Fox, Balarajan, Cheng & Reich, 2014 [Article]; Te Lintelo & Lakshman, 2015 [Article]; Synnevåg *et al.*, 2018 [Article]; Jeffries, 2020 [Thesis]; Wong, 2020 [Thesis]; Ngumbela, 2022; [Article]). Symbolic commitment takes the form of rhetorical or verbal declarations of support. The action dimension refers to the quantifiable operational and budgetary commitments. These are guided by public policies and programmes necessitating purposeful and decisive public action (Prabhu & Robson, 2000; Fox *et al.*, 2014; Te Lintelo & Lakshman, 2015; Ngumbela, 2022). Leaders' actions is therefore considered the most significant measure of political and management leadership commitment towards a service or programme (Prabhu & Robson, 2000; Fox *et al.*, 2014; Te Lintelo & Lakshman, 2015). This is reinforced by factors such as framing (Shiffman, 2007; Briggs, 2008), clear policies (WHO, 2014a; Synnevåg *et al.*, 2018), and appropriate KPIs and performance management systems to hold decision-makers accountable (Parmenter, 2012).

Leadership is essential for the success or failure of any organisation in achieving its objectives, directly impacting organisational climate, allocation of resources and programme support (Colwell & Joshi, 2013).

### **2.6.7 Community satisfaction**

The fourth element that emerged from the ILR strikes at the heart of the purpose for the existence of any government and associated institution – to respect citizens' fundamental human rights by providing essential services and satisfying basic needs (Cloete & Thornhill, 2012). The critical determinant for the citizens' satisfaction with community services is their perception of their living conditions (Grzeskowiak, Sirgy & Widgery, 2003). Thus, community satisfaction is regarded as the product of alignment between a community's physical, social, and economic circumstances and service delivery for the provision of water, housing, and safety. This also includes needs higher on the Maslow hierarchy such as access to open spaces, recreation facilities and economic services. Such services contribute to people's experience of a quality life (Grzeskowiak *et al.*, 2003; Nigro, 2012; Nigro & Císaro, 2014; Breakfast *et al.*, 2019). Effective urban development and maintenance of public spaces support perceptions that 'things are under control' which in turn motivates citizens to comply with norms, rules, and regulations (Nigro 2012; Nigro & Císaro, 2014).

When citizens are not satisfied with services, they often express dissatisfaction in either a structured or unstructured way (Grzeskowiak *et al.*, 2003; Lancaster, 2016; Matebesi, 2017; Alexander *et al.*, 2018; SAHRC, 2018; Breakfast *et al.*, 2019). In a healthy democratic government system, elections serve as a formal, organised way for residents to express dissatisfaction with government performance (Paret, 2018; Fransman, 2021). Formally constituted community and ratepayer groups usually begin their interactions with authorities in

an amicable way. However, when they feel unsupported and their complaints unheard, their engagements tend to be more militant, and they begin withholding service fees and taxes. Such discontent often ends in litigation (Matebesi, 2017; Breakfast *et al.*, 2019). In communities where residents come together in a less formal manner, community protests erupt spontaneously and are inclined towards violence and disruption (Matebesi, 2017; Alexander *et al.*, 2018; Breakfast *et al.*, 2019). According to Alexander *et al.* (2018), in South Africa, extemporaneous community protests due to poor municipal services increased from 69% in 2011 to 82% in 2016. The 2018 Civic Protest Barometer managed by the Dullah Omar Institute for Constitutional Law, Governance and Human Rights at the University of the Western Cape, indicated a decline in the number of protests, reaching its lowest point in 2017. However, they reported that protests became more violent and that more than 60% of the protests had been related to municipal services (Dullah Omar Institute, 2018). Litigation cases against municipalities that fail to provide basic services have been mounting (Maloka, 2019; SAFLII, 2020a; SAFLII, 2020b; Burger, 2021; Businessstech, 2021). Examples of communities withholding their taxes and providing the municipal services themselves have also increased (Mail & Guardian, 2009; Powell, May & Ntliziywana, 2010; Enwereji & Uwizeyimana, 2020). Fransman (2021) suggests that rather than using their ballot to replace a non-performing government, community protests serve as an alternative way to keep government accountable for delivering on their mandate.

In discussing each of the four fundamental factors and their sub-components, rather than each one individually, the interconnections amongst the factors lead to effective service delivery. Each aspect contributes but also relies on the others to achieve efficacy and ultimately, community satisfaction. This theory of interrelationships built on collaboration,

communication and contingencies leads to organisational effectiveness, as developed in the next section.

## **2.7 DISCUSSION**

The aim of this chapter is to build a grounded theory from identifying factors that establish effective basic service delivery within the context of interlinking statutory mandates and dispersed governance among different categories of municipalities in local government as played out in the South African context.

In short, what the ILR and Schutte-dendrogram have revealed is that effective service delivery in local authorities are the responsibility, obligation, and professional commitment of the institution as well as of the functionaries' personally. However, it is also a tool with which to measure whether the goals, as set out in a formal and legal mandate, have been achieved. Again, functionaries, i) cognisant of their obligations and assigned authority as set out in the mandate, ii) execute it according to the prescribed performance criteria, with the iii) symbolic and active support of both political and operational leaders, to iv) achieve the crucial benchmark of effectiveness: a high level of community satisfaction.

These findings are aligned with OET's premise that to be effective implies generating a result and fulfilling a required, desired, or intended function (Olivier & Martins, 2018). Aligning and harmoniously balancing these four fundamental components will, in the words of Olivier and Martins (2018: 19), ensure that organisations such as local authorities, "achieve its mandated goals and deliver the required services to its inhabitants, thus ensuring customer satisfaction". Therefore, in the context of this broader investigation of five DMs in the Western Cape and the study aim to identify the fundamentals of effective service delivery, each of the four

fundamentals are key. However, no single one contributes to effective service delivery individually and disconnectedly. As a result of the web of overlaps, intersections, and linkages among levels of authority, functions and obligations, the focus must be on the interplay among them. Mandate cognisance, mandate execution, leadership support and community satisfaction can be viewed as four sub-systems in an organisational system in which input affects output. Such a system contains feedback loops, either balancing or reinforcing the processes of co-ordination and collaboration to achieve the outcome – effective service delivery.

### **2.7.1 Effective service delivery requires high levels of alignment, co-ordination, and balance among internal structures**

While effectiveness is about achieving an outcome, co-ordination refers to managing or organising systems, structures, and people to work together to enhance effectiveness. Juneja (2015, in Gautam, 2020: 158) explains that it requires the “integration of diverse environments” and the “unification, synchronisation, and integration among stakeholders towards a common goal”. Malone (1988, in Gautam, 2020: 158-9) emphasises the interplay among actions when he defines *co-ordination* as managing “the dependencies among present independent activities” to allow for dynamic interaction and a constant flow of information, to create synergies, collaboration, and specialisation”. Gautam (2020: 158-9) concludes that in “public administration, information is power, and therefore lack of co-ordination is detrimental to its being”, that without adequate co-ordination, both efficiency and productivity decrease. Inaccurate decision-making in the absence of complete information and task duplication increases. All these factors lead to ineffective service delivery.

The first reason to focus on co-ordination and the interplay among the four fundamentals relates to the *multi-level management organisational structure* of local authority and its dispersed

governance. This type of structure requires a high level of synchronisation, inter-sectoral collaboration, and reciprocity (Gautam, 2020). At an operational level, for example, the EHPs are tasked with managing community health and mitigating ill health. The complex and multi-sectoral management set-up within which they perform their functions requires a great deal of co-ordination. Their mandate originates with what is stipulated in the constitution, the vision of the current political leaders and the ensuing legislation. This mandate involves interaction with several other sectors such as the engineering departments responsible for water and sanitation, the waste, building control, and land use planning units of LMs. They also must interact with national and provincial departments of water, sanitation, environmental affairs, health, and education at many levels of authority (South Africa, DoH, 2013; Fisher, 2017; May & Agenbag, 2021). Von Schirnding (2000, cited in May & Agenbag, 2021: 19) explains,

*multi-sectoral action is no more a 'nice to have add-on factor' to a long list of health and environment strategies to successfully solve health and environmental problems facing us today. It is, ..., 'indeed necessary and maybe the only way'.*

This view is supported by the 2018 report by the Organisation for Economic Co-operation and Development (OECD): establishing and maintaining inter-institutional co-ordination and clearly explicating the roles and responsibilities of each institution are vital to aligning the activities of the public sector to reach its objectives (Gautam, 2020). Being cognisant of one's mandate as well as the functions and assigned authority set out therein, executing it in accordance with performance criteria and reinforced by sustained leadership to achieve the outcome of a community satisfied with service delivery, cannot happen at an EHP level only. These four fundamentals apply across levels of authority from national to local government and in and between the DM and LM structures and all divisions within the two-tiered arrangements. Not only should it happen on an operational level but leadership contribution to aligning a unit's execution to the overall outcomes is crucial. Internal and external guidance

and communication as well as facilitating reciprocity up and down levels of authority aid alignment and effectiveness.

The second reason for emphasising the interplay among the four fundamentals in a system refers to Olivier and Martins' (2018: 1) conclusion that an effective organisation demonstrates a "harmonious balance between various internal structures". Achieving alignment and congruence among mandate cognisance, mandate execution, leadership support and community satisfaction for the improvement of effectiveness in service delivery is explored in this study through a systems theory lens.

### **2.7.2 Using systems theory to analyse the interplay among four fundamentals of effective service delivery**

Systems theory, from which OET originally developed, holds that components of a system are inter-linked and the system itself is circular and self-contained and therefore self-organised, self-referential entities which are operationally closed (*autopoietic*) (Leydesdorff, 2009). Thus, the four fundamentals of effectiveness identified in this study conform to that of a system as an integrated whole. A change or weakness in one aspect affects the interactions among all and therefore the overall state of the system. Systems such as organisations are only ever modified by internal operations and not directly by external influences (Overwijk, 2020). The din of the complex external environment can only agitate the system, it cannot change it. Only once the system itself has deciphered the indistinct noise can it be processed as information to be communicated within the system. However, not each and every influence can be accommodated. In an attempt to streamline and stabilise itself in the face of change, the system narrows down its options. Rather than 'translating verbatim', the information is paraphrased as the system is forced to make a specific selection from all the possibilities available in the

environment. These choices are based on what is known and what has been done before. In the case of this study, it refers to pre-existing legislation, procedures, mandates and regulations related to service delivery at local authority level. This recursive loop links the future to the past and the novel to the known. Yet due to the need to interpret the external disturbances in relation to the existing operational methods, it always involves intricate “contingency, difference and paradox” (Overwijk, 2020: 141). It is exactly this open-for-closure paradox that opens a system to modification, adaptation and robustness.

A simple system, if given clear input, will produce a predictable output. An example is turning a steering wheel to change direction (Paetau, 2013). Applied to this study, a simple system would be comprised of a clear mandate adhered to and executed well, under supportive supervision of leadership leading to effective service delivery and community satisfaction. In such a system, identifying and rectifying an inadequacy in one of the four fundamental domains affects all the others. That way, improvement or deterioration permeate the entire system to enhance or weaken goal achievement. For example, clearly communicating the authority and functions associated with a mandate to an institution’s leadership and functionaries increases their understanding of what is expected of them (mandate cognisance). In turn, this strengthens the execution of their duties (mandate execution) and results in better service delivery and community satisfaction. Another example: making more resources available to fund opportunities for professional development, improving qualifications and encouraging active engagement with professional bodies leads to enhanced mandate cognisance and execution, better leadership, and improved services. The same applies to developing fit-for-purpose KPIs or accurate control and monitoring systems, or customer-focused service. Improving what is fed into the system improves the output.

However, an organisation, whether public or private, is not simply an in-out system. As Islam *et al.* (2020) clarify, achieving effectiveness in a public organisation poses unique challenges due to its structure, its particular customer-base and its susceptibility to political interference. A complex system is characterised by densely, interconnected relationships and continual feedback loops among components. Rather than a linear progression, as in a simple system, it tends to be multiplicative. Increasing efforts in one area may not automatically lead to improved output. Also, small causes may not necessarily lead to small effects. The notion of the butterfly effect from the chaos and complexity theory enhances our understanding of the nonlinear dynamics of systems and the inadequacy of the linear cause and effect models to explain complex systems with sub-systems (Warren, Franklin & Stree, 1998). The butterfly effect illustrates how a deviation, however insignificant, can threaten the stability of a system. These effects are amplified in complex systems with sub-systems, such as with multi-level and multi-sectoral management set-ups in local government, the context in which EHS units operate. Sub-systems may appear to operate autonomously and develop separate organisational cultures that modify their behaviour by changing their state. Disorder, instability, and change are inherent in complex systems as is the system's attempt to retain and regain order by managing new ideas and deviations in understanding and executing, for example, formal mandates, policies and strategy documents. Such networks of complex and self-organising structures may render it futile to introduce a linear-trajectory intervention to improve effectiveness (Yolles, 2006).

The Luhmannian model of organisations as social systems is useful to interpret the complexity of the system and the interwovenness of the four fundamentals of effectiveness as identified in this study. It also serves to demonstrate the role of positive and negative feedback loops within a system, highlighting the importance of collaboration among the fundamentals to achieve outcomes.

### **2.7.3 Luhmannian model of organisations as complex social systems**

According to systems theorist Nikolai Luhmann, an organisation is not comprised of tangible ‘things’ such as buildings, products, services, devices, employees, mandates, or policy documents. Neither is it defined by intangibles like intellectual property, data, mission and vision statements, KPIs or the contents of mandates and policy documents. What sets an organisation apart from its environment, or from other organisations, is the internal decision-making processes (Cooren & Seidl, 2019). Luhmann describes organisations as nothing but “decision machines” consisting of interconnected decisions that produce further decisions. In that sense, the mandate to deliver basic services is no more than the decision-making process starting at constitutional and parliamentary level and devolving to local authorities across several other levels of authority. This continual process of decision-making in a system is based on inter-human interaction and is therefore by definition reflexive. Such interaction, according to Blumer (1969, in Leydesdorff, 2013), does not merely provide a setting for people to express themselves, it shapes the way humans act. The emphasis is not on what the organisation, its leaders and functionaries are doing, but on how participants define, interpret and meet the situations at their respective points. Their knowledge, attitudes and perceptions determine whether the objective of effective service delivery is reached. This mutual interaction among mandate cognition, mandate execution, leadership support and community satisfaction are a feedback loop that provide information about the organisation, including its levels of effectiveness and ineffectiveness.

To elucidate Luhmann’s organisational theory and how it relates to the four fundamentals of effective provision of municipal services, a brief explanation of his notions of decision-making and communication is necessary.

#### 2.7.4 Decision-communications as the link in organisational systems

The social world consists of meaning-creating systems of communications or exchanges of information. However, such communications are produced not by people but by the network of communications in which the people find themselves (Mykkänen & Tampere, 2014; Rasche & Seidle, 2020). Rather than existing as a separate entity in a form detached from the communicator (e.g., printed, or electronic documents, spreadsheets or performance indicator questionnaires), communication or interaction is an amalgamation of two parts: i) the information and ii) and the expression thereof (the message). This union refers to that moment when the receiver of the message understands or ascribes meaning to it. For that reason, *what* is communicated (e.g., information about policy decisions and legislation that make up the mandate) and *why* it is communicated (medium and reason for the communication such as to clarify obligations and expectation regarding the mandate) is not what is important. What is key is the mutual understanding that comes from the *interactions themselves*, and, notably, not the intended meaning but the understood meaning (Leydesdorff, 2013). Therefore, formulating a mandate for service delivery does not guarantee copy-and-paste mandate cognisance (element 1), effective mandate execution (element 2), leadership support (element 3) or even community support (element 4 and the ultimate goal).

Luhmann insists that decision communications have explicit meaning. Information related to what has been decided about policy, operational strategies, budgetary figures, and other decisions are explicitly relayed (Overwijk, 2020). But implicit information is communicated as well, about the reasons and justification for selecting those particular decisions, admitting that alternatives exist but have been pushed aside for the preferred option (selection schemata) (Overwijk, 2020). Nothing else but these decision communications and the implicit rationalisation distinguishes an organisation from its environment and other systems (Cooren

& Seidl, 2019). This makes decision-taking a double-edged sword. On the one hand, decision-taking is self-referential to counteract uncertainty and ensure stability and survival of the organisation; hence, the use of selection schemata for linking new information to existing decisions (Overwijk, 2020). On the other hand, it is not only about integrating old and new but about the connectivity of decision-making itself. To ensure connectivity, decisions must be made continuously; without connection there is no organisation (Mykkänen & Tampere, 2014; Luhmann, 2018, in (Cooren & Seidl, 2019: 494). An organisation knows only its own way, operates only within its own structure and values only its own criteria of relevance. If decisions are not questioned and further decisions are taken based on unchallenged decisions of selection schemata, it becomes a 'stable point of reference', whether good or bad. This way organisational structures can assure that they remain steady and that they survive (Cooren & Seidl, 2019: 483).

Setting goals and co-ordinating tasks then become part of the process of decision-making to sustain an organisation. Merely making decisions, however, does not guarantee effectively achieving the outcomes. Despite organisations striving for stability by narrowing their decision-making focus and cementing their choices in formal mandates, policies and strategy documents, decision-communication events between communicators reveal differences in understandings. Such a difference "travels and undergoes successive transformation in a circuit" (Bateson, 1972, in Paetau, 2013: 93). The altered meaning or understanding of each communication event becomes evident in the response to it. However, since the responder, in turn, is also not in control of how the response will be understood, any communications that follow in this sequence will be out of the control of its originator and will deviate from the original. Decision-communications are fragile and can "reflexively co-evolve (or not!)" (Leydesdorff, 2009: 3; Mykkänen & Tampere, 2014).

This view of communications implies that the person or group making the utterances have no control over the communication or the event or meaning making (Rasche & Seidle, 2020). An organisation's continual decision-making communication system cannot be controlled by the system or the environment. This happens to the extent that "even communications that are not explicitly framed as decisions might be treated as decisions by later decision communications" (Cooren & Seidl, 2019: 487). The only solution is to not let differences or the understood meanings that digress from the intended message deviate too far by taking steps to minimise them (Paetau, 2013).

## **2.7.5 Regulating decision-communication in a system to ensure effectiveness**

### ***2.7.5.1 Feedback loops***

According to systems theory, an organisation adapts its behaviour solely through internal modifications of their condition based on the information supplied by feedback loops. Thus, in attempting to control change, it must rely on creating such internal modifications of conditions to cause the system to move in the desired direction to maintain the attainment of the specified goal overtime (Valentinov, 2017; Van Der Heijden, 2022). Feedback, then, presents the control or regulation of a system on its actual performance and not its expected performance (Valentinov, 2017). Such internal feedback loops monitor and alter the response of a system to internal and external input. Different types of feedback loops operate in organisational systems. Negative or balancing loops increase something to decrease another, minimising the effect of change and enhancing equilibrium and stability. Positive or reinforcing or amplifying loops increase a change and subsequently move a system away from balance towards instability. Reinforcing feedback loops reinforce a path selected with the potential to benefit or damage the system, while balancing loops support a system to remain in balance. While it may seem

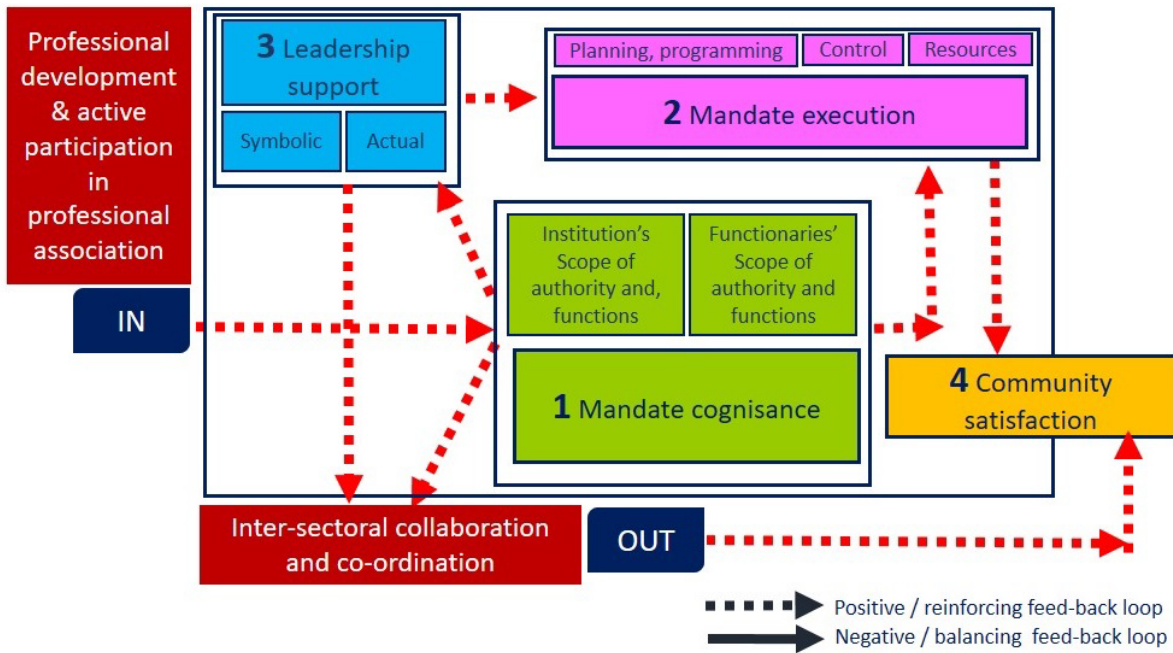
counterintuitive, the terms *positive* and *negative* do not necessarily relate to good or bad outcomes but rather to how the loop influences a system. Both negative and positive loops can become a virtuous or vicious cycle. Even when encouraging balance, it might be a desired state or an undesirable outcome such as state of inertia.

An example of a feedback loop relating to ineffective service delivery, but which can act as a virtuous cycle, is illustrated in Figure 2.2.



Structured and unstructured service delivery protests may lead to negative public opinion of the LM. This prompts the decision by LM leadership to counteract the perceptions and improve services, or in other words, a negative or balancing feedback loop. It may take the form of communicating with community members (symbolic leadership) as well as with the functionaries, while providing the functionaries with more resources and programme support to improve the services (active leadership) (fundamental 3). The latter might involve reinforcing mandate cognisance (fundamental 1) by way of training and motivation (fundamental 2). Other interventions include enhancing monitoring and measuring performance, re-allocating resources and improved planning and programming (fundamental 2). These adjustments lead to modifications in how services are delivered which in turn generates more positive perceptions of the municipality (LM or DM).

Another example as depicted in Figure 2.3, encompassing more than one feedback loop, is related to encouraging professional development and active participation in professional associations to improve effective service delivery. Leadership support (fundamental 3) by way of motivation and setting an example (symbolic leadership) as well as providing resources (active support) enhances institutional and functional mandate cognisance (fundamental 1) which in turn influences mandate execution (fundamental 2) and improves community satisfaction (fundamental 4).



**Figure 2.3: Example of positive/reinforcing and negative/balancing feedback loops in the EHS context**

This set of feedback loops in one system interacts with similar feedback loops in other systems to evolve into a bigger system with sub-systems. Think of several LMs in a DM, as is the case with five Western Cape district municipalities and the local municipalities that resort under them. Inter-sectoral collaboration and co-ordination among sub-systems link not only structures but also functions and decision-making to improve effectiveness (Figure 2.4).

It is important to consider that on a meta-level, the standard tools for internal modifications in the private sector are not readily available to public organisations. Things like restructuring, rebranding, new product lines, mergers, process enhancements and changing customer bases, if not unfeasible, cannot be done on short notice.

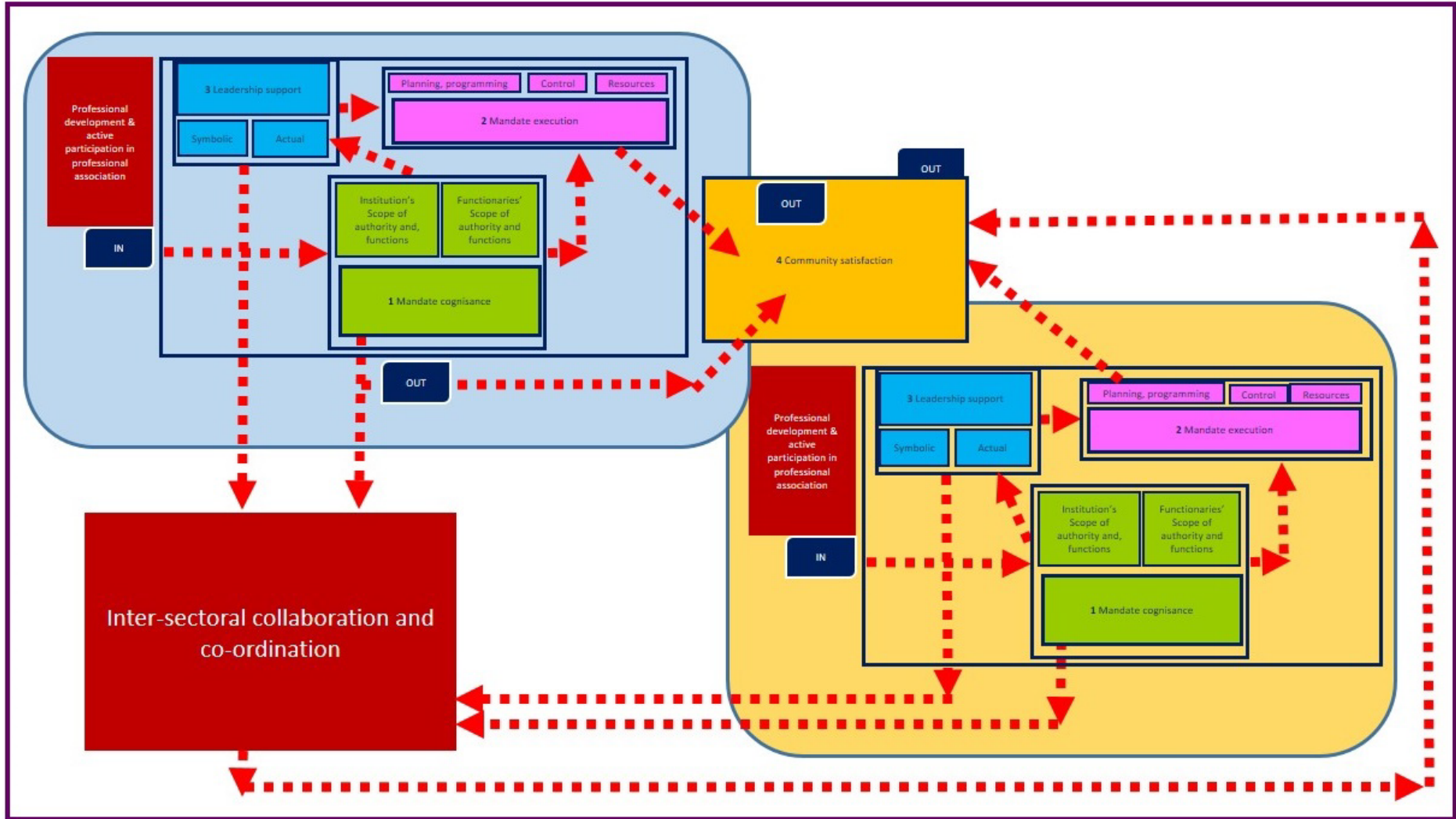


Figure 2.4: Example of positive/reinforcing feedback loops within and between sub-units of a system in the EHS context

However, other forms of control are available to the public sector such as governance and compliance management, both internal and external, from higher authorities (legal and administrative) as well as public accountability (Vignieri, 2020). In the context of this study, the Auditor General's annual report on poor governance and performance issues in municipalities acts as a tool in the hands of Parliament, opposition parties, the six constitutionally set independent state institutions such as the Office of the Public Protector, civil society organisations, and members of the public to hold municipalities accountable for non-performance and to push for internal changes.

#### **2.7.5.2 Governance**

*Governance* refers to the structures of authority and cooperative relationships that allocate resources and control activities in an organisation (Unesco International Bureau of Education, n.d.). While governance is typically associated with rules and regulations that guide decisions, others view governance as the way role players in an organisation interact with one another in self-organising networks to manipulate the outcomes of policies (Vignieri, 2020). Good governance implies a process of decision-making that leads to effective outcomes. Weak governance is the result of external factors influencing decisions such as corruption, lack of accountability and political interference. But governance is also about managing networks to achieve co-operation and collaboration for the sake of effective service delivery. Governance policy is built on several assumptions (Vignieri, 2020). The first is that policy is shaped and executed in a vast network of interdependent actors that create and sustain networks. As with Luhmannian systems theory, this line of thinking also points out that actors frame the selection of strategies through their own perceptions of problems and solutions. Secondly, interactions to solve problems and deliver services are comprised of complex interactions and negotiations. These patterns of interaction become institutionalised as organisational culture, rules of

conduct and governing behaviour within networks. Network governance tends to be a horizontal rather than the traditional hierarchical, a co-ordination style using collaborative forums to “build trust, manage conflict, and outline robust policy ... [and] align policy design” (Vignieri, 2020: n.p.). In fact, Koliba, Meek and Zia (2011, in Vignieri, 2020: n.p.) says public organisations,

*are expected to tune their plans, activities, and targets with the goals and policies outlined with other stakeholders at macro (national and local policies) or policy field level (e.g., a specific sector). At the same time, effective collaborative governance requires that policy outcomes are continuously measured. This is also an important part for effectively addressing societal needs and political demands, as well as pursuing the adaptation of the governance structure through learning and mutual “knowledge transfer”.*

(Koliba, Meek & Zia 2011: 120, in Vignieri, 2020: n.p.)

This is particularly relevant for decision-communication in networks within the complex multi-sectoral two-tiered local government arrangement where MHS and BMS should collaborate appropriately to facilitate sustainable basic services to prevent ill health and support environmental and social determinants of health.

### ***2.7.5.3 Managing distance construal factors that affect effectiveness***

In relation to this study, the factors that influence the communication events in the four-fundamental system required for service delivery effectiveness are key. They directly affect the success or failure of the organisation, studies into the factors that affects leaders’ and employees’ decision-making abound, including psychological, social, political, economic, and organisational determinants as well as environmental health decision-making more specifically (Yolles, 2006; Institute of Medicine, 2009; Theesfeld, Dufhues & Buchenrieder, 2017; Koziol-Nadolna & Beyer, 2021).

One particular line of study regarding the forces that impact decision-making, namely construal level theory (CLT), fits with the perception challenges affecting EHPs as discussed in section

2.2.3. This theory explores how psychological bias tamper with decision-makers' perceptions of the probability of risk or threat. According to this theory, the less probable the threat seems to be, the higher the level of thought abstraction when making decisions, resulting in insufficiently concrete and detailed directives (Johnson & Levin, 2009; Raue, Streicher, Lerner & Frey, 2015). Studies by Raue *et al.* (2015) indicate that a high construal level leads to less risk avoidance and a low construal level encourages risk avoidance. Furthermore, psychological distance inherent in a decision-making exercise can influence decision-makers' mindset and as a result their decision-making behaviour, suggesting that construal level theory should be considered in risk communication (Raue *et al.*, 2015). This is particularly relevant for making decisions about EHS where decisions and implementation frequently delay impact. For example, the routine monitoring and identification of EH risks, community awareness interventions, and interaction with institutions and authority where non-compliance occurs require prolonged processes before risks can be rectified. Outcomes are often further delayed when co-operation from institutions and authorities charged with non-compliance are not forthcoming due to absence of supportive leadership and political interference. This also explains why EHS are often glossed over in planning meetings (the threat of pandemics or floods or water scarcity being perceived as far in the future, unlikely to happen and therefore discussed only abstractly). However, when a disaster strikes, decision-makers tend to step to the plate, despite flawed decision-making at the planning stage, but typically only for a brief period until the emergency dissipates. A calamity happening now and in one's own community requires concrete, tangible and immediate attention due to the reduced psychological distance between the decision-maker and the issue.

Relating distance construal factors system theory's input/output model and Luhmann's decision-communication model suggests that these biases are the points of reference for making decisions. However insignificant the deviation, if the original decisions (legislation,

policies, mandates, regulations, or directives) are not communicated clearly and with sufficient detail, the deviation is amplified in the self-referential system. Such decisions are flawed and inadequate because the meaning of each communication event in the process of disseminating the information deviates according to the perceptions of communicators and responders.

### **2.7.6 Implications for this study**

The implications of Luhmann's theory of decision-communication in an organisational system and for establishing ways to improve co-ordination and alignment among decision-makers to ensure effective service delivery are substantial. Mykkänen and Tampere (2014: 124) explain what constitutes organisational effectiveness are decisions and communication:

*No matter how great the strategy is, it will not succeed without these two elements...[The] challenge is not just making good decisions. Organisations need to execute and implement them successfully as well.*

Identifying four fundamental aspects and several sub-elements that support effective service delivery – awareness of one's mandate, executing one's mandate diligently and having leadership support to enhance community satisfaction – has been a constructive exercise. It has narrowed down vital components of an effective system. However, what is more important is how these components co-ordinate to achieve the goal of effectively delivering services. Luhmann's concept of an organisation as a system of decision-communication reinforces that organisations are not simple in-out systems. Rather, they are sustained and grow successful (or not) thanks to effective communication processes and collaboration. It is therefore key, when studying organisational effectiveness, to scrutinise the messages and media such as mandates, policies, and legislation for communicating objectives and obligations. But what the two theories (Luhmann's systems theory and CLT) highlight in support of the study findings is that, rather than the tangible forms of communication, the meaning-making of functionaries on all

levels influences decision-communication and the threat of deviations for effective collaboration and purposive service delivery.

While the mandate demarcating the functions and authority of institutions and functionaries (see Figure 2.1: mandate cognisance: MC1 – *scope of function* and MC2 – *scope of authority*), are legislated and serve as a stable point of reference, in Luhmannian terms, the history of communication events that take place within the organisation determines the effective fulfilment of purposes (Cooren & Seidl, 2019). This does not negate the need for appropriately configured multi-sectoral policy, planning, programming, scheduling and control (see Figure 2.1: mandate execution: ME1 – *planning & programming*, ME2 – *control* and ME3 – *resources*), nor for the framing of preventive health matters as critical instruments to anchor leadership commitment (see Figure 2.1: leadership: LS1 – *symbolic*; and LS2 – *actions*) (Shiffman, 2007; Briggs, 2008; Parmenter, 2012; Synnevåg *et al.*, 2018). Rather, it is imperative to locate system weaknesses to garner insight about ineffectiveness in supplying services. And this requires more than rewriting the organisational texts of the mandates (policies, legislation, regulations, and operational manuals) for clarity. It not only depends on facilitating functionaries' understanding and compliance by way of professional and leadership development (Figure 2.1: mandate execution: ME2.2 – *professional registration*) but on refining performance indicators and outcome evaluations (Figure 2.1: mandate execution – ME1.2 – *monitoring and evaluation*). Understand the workings of an organisation and eradicating the silo-approach in sectoral service delivery of which Parmenter (2012) speaks in Cooren and Seidl (2019: 489) requires capturing the,

*ongoing impregnation and re-impregnation of communications through earlier communications". In other words ... longitudinally observ(ing) what these texts concretely become in further communications. This will not only reveal how the past is reflected in the present communications but also how it is forgotten, that is, how it is made not to make a difference anymore.*

According to Williams and Clampitt (2007, in Mykkänen & Tampere, 2014), a common reason why decision communication is ineffective is that decision-makers neglect to spell out responsibilities, erroneously assuming it is not their responsibility to communicate it. They might also reason that the one receiving the communication already has the information. At times the communication process is undermined when only highlights or results are presented. Miscommunication is often exacerbated by sharing information out of context and not explaining “relevant facts, weighted options, and uncertainties surrounding the conclusions and the manner by which the decision was made” (Mykkänen & Tampere, 2014: 137). Communicating decisions within an organisation forms its framework while communicating with the public (LS2.2) underscores local government’s main objective, namely delivering services. If communication is steeped in bureaucracy and jargon, vague or misunderstood, the processes of communication are chaotic, asymmetrical, and ungoverned (Mykkänen & Tampere, 2014).

Besides managing their own and others’ deviations from an original decision, it is also important for leaders making decisions pertaining to effective service delivery to value distinct communication styles related to CLT. Berson and Halevy (2014: 232), for example, explain that leaders engage differently with peers and employees directly under their authority than with those hierarchically distant. Implications for EHPs are that while direct supervisors are actively engaged in setting goals and giving individualised feedback, in a multi-level management and dispersed governance structure, communication leans to generalities and fewer details due to power-induced social distance. Hierarchically distant leadership communication centres on information processing and formulating and communicating strategy, policy, vision, and mandate in a more abstract manner. As Berson and Halevy (2014: 233) insist, “social distance affects construal level and construal level affects perceived social

distance”. Yet both abstract and concrete leadership behaviours are key to reaching organisational outcomes (LS1 and LS2). Research shows that construal fit facilitates fluent information processing and increases social influence, information flow and processing fluency (Berson & Halevy, 2014). It also boosts perceived credibility of information and increases emotional reactions to messages (Lee, Keller, & Sternthal, 2010). As construal fit moulds perceptions, attitudes and behaviour, leadership would be wise to identify contextual factors and encourage an appropriate leader-follower fit to foster psychological engagement and the social influence of a leader’s communication to close the construal gap and thereby minimise issues and delays (Berson & Halevy, 2014).

However, in the public administration, the influence of the bureaucracy, a lack of transparency and monitoring, significant capacity gaps and inadequate inter-agency co-ordination not only hamper the mechanisms of public service delivery but also render effective service delivery difficult. Co-ordination strengthens the linkage between the departments: an easy flow of information manages the service delivery process by regulating and monitoring activities to decrease corruption and increase system transparency (Gautam, 2020).

A limitation of this study is that issuing recommendations for improving the effectiveness of service delivery falls outside the scope of this part of the study. Also, the texts brought up in the ILR do not constitute a comprehensive list. Yet the conceptual framework has highlighted not only the four fundamentals of effective service delivery, but also their interwovenness and the necessity for collaboration, reciprocity, communication, and decision-making among i) levels of authority of local government; ii) officials in the many sectors involved in local government; and iii) between state and communities. Applying systems theory has illustrated the complexity of such interactions within decision-making processes among system and sub-systems as well as the extent to which this determines how an organisation survives. It has also

highlighted the role of both virtuous and vicious feedback loops, and how they sustain or undermine organisational stability. Furthermore, the framework could prove useful when adapted for use during *ad hoc* or routine service delivery and performance audits. The framework might also prove valuable for scholars, educators, practitioners, and students in the EH and BMS sectors, or for students studying public administration and management who might assume leadership positions to develop a more holistic view of organisational systems and the impact of decision-communication and collaboration on effective provision of local government basic services.

## 2.8 CONCLUSIONS

Although much has been written about distinct aspects of effective public service delivery such as strategy alignment, financial management, employee engagement, customer-centricity, good governance, ethical behaviour and customer experience, finding a more holistic view is less prevalent. Studies that focus in particular on local government environmental health services and which offers an integrative view of such elements are scarce (Hunt & Lewin, 2000; Thomas, Seager & Mathee, 2002; Plume, Page & Garelick, 2018; Kasmani, Abd Azhar, Syed Badrul, Abd Manaf, Abd Jalil, Shafie, Karuppannan, Zawawi *et al.*, 2021).

This article started by asking *What is necessary for effective preventive environmental health services?* It concludes by providing a broad conceptual framework serving as a foundation to demonstrate the fundamental elements and supporting components that can individually or holistically be investigated and monitored. It furthermore develops a theory about effectiveness depending on decision-communications across levels of government delivering services in a two-tier system with interlinking statutory mandates and dispersed governance. After identifying four fundamentals of effective service delivery, Chapter 3 explores the South

African legal mandates that are formalised and communicated in a tangible form which serve as the bedrock of the first and second fundamentals, namely mandate cognisance and mandate execution. The aim is to establish a clear picture of the interplay among legislative mandates and MHS and BMS in the complex, two-tiered local government structure in the country. In Chapter 4, a customised policy analysis model is developed and tested in the Western Cape to assess the impact of the local government environmental health services and sectoral policy arrangements against policy output and outcomes.

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## **CHAPTER THREE**

### **RELOOKING AT RECIPROCAL RELATIONSHIPS TO SUPPORT PREVENTATIVE HEALTH: THE INTERPLAY AMONG THE MANDATES OF MUNICIPAL HEALTH SERVICES AND SELECTED MUNICIPAL SERVICE SECTORS**

## ABSTRACT

Municipal health services (MHS) in South Africa, rendered within a dispersed complex two-tiered multi-governance arrangement, depend on the efficacy of sectoral departments responsible for priority basic needs services such as water sanitation, refuse collection and disposal, as basic municipal services (BMS) to mitigate environmental health risks.

Institutions and officials are given legal mandates to execute powers and functions set out by the legal framework, including the constitution of South Africa. Although detailed and clear, these mandates are influenced by the interpretations of and priorities set by the political regime in power, both nationally and locally. Furthermore, national policy is swayed by international accords and subsequent multilateral agreements, while case-law and an official's own readings thereof may alter the administrative processes and execution of a mandate.

Ensuring effective local government environmental health service (EHS) delivery requires high level of collaboration among the sectoral and support service departments, and MHS, to manage environmental factors that cause ill health.

To navigate the array of legislative mandates for the institutions and functionaries involved in MHS, water, sanitation and waste services, a policy mapping exercise and a document content analysis was performed to identify the sectoral obligations of the delivery of BMS for effective preventive local government environmental health services (MHS). Identifying and describing the legal mandates serve to pinpoint the parameters, obligations and responsibilities that guide the provision of the services. Clarifying the legal mandates assist with recognising the quantifiable elements as reference points for testing MHS and BMS sector policy responses against the contextualised policy impact determinants, e.g., goals, obligations, resources, and opportunities. This chapter serves as a steppingstone to inform policy impact analysis in Chapter 4. The policy mapping and document content analysis clearly illustrates the multi-

sectoral relationship between MHS and BMS within the dispersed local government arrangement, emphasising collaboration, IGR and cooperation among sectors and spheres of government.

**Keywords:** institutional mandates; functionary mandates; scope of functions; scope of authority; environmental health; municipal health; local government; municipalities; basic services; prevention

### 3.1 INTRODUCTION

Governments and associated institutions such as municipalities exist to honour citizens' fundamental right of having their essential needs satisfied (South Africa, 1996; Cloete & Thornhill, 2012; Richards & Thomson, 2017). This is achieved by providing basic municipal services (BMS) – potable water, sanitation, and domestic solid waste services (MDB, 2005; South Africa, DoF, 2006) –to the communities (South Africa, 1998; 2000). In South Africa, municipal health services (MHS) are rendered within a complex two-tiered multi-management and dispersed governance arrangement. As set out in the constitution and related legislation, this arrangement is steered by legal mandates that sanction the powers and functions of each role player. Such a system is highly dependent on the efficacy of sectoral departments responsible for provision and maintenance of priority BMS to mitigate environmental health risks.

However, despite clearly demarcated and detailed prescriptions, these mandates are also influenced by extraneous factors such as i) policies and ideologies of the ruling political party, nationally and locally; ii) international accords and multilateral agreements that shape the national policy; iii) case-law; iv) administrative and governance dispensations; and v) officials'

interpretations of the directives, all of which effect the administrative processes and execution of mandates (Cloete & Thornhill, 2012).

An exploration of the literature discussed in the previous chapter revealed four main fundamentals that guide effective service delivery including preventive MHS and supportive basic municipal service (BMS) (Figure 2.1). These factors were analysed using a Schutte-dendrogram to build a model depicting the four aspects that facilitate effective service delivery: (i) a clear understanding of the legal directives (mandate cognisance); (ii) intersectoral mandate execution; (iii) symbolic and active leadership support; and (iv) community satisfaction regarding the fulfilment of their basic needs (Chapter 2).

This chapter explores aspects related to the first and second components of the model, namely mandate cognisance and intersectoral execution, by analysing the mandate itself as well as the nature of the reciprocal relationship among the different agencies in the complex management arrangement necessary to execute the mandate. The aim of this part of the study is to explore the nature of the interconnectivity between MHS and BMS (e.g., water, sanitation, and solid waste) legislative mandates by way of mapping the legislation and conducting a document analysis. Legal mapping, according to Burris (2020: 3), makes it possible to identify “the key provisions of law on a particular issue, identify patterns in the nature and distribution of laws, and define important questions for evaluation research, legal analysis and policy development”. Furthermore, Burris (2020: 4) explains, this method typically reveals incongruities “between what we think we know about the problem or the law and what the law is actually doing”. Cheung, Mirzaei and Leeder (2010) emphasise the value of mapping legislation with document analysis specifically to identify relationships and linkages when navigating complex health policy arrangements. Burris (2020) suggests that the history of the method’s used in public health law mapping dating back to the first half of the previous century.

### 3.2 BACKGROUND

In keeping with the definition of a *mandate* as an authoritative command or formal order from a superior entity to a subordinate to act as its representative, the directives in this case emanate from the state in the form of legislation. These govern the powers and functions of institutions and their functionaries (officials) as agents of the state. It assigns authority to entities such as LMs (local municipalities) and DMs (district municipalities) that prescribe the type of functions they are allowed to provide.

Achieving improved health outcomes in accordance with these mandates and the government's constitutional objectives, specifically s152 and 153 of the constitution, within the complex two-tiered multi-sectoral dispersed local governance arrangement requires co-ordinated intersectoral planning, scheduling and control of functions and responsibilities (South Africa, 1996; Hemphill, McGreal, Berry & Watson, 2006; Spiegel, Alegret, Clair, Pagliccia *et al.*, 2012; Synnevåg, Amdam & Fosse, 2018; Frazier, Wood & Peterson, 2020).

While political office bearers are responsible for making laws and ensuring that officials implement services to benefit communities (Mafunisa, 2003), the functions of employees, from administrative to technical staff, are highly regulated and specific according to the legislative mandates (South Africa, 1996; 1997; 1998; 2000; 2003a; 2008; South Africa, DoH, 2009; Cloete & Thornhill, 2012; South Africa, DoWS, 1985; 2013).

As a result of this country's two-tiered, dispersed-governance arrangement in local authorities, it is occasionally necessary to assign special authorisation to some functionaries and local authorities permitting them to perform functions beyond the prescribed mandate. An example relevant to this study is the relationship between environmental health practitioners (EHPs) and environmental management inspectors (EMIs). They are both assigned a compliance enforcement role with special authorisation from their employing institutions to enter facilities,

conduct inspections, and issue compliance notices that enforce adherence to public health and environment protection legislation (South Africa, 2003a; 2003b).

The functionaries responsible for providing MHS and BMS (e.g., water, sanitation, and waste), typically draw their assigned functions and authorities from specific sectoral legislation, such as the *National Health Act* (61 of 2003); the *Water Services Act* (108 of 1997), and the *National Environmental Management Waste Act* (NEMA: Waste Act) (59 of 2008) (South Africa, 1997; 2003a; 2008). The functionaries' job descriptions are specific to their internal organisational arrangements; additional functions are allocated accordingly (South Africa, 1997; 2000; 2003a; 2008).

Fundamental to their specific mandatory functions, all administrative and technical staff in the public sector are bound by the constitutional values and principles (s195[1] of the constitution). In addition, they must adhere to the fundamental values and principles that govern local public administration, as stipulated in Chapter 7 of the *Municipal Systems Act* (32 of 2000) (South Africa, 1996; 2000). Moreover, some functionaries such as engineers and EHPs, fall within a professional category. Both are responsible for aspects of water and sanitation provision and are statutorily required to register with a professional body. EHPs specifically are to be registered with the Health Professions Council of South Africa (HPCSA) (South Africa, 1974; South Africa, DoH, 1976), while engineers are required to register with the Engineering Council of South Africa (ECSA) (South Africa, 1985; Nealer & Mtsweni, 2013). Such affiliations demand performance of their tasks in accordance with the respective professional scopes of practice e.g., the scope of the profession of environmental health practitioners (EHPs) (South Africa, DoH, 2009).

Despite distinct mandates and professional scopes of practice, proficient service delivery by a municipality relies on reciprocal relations, teamwork, and effective communication among

functions of MHS (water, sanitation, and solid waste) as BMS, and administrative support services and leadership.

### **The case for mapping the legislation**

The aim of this investigation into the interplay among the MHS and BMS functions (e.g., water, sanitation, and solid waste) as established in the respective institutional and functionary mandates is to present a comprehensive overview of the roles and responsibilities of the sectors to mitigate environmental factors that cause ill health. Being aware of and having knowledge of legislative mandates are key to effective reciprocal relationships among divisions. This clarifies the roadmap and responsibilities of each sector in realising the constitutional objective – to provide a safe and healthy environment for the population.

This overview is necessary to identify crossing points and contingencies among the local government environmental health services (MHS) and BMS sectors. This is important considering that MHS is largely dependent on BMS sectors to run and sustain effective water, sanitation, and solid waste services. Locating the intersections helps clarify the expectations and collaboration required among the DMs responsible for MHS, and the LMs in providing water, sanitation, and solid waste services at a local government level. In turn, identifying and describing the legal mandates pinpoint the parameters, obligations and responsibilities that guide the provision of the services. As such, it provides a reference point for designing and testing the current MHS and BMS sector policy responses against policy impact determinants – goals, obligations, resources, and opportunities – by way of a revised ADEPT model (analysis of determinants of policy impact) applied in Chapter 4.

The process of identifying relevant legislation informing the MHS and BMS mandates began with a desktop review that comprises a document content analysis. This phase of the data collection process was conducted for two reasons. The first reason was to perform a

comprehensive survey of relevant legislation to extricate the institutional and functionary mandates of the MHS and BMS (Burris, 2020). The following pieces of legislation relevant to this study were identified: i) sectoral legislation originating from the South African constitution that regulate the sectoral functions of MHS, water, sanitation, and domestic solid waste; ii) related sectoral regulations published in terms of Acts, and iii) related norms and standards.

The second goal was to find elements for local government MHS and BMS policy impact analysis to contextualise the respective policy impact determinants (e.g., policy goals and obligations) for MHS and BMS to inform the modification and testing of the revised Rütten *et al.* (2010) ADEPT model in Chapter 4. The ADEPT model was used primarily for health promotion policy analysis exercises and is therefore not contextualised for local government basic services policy impact analysis (Rütten *et al.*, 2010; Cheung *et al.*, 2010; Trezona, Dodson, Mech & Osborne, 2018; Omotoye, 2019; Hunga, Chiwaula & Katundu, 2022). In both cases, for policy mapping and policy impact determinant analysis for MHS and BMS, no comparable studies were found.

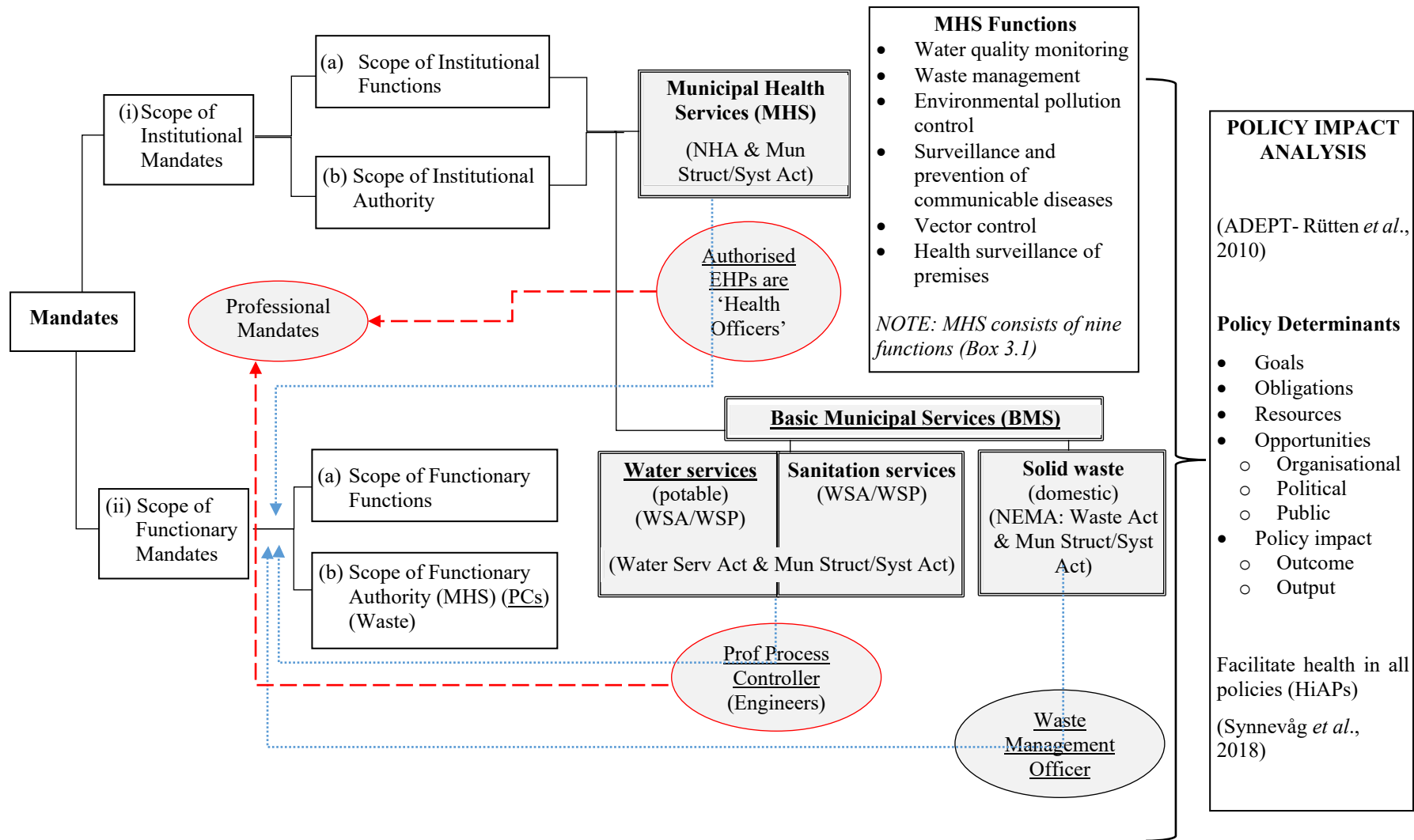
The next step was to map the data from the document content analysis using the ATLAS.ti data analysis software to search the sectoral Acts – the *National Health Act* (61 of 2003), the *Waters Services Act* (108 of 1997), and the *NEMA: Waste Act* (59 of 2008) – and their respective regulations and associated norms and standards for institutional and functionary mandates. The Acts and subsequent regulations, as well as the associated norms and standards, were grouped per sector when searching for the following words as predictors of possible mandates for institutions and functionaries (e.g., scope functions and scope of authority): authority; authorisation; code of conduct; collaboration; custodian; delegation; environmental health; functions; governance; institution; job description; local government; municipality; obligation; powers and functions; responsibility; sanitation; services; tasks; water; and waste. The

documents were searched, and the contexts examined for relevance. Relevant areas were coded accordingly before collating the information.

Validity was established by constant and critical questioning of the relevance and strength of association of the texts and the data to the research question and the inclusion criteria (e.g., informing scope of institutional and functionaries' functions and authority). To ensure reliability, a systematic review of the original documents, as published on official websites as statutes, policies, and regulations, was conducted. This way, trustworthiness and consistency were assured. Reliability was reinforced by meticulously scrutinising for accuracy, completeness, and relevance.

Once the data collection and coding processes were completed, a schematic diagram demonstrating the interplay and interdependency among the sectoral mandates was created (Figure 3.1). This illustrated the foundational mandate variables that inform the institutional and functionary linkages and obligations for assessing MHS and BMS policy alignment in general and for water, sanitation, and domestic solid waste in particular. This schematic diagram prepared the groundwork to identify the MHS and BMS institutional and functionary obligations, while also creating the road map to guide the policy impact analysis in Chapter 4. Creating this kind of visual tool (e.g., branching tree, Figure 3.1) has several advantages. It groups together multidimensional information in a way that is easily construed while eliminating excessive textual searching (Burriss, 2020). It also succinctly and explicitly depicts relationships and crossing points by way of elements and lines. Clarity of meaning is therefore vital and warrants some discussion: i) solid lines indicate institutional and functionary alignment with the sectoral functions; ii) fine dotted lines show functionary scope of functions and authority that originate from the sectoral institutional mandates; while iii) broken lines show the MHS and the water and sanitation functionary's professional relationship with the

statutory professional bodies that creates mandates for the functionaries and give additional responsibilities to the institutions.



**Figure 3.1: Branching tree conceptual overview of institutional and functionary mandate interplay among MHS and selected BMS sectoral departments as reference point to identify relevant pieces of legislation to test MHS and BMS sectors**

The schematic diagram makes it possible to dissect, describe and link related legislation to form a nuanced expression of the mandates of each sector's institutional and functionary mandates, clarifying functions and authority. This facilitates policy mapping to provide impetus to the clarity and concreteness of impact determinants (e.g., policy goals and subsequent obligations) necessary to contextualise the policy impact determinants for the modification and testing of the revised ADEPT model in Chapter 4.

### **3.3 DISCUSSION**

As stated in Chapter 2, a mandate comprises two components: the scope of functions (that which an agent has been authorised to do), and the scope of authority (the extent of power given to agents to carry out that which they have been authorised to do). In short, as an agent of the state, institutions like DMs responsible for MHS, and LMs obligated with BMS are given directives and authority on how to meet the national government's objectives (institutional mandates). At the same time, officials, as agents of the institutions that employ them, also require clear guidance and appropriate authority to meet the objectives of the institution and the government (functionary mandates). The schematic overview in Figure 3.1 underscores two important aspects. The first relates to the nature of the interplay among the mandatory functions and authority of both the institutions and the officials as that of custodianship. This interrelationship is based on the notion that at any level, from national to local, an institution or an official has been entrusted with the responsibility of taking care of public health and providing basic services. As such, the mandates are entrenched in sectoral legislation and intrinsically govern its scope of functions and authority, forming the basis of each individual functionary's mandate. This cascade of legislation, originating in the constitution, filters down to the sectoral Acts of Parliament, subordinate regulations, and the sectoral norms and standards that provide the institutional and functionary mandates (Figure 3.2). Although in the

case of the service delivery variables e.g., MHS, water and sanitation, and solid waste at local government level examined in this study, general local government legislation also applies, as this impacts sectoral service mandates. Other legislation includes the *Municipal Structures Act* (117 of 1998) and the *Municipal Systems Act* (32 of 2000).

The cascading effect signifies a reciprocal principal-agent relationship and a contractual arrangement between the custodian and agent. At a local level, this is articulated as an institutional performance management system (PMS) to monitor the provision of basic needs (services). At the level of top management, the principal-agent arrangement underlies contractual performance agreements that ensure sustainable essential services to the communities as envisaged in s152 of the constitution (South Africa, 1996; 2000; Nyman, Nilson & Rapp, 2005; Parmenter, 2012; Gailmard, 2014; Synnevåg *et al.*, 2018). Furthermore, the interplay emphasises the broader goals of the legislation to improve the health of the population and to ensure the provision of basic (municipal) services to meet basic needs of citizens.

It is therefore necessary to scrutinise the pertinent legislation at each level of authority and custodianship while simultaneously contextualising the interplay among MHS and the water, sanitation and solid waste sectoral legislative institutional and functionary mandates. This is undertaken using the schematic diagram of the mandates (Figure 3.1) for a comprehensive exploratory overview of MHS and sectoral legislation, showing the reciprocal relationship among MHS and BMS sectors (Figure 3.2).

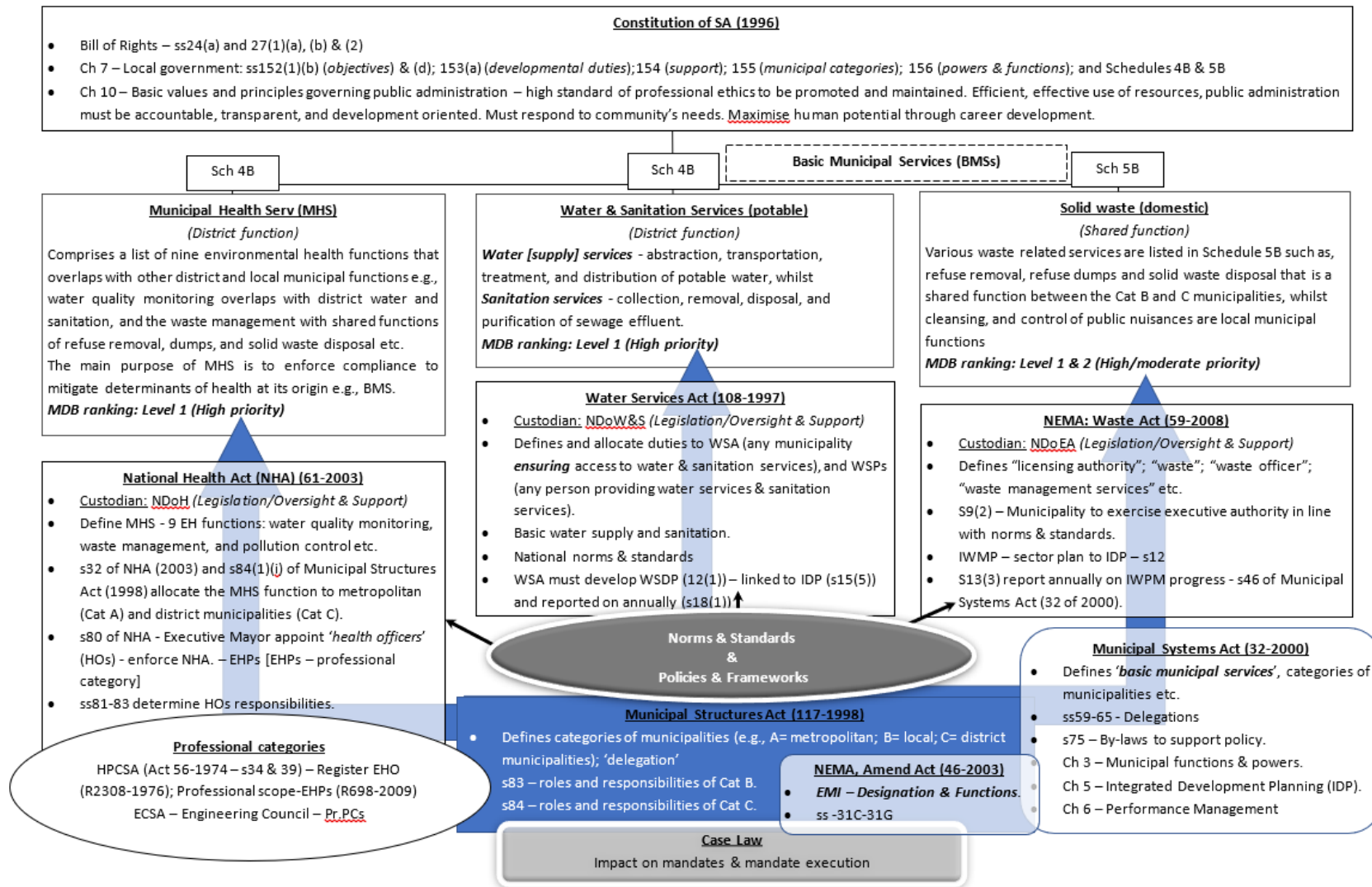
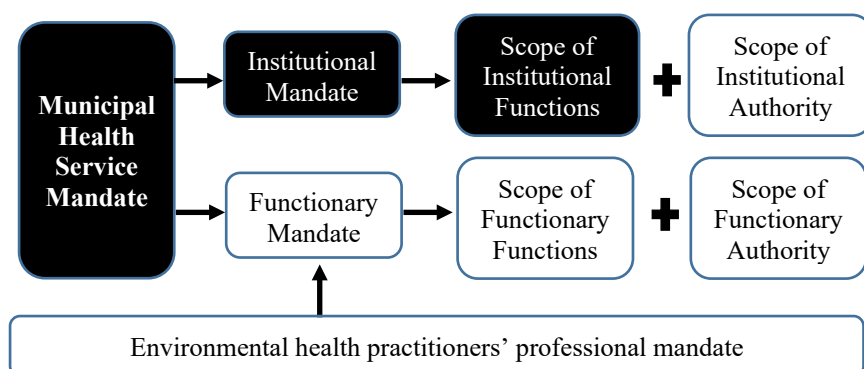


Figure 3.2: Mapping legislation that informs institutional and functionaries’ mandates for MHS and BMS (e.g., water, sanitation, and solid waste)

While the legislation mapping exercise identified the relevant legislation, the purpose of this chapter is to use the map to clarify specific task-related and authority mandates of institutions and functionaries as relevant to MHS, water, sanitation, and solid waste. The goal is to identify the obligations of each level of local authority within the dispersed two-tiered local government legislation by extracting the scope of institutional functions and authority as well as the functionaries' scope of functions and authority (Figure 3.1), starting with MHS policies and followed by BMS policies.

### **3.3.1 Unpacking municipal health services functionary and institutional mandates**

The primary purpose of the municipal health services (MHS) i.e., local government environmental health services (EHS), is to ensure compliance enforcement to mitigate any environmental health risks at their origin to avert ill health. This requires close collaboration with other sectoral departments at local government level such as water, sanitation and solid waste, as basic municipal services (BMS). All BMS sectors are responsible for continuous provision, managing and maintaining water, sanitation and solid waste infrastructure and related services (South Africa, DoH, 2013; WHO, 2014a; 2014b; South Africa, DoWS, 2017a; 2017b). Therefore, it is essential that MHS and sectoral department planning, programming and control are closely aligned and properly executed to achieve policy impact in the communities. The diagrams, based on the branching tree in Figure 3.1, presented at the beginning of each subsequent section, serve as a guide of the progression of analysis of the various MHS and BMS sector institutional and functionaries' scope of functions and authority. For ease of reference, the shaded boxes within the diagram show the progression of the discussion.



**Figure 3.1.1: MHS Institutional scope of functions**

### 3.3.1.1 *Municipal health services mandatory scope of institutional functions*

The term *municipal health service* (MHS) is defined in section 1 of the *National Health Act* (NHA) (Act 61 of 2003) as a list of nine broadly defined environmental health (EH) functions (Box 3.1): monitoring water quality; food control; waste management; health surveillance of premises; surveillance and prevention of communicable diseases; vector control; environmental pollution control; disposal of the dead; and chemical safety. This directive has its origin in local government functions as stated in s156 of the constitution, read with Schedules 4B and 5B, respectively. In the case of MHS, the National Department of Health is the custodian for the functions (Figure 3.2), although it is administered at local government level. Another stakeholder is the National Department of Cooperative Governance and Traditional Affairs (CoGTA) as the custodian for local

**Box 3.1: Municipal health service functions (NHA, 2003a)**

- Water quality monitoring
- Food control
- Waste management
- Health surveillance of premises
- Surveillance and prevention of communicable diseases
- Vector control
- Environmental pollution control
- Disposal of the dead, and
- Chemical safety

**NOTE:** Interpret each of the broad functions in terms of the scope of the profession of the EHPs that detail activities EHPs should perform to meet the preventive objectives for each function.

government matters. Its role in local government matters is the regulation and support of municipal services, including those listed in Schedules 4B and 5B of the constitution (South Africa, 1996). An example of local government specific legislation that also regulates MHS is found in section 84(1)(i) of the *Local Government: Municipal Structures Act* (Act 117 of 1998) (hereafter referred to as the *Structures Act*), read with s32(1) of the NHA, which allocates the MHS function to metropolitan municipalities (category A), and district municipalities (category C), respectively (Figure 3.2).

The nine MHS environmental health functions ([Box 3.1](#)), read with the National Environmental Health Norms and Standards (GN1229-2015) which determine the frequency of inspections and compliance requirements for the various functions and different institutions, serve as the *scope of the institutional (functional) mandate* for metros and DMs in South Africa. These functional institutional mandates must be performed at the municipalities by their authorised officials (i.e., functionaries).

Specifically related to EHPs, regulation 698 of 2009 that covers the scope of the profession of the EHP, as amended, should be read in conjunction with the broad expressions of the listed MHS functions (South Africa, DoH, 2009). It details EHP responsibilities they have and duties they must perform to achieve the defined MHS functions ([Box 3.1](#)). In the case of MHS, s80 of the NHA (2003) requires the executive mayor of the DM to appoint ‘health officers’ to monitor and enforce compliance with the said Act. The EHPs, employed by the DMs are appointed as health officers. Therefore, any mandate of the health officers is referring to the EHPs responsibility to execute the health officer’s mandates within the professional scope of the EHPs (South Africa, 2003a; South Africa, DoH, 2009).

The case of water quality monitoring serves as an example. According to the regulations, the EHP functional and professional mandate requires them to monitor water quality and availability whilst also mapping all water and pollution sources that could influence water

quality. Moreover, they are obligated to enforce laws and regulations to ensure water quality compliance and to conduct regular water and wastewater surveillance to ensure healthy community water supplies. They are also expected to participate in the planning, design and management of water supply systems to note specific health challenges that could be mitigated in the planning stage as cost-effective intervention.

These functions cannot be executed without considering the role of MHS. Their primary purpose is to ensure compliance enforcement to mitigate environmental health risks at the origin to prevent ill health. As such, it is wholly dependent on close collaboration with sectoral departments responsible for effectively providing, operating, and maintaining water, sanitation, and solid waste infrastructure (South Africa, 1997; South Africa, DoH, 2013; WHO, 2014b; South Africa, DoWS, 2017a; 2017b). Therefore, it is essential that MHS and specific sectoral department's planning, programming and control are closely aligned, communicated to each other, and properly executed.

Effective communication and co-operation among levels and sectors in local government have consequences broader than only the sectoral divisions directly involved. According to the Municipal Demarcation Board (MDB), MHS, water, sanitation and solid waste services, and municipal planning, are ranked as “high importance” and local authorities are obligated to provide these. Moreover, the MDB recognises several other critical local government functions closely linked to MHS, such as cleansing, control of public nuisances, building regulation, local tourism, and childcare facilities (MDB, 2005: 3). Neglecting to effectively provide, manage, and maintain such services, or as has been witnessed in South Africa (South Africa, DoWS, 2020a; 2020b), to perform these functions at all, not only impacts citizens’ health but has a spill-over effect on the efficacy of other sectors. Resources are stretched, translating into

additional cost to the taxpayer (South Africa, DoH, 2013; South Africa, DoWS, 2017a; 2018; 2020a; 2020b).

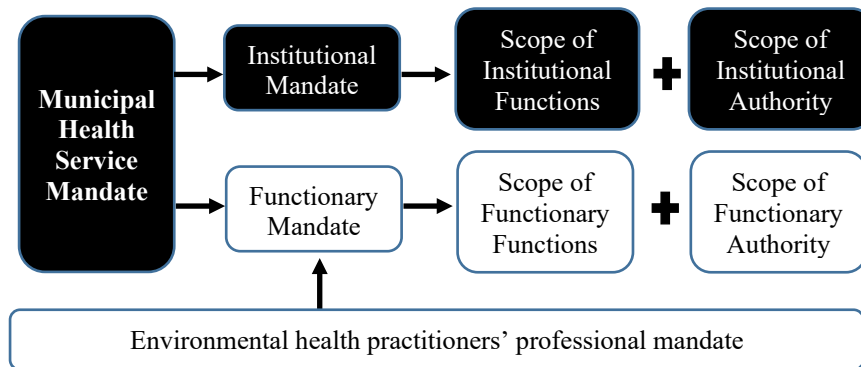
As an example of this interplay and the consequences of failing to mitigate environmental health risks at the origin, consider the situation of backyard dwellers. Local municipalities (LMs) allow backyard dwellers on existing occupied properties, as a solution to the housing shortage, to erect dwelling structures without the necessary building control and land use planning approvals and without providing additional sanitary facilities (Development Action Group, n.d.; ISANDLA Institute, 2020). In view of the legal mandate of the LM, such decisions render the LM itself non-compliant, although they claim that ‘back yarding’ is a widespread phenomenon considering housing shortages. In effect, the LM is abdicating its institutional mandate to apply building regulations and town planning rules to ensure a safe and healthy environment for citizens, even though the housing is regarded as informal.

By allowing an uncontrolled informal housing development, both politicians and officials are flouting the primary mandate to ensure sustainable essential services that promote a safe and healthy environment for the communities already burdened by poverty and housing shortages. The result is increased overcrowding leading to public nuisance incidents, sewage spillages, unhygienic conditions and refuse pollution, encouraging rodent infestations. The proliferation of such vectors generates other health challenges and disease outbreaks, resulting in a reactive EH concern and additional burden on the health system and basic service delivery agenda.

This example illustrates the importance of close cooperation and alignment of programmes among sectoral departments and MHS to achieve the objective of effective sustainable preventive local government service delivery as envisaged in s152 of the constitution related to fundamental human rights. While institutions such as the MHS are to perform certain tasks

in their institutional scope of functions, it is sanctioned to enforce legislation. The *institution's scope of authority* is clearly delimited in the legal code.

### 3.3.1.2 Municipal health services scope of mandatory institutional authority



**Figure 3.1.2: MHS Institutional scope of authority**

Section 156 of the constitution, read with s8 and s11 of the *Municipal Systems Act* (32 of 2000), together with Chapter 5 (sections 83-85) of the *Structures Act* (1998), give the general authorisation of all categories of municipalities, through their “executive authority”, to perform local government functions (South Africa, 1998). This is reinforced in Schedules 4B and 5B of the constitution (South Africa, 1996). In addition, s32 of the NHA (South Africa, 2003a), and s84(1)(i) of the *Municipal Structures Act* (1998) give explicit authorisation to metros and DMs to provide such services (Schedule 4B) in their respective jurisdictions.

These endorsements form the matrix of the *scope of the institutional authority* for DMs to execute MHS institutional functions (e.g., water quality monitoring, waste management, environmental pollution, and communicable disease control, for example) through duly authorised EHPs as health officers (South Africa, 1998; 2003a). The MHS mandate as governed by legislation not only tasks the institution on its functions and authority, but also provides clear guidelines for the functionaries of the institutions. Table 3.1 summarises the

legislation and reciprocal institutional function and authority interplay among MHS and the water and sanitation sectors. The subsequent section will reflect on the MHS scope of functionary mandates.

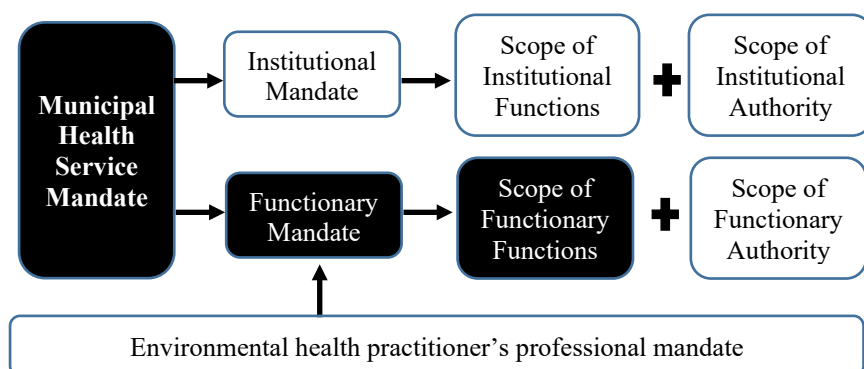
**Table 3.1: Exploratory overview of the interplay among MHS and the water and sanitation sector’s institutional scope of functions and scope of authority to execute the MHS, water and sanitation legislative institutional and functionary mandates**

SECTOR (What)	MHS (What)	Scope of Functions (How)	Scope of Authority (How)
		Institutional Functions	Institutional Authority
Water and Sanitation	Scope of institutional mandates	<p><b>How is the MHS and Water scope of institutional functions related?</b></p> <p><b>General functions</b></p> <ul style="list-style-type: none"> <li>• <b>Constitution (1996):</b> s152 – provide services in sustainable way; promote social and economic development; promote safe and healthy environment. <ul style="list-style-type: none"> <li>○ s153 – administration, planning, management, and budgeting to prioritise basic needs.</li> <li>○ s156 – administer local government functions: Schedule 4B – MHS; Stormwater management systems; Potable water and domestic sanitation services; Schedule 5B - Refuse removal, refuse dumps, and solid waste disposal; Cleansing; Control public nuisances (MDB, 2005) – MHS, water, and sanitation (Level 1 priority – must deliver), refuse removal (Level 2 function – should deliver).</li> </ul> </li> <li>• <b>Mun Structures Act (117-1998):</b> <ul style="list-style-type: none"> <li>○ s83 - LM functions – related to stormwater management; refuse removal, refuse dumps and disposal, cleansing, control of public nuisances.</li> <li>○ s84(1) – DM specific functions related to IDP for entire DM area (includes all LMs in jurisdiction); Potable water supply systems; domestic wastewater and sewage disposal systems; waste disposal strategy and regulation; establish, operate and control regional waste disposal facilities; s84(1)(i) – MHS.</li> <li>○ s88(1) of the instruct DMs and LMs to cooperate in the two-tiered local government arrangement by planning and supporting each other to achieve government’s objectives</li> </ul> </li> </ul>	<p><b>How is the scope of institutional authority of MHS and Water related?</b></p> <p><b>General authority</b></p> <p><b>Constitution (1996):</b> s156 – local government: executive authority to perform Schedule 4B and 5B functions. Make their own by-laws. Any other authority assigned to it.</p>

	<ul style="list-style-type: none"> <li>• <b>Mun Systems Act (32 of 2000):</b> <ul style="list-style-type: none"> <li>○ s3 – Cooperative government (Inter Governmental Relations (IGR) – s4(2) - use municipal resources to best interest of local community.</li> <li>○ s23 – IDPs – developmental oriented to ensure achievement of s152 and s153 objectives – provide municipal services in a sustainable way to facilitate a safe and healthy environment.</li> <li>○ s38 – Performance management system (PMS) - support economical, effective, efficiency, and accountability, achieve IDP objectives.</li> <li>○ s41 – KPIs – measure development and achievement of objectives set in IDP.</li> <li>○ s46 – annual performance reports reflecting against set targets and previous year. Measures taken to improve performance. Include in Ch 12 of MFMA (56 of 2003) annual report. <ul style="list-style-type: none"> <li>- WSDP (ss12-15) (Act 108-1997), and IWMP (s13(3) (Act 59-2008) reports to be included in IDP and reported on annually in s46 annual reports.</li> <li>- s51 – organization of administration - must be responsive to community’s basic needs; facilitating culture of public service and accountability among staff; be performance oriented focusing on achieving s152 objectives; ensure political office bearers and bureaucrats align their roles and responsibilities to IDP objectives, informed by basic needs and developmental oriented.</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>Systems Act (32 of 2000):</b> s8 – municipalities can do anything to ensure effective performance of their s156 functions and to exercise powers, subject to Chapter 5 of Structures Act (117 of 1998) referring to powers and functions split between LMs and DMs. <ul style="list-style-type: none"> <li>○ s11 – Executive and legislative authority, vested in municipal council; exercise authority in terms of s11(3) – develop and adopt policies, plans, strategies, and programmes with targets for service delivery.</li> <li>○ Ch 5 – IDP – must have approved, basic needs focused, and developmental oriented.</li> <li>○ Ch 6 – Performance management to achieve objectives of institution.</li> </ul> </li> </ul>
	<p><b>MHS – institutional functions (Sectoral legislation)</b></p> <ul style="list-style-type: none"> <li>• <b>National Health Act (NHA) (61-2003):</b> s32 - MHS is a metro (Cat A), and DM (Cat C) function. <ul style="list-style-type: none"> <li>○ s1 - MHS entails nine EH related functions, e.g., water quality monitoring, waste management, and pollution control. The scope of practice of EHPs enlighten detailed tasks to be performed by the EHPs (functionary scope) when involved in the execution of the water, waste (includes sanitation), and pollution control functions.</li> <li>○ s80 – Executive Mayor to appoint ‘health officers’ to monitor and enforce compliance of NHA – refers to nine MHS functions.</li> </ul> </li> </ul> <p><b>WSAs and WSPs – institutional functions (Sectoral legislation)</b></p> <ul style="list-style-type: none"> <li>• <b>Water Services Act (108 of 1997):</b></li> </ul>	<p><b>MHS – institutional authority</b></p> <ul style="list-style-type: none"> <li>• <b>NHA (61 of 2003):</b> - s32, and s841(i) of Structures Act (117-1998) – MHS is only Metro (Cat A), and DM (Cat C) function.</li> </ul> <p><b>Water and sanitation – institutional authority</b></p> <ul style="list-style-type: none"> <li>• <b>Water Services Act (108 of 1997):</b></li> </ul>

		<ul style="list-style-type: none"> <li>○ s1 – defines WSA – any municipality - responsible for <b>ensuring</b> access to water services (e.g., water supply services – abstraction/conveyance/treatment), and sanitation services (e.g., collection, removal, disposal and purification) (s11).</li> <li>○ s1 – defines WSP as any person - <b>providing</b> the water and sanitation services to the consumers or other water services institutions) (s11).</li> <li>○ s5 – provide basic water and sanitation to all consumers.</li> <li>○ s12 – prepare WSDP (Water Services Development Plan).</li> <li>○ S15(1) consider all inputs before approval of WSDP – (s15[2]) – provide reasons if comments are not considered.</li> <li>○ S18 – report annually on WSDP implementation (also see s46 of Act 32-2000).</li> <li>○ s21 – making bylaws – contain conditions for providing water services.</li> <li>● With the two-tiered local government arrangement between LMs (Cat B), and DMs (Cat C) - the WSA and WSP could be either Cat B or Cat C, or a configuration of the two. In the Western Cape (i.e., focus of this study) all the LMs are WSAs and WSPs.</li> </ul>	<ul style="list-style-type: none"> <li>○ Water Services Authority – ensure access to water and sanitation services in their WSDPs – all consumers at least access to basic water and sanitation – as basic human rights.</li> <li>○ s6(1) – WSA nominate WSP as only source for providing water in the WSA jurisdiction.</li> <li>○ s19(1) – WSA can perform functions of WSP – must manage account separately.</li> <li>○ s22 – WSA to approve WSP to operate in its jurisdiction.</li> </ul>
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### 3.3.1.3 Municipal health services scope of the mandatory functionary functions

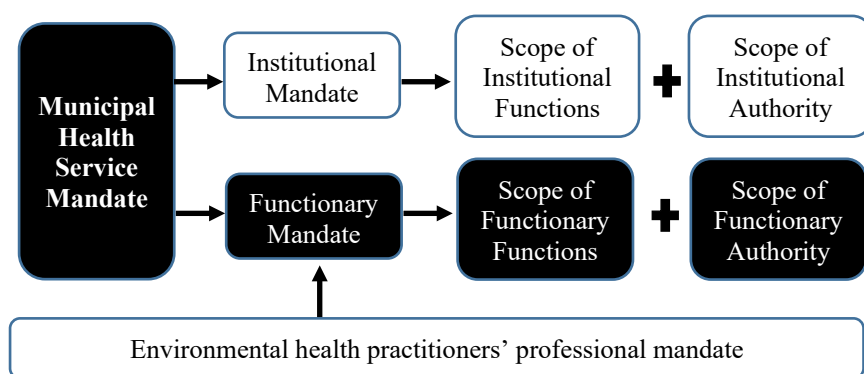


**Figure 3.1.3: MHS Functionary's scope of functions**

Health officers (EHPs) at the local government level are employees of the district municipality (DM) designated by law to perform MHS functions set out by the constitution (s156 read with Schedule 4B) and defined in s1 of the *National Health Act* (NHA) (Act 61 of 2003). Section 81 of the NHA states that the health officer (EHPs) of the DM must monitor and enforce compliance with the NHA directive to monitor, control, manage, survey, and protect the environment health functions as listed in Box 3.1 (South Africa, 2003a). Sections 82 and 83, respectively, provide that the health officer (EHP) is to conduct routine inspections and environmental health investigations to ensure that risks associated with MHS functions are mitigated and compliance enforced. Section 82 allows the EHP to *enter any premises*, excluding a private dwelling, at any reasonable time to inspect, take samples, interview people and issue compliance notices to ensure, for example, water quality compliance, safe sanitation, and effective domestic solid waste management within its jurisdiction (South Africa, 2003a). The scope of the EHP profession, as described in regulation 698 of 2009 (South Africa, DoH, 2009), delineates the detailed activities that an EHP should perform in relation to the nine listed MHS functions (Box 3.1), such as water quality monitoring and waste management, including mapping water pollution sources, conducting regular sampling and surveys, and participating in planning activities to facilitate safe water supply to communities.

In fact, the National Environmental Health Norms and Standards (GN1229-2015) stipulate the frequency of routine inspections that the EHP should conduct for the different categories of premises (South Africa, DoH, 2015). The legislation that outlines the responsibilities of the health officer (EHPs), as a functionary employed by a DM, shapes the *functionary's mandatory functions*.

#### 3.3.1.4 Municipal health services scope of the mandatory functionary authority (general)



**Figure 3.1.4: MHS Functionary's scope of authority**

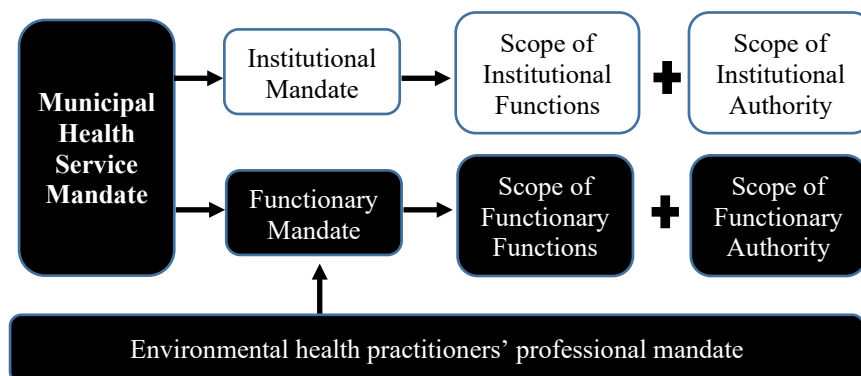
The second principal component of the functionary mandate, which entails the *scope of authority* (Figure 3.1; see also Figure 2.1) to execute the mandate, requires institutions and their functionaries to be authorised by a higher authority to administer a specific Act. The general authorisation, in the case of the municipality, is allocated to the municipal council that has the executive authority to delegate certain functions to the municipal manager (MM) as the accounting officer (South Africa, 2000). The MM, in turn, delegates functions to the officials (functionaries) that physically execute the functions.

In the case of MHS, s80 of the NHA (2003) stipulates that the executive mayor of the DM, as political executive office bearer, must appoint health officers (EHPs) to monitor and enforce compliance with the said Act. Unlike general delegations coming via the MM as the

institution's administrative head, an EHP as a health officer is mandated directly by the executive mayor as political executive office bearer. The arrangement as set out in s80 of the NHA provides the scope of authority to both the institutions and functionaries and sanctions them to administer and enforce the Act in terms of s81 to conduct routine inspections and investigations, as stipulated in ss82 and 83, respectively (South Africa, 2003a).

However, EHPs are not only bound by their functionary mandate as employee of a local authority but also by a professional mandate as set out by the HPCSA (Health Professions Council of South Africa) as a statutory professional body (South Africa, 1974; South Africa, DoH, 1976).

### 3.3.1.5 *Municipal health services professional mandate (environmental health practitioner)*



**Figure 3.1.5: MHS Functionary's professional scope of functions and authority**

It is a statutory obligation that all EHPs in possession of the prescribed basic qualifications be registered with the HPCSA. An annual license fee is payable to obtain a practice card as proof of registration. EHPs must also comply with the HPCSA's CPD (continued professional development) requirements to retain eligibility to perform their MHS functions as health officers at the DMs (HPCSA, 2017). It is a personal obligation for everyone to keep registration

current. However, the local authority as employer shares the responsibility of ensuring that the EHPs are registered with the HPCSA before they can be authorised by the Executive Mayor or MM to perform any institutional or functionary functions in terms of the different Acts. Neglecting to do this make both the functionary and institution susceptible to litigation. The EHP HPCSA professional practice card serves as proof of registration and sanction to perform the duties, while the CPD compliance certificate verifies that the official is professionally up to date with the latest developments (South Africa, 1974; South Africa, DoH, 1976; HPCSA, 2017). An unregistered EHP conducting routine inspection is considered to act *ultra vires*, so any compliance notices issued, or inspections conducted become void. The EHP is also guilty of professional misconduct for performing functions within the scope of the profession without being registered (Connell, n.d.).

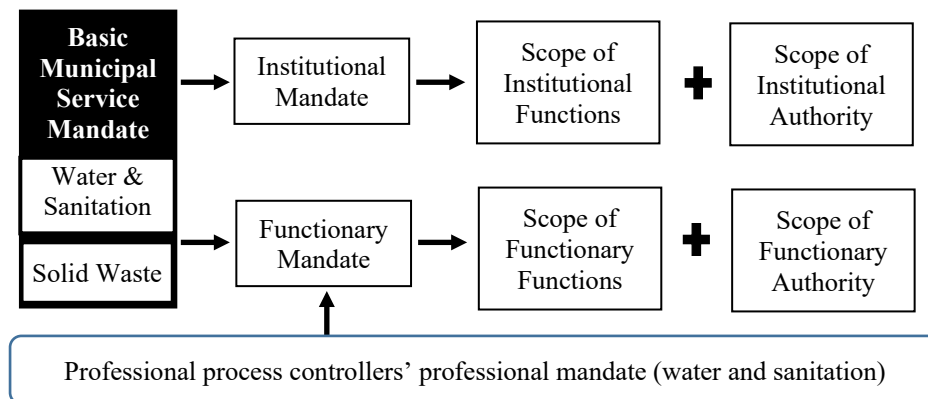
Table 3.2 provides a summary of the legislation and reciprocal functionary functions and authority interplay among MHS and the water and sanitation sectors. The subsequent section unpacks the basic municipal services (BMS) sector (e.g., water, sanitation, and solid waste) institutional and functionary mandates as undertaken with the MHS mandates.

**Table 3.2: Exploratory overview of the interplay among MHS and the water and sanitation sector’s functionary scope of functions and scope of authority to execute the MHS, water and sanitation legislative institutional and functionary mandates**

SECTOR (What)	MHS (What)	Scope of Functions (How)	Scope of Authority (How)
		Functionary Functions	Functionary Authority
Water and Sanitation	Scope of functionary mandates	<p><b>How is the MHS and Water functionary functional mandates related?</b></p> <p><b>Summary</b></p> <ul style="list-style-type: none"> <li>EHPs main function is risk identification and mitigation (compliance enforcement), while the Process Controllers (PCs), responsible for water and sanitation services should operate, and maintain the water and sanitation services works.</li> </ul> <p><b>General functions</b></p> <p>The functionaries’ job descriptions provide also for functions to be performed as well as the sectoral National Norms and Standards that determine the frequency of interaction with the different types of activities.</p> <p><b>MHS – functionary functions (sectoral legislation)</b></p> <ul style="list-style-type: none"> <li><b>National Health Act (NHA) (61-2003):</b> <ul style="list-style-type: none"> <li>s81 – Duties of health officer: As appointed health officers - monitor and enforce compliance of NHA – refers to nine MHS functions – read with Scope of the profession of EHPs.</li> <li>s82 – Routine inspections: Identify EH risks through routine inspections; sampling, surveys, complaints etc.; Mitigate non-compliance through integrated planning with sectoral role-players responsible for e.g., water and sanitation provision to rectify any non-compliance by providing regular reports to the WSA and WSP (i.e., LMs) scope of the profession of EHPs (R698 of 2009). Issue compliance notices.</li> <li>s83 – Environmental health investigations: reasonable grounds for EH risks conditions Health Officer must investigate and must issue a compliance notice.</li> </ul> </li> <li><b>Reg 698 of 26 June 2009 - Scope of the profession of EHPs:</b> <ul style="list-style-type: none"> <li>s1 – <b>Water monitoring:</b> monitor water quality and availability; mapping water sources and pollution sources; enforcing laws to manage water quality. Ensuring effective wastewater treatment and water pollution control to ensure healthy community water supplies through surveillance. Advocating safe water use and</li> </ul> </li> </ul>	<p><b>How is the scope of functionary authority of MHS and Water related?</b></p> <p><b>MHS – functionary authority</b></p> <ul style="list-style-type: none"> <li><b>National Health Act (NHA) (61-2003):</b> <ul style="list-style-type: none"> <li>s80 – EH</li> <li>Ps are appointed as health officers by Ex-Mayor to enforce compliance with NHA (NHA, 61 of 2003 s80(2).</li> <li>s81 –monitor and enforce NHA nine MHS functions.</li> <li>ss82and 83 – conduct routine inspections and investigations when suspecting EH risks: authority to enter premises to enforce compliance - issue compliance notices; seize items.</li> <li>s84 – Entry and search of premises with a warrant.</li> </ul> </li> <li><b>Health Professions Act (56 of 1974)</b> read with Rules for the registration of EHOs -Notice 2308 of 1976 - Compulsory for all levels of EHPs to be register at the HPCSA (professional registration)</li> </ul>

		<p>wastewater disposal. Promoting access to water for all communities by providing inputs toward the planning, design, and management of water supply systems.</p> <ul style="list-style-type: none"> <li>○ s7 – <b>Environmental pollution control:</b> Ensure hygienic working, living and recreational environments; identifying water, air and soil pollution sources; identify health hazards and conduct risk assessment; taking preventive measures to ensure general environment is free from health risks; developing sustainable indicators to monitor effectiveness environmental management systems.</li> </ul> <ul style="list-style-type: none"> <li>● <b>National Environmental Health norms and standards (GN 1229 of 2015):</b> <ul style="list-style-type: none"> <li>○ s13 – Monitoring standards for water quality monitoring – Aim of government - address water sector issues through WSA and WSPs, and Strategic Framework for Water Services.</li> <li>○ S13(2) – in addition to Scope of the Profession of EHPs – should have water quality monitoring plan. Waterborne disease monitoring (Cholera). Follow recommended sampling frequency; Survey community water supplies monthly; Educate communities without adequate water supply on emergency treatment of water.</li> </ul> </li> </ul> <p><b>WSA and WSPs – functionary functions (Sectoral legislation)</b></p> <ul style="list-style-type: none"> <li>● s2 – Water Services Act (108 of 1997) requires different categories of process controllers (PCs) to be available in different water services works, all have different functions:</li> <li>● Class 1 works – less skilled workers, general operations</li> <li>● Class V works – requires Class V and VI PC, Professional Process Controllers (Pr. PCs)</li> <li>● Pr. PCs are responsible for the design, planning, providing, operating, and maintaining water and sanitation infrastructure to ensure provision of sufficient water and sanitation that meet the SANS 241 safety requirements.</li> <li>● All water services works must have:             <ul style="list-style-type: none"> <li>○ Supervisory PC</li> <li>○ PCs</li> <li>○ Operations and maintenance support services of classes stipulated in Schedule 4 (R318 of 2013).</li> </ul> </li> </ul>	<p>to perform Scope of EHPs functions in terms of R698 of 2009, as amended.</p> <ul style="list-style-type: none"> <li>● <b>NEMA Amendment Act (46 of 2003)</b> EHPs can be authorized as EMI under NEMA legislation for additional pollution control compliance enforcement authority.             <ul style="list-style-type: none"> <li>○ <b>EMI (Environmental Management Inspector)</b> (EHPs can apply to be authorized - Optional): ss31B and 31C – designations by Minister and MEC as EMI.</li> <li>○ s31D – mandate to enforce NEMA or Specific EM Act or provisions e.g., NEMA: Waste Act.</li> <li>○ s31H – general powers to enter premises, conduct inspection.</li> <li>○ s31L – powers to issue compliance notices.</li> <li>○ s31N(2) – Obligation on EMI to report non-adherence to a compliance notice to National or Provincial Minister.</li> </ul> </li> </ul> <p><b>WSA and WSPs – functionary authority.</b></p> <ul style="list-style-type: none"> <li>● Class V and VI Process Controllers i.e., Pr. PCs people with engineering qualifications that should belong to their own professional body. Can register with WISA as PCs, but not compulsory yet.</li> <li>● Authority to design and supervise the construction, installation, operation, and maintenance of any water services work (WTW and WWTW)</li> </ul>
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### 3.3.2 Unpacking basic municipal services institutional and functionary mandates



**Figure 3.1.6: Overview of BMS institutional and functionary’s mandate - scope of functions and authority**

Basic municipal services (BMS) are defined by the *Municipal Systems Act* (32 of 2000) as,

*a municipal service that is necessary to ensure an acceptable and reasonable quality of life, (and) if not provided, would endanger public health or safety or the environment.*

Municipal health services (MHS), together with basic municipal services (BMS), such as water provision, sanitation, and solid waste services, are equally “high importance” and “must be delivered” (MDB, 2005:3) to prevent endangering public health and safety as envisaged in s152 of the constitution. Potable water and domestic sanitation services, including domestic wastewater and sewage disposal systems, are Schedule 4B local government functions, while refuse removal, refuse dumps and solid waste disposal are Schedule 5B functions, as is cleansing and control of public nuisances. Table 3.3 lists all local government functions in the schedules of the constitution that are relevant to this study.

**Table 3.3: Local government (municipal) functions listed in Schedules 4B and 5B that should be rendered to the extent stipulated in s156(1), (2) and (5) of the constitution**

Schedules 4B	Schedules 5B
<ul style="list-style-type: none"> <li>• Air pollution</li> <li>• Building regulations</li> <li>• Childcare facilities</li> <li>• Electricity and gas reticulation</li> <li>• Firefighting services</li> <li>• Local tourism</li> <li>• Municipal airports</li> <li>• <b>Municipal planning</b></li> <li>• Municipal public transport</li> <li>• Stormwater management systems in built-up areas</li> <li>• <b>Municipal health services</b></li> <li>• Trading regulations</li> <li>• Municipal public works only in respect of the needs of municipalities in the discharge of their responsibilities to administer functions specifically assigned to them under this Constitution or any other law</li> <li>• Pontoons, ferries, jetties, piers, and harbours, excluding the regulation of international and national shipping and matters related thereto</li> <li>• Water and sanitation services limited to potable water supply systems and domestic wastewater and sewage disposal systems</li> </ul>	<ul style="list-style-type: none"> <li>• Beaches and amusement facilities</li> <li>• Billboards and the display of advertisements in public places</li> <li>• Cemeteries, funeral parlours and crematoria</li> <li>• Cleansing</li> <li>• Control of public nuisances</li> <li>• Control of undertakings that sell liquor to the public</li> <li>• Facilities for the accommodation, care and burial of animals</li> <li>• Fencing and fences</li> <li>• Licensing of dogs</li> <li>• Licensing and control of undertakings that sell food to the public</li> <li>• Local amenities</li> <li>• Local sport facilities</li> <li>• Markets</li> <li>• Municipal abattoirs</li> <li>• Municipal parks and recreation</li> <li>• Municipal roads</li> <li>• Noise pollution</li> <li>• Pounds</li> <li>• Refuse removal, refuse dumps and solid waste disposal</li> <li>• Public places</li> <li>• Street trading</li> <li>• Street lighting</li> <li>• Traffic and parking</li> </ul>

## Water and sanitation

The *Municipal Structures Act* (Act 117 of 1998) is the overarching statute which regulates all other local government powers and functions (South Africa, 1998). The Act stipulates under s84(1)(b) and (d) that DMs are responsible for potable water supply and domestic wastewater and sewage disposal systems. The *Structures Act* (s85) provides for the adjustment of the allocated functions within the two-tiered local government arrangement between DMs and LMs.

The country's custodian for water and sanitation is the National Department of Water and Sanitation, as expressed in the *Water Services Act* (Act 108 of 1997) (Figure 3.1). The Act makes mention of *Water Service Authorities* (WSA), and *Water Service Providers* (WSP), which could be any category municipality (South Africa, 1997: s1). The actual execution of the provision, operation and maintenance of water and sanitation services (i.e., the functions) is carried out by the WSA and the WSP, which could be an LM or DM or a combination thereof (South Africa, GCIS, 2019). Unlike the LMs and DMs, metros are integrated units responsible for all local government listed Schedules 4B and 5B functions (Table 3.3) in their jurisdiction. This study analysis focuses only on the LMs and DMs within the dispersed two-tiered local government arrangement for the delivery of MHS and BMS (e.g., water, sanitation, and solid waste) (South Africa, 1998: s88).

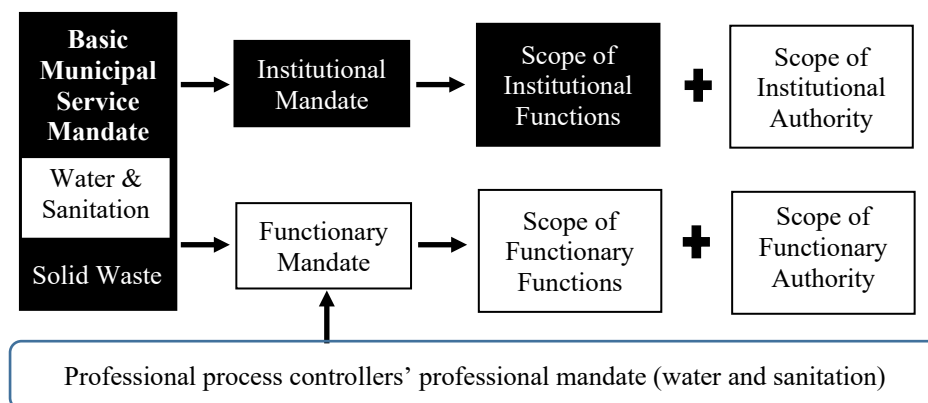
Although s84(1)(b) and (d) contend that DMs are responsible for potable water and domestic sanitation services, the s85 ministerial adjustment of functions between DMs and LMs has resulted in WSA and WSP being given responsibility for water services functions to 115 (56%) of the 205 LMs in the country. The number of LMs that have been allocated the WSA and WSP functions by way of the ministerial adjustments translates to 46% of the total number of LMs and DMs (n= 249) in the country. In the Western Cape, for example, all LMs (n=24) are WSA and WSP (South Africa, DoWS, 2017a).

However, other configurations for water provision exist in the country. An example is the Eastern Cape province, where all DMs (n=5) perform both WSA and WSP functions in their jurisdictions, except for the Sarah Baartman DM jurisdiction, where LMs are WSA and WSP (South Africa, DoWS, 2017a; Sarah Baartman, 2021). In Kwa-Zulu Natal (KZN), alternative arrangements exist: the Amajuba DM, for example, acts as the WSA and WSP for most of the LMs in its jurisdiction, while one of its LMs (Newcastle) is the WSA and WSP in its jurisdiction (Amajuba, 2020).

These examples demonstrate the complex, multi-dimensional water and sanitation arrangements in the dispersed local government system throughout the country. They also illustrate the importance of collaboration among MHS and the WSA and WSP to take water samples, monitor WTW (water treatment works) and WWTW (wastewater treatment works), mapping pollution sources to mitigate any EH related risks at the source.

Clarifying the scope of institutional and functionary functions of water and sanitation services is vital to ensure open channels of communication and collaboration for appropriate interventions. The aim of the following discussion is to identify these mandatory functions in the legislation.

### 3.3.2.1 *Basic municipal services scope of mandatory institutional functions for water and sanitation services*



**Figure 3.1.7: BMS (water and sanitation) institutional - scope of functions**

The mandates for potable water and sanitation, as with MHS, originate from s156 and Schedule 4B of the constitution. Details of the responsibilities and obligations are specified in the *Water*

*Services Act* (Act 108 of 1997) which, as mentioned earlier, names *Water Service Authorities* (WSA) and *Water Service Providers* (WSP) as responsible for the provision, operation and maintenance of water and sanitation services (functions) (South Africa, 1997).

***i. Water Service Authority (WSA)***

The duties of the WSA are to ensure the provision of *water services* in its areas of jurisdiction. *Water services* are defined by the *Water Services Act*, as *water supply services* and *sanitation services*. *Water supply services* include the abstraction, conveyance, treatment, and distribution of potable water, whereas *sanitation services* are defined as the collection, removal, disposal, or purification of human excreta, domestic wastewater, domestic sewage effluent (South Africa, 1997: 10). A *water services work*, in turn, refers to the infrastructure involved in the provision of water supply services and sanitation services (South Africa, 1997: 10). The WSA can pass bylaws (s21) that determine conditions for the provision of water services, stipulate the standards of the services and the technical conditions of supply, including issues around installations, alterations, and operation. The bylaws should also provide conditions when water services may be limited or discontinued to regulate unlawful connections and introduce water service demand management

**Box 3.2: Water Service Authority functions as per the norms and standards for water and sanitation services**

Among other provisions, the WSA must ensure:

- Adequate bulk water supply for water services
- Appropriate bulk water storage and distribution systems
- In meeting the basic level of services, the norms and standards expect of WSA/WSPs to provide water at a set pressure to allow communities equal access to potable water. The basic level requires a minimum of 25 litre per person per day or 6 kilolitres per household per month for potable water, whilst the water quality should meet the SANS 241 requirements.
- Hygiene promotion should be part of the WSA's sanitation services to all citizens to raise awareness of public health risks to prevent the spread of faecal-oral and other related diseases.
- Pollution risk management measures must be provided for to prevent sewage pollution and to take appropriate remedial action where possible spillages occurred.

issues, among others. However, although the scope is provided for the WSA to limit the

provision of water services, due to the availability of resources (s11[2]), it is obligatory for the WSA to find alternative ways to continually provide access to water and sanitation to meet the basic needs of communities (s11[3]). Several lawsuits confirmed this WSA responsibility, as municipalities were instructed to provide alternative access, in the meantime, to meet the basic needs of the communities (SAHRC, 2018). The National Norms and Standards for Domestic Water and Sanitation Services lists additional functions for the WSA (South Africa, DoWS, 2017b), including bulk water supply and storage, as summarised in Box 3.2.

**ii. Water Service Provider (WSP)**

The WSP, in turn, is defined as any person who provides water services or water supply services and sanitation services to consumers or another water service institutions. The *Water Services Act* defines “any person” as a “water service institution”. A water service institution could be a WSA, WSP (i.e., any DM or s85 ministerial authorised LM), water board or water service committee (South Africa, 1997: 10; South Africa, DoWS, 2017a). The WSA is responsible for appointing a WSP to assume operational responsibilities to provide the water services (i.e., water supply services and sanitation services) in the jurisdiction of the WSA through a contractual arrangement (principal-agent relationship).

In the Western Cape, all LMs act as both WSA and WSP, responsible for the provision, operation, safeguarding and maintenance of the water and sanitation infrastructure (i.e., water service works). The arrangement of LMs and DMs as concurrently both WSA and WSP are therefore the proverbial referee and player within the same institution. The arrangement within the WSA and WSP, where the functions are in two different directorates or within the same directorate, while reporting to the same or different directors (i.e., executive managers), challenges organisational efficiency, teamwork, and compliance, especially when leadership neglects to navigate the natural tension between the referee and the player. See the Luhmannian

decision-communication and distance construal level biases that encourage or threaten alignment, collaboration, communication, and network governance related to mandate cognisance, execution, leadership support and community satisfaction, discussed in length in Chapter 2. Ideally the WSA as the authority (referee) should be able to enforce compliance, while the WSP as expeditor (player) must provide services in a reciprocal relationship to achieve the organisational and higher-level objective, while promoting a safe and healthy environment for the citizens. It is evident from community dissatisfaction with the lack of basic service delivery that inadequacies are apparent in terms of the response of the WSA and WSP to the basic needs of communities (SAHRC, 2018; South Africa, DoWS, 2018; 2020a; 2020b).

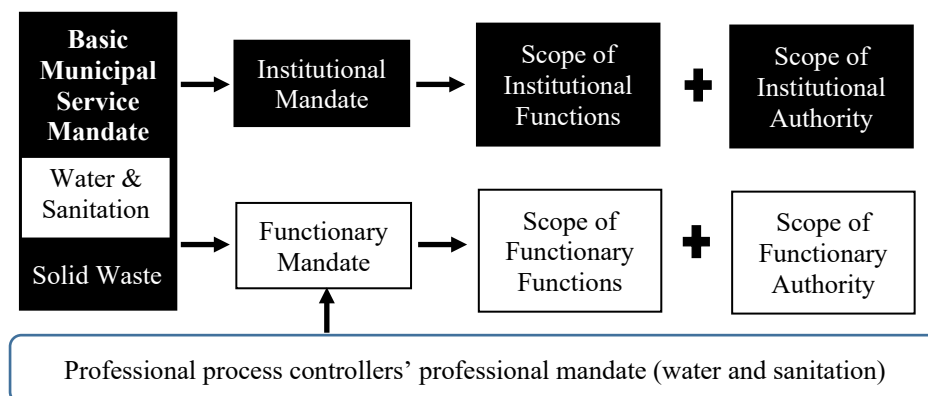
***iii. Water Services Development Plan (WSDP)***

Chapter III of the *Water Services Act* (1997) requires of each WSA to develop a Water Services Development Plan (WSDP) to ensure the constitutional right of access to basic water and basic sanitation to all citizens in its jurisdiction (South Africa, 1997). According to section s15(b) of the *Water Service Act*, each WSDP should be included as part of the municipal integrated development plans (IDP). An annual progress report must be submitted to the Minister of Cooperative Governance and Traditional Affairs (CoGTA), the relevant province, and any other organisation representing municipalities in its jurisdiction (i.e., the South African Local Government Association [SALGA]). The IDPs, and subsequent performance management system (PMS), should reflect the basic (needs) municipal services to meet the municipal objectives set out in ss152 and 153 of the constitution (South Africa, 1996; 2000).

The instruction to include the WSDPs in the municipal IDPs should be read with s84(1)(a) and s88(1) of the *Municipal Structures Act*, as well as Chapter 5 (ss23-37) of the *Municipal Systems Act* (32 of 2000). These two Acts address IDP requirements for the entire DM area and the compulsory cooperation (s88) between LMs and DMs to achieve the constitutional objectives

of local government for the provision of sustainable (basic) services for a safe and healthy environment for the citizens (South Africa, 1996: ss152-153, 156; South Africa, 1998; 2000). The duties of the WSA and WSP, as stipulated in the *Water Services Act* (1997) and detailed in the National Norms and Standards for Domestic Water and Sanitation Services (South Africa, DoWS, 2017b), demarcate the *scope of the institutional mandate* for the WSA/WSPs in the country. In the case of the Western Cape, it is the institutional mandate for all LMs taking on the role of WSA/WSPs for their respective jurisdictions to work closely with other authorities and MHS placed at DMs to ensure the sustainable provision of safe water and sanitation to communities (South Africa, DoWS, 2017a; 2018). Table 3.1 above illustrates the reciprocal interplay between the MHS, water and sanitation mandatory scope of institutional functions and authority to facilitate sustainable basic service delivery. The subsequent section dissects the scope of institutional authority for the WSA and WSP.

### 3.3.2.2 *Basic municipal services scope of mandatory institutional authority for water and sanitation services*



**Figure 3.1.8: BMS (water and sanitation) institutional - scope of authority**

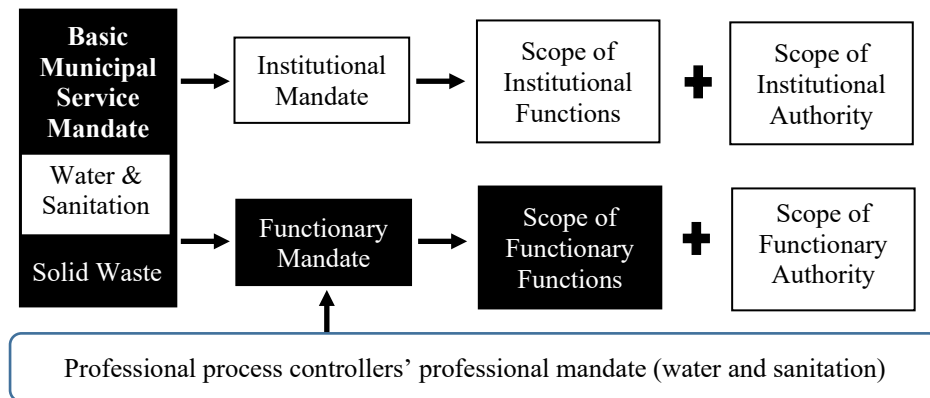
As stated, municipalities derive their institutional authority from ss156 and 229 of the constitution, read with Chapter 3 (ss8-15) of the *Municipal Systems Act* (32 of 2000) and

Chapter 5 (ss83-85) of the *Municipal Structures Act* (117 of 1998). This provides the municipalities with “executive authority” to perform the local government functions as represented in Schedules 4B and 5B of the constitution (see Table 3.3). District municipality (DMs) responsibility for supplying potable water and domestic wastewater and sewage disposal systems is described in section 84(1)(b) and (d) of the *Municipal Structures Act* (1998). In the same Act (1998), s85 allows for ministerial adjustments of the allocated functions between the DM and LM. An example of such adjustments are all the LMs in the Western Cape that were given ministerial authority to act as WSA and WSP for their respective jurisdictions (South Africa, DoWS, 2017c; 2018).

Although s156(2) provides the general authorisation for municipalities to make their bylaws, s21 of the *Water Services Act* (108 of 1997) allows the WSA to pass bylaws to regulate water service matters to determine conditions for the provision of water services. The WSA can further stipulate the standards of the services and the technical conditions of supply, including issues around installations, alterations, and operation.

The following section deals with the water and sanitation functionaries’ scope of functions and authority.

**3.3.2.3 Basic municipal services mandatory functionaries' scope of functions for water and sanitation services**



**Figure 3.1.9: BMS (water and sanitation) functionary's - scope of functions**

The officials in the LMs, referred to as process controllers (PC), are tasked with specific functions pertaining to water and sanitation. For example, regulation 2834 of 1985 deals with the erection, enlargement, operation, and registration of *water care works* (i.e., WTWs and WWTWs) (South Africa, 1997). In addition, the draft regulations pertaining to the compulsory national standards for process controllers and water services works describe the categories of water and sanitation functionaries that should be available at the WTWs (water treatment works) or WWTWs (wastewater treatment works), respectively. Although the draft regulations 318 of 2013 regulating the compulsory national standards for process controllers (PCs) and water services works have not been finalised, the Department of Water and Sanitation and the WSA and WSP are currently applying it as a guideline (South Africa, DoWS, 2013).

The role of PCs is to treat water by operating the machinery and infrastructure at WTWs (i.e., *water service works*: the reservoir, dam, pumphouse; purification works) and WWTWs in accordance with their respective qualifications, functions and job descriptions. The draft regulation 813 of 2013 defines a PC as having the relevant competencies to effectively operate a unit process (e.g., sand filtration, sedimentation, flocculation, pre-oxidation, disinfection,

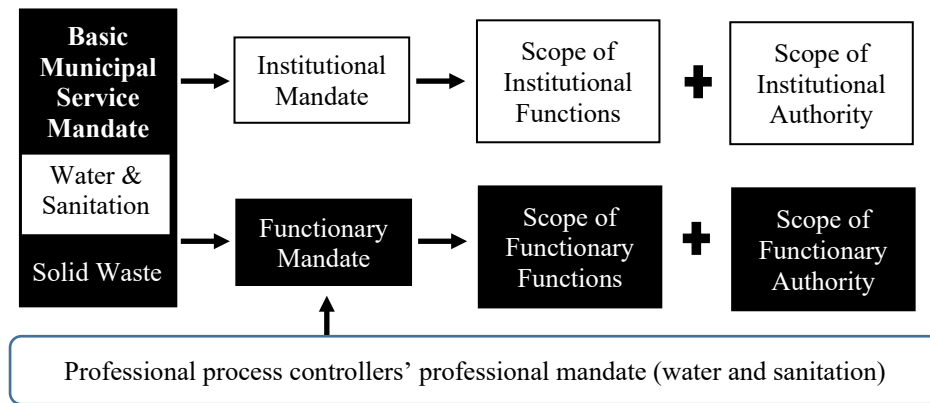
chlorination) at a water service works. Alternatively, it refers to a qualified and authorised person who can design and supervise the construction, installation, operation, and maintenance of any water service works. To ensure efficacy, they should be supported by auxiliary services such as electricians, fitters, and instrument technicians (Rossouw & Lagardien, 2009; Nealer & Mtsweni, 2013).

Schedules 1 and 2 of the draft regulations also deal with the classification of water services works (e.g., WTWs and WWTWs) in accordance with Section 2 of the *Water Services Act* (108 of 1997). The regulations state that different categories of PCs should be available in different water service works depending on the type and the size of the works (South Africa, DoWS, 2013). For example, Class I works require less-skilled workers with a Standard 6 (Grade 8) qualification, while Classes IV to VI works require PCs to have a tertiary qualification at an NQF level 6 and with between 3 to 15 years' experience, depending on the qualification and class of works.

Section 2 of the *Water Services Act* also determines that every class of water service works (WTWs or WWTWs) must employ a supervisory process controller, process controllers, and operations and maintenance support services of the class stipulated in Schedule 4.

The PC working at Class V and VI WTWs or WWTWs must be registered with the appropriate professional body. The statutory bodies (e.g., the Engineering Council of South Africa [ECSA]) are responsible for creating a cadre of functionaries who are suitably trained and competent and who uphold national and international professional practices as professional process controllers (PrPCs) (Figure 3.1).

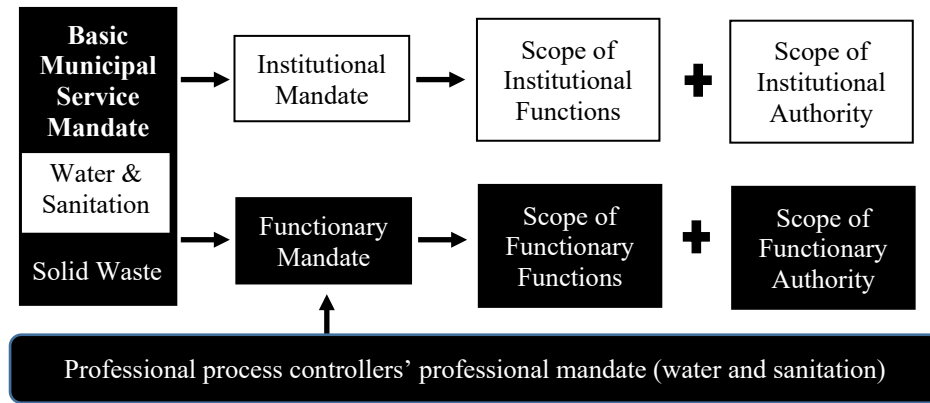
**3.3.2.4 Basic municipal services mandatory functionaries' scope of authority for water and sanitation services**



**Figure 3.1.10: BMS (water and sanitation) functionary's - scope of authority**

The scope of authority that functionaries are assigned to administer a specific act relates to the second principal component of the mandate (Figure 3.1). In the case of the WSA and WSP at local municipal level, as mentioned under MHS scope of functionary authority, the municipal council (s59) as the executive authority delegates specific functions to the Municipal Manager (MM) and other staff. However, the MM as the accounting officer and head of the administrative executive is primarily responsible for delegation to junior staff in the administrative executive (South Africa, 2000). The persons assigned the responsibility as PC and PrPC assume the responsibility of a process controller (PC) as discussed in the previous section. Their delegated duties and scope of authority are specified in an employment contract and job description. However, for the professional category of PCs, additional requirements and authority exist as stipulated in the next section.

**3.3.2.5 Basic municipal services functionary's professional mandate for water and sanitation services**



**Figure 3.1.11: BMS (water and sanitation) functionary's – professional scope of functions and authority**

As mentioned previously, Section 2 of the *Water Services Act* determines the classification of WTWs or WWTWs and specifies the functions and levels of authority delegated to the persons operating, managing, designing, and constructing these water services works. It also specifies the qualifications and years of experience required of the PCs. For example, Class V and VI PC who are sanctioned to design and supervise the construction, installation, operation and maintenance of any water service work are required to have suitable tertiary qualifications in engineering or as a scientist with between three to four years' appropriate experience. However, they are also compelled to be registered with a statutory professional body (e.g., the ECSA) (South Africa, DoWS, 1985; Nealer & Mtsweni, 2013). Since 2013 the Water Institute of Southern Africa (WISA) has been recognised by the South African Qualifications Authority (SAQA) as a non-statutory professional body for the registration of Professional Process Controllers (PrPC Water). The purpose for creating a professional PrPC is to encourage PrPCs to regard public interest by focusing on public safety, public health, and the environment. However, as WISA is not a statutory body, it is currently not compulsory for a PrPC to be

affiliated with WISA (email communication on 21 October 2021 with Anita Pillay as the WISA Training and Accreditation Manager).

Although the legislation is clear about the classification of the WTWs and the WWTW and the qualifications of workers operating these categories of water care works, a 2009 survey by Rossouw and Lagardien (2009) in the Breede Valley LM revealed that most of the WTWs and WWTWs in that LM area (WC 25) do not meet the PC prerequisites as stipulated in regulations R2834 (1985) and regulation 813 of 2013, respectively (South Africa, DoWS, 1985; 2013). While the National Water and Sanitation Master Plan confirms an inadequacy of skills of PCs (South Africa, DoWS, 2018), Petterson (2020) insists that the failure of some municipalities to provide safe water and sanitation resulted in the critical state of about 56% of the South African WWTWs. They ascribe this primarily to a lack of technical skills, while also emphasising the urgent need for sufficiently skilled and registered PCs. However, Petterson also suggests developing the skills of political leaders, senior management, and supply chain units to realise the impact of their decisions or indecisiveness on the outcomes of the services.

Tables 3.1 and 3.2 present a summary of the legislation and reciprocal interplay of the scopes of institutional and functionary functions and authority among MHS and the water and sanitation sectors, respectively. The following section addresses the institutional and functionary scope of functions and authority interplay between MHS and the domestic solid waste sector.

### **Domestic solid waste**

Domestic solid waste management forms part of the suite of basic municipal services, listed in the constitution with other waste-related functions such as cleansing, control of public nuisances, refuse removal, refuse dumps and solid waste disposal. While local government functions such as MHS, potable water and sanitation are listed in Schedule 4B of the

constitution, the domestic solid waste-related functions are all listed under Schedule 5B (Table 3.3).

The domestic solid waste functions (e.g., refuse removal, refuse dumps and solid waste disposal) are classified by the Municipal Demarcation Board (MDB) as “high importance” (MDB, 2005). As with MHS, water and sanitation services, LMs are obligated to deliver these as basic services as stated in section 152 of the constitution, as these are essential to promote a safe and healthy environment for citizens (South Africa, 1996; 2000; MDB, 2005). The Board further declared these services as shared responsibilities among LMs and DMs, whereas cleansing and controlling public nuisances are primarily LM functions (South Africa, 1998; MDB, 2005). However, cleansing and the control of public nuisances are categorised as level 2 denoting that they are of “moderate importance” and primarily an LM function that *should* be delivered (MDB, 2005). The national custodian for solid waste is the National Department of Environmental Affairs, as expressed in the *National Environmental Management: Waste Act* (Act 59 of 2008) (hereafter referred to as the *Waste Act* [2008]) (see Figure 3.2). The *Waste Act* defines waste management services as *waste collection, treatment, recycling, and disposal services*. The *Waste Act* obliges all state organs, including all categories of municipalities (s4[2]). The need for national and provincial norms and standards are clarified in Part 2 (ss7-9) of the *Waste Act*, while it also provides for the establishment of waste service standards at all three spheres of government (e.g., national, provincial, and local government) which include all categories of municipalities. Section 9(1), dealing with waste service standards, states that a municipality (i.e., metros, LMs and DMs) must exercise its executive authority set out in s156 of the constitution to deliver waste management services, including waste removal, waste storage and waste disposal services. These services should align with the national and provincial norms and standards (South Africa, 2008). Figure 3.2 above overviews the statutes and subsequent regulations governing the solid waste function at a local level and shows the

links with other basic municipal services (e.g., MHS, water and sanitation, respectively). The following sections explore the detailed scopes of institutional and functionary mandates.

### 3.3.2.6 *Basic municipal services scope of mandatory institutional functions for solid waste services*

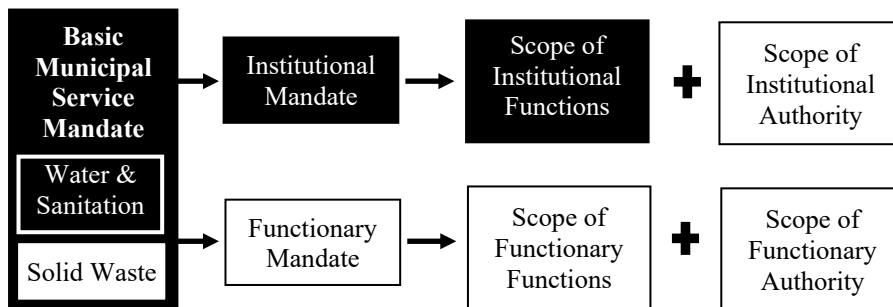


Figure 3.1.12: BMS (solid waste) institutional - scope of functions

As is the case with MHS, water and sanitation services, the institutional mandates for domestic solid waste and related services originate from s156 of the constitution; however, it is listed in Schedule 5B, unlike MHS, water and sanitation which are listed in Schedule 4B (Table 3.3). Although the Sectoral Act states the requirements for waste management, the *Municipal Structures Act* (1998) regulates the local government powers and functions, which clarify the different categories of municipalities' role in domestic solid waste management. The waste function, as mentioned, is a shared function as stated in ss83 and 84 of the *Structures Act*. The shared function refers to the dispersed governance of the powers and functions among the LMs and DMs in the two-tiered local government arrangement. Section 84(1)(e) explains that the DMs are responsible for waste disposal strategy and regulating the waste in the entire district, while the DMs should operate regional waste facilities that serve more than one LM in the jurisdiction (South Africa, 1998).

The complex institutional mandatory functions for domestic solid waste are formulated in the *Waste Act* (Act 59 of 2008) (see Figure 3.2). Section 9(2) of the Act determines that a municipality must exercise its executive authority and perform its duty concerning waste services (e.g., waste collection, storage, and disposal) by adhering to national and provincial norms. The Act further requires that municipalities supply all communities with services and ensure that services are sustainable (South Africa, 2008). Furthermore, s10(4)(a) obligates municipalities to submit an annual IWMP (Integrated Waste Management Plan) to the MEC for Environmental Affairs (member of the Executive Council, i.e., Provincial Minister) for endorsement. The authorised IWMP has to be incorporated in the municipal IDP. Subsequently, s13(3) of the *Waste Act* (2008) requires that the municipality must include an annual IWMP implementation progress report as part of the municipal annual performance report required by s46 of the *Municipal Systems Act* (Act 32 of 2000). The annual performance report, presented to the MEC and the National Minister of Local Government, respectively, must satisfy the requirements stipulated in Chapter 12 of the *Municipal Finance Management Act* (South Africa, 2003c).

### 3.3.2.7 *Basic municipal services scope of mandatory institutional authority for solid waste services*

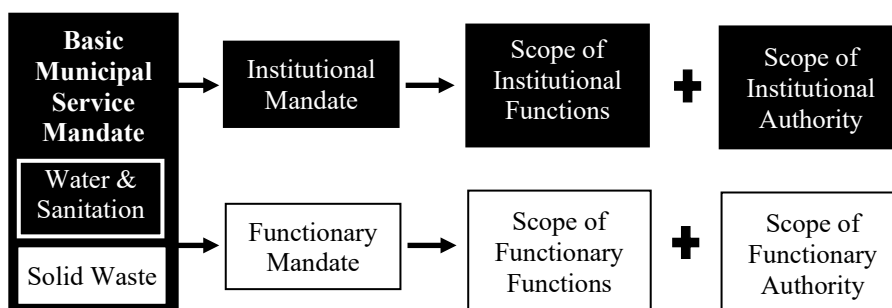


Figure 3.1.13: BMS (solid waste) institutional - scope of authority

Section 156 of the constitution, read with Chapter 3 (ss8-11) of the *Municipal Systems Act* (32 of 2000) as well as Chapter 5 (sections 83-85) of the *Municipal Structures Act* (117 of 1998) provides the mandatory functions and authorisation for all categories of municipalities (see Table 3.4, column 2). In addition, s9(2) of the *Waste Act* (59 of 2008) states that a municipality must exercise its executive authority as expressed in s156 of the constitution, while executing its duty concerning waste management services. Therefore, they have the responsibility and authority to collect waste, store it, and dispose of it, while also setting local waste standards (Table 3.4, column 2).

Municipalities are furthermore sanctioned to pass bylaws in accordance with s156(2) of the constitution, an authority augmented in s11(3)(e) and (m) of the *Systems Act*, to be read with s15 of the *Structures Act*. As a sectoral Act of Parliament, the *Waste Act* in s9(2) prescribes issues for inclusion in such bylaws (e.g., adherence to national and provincial norms and standards), ensuring access for all to the waste services, and ensuring sustainable services through effective and efficient management and the ‘polluter pay’ principle.

Table 3.4 provides an overview of the reciprocal interplay among the domestic solid waste and MHS mandatory scope of institutional functions and authority.

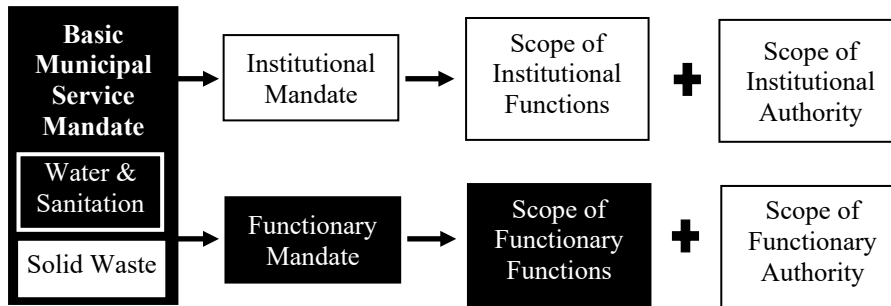
**Table 3.4: Exploratory overview of the interplay among MHS, and the domestic solid waste sector’s institutional scope of functions and scope of authority in support to execute the MHS, waste legislative institutional and functionary mandates**

SECTOR (What)	MHS (What)	Scope of Functions (How)	Scope of Authority (How)
		Institutional Functions	Institutional Authority
Solid Waste	Scope of institutional mandates	<p><b>How is the MHS and Waste scope of institutional mandates related?</b></p> <p><b>General functions</b></p> <ul style="list-style-type: none"> <li>• <b>Constitution (1996):</b> s152 – provide services in sustainable way; promote social and economic development; promote safe and healthy environment. <ul style="list-style-type: none"> <li>○ s153 – administration, planning, management, and budgeting to prioritise basic needs.</li> <li>○ s156 – administer local government functions: Schedule 4B – MHS; Stormwater management systems; Potable water and domestic sanitation services; Schedule 5B - Refuse removal, refuse dumps, and solid waste disposal; Cleansing; Control public nuisances (MDB, 2005) – MHS, water, and sanitation (Level 1 priority – must deliver), refuse removal (Level 2 function – should deliver).</li> </ul> </li> <li>• <b>Mun Structures Act (117-1998):</b> <ul style="list-style-type: none"> <li>○ s83 - LM functions – related to stormwater management; refuse removal, refuse dumps and disposal, cleansing, control of public nuisances.</li> <li>○ s84(1) – DM specific functions related to IDP for entire DM area (includes all LMs in jurisdiction); Potable water supply systems; domestic wastewater and sewage disposal systems; waste disposal strategy and regulation; establish, operate, and control regional waste disposal facilities; s84(1)(i) – MHS.</li> <li>○ s88(1) of the instruct DMs and LMs to cooperate in the two-tiered local government arrangement by planning and supporting each other to achieve government’s objectives</li> </ul> </li> </ul>	<p><b>How is the scope of institutional authority of MHS and Waste related?</b></p> <p><b>General authority</b></p> <ul style="list-style-type: none"> <li>• <b>Constitution (1996):</b> s156 – local government: executive authority to perform Schedule 4B and 5B functions. Make their own by-laws. Any other authority assigned to it.</li> <li>• <b>Mun Structures Act (117-1998):</b> <ul style="list-style-type: none"> <li>○ s15 – revision and rationalisation of existing bylaws in case of municipalities superseded by another municipality.</li> <li>○ Ch 5 – Functions and powers of municipalities</li> <li>○ s83(1) a municipality has powers assigned in terms of s156 and 229 of the Constitution.</li> <li>○ s83(3) DMs “must seek” to achieve integrated, sustainable, and equitable social and economic development of entire area of jurisdiction (i.e., primary responsibility (authority) to drive collaboration, IGR issues in the jurisdiction)</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>• <b>Mun Systems Act (32 of 2000):</b> <ul style="list-style-type: none"> <li>○ s3 – Cooperative government (Inter Governmental Relations (IGR)) – s4(2) - use municipal resources to best interest of local community.</li> <li>○ s23 – IDPs – developmental oriented to ensure achievement of s152 and s153 objectives – provide municipal services in a sustainable way to facilitate a safe and healthy environment.</li> <li>○ s38 – Performance management system (PMS) - support economical, effective, efficiency, and accountability, achieve IDP objectives.</li> <li>○ s41 – KPIs – measure development and achievement of objectives set in IDP.</li> <li>○ s46 – annual performance reports reflecting against set targets and previous year. Measures taken to improve performance. Include in Ch 12 of MFMA (56 of 2003) annual report. <ul style="list-style-type: none"> <li>▪ WSDP (ss12-15) (Act 108-1997), and IWMP (s13(3) (Act 59-2008) reports to be included in IDP and reported on annually in s46 annual reports.</li> <li>▪ s51 – organization of administration: must be responsive to community’s basic needs; facilitating culture of public service and accountability among staff; be performance oriented focusing on achieving s152 objectives; ensure political office bearers and bureaucrats align their roles and responsibilities to IDP objectives, informed by basic needs and developmental oriented.</li> </ul> </li> </ul> </li> </ul> <p><b>Waste – institutional functions (Sectoral legislation)</b></p> <ul style="list-style-type: none"> <li>• NEMA: Waste Act (59-2008) defines “<i>waste management services</i>” - waste collection, treatment, recycling, and disposal services.</li> <li>• s9(2) – municipality must perform its duty in relation to waste services:</li> <li>• s11(4) Integrate waste management plans (IWMP) included in IDPs.</li> <li>• Ensuring all citizens have access to services.</li> <li>• Ensuring sustainable services.</li> <li>• s13(3) reporting on implementation of IWMP – through annual performance report prepared in terms of s46 of Municipal Systems Act (32 of 2000) - must contain information on implementation of municipal IWMP.</li> </ul> <p><b>MHS and Waste – institutional alignment</b></p> <ul style="list-style-type: none"> <li>• MHS is dependent on LMs to provide, maintain, and deliver their mandated services in sustainable way to facilitate sustainable preventive health outcomes.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Mun Systems Act (32 of 2000):</b> <ul style="list-style-type: none"> <li>○ s8 – municipalities can do anything to ensure effective performance of their s156 functions and to exercise powers, subject to Chapter 5 of Structures Act (117 of 1998) referring to powers and functions split between LMs and DMs.</li> <li>○ s11 – Executive and legislative authority – vested in municipal Council; exercise authority in terms of s11(3) – develop and adopt policies, plans, strategies, and programmes with targets for service delivery.</li> <li>○ s11(3)(m) authorise municipalities to pass by-laws.</li> <li>○ Ch 5 – IDP: must be approved, basic needs focused, and developmental oriented.</li> <li>○ Ch 6 – Performance Management: to achieve objectives of institution.</li> </ul> </li> </ul> <p><b>Waste – institutional authority (Sectoral legislation)</b></p> <ul style="list-style-type: none"> <li>• NEMA: Waste Act (59-2008) defines “<i>waste management services</i>” - waste collection, treatment, recycling, and disposal services.</li> <li>• s9(2) – municipality must perform its duty in relation to waste services:</li> <li>• Ensuring all citizens have access to services.</li> <li>• Ensuring sustainable services.</li> </ul>
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		<ul style="list-style-type: none"> <li>• IWMP is planning and management instrument where MHS should give their input on EH risks related to waste.</li> <li>• IWMP is sector plan of IDP – EH risks should be included in both IWMP and IDP.</li> <li>• Performance management systems should monitor such inclusion.</li> <li>• Municipal risk registers to be monitored to reflect on EH risks and inclusion in strategic planning, and management instruments.</li> </ul> <p><b>MHS – institutional functions (Sectoral legislation)</b></p> <ul style="list-style-type: none"> <li>• MHS is a metro (Cat A), and DM (Cat C) function, while refuse removal, refuse dumps, and solid waste disposal, and cleansing, and control of public nuisances are metro and LM (Cat A and B) functions.</li> <li>• s88(1) of the Mun Structures Act (117-1998) instruct DMs and LMs to cooperate in the two-tiered local government arrangement by planning and supporting each other to achieve government’s objectives</li> <li>• MHS entails nine EH related functions, e.g., waste management, and pollution control. For the details of the tasks involved in the execution of the waste and pollution control functions – see professional scope of practice of EHPs, e.g., ensuring proper waste management, auditing waste systems to adhere to cradle-to-grave approach.</li> </ul>	<p><b>MHS – institutional authority (Sectoral legislation)</b></p> <ul style="list-style-type: none"> <li>• National Health Act (NHA) (61 of 2003) s32, and s841(i) of Structures Act (117-1998) – MHS is only metro (Cat A), and DM (Cat C) function, while refuse removal, refuse dumps, and solid waste disposal, and cleansing, and control of public nuisances are metro and LM (Cat A and B) functions.</li> <li>• Health officers (EHPs), authorised by the Executive Mayor of the DM in terms of s80(1), are authorised to enforce the NHA (61 of 2003) by conducting inspections (s81) and investigations (s82). The EHPs have authority to enter premises and issue compliance notices.</li> </ul>
<p><b>Note:</b> Although general functions and authority apply to all local government functions as outlined in Tables 3.1 and 3.2, for ease of reference it is repeated here to assist with the interpretation and to show the reciprocal interplay between MHS and the domestic solid waste functions)</p>			

### 3.3.2.8 *Basic municipal services mandatory functionaries' scope of functions for solid waste services*



**Figure 3.1.14: BMS (solid waste) functionary's - scope of functions**

The *NEMA: Waste Act* (Act 59 of 2008), s10(3), requires LMs and DMs responsible for waste management services to appoint, in writing, a *waste management officer* from its administration to coordinate waste management within the municipality. The waste section at a municipality encompasses various categories of workers that assume responsibility for controlling and managing the waste stream, from the collection, transportation, disposal, and waste minimisation projects. The scope of the mandatory functions of the officials depends on their position and role within the waste stream and includes, for example, truck drivers, general workers collecting waste and street sweepers. These functions are, as in the case of water and sanitation service employees, described in respective job descriptions.

Waste management officer duties include coordinating the services of the different sections in the waste services department (e.g., storage, collection, and the transportation of waste). Section (4) of the *Waste Act* allows a waste management officer to sub-delegate functions or re-assign functions to another official within the municipality's administration. Section 10(5) tasks the officer responsible for coordinating waste services activities to integrate other waste management activities, for example, licensing of activities, enforcing the conditions, facilitating the expansion of access to at least the basic level of waste, while planning for future

needs, as set out in the *National Waste Management Strategy*. Table 3.5 presents an overview of the reciprocal interplay among the domestic solid waste and MHS mandatory scope of functionary functions and authority and the legislative mandates.

### 3.3.2.9 *Basic municipal services mandatory functionaries' scope of authority for solid waste services*

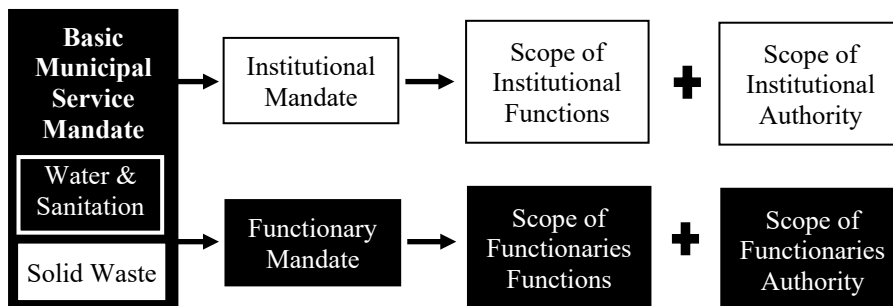


Figure 3.1.15: BMS (solid waste) functionary's - scope of authority

Waste management officers have delegated authority as set out in their job descriptions and are authorised in terms of s10(3) of the *Waste Act* (59 of 2008) to perform their functions. They are also sanctioned to perform their mandatory functions via the normal process of delegation within the municipality, as prescribed in s59 of the *Municipal Systems Act* (32 of 2000).

### 3.3.2.10 *Basic municipal services functionary's' professional mandate for solid waste services*

No professional body exists that regulates waste functionaries specifically (Figure 3.1). Although not a statutory body, the Institute of Waste Management of Southern Africa (IWMSA) does offer affiliate membership to institutions and individuals.

**Table 3.5: Exploratory overview of the interplay among MHS and the domestic solid waste sector’s functionary scope of functions and scope of authority to execute the MHS and waste legislative institutional and functionary mandates**

SECTOR (What)	MHS (What)	Scope of Functions (How)	Scope of Authority (How)
		Functionary Functions	Functionary Authority
Solid Waste	Scope of functionary mandates	<p><b>How is the scope of functionary mandates of MHS and Waste related?</b></p> <p><b>Summary</b></p> <ul style="list-style-type: none"> <li>EHPs main function is risk identification and mitigation (compliance enforcement), while the Process Controllers (PCs), responsible for water &amp; sanitation services should operate, and maintain the water and sanitation services works.</li> </ul> <p><b>General functions</b></p> <p>The functionaries’ job descriptions provide also for functions to be performed as well as the sectoral National Norms and Standards that determine the frequency of interaction with the different types of activities.</p> <p><b>MHS – functionary functions (Sectoral legislation)</b></p> <ul style="list-style-type: none"> <li><b>National Health Act (NHA) (61-2003):</b> <ul style="list-style-type: none"> <li>s81- Duties of health officer: As appointed health officer – monitor and enforce compliance of NHA – refers to nine MHS functions – read with Scope of the profession of EHPs.</li> <li>s82 – Routine inspections: Identify EH risks through routine inspections; sampling, surveys, complaints etc.; Mitigate non-compliance t through integrated planning with sectoral role-players responsible for e.g., water &amp; sanitation provision to rectify any non-compliance by providing regular reports to the WSA &amp; WSPs (i.e., LMs) (Scope of the profession of EHPs (R698 of 2009). Issue compliance notices.</li> <li>s83 – Environmental health investigations: reasonable grounds for EH risks conditions Health Officer must investigate &amp; must issue a compliance notice.</li> </ul> </li> <li><b>Reg 698 of 26 June 2009 - Scope of the profession of EHPs:</b> <ul style="list-style-type: none"> <li>s1 – <b>Water monitoring:</b> monitor water quality &amp; availability; mapping water sources &amp; pollution sources; enforcing laws to manage water quality. Ensuring effective wastewater treatment &amp; water pollution control to ensure healthy community water supplies trough surveillance. Advocating safe water use and</li> </ul> </li> </ul>	<p><b>How is the scope of institutional authority of MHS and Waste related?</b></p> <p><b>MHS – functionary authority (Sectoral legislation)</b></p> <ul style="list-style-type: none"> <li><b>National Health Act (NHA) (61-2003):</b> <ul style="list-style-type: none"> <li>s80 - EHPs are appointed as health officers by Ex-Mayor to enforce compliance with NHA (NHA, 61 of 2003 s80(2).</li> <li>s81 –monitor and enforce NHA nine MHS functions.</li> <li>ss82&amp; 83 – conduct routine inspections &amp; investigations when suspecting EH risks: authority to enter premises to enforce compliance - issue compliance notices; seize items.</li> <li>s84 – Entry and search of premises with a warrant.</li> </ul> </li> <li><b>Health Professions Act (56 of 1974)</b> read with Rules for the registration of EHOs -Notice 2308 of 1976 - Compulsory for all levels of EHPs to be register at the HPCSA (professional registration) to</li> </ul>

		<p>wastewater disposal. Promoting access to water for all communities by providing inputs toward the planning, design &amp; management of water supply systems.</p> <ul style="list-style-type: none"> <li>○ s7 – <b>Environmental pollution control:</b> Ensure hygienic working, living &amp; recreational environments; identifying water, air and soil pollution sources; identify health hazards &amp; conduct risk assessment; taking preventive measures to ensure general environment is free from health risks; developing sustainable indicators to monitor effectiveness environmental management systems.</li> </ul> <ul style="list-style-type: none"> <li>● <b>National Environmental Health norms and standards (GN 1229 of 2015):</b> <ul style="list-style-type: none"> <li>○ s13 – Monitoring standards for water quality monitoring – Aim of government - address water sector issues through WSA &amp; WSPs, and Strategic Framework for Water Services.</li> <li>○ S13(2) – in addition to Scope of the Profession of EHPs – should have water quality monitoring plan. Waterborne disease monitoring (Cholera). Follow recommended sampling frequency; Survey community water supplies monthly; Educate communities without adequate water supply on emergency treatment of water.</li> </ul> </li> </ul> <p><b>Waste – functionary functions (Sectoral legislation)</b></p> <ul style="list-style-type: none"> <li>● s10 NEMA: Waste Act– designation of “Waste Management Officers” – 10(3) “Each municipality <u>authorised to carry out waste management services</u> by the Municipal Structures Act (117 of1998), must designate in writing a “waste management officer” from its administration to be responsible for coordinating matters pertaining to waste management in that municipality.</li> </ul>	<p>perform Scope of EHPs functions in terms of R698 of 2009, as amended.</p> <ul style="list-style-type: none"> <li>● <b>NEMA Amendment Act (46 of 2003)</b> Can be authorized as EMI under NEMA legislation for further pollution control compliance enforcement authority.             <ul style="list-style-type: none"> <li>○ <b>EMI (Environmental Management Inspector)</b> (EHPs can apply to be authorized - Optional): ss31B &amp; 31C – designations by Minister &amp; MEC as EMI.</li> <li>○ s31D – mandate to enforce NEMA or Specific EM Act or provisions e.g., NEMA: Waste Act.</li> <li>○ s31H – general powers to enter premises, conduct inspection.</li> <li>○ s31L – powers to issue compliance notices.</li> <li>○ s31N(2) – Obligation on EMI to report non-adherence to a compliance notice to National or Provincial Minister.</li> </ul> </li> </ul> <p><b>Waste – functionary authority (Sectoral legislation)</b></p> <ul style="list-style-type: none"> <li>● s10(4) allows the Waste Management officer to further delegate to another official within the municipality to be the WMO.</li> <li>● <b>Waste management control officers”</b> – designated under s58(1) – A Waste Management Officer (s10 appointed) appoint a “<b>Waste management control officers”</b> – designated under s58(1) to manage waste management activities as a holder of a waste management license.</li> </ul>
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### **3.3.3 General scope of institutional and functionary mandates**

In the context of the broader aim of this study of EH practice in five Western Cape district municipalities, to analyse the rationality of legislative goals and obligation communication as policy impact determinants that support organisational goal acceptance and goal commitment, this chapter serves as a steppingstone in the process to inform policy impact analysis in Chapter 4.

Within the context of the dispersed governance among DMs and LMs in the two-tiered local government arrangement for delivery of effective basic municipal services to citizens, interlinking statutory mandates should be clear and explicit to bind the entire institution and its functionaries with the common institutional goals. Reciprocal collaboration among all role-players is essential to promote a safe and healthy environment for the citizens that can support economic development for the entire area. The concept of reciprocal collaboration and communication is of relevance for the delivery of effective preventive environmental health services (EHS). At an operational level, environmental health practitioners (EHPs) are tasked with managing community health and mitigating ill health within a complex and multi-sectoral dispersed management set-up that requires a high level of co-ordination with sufficient leadership support (see Chapter 2, organisational effectiveness). Inter, and intra-organisational networks are reciprocal, complex, dynamic, socio-technical arrangements, as discussed in Chapter 2, that serve as knowledge, information and policy development hubs that should support goal achievement. Therefore, related to this study, organisational networks among DMs and LMs, and their respective internal departments, dispersed across different institutions and geographic regions within the municipality jurisdiction are evidence of a complex network facilitating effective preventive service delivery. This has been made clear by policy mapping exercise to establish the institutional and functionary

mandates. For organisational effectiveness, the governance of such networks is a critical variable that strongly influences the performance and effectiveness of institutions and functionaries, involving “communication, decision-making, power-sharing and co-ordination mechanisms” (Loukis, Janssen, Dawes & Zheng, 2016:8). Therefore, the obligations on, and expectations from the institutions and their functionaries, including political and administrative leadership, are important in seeking holistic policy impact analysis in Chapter 4.

The general scope of institutional and functionary mandates that should guide DMs and LMs towards inter and intra-organisational networks that are reciprocally dependent on each other to perform their duties are set out in sections 41 and 154 of the constitution. The constitutional obligation for co-operative governance is echoed in section 3 of the *Municipal Systems Act*, clarifying the expectations for collaboration. It is expected of municipalities and officials (all officials across sectors, departments, and institutions) to follow common approaches to enhance co-operation within the dispersed co-operative governance arrangement. It is obligatory that administrative officials and political leadership be responsive to the basic needs of the local communities (see s6 of the *Municipal Systems Act* [2000]). The legislator expressed the obligation in strong words, stating that a municipality “must” be responsive to community needs while facilitating a culture of public service and accountability among staff. Therefore, from operational to leadership cadres, it is required that they remain focused on achieving the basic needs objectives of government. For that, the *Municipal Systems Act* (Act 32 of 2000) grants executive and legislative authority to municipalities (s11) to provide their section 156 constitutional functions. While it is important to dissect the sectoral institutional and functionary mandates, it is also obligatory to have support services and supportive leadership cadres. Section 4(3) of the *Systems*

*Act* obligates municipalities and their functionaries to respect the rights of citizens when exercising executive and legislative authority.

It is required of municipalities to organise their administration to be responsive to the basic needs of the community (section 153 of the constitution), while it is expected of the political, managerial, and administrative staff members to align their roles and responsibilities with the priorities established in municipality IDPs. Legislative prescriptions require that the IDPs be developmental oriented and be linked to a municipal performance system (s 51) with the aim to achieve at the very least, the basic needs of the communities (South Africa, 2000). Further duties placed on municipal administrations are indicated in s195 of the constitution, and sections 6 and ss50-72 of the *Municipal Systems Act* to guide public administration in general and local government administration in particular (South Africa, 1996; 2000). While the *Systems Act* prescribes the integrated planning (ss23-36) and performance management (ss38-49), the constitution (1996), the *Intergovernmental Relations Framework Act* (Act 13 of 2005) and the *Systems Act* (2000) all stress the arrangements for intergovernmental collaboration to facilitate effective service delivery to communities.

The *Municipal Finance Management Act* (MFMA) deals with local government funding issues that are essential for the implementation of the basic services throughout all municipalities. The following section briefly describes the funding arrangements to facilitate the delivery of basic municipal services to meet the basic needs of communities, as envisaged in s152 and 153 of the constitution.

### **3.3.3.1 Local Government: Municipal Finance Management Act (56 of 2003)**

The local government equitable share (LGES) grant consists of three parts. The first part includes the *basic services* (e.g., water, sanitation, solid waste, electricity); the second part enables municipalities with limited resources to finance their basic administration and governance capacity allowing them to perform core municipal functions; and the third part makes provision for three areas: (i) the *institutional component* provides for basic administration costs, while the (ii) *community services* component funds core municipal services (i.e., services that do not form part of the basic services component) such as MHS, fire and municipal roads, and includes a (iii) *revenue adjustment factor* exclusively for municipalities with limited potential to raise their own revenue, based on the criteria set by National Treasury (South Africa, 2003c).

### **3.3.3.2 Basic municipal service special intervention funding provisions through the LGES allocations**

Additional funding streams exist for local government to provide basic services and support municipal infrastructure. An example is the Municipal Infrastructure Grant (MIG) which consists of different components: the *constant component* which focuses on small municipalities to compensate for the limited revenue streams; and the *basic residential infrastructure component* that allocates money for water supply, sanitation, roads, street lighting and refuse removal. Part of the MIG funding is also allocated to the 27 priority districts identified by government throughout the country for interventions to secure essential services. Other grants that support municipalities with water and sanitation infrastructure improvement are the *Water Services Infrastructure* and the *Regional Bulk Infrastructure* grants (South Africa, DoF, 2021).

### 3.3.3.3 *Municipal health services funding*

In 2002, the South African Cabinet decided to restrict the MHS function envisioned in the constitution, Schedule 4B, to a list of nine environmental health functions as defined in the *National Health Act* (61 of 2003) (see Box 3.1), and that it be delivered, as from 2004, only by metros and DMs in the country (South Africa, 2003a; South Africa, DoF, 2006). By 2006, the National Treasury made the first dedicated funding provision for the MHS at DMs through the LGES allocations as part of the *basic services component* that embraced water, sanitation, refuse removal, electricity, and *environmental health care* at the time.

During the 2013/14 financial year, the LGES makes provision for MHS funding as part of the newly created *community service component* of the LGES allocation to DMs and metros as MHS authorities. Annually, the National Treasury publishes an indicative figure for the calculation of the MHS LGES allocation. This amount is adjusted annually, increasing an average of R5.45 per annum over the past 16 years since its inception in the 2006/07 financial year. The initial allocation in 2006 was R12.00 per household for the year (South Africa, DoF, 2006), whereas the current allocation towards MHS for the 2022/23 financial year is R135.24 per household (South Africa, DoF, 2021). The indicative amount for MHS is only shown in the annual Division of Revenue Bills (DORB), but not in the final annual *Division of Revenue (DORA) Act*. The *DORA Act* only provides for global LGES figures that are paid over to the DMs. Therefore, for DMs to calculate the available LGES amount for MHS, they should multiply the annual indicative MHS figure for the particular financial year with the number of households in the respective DMs. Comparing the LGES amount available for MHS with the municipality's actual expenditure towards MHS for the given financial year gives insight into the financial commitment of the municipality to the MHS function as an essential basic service.

### 3.4 CONCLUSION

In conclusion, local government EHS, branded as municipal health services (MHS) in South Africa since 2004, is rendered within a complex, dispersed, multi-governance structure within the two-tiered local government arrangement. Municipal health services are largely dependent on sectoral departments, located at LMs, to embrace their responsibility for the provision and maintenance of water, sanitation and domestic solid waste operations and services to sustain safe water, sanitation, and waste for the people.

The aim with this chapter was to explore relevant sectoral legislation, role-players and their mandates in the complex multi-governance arrangement among MHS and BMS sectors with the obligation to mitigate the determinants of health at the source. This was undertaken in preparation for an MHS policy impact analysis in Chapter 4.

Collating and analysing the statutes, regulations, and policies pertinent to these sectors clarified the roles, responsibilities and expectations of the various role-players in efforts to mitigating ill health at the origin of the determinants of health. This policy mapping allowed for the defining of institutional and functionary mandates and demarcating of the scopes of functions and authority of institutions and officials as articulated in legislation. It has also identified a way for institutions involved in the delivery of MHS and BMS to navigate the complex governance landscape, as depicted in Figure 3.1 and Figure 3.2.

Significant for this study in particular is the clarification presented by the legislation map, not only of the *what*, *who* and *how* of DM and LM institutional and functionary responsibility interaction, but also of the mandatory reciprocal relationship among these organisations. The analysis underscores the importance of collaboration and communication in achieving local government objectives as stated in ss152 and 153 of the constitution as a high priority service. Section 88 of

the *Municipal Structures Act* (Act 117 of 1998) is explicit: DMs and LMs must cooperate to achieve local government objectives as stated in the constitution. The constitution confirmed the importance of such collaboration by necessitating the Act of Parliament (e.g., the *Intergovernmental Relations Framework Act* [13 of 2005]) to oversee cooperation between the spheres of government and the various municipalities. Running like a thread from the highest law in the land to subsequent Acts of Parliament regulating the general administration of government and the sectoral functions, is the notion that effective EHS depend on partnership among all role-players. This partnership has to be based on purposive cooperation, planning and performance management among all spheres of government, institutions, political office bearers and officials in a concerted effort to meet the basic needs of communities.

The picture that emerges from the legislation map reaffirms that LM sectors responsible for the provision, operation and maintenance of potable water supply, sanitation and domestic solid waste have a direct impact on the health status of communities. What it also emphasised is that efficacy of service delivering is contingent on two factors: firstly, it is affected by how these LMs value the significance of EHPs and how they co-operate and communicate among divisions and levels of authority including political office bearers; and secondly, that valuing EHPs and building reciprocal relationships should be integrated in policies and decisions high up in the line of authority.

Based on the legislation map and this reading thereof, the groundwork has been laid to test the revised Rütten *et al.* (2010) ADEPT model for its usefulness in conducting a local government contextualised policy impact analysis. The policy mapping provides clear quantifiable elements to inform the policy impact determinants (e.g., policy goals, obligations, resources, and

opportunities) used in the ADEPT model to gauge the alignment of MHS and BMS arrangements and the real service outputs with policy intentions.

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## **CHAPTER FOUR**

### **DEVELOPING AND TESTING A MODEL TO ANALYSE POLICY AND PRACTICE ALIGNMENT BETWEEN ENVIRONMENTAL HEALTH SERVICES AND BASIC MUNICIPAL SERVICES FOR EFFECTIVE PREVENTIVE HEALTH SERVICES IN DISTRICT MUNICIPALITIES**

## ABSTRACT

Effective service delivery follows when the intended policy or programme objectives have been achieved. However, the decision communication process within the organisation, from planning to execution, is what determines efficacy or lack thereof. The complex two-tiered local government set-up in South Africa, and the ensuing dispersed operational, management and governance functions, have resulted in communities being deprived of effective environmental health services including water, sanitation, and waste management services. Recurring protest actions and litigation communicates the gap between the communities' experiences of policy outcomes and the policy intentions. The aim of this chapter is to explore the environmental health practitioners and sector colleagues' lived experiences of the alignment between policy design and implementation by developing and testing a retrospective policy impact analysis tool based on a revised ADEPT model. The first section discusses the process of adapting the model to the South African context by selecting operational level variables and viewing the interplay among these that impact policy output and policy outcomes: goals, obligations, resources, and opportunities. *Goals* are measured against policy clarity, concreteness, and fitness for purpose. *Obligations* explore functionaries' levels of evidence-based knowledge, skills, and professionalism. *Resources* include human, financial and organisational capacity. The *opportunities* variable compares the current versus past experiences related to functionaries' experiences of their prospects and collaboration within the organisation, in the political climate. Opportunities also consider cooperation among sectors and levels of authority, community pressure and support, as well as media interest. The second section describes the results of testing the model in five district municipalities and six local municipalities in the Western Cape using a mixed methodology (interviews, focus groups and

questionnaires). The results of the summative policy evaluation based on functionaries' perceptions of effective service delivery indicate that the honed, revised ADEPT model is suitable to conduct a retrospective policy impact analysis among MHS and BMS within a multi-sectoral dispersed governance set-up. Further improvement of the revised ADEPT model can consider a comparative analysis component that uses an interquartile range scale to gauge the performance of the different sectors within the dispersed multi-sectoral local government arrangement against the policy impact determinants. The revised ADEPT model can be helpful for a wide range of stakeholders, including policymakers, programme managers, evaluators, and researchers. Policymakers can use the ADEPT approach to design policies more likely to achieve integrative, collaborative planning, programming, and control among interdependent sectors to achieve sustainable preventive health outcomes at the origin, i.e., at a local government level. Subsequently, programme managers can use the approach to identify and address implementation barriers that may prevent policies from achieving their desired impact. Evaluators and researchers can use the model to assess policies' effectiveness and identify improvement areas. In summary, the ADEPT approach can benefit anyone involved in policy development, implementation, and evaluation by providing a structured and systematic way to assess policy impact determinants and to improve policy outcomes, such as addressing IGR and other related issues that affect policy effectiveness.

**Keywords:** ADEPT model, policy impact analysis, policy impact determinants, environmental health, municipal health, basic municipal services, local government

## 4.1 INTRODUCTION

The determinants of ill health can originate from unsatisfactory delivery of water, sanitation, and domestic solid waste services as BMS provided by municipalities. Therefore, the linkages between the ADEPT variables that impact policy output and policy outcomes, respectively, guide the selection of the most appropriate operational level variables that should inform the quantitative elements in the proposed revised ADEPT model to be tested in the local government MHS and BMS context.

The aim of the chapter is to identify a suitable retrospective policy impact analysis tool and to test it for its suitability to gauge MHS and BMS policy intent and practice alignment to facilitate sustainable preventive health interventions at the origin of the determinants of health (i.e., basic municipal service delivery at a municipal level). The tested model to suit the South African MHS/BMS local government context will result in a proposed revised ADEPT model.

## 4.2 BACKGROUND

### 4.2.1 Local government environmental health services policy context

The purpose of a summative policy evaluation is to ascertain whether the intended policy or programme objectives have been achieved or not (Briggs, 2008; Rabie & Cloete, 2018). When considering the South African, as well as the Western Cape's burden of disease related to environmental health conditions (Norman, Bradshaw, Schneider, Joubert, Groenewald, Lewin *et al.*, 2007; South Africa, DoH, 2013; Vos, Lim, Abbafati, Abbas, Abbasi, Abbasifard *et al.*, 2020; Western Cape, DoH, 2020; Achoki, Sartorius, Watkins, Glenn, Kengne, Oni *et al.*, 2022), and the

wide-spread service delivery protests (Booyesen, 2007; Alexander, Runciman, Ngwane, Moloto, Mokgele & Van Staden, 2018; Ngcamu, 2019), questions are raised about the effectiveness of municipalities in achieving policy targets. The incidences of basic municipal services-related protests and litigation as well as the negative publicity suggest that it is not the experience of the citizens of South Africa. It seems their basic services are not met in a sustainable way that creates a safe and healthy environment as envisaged in sections 152 and 153 of the constitution (South Africa, 1996; South Africa, DoWS, 2017a; 2017b; 2020a; 2020b; Fransman, 2021). The inadequate supply of services like access to water and sanitation and solid waste services, correlate with poor governance, lack of leadership and skills, fraud and corruption, and ineffective operational management (Meyer & Venter, 2014; Kroukamp, 2016; South Africa, DoWS, 2018; City Insight, 2020).

The two-tiered local government system linking the DMs and LMs that are responsible for delivering MHS and BMS function within a complex multi-sectoral arrangement relying on close collaboration and cooperation to facilitate preventive health. In Chapter 2 of this study, a general systems theory, specifically Luhmann's theory of social systems, was used to explore the complexity of feedback loops in organisations like DMs and LMs. It emphasised the importance of communication to facilitate collaboration and contingency and mitigating the influence of role player and construal level biases within multiple level management structures with dispersed governance processes. Furthermore, it showed communication as the factor that underpins a well-run and co-ordinated system. In Chapter 3, the sectoral scope of functions and authority of each sector were discussed. Both chapters revealed the importance of functionaries at all levels, as well as political leadership's commitment to inter-governmental relations (IGR) to foster appropriate

and continuous communication to effectively provide basic services. This argument is in line with section 3 of the *Municipal Systems Act* (Act 32 of 2000) that clearly stipulates the importance of cooperative government. Subsequently, it is supported by section 41 of the constitution (1996) stressing appropriate collaboration for sustainably providing services and directing parliament to adopt legislation to deal with IGR. This culminated in the adoption of the *Intergovernmental Relations Framework Act* (Act 13 of 2005) to facilitate cooperation among all spheres of government and government institutions to realise governmental objectives, including meeting the basic needs of communities and ensuring a safe and healthy environment (South Africa, 1996; South Africa, DoH, 2015; 2016a; 2016b; MDB, 2005).

In addition, the *Municipal Systems Act* section 3(3) directs the South African Local Government Association (SALGA), as the representative body for local government in the country, to develop common practises that will boost cooperation in local government and to facilitate compliance with cooperative governance principles (South Africa, 1996; 2000). Section 6 of the *Act* obligates municipal functionaries as representatives of public service to respond appropriately to a community's basic needs, be held accountable and foster cooperation and collaboration. Despite policy emphasis regarding IGR, in most municipalities this has not manifested as effective mandate adherence and intersectoral collaboration and communication (Masegare & Ngoepe, 2018; Masala, 2021).

Traditionally, the term *policy tools*, meaning the instruments used to achieve policy objectives, refers to legislation, sanctions, and regulations. As Torjman (2005: 1) remarks:

*We literally eat, drink and breathe public policy. Public policy determines the quality of the air we breathe and the water we drink.... It controls the way in which we clean and monitor the safety of the water supply.*

Increasingly, communications are being considered a policy tool too (Rice & Stankova, 2019). Policy cognisance, comprehension and adherence depend on effective communication not only with the public, but with functionaries too.

Choosing a policy analysis approach to assess policy impact is therefore appropriate for this study (Rabie & Cloete 2018: 287-289). The institution responsible for policy evaluations in South Africa, the Department of Planning, Monitoring and Evaluation (DPME), provides for six types of policy evaluations in their policy framework: (i) diagnostic evaluation; (ii) design evaluation; (iii) implementation evaluation; (iv) economic evaluation; (v) evaluation synthesis; and (vi) impact evaluation. In this study, impact evaluation, also known as a summative or retrospective policy evaluation, is conducted to determine the impact of MHS and BMS policy on effective delivery of sustainable BMS at a local government level to support preventive health outcomes.

The policy impact evaluation tool selected for this study is the analysis of policy impact determinants, or ADEPT, approach. Thanks to its flexibility, rigour, and robustness, it is suitable for adaptation into the South African local government context. Also, it has been thoroughly conceptualised for health promotion policies by Rütten, Gelius and Abu-Omar (2010).

#### **4.2.2 Policy analysis**

Every stage in designing a policy can be subjected to a policy analysis or evaluation from policy development to policy implementation. During the policy design phase, a *formative assessment* tests the viability and feasibility of the envisaged outputs, outcomes, and impacts. The aim is to identify options with the highest probability of success (Rabie & Cloete, 2018). During the implementation phase, a *formative evaluation* reveals the strengths and weaknesses of execution.

Both serve as a guide for employees to take corrective actions when designing and implementing the policy.

The *summative evaluation*, or retrospective evaluation (i.e., impact evaluation), on the other hand, measures the actual performance of programmes emanating from the policy. Focusing on the outcome of policies, it explores the “impact it (brings) to the real-life conditions” (Herman, Morris & Fitz-Gibbon, 1987, in Rabie & Cloete, 2018: 276). The summative evaluation also functions as a public accountability measurement to show the extent to which policies support and guide service delivery, efficiency, and effectiveness (Atkinson & Wellman, 2003; Görgens & Kusek, 2010; Valadez & Bamberger, 1994, in Rabie & Cloete, 2018).

#### **4.2.3 Retrospective policy impact analysis (summative evaluation) in health care**

Breton and De Leeuw (2010, in Rütten *et al.*, 2010: 322) established that only 7% of the 591 health promotion policy articles they perused used “some kind of theoretical approach”. The theoretical approaches originate from public health disciplines such as RE-AIM, Health Impact Assessment (HIA) and Knowledge Translation. Some developed out of political science methodologies such as the Advocacy Coalition Framework (ACF); Multiple Streams (MS) approach; Punctuated Equilibrium (PE) framework, and the Institutional Analysis and Development (IAD) framework (Rütten *et al.*, 2010). However, authors are critical of these, stating that they do not provide insight into health promotion itself nor the processes of policy development and implementation (Rütten, Lüschen, von Lengerke, Abel, Kannas, Rodríguez Diaz, Vinck, Van Der Zee, 2003a; 2003b; Rütten *et al.*, 2010). Furthermore, they also express their discomfort regarding developing and implementing health policies that continue to invest in a medical care system that, despite scientific evidence, proves itself unsustainable and uneconomical compared to health prevention and health

promotion (Rütten *et al.*, 2003a: 2). The question they raise is whether this is related to misalignment between policies and scientific proof, or whether it is the result of “particular determinants within the policy making process”. The conclusion is that it boils down to, from a health promotion perspective, a “lack of knowledge on the politics of policymaking and implementation” (Rütten *et al.*, 2003a: 2). This could offer an explanation for the scant attention preventive environmental health services tend to receive.

Another criticism is that policy evaluation methods seldom go beyond out-of-context, descriptive accounts, often ignoring the context (Rütten *et al.*, 2003a; White, 2009; Cheung, Mirzaei & Leeder, 2010; Nisa, Mustafa, Yaseen, Arslan & Imran, 2021). Here scholars refer to methods like cost benefit analysis, multi-critics analysis and economic impact analysis.

Consequently, Rütten and his team (2003a) proposed an analysis tool to retrospectively gauge policy impact that will improve our understanding of policy development and implementation processes by looking at the logic of events. However, unlike von Wright’s theory (1976), that emphasises individual intent and actions and the logic that drives the interaction among wants, duties, abilities, and opportunities, Rütten *et al.* takes a different line (von Wright, 1976 in Rütten *et al.*, 2003a). Their ADEPT model focuses on the integration of actions at the individual and organisational level by adjusting von Wright’s model to fit the complex organisational and policy context (Lüschen, 1995 in Rütten *et al.*, 2003a).

#### **4.2.4 Analysis of Policy Impact Determinants Model (ADEPT)**

The ADEPT model shifts the focus from individual policymakers to the organisation by replacing von Wright’s four determinants: *wants* become *goals*, *duties* become *obligations*, and *abilities* become *resources*. The fourth determinant, although it remains the same, namely *opportunities* in

the ADEPT model, is subdivided into (i) organisational, (ii) political and (iii) public opportunities (Rütten *et al.*, 2003a; 2003b; 2010). These modifications illustrate the shift in focus from the person to the organisational process (Rütten *et al.*, 2010). For example, whereas *obligations* refer to policymaker *duties* and responsibilities, it also encompasses the institution's commitment to the affected by such a policy system. The ADEPT model has been tested in several policy analysis and development projects in the health promotion context (Rütten *et al.*, 2003b; 2010; Cheung *et al.*, 2010; Trezona, Dodson, Mech, & Osborne, 2018; Omotoye, 2019; Hunga, Chiwaula & Katundu, 2022). These studies indicate a correlation between *obligations* and *organisational opportunities* as determinants of *policy outputs* (e.g., implemented programmes). Regarding the *policy outcomes* (e.g., actions that achieved the intended changes in the population), Rütten *et al.* (2003b; 2010) established that outcomes are influenced by clear *goals*, sufficient and appropriate *resources*, and *political* and *public opportunities*.

The interplay among the ADEPT variables (e.g., goals, obligations, resources, and opportunities) as policy determinants that have an impact on policy output and policy outcomes are shown in Table 4.1.

**Table 4.1: Summary of interplay between the ADEPT variables and policy output, outcomes, and impact determinants**

ADEPT Variables	Policy Impact		Interplay between policy impact variables on policy output and outcomes
	Output	Outcomes	
Goals		X	<ul style="list-style-type: none"> <li>Goals have significant two-way interaction with resources (Rütten <i>et al.</i>, 2003b: 7)</li> </ul>
Obligations	X		<ul style="list-style-type: none"> <li>Obligations are not significantly associated with resources and political opportunity (Rütten <i>et al.</i>, 2003b: 6)</li> </ul>
Resources		X	<ul style="list-style-type: none"> <li>Goals and resources are not significant single predictors of policy outcomes, though a significant two-way interaction exists (Rütten <i>et al.</i>, 2003b: 7)</li> <li>Obligation and resources are not significantly associated (Rütten <i>et al.</i>, 2003b: 6)</li> </ul>
Organisational opportunities	X		<ul style="list-style-type: none"> <li>Refers to improvement of cooperation within organisations, and to new decision structures or actors within the organisation (Rütten <i>et al.</i>, 2003b: 6)</li> </ul>
Political opportunities		X	<ul style="list-style-type: none"> <li>Refers to the political climate and cooperation between different political sectors and levels within the organisation or between different organisations as well as public private partnerships (Rütten <i>et al.</i>, 2003b: 5)</li> <li>Obligations and political opportunity are not significantly associated (Rütten <i>et al.</i>, 2003b: 6)</li> </ul>
Public opportunities		X	<ul style="list-style-type: none"> <li>Public opportunities show highest coefficient with policy outcomes (Rütten <i>et al.</i>, 2003b: 6)</li> </ul>

(Source: Rütten *et al.*, 2003a; 2003b; 2010)

For each of the ADEPT policy impact determinants, Rütten *et al.* (2010: 325) selected specific quantitative measures. The quantitative items gauging **policy goals** assess policy (i) clarity (ii) concreteness and (iii) fitness for purpose (improving the health of the population).

Under **obligations**, the functionaries' lived experiences of their (i) commitment to and their (ii) perception of their own actions reflecting their professional duties are measured. Furthermore, obligations assess whether their (iii) actions are rooted in scientific knowledge and practice, as well as (iv) the extent to which the team fulfils its responsibility to the broader community.

**Resources** as a policy impact determinant assesses the sufficiency of (i) human resources (ii) financial resources and (iii) capacity within the organisation.

The policy impact determinant relating to **opportunities** consists of three sub-elements (organisational, political, public), each measuring specific aspects. The organisational opportunities assess i) the individual's ability to ascertain whether it has worsened or improved, and whether (ii) the cooperation within the organisation has worsened or improved. When looking at political opportunities, ADEPT measures the deterioration or improvement of five different dimensions: (i) political climate; (ii) support from other sectors; (iii) cooperation among political levels; (iv) cooperation between public and private organisations; and (v) lobbying for action by the population in support of policy intent. Finally, public opportunities measures if public support and media interest have worsened or improved (Rütten *et al.*, 2010: 326).

The quantitative elements for the *policy output* variable evaluate the programmes implemented because of the policy, while the *policy outcomes* assess three aspects: Firstly, it ascertains whether actions taken have led to the intended behaviour change in the population; Secondly, it is a cost-reward analysis; and, thirdly whether in the light of the cost analysis, the programme was worthwhile undertaking. Finally, it assesses the individual's satisfaction with the results. Of note is that Rütten *et al.* (2003a: 5) caution that “policy outputs do not automatically” result in health outcomes in the population.

#### **4.2.5 Why the ADEPT model?**

Various theory-based impact analyses exist such as theory-based impact evaluation and programme theory (White, 2009; UNICEF, 2014; White & Raitzer, 2017; Rabie & Cloete, 2018).

However, more recently, Nisa *et al.* (2021: 1319) observed that policy evaluation studies are drifting towards “theories of action evaluation” that refer to the analysis of how closely the policy is implemented as envisaged. Simply put, is the policy implemented in line with the policy intent. The ADEPT model is doing exactly that by gauging the policy intent against the actual implementation at a population level to assess if the policy intent is achieved. However, it also goes further by highlighting areas that require intervention in the future policy development, implementation, and assessments (Rütten *et al.*, 2010; Cheung *et al.*, 2010; Trezona, *et al.*, 2018; Omotoye, 2019; Pogrmilovic, O’Sullivan, Milton, Biddle & Pedisic, 2019; Hunga *et al.*, 2022). The ADEPT model offers a practical approach that is theory based, robust, flexible, and tried and tested in various fields (Rütten *et al.*, 2010; Cheung *et al.*, 2010; Trezona *et al.*, 2018; Hunga *et al.*, 2022; Omotoye, 2019), while Pogrmilovic *et al.* (2019) recommend the model to conduct assessments. However, while the ADEPT model appears to be ideally suited to the task, some adjustments were necessary to apply to the local authority context.

The adjustment process that culminated in a revised ADEPT model and which is based on the fundamentals of effective service delivery identified in Chapter 2, is discussed in the next section. The revised ADEPT model considers the reciprocal institutional and functionary mandate interplay in the dispersed governance arrangement among the DMs and its LMs that creates a complex multi-sectoral and multi-level service execution context between the MHS and BMS as illustrated in the legislation mapped in Chapter 3.

#### **4.2.6 The case against the ADEPT model**

As mentioned, having originated in the health promotion arena, a literature review did not reveal examples of the ADEPT model having been applied to the South African local government and

environmental health services (EHS). Yet the developers *agreed* that it is sufficiently flexible to use in other fields (Rütten *et al.*, 2003a; 2003b; 2010; Rütten & Gelius, 2014).

In the absence of a retrospective policy impact analysis tool specifically developed for MHS, the ADEPT model is appropriate when considering the complex interconnectedness among local government EHS (MHS) and BMS. Such a contextualised model considers the specific policy impact determinants, namely *policy goals*, institutional and functionary *obligations*, and institutional *opportunities* to assess levels of collaboration and integration among the institutions and its functionaries and its impact on environmental health, water, sanitation, and solid waste services. In line with Rütten *et al.*'s (2003b; 2010) findings, this study explores the effect that each policy impact determinant, as contextualised for the South African local government domain, has on policy output and policy outcomes, respectively (see summary in Table 4.1). Furthermore, this is done keeping in mind the four fundamentals of effective service delivery revealed by the ILR discussed in Chapter 2 namely mandate cognisance, inter-sectoral mandate execution, leadership support and community satisfaction. For example, Rütten *et al.* (2003b: 7) established that *policy goals* and *resources* have a “significant two-way interaction” with policy outcomes. In this context Rütten *et al.* (2003b; 2010) also elaborated that the policy impact determinant *resources* embrace quantitative elements (e.g., “my organisation has the necessary capacities”) and sufficiency of financial and human resources. Though organisational capacity is not clearly defined and can differ between organisations due to varied contexts, Cox *et al.*, (2018) summarise organisational capacity *as* the ability of an organisation to perform work with the enabling mechanisms to perform their functions to achieve the organisational goals.

Considering that the purpose of MHS is to identify environmental health (EH) risks that could harm human health and as these services are dependent on other sectors' collaboration to mitigate

such risks, the goals should focus on EH risk identification and mitigation. Due to the multi-sectoral dispersed governance arrangement within the two-tiered local government system, the policy goals, strategic plans and subsequent performance management system should explicitly be assessed to establish if institutional “winning key performance indicator(s) (KPIs)” exist (Parmenter, 2012: 137-146; 2015: 114) as a key ingredient to direct and anchor political and managerial leadership, sectoral and MHS functionaries’ commitment towards the reduction of priority EH risks in the communities (Parmenter, 2015; Van Dooren, Bouckaert & Halligan, 2015; Synnevåg, Amdam & Fosse, 2018). The role of clear concrete goals sets the scene for contextualised strategic and operational planning, programming and control that culminate in the institutional planning and operational implementation instruments, and subsequent performance management system that anchors leadership commitment (Synnevåg *et al.*, 2018). Therefore, the organisational goals should include basic needs, be risk-oriented and customer-focused.

#### **4.2.7 Integrating the revised ADEPT model and the four fundamental elements for effective service delivery**

Contextualising the ADEPT model in the South African MHS and BHS landscape to assess the effectiveness of its policies required adapting and refining the standard version. Considering the findings of the grounded theory based on the ILR and Schutte dendrogram discussed in Chapter 2 and the legislation mapping in Chapter 3, a revised ADEPT model is proposed in this study (see Table 4.2). Insights gained from these sections of the study helped identify key factors to shape future MHS and BMS policy directions and programme performance.

In Table 4.2, changes to the original ADEPT model are designated by \*\*, while deletions are marked as strike-through text. Additions to the standard version are indicated with \*, red text and marked in italics. Each of these is discussed in greater detail below.

**Table 4.2: Revised Rütten *et al.*'s (2010: 325) ADEPT base model to assess policy impact of MHS and BMS sectoral policy arrangements in support of preventive health at a local government context**

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	<b>POLICY DETERMINANTS &amp; VARIABLES</b>
<b>A</b>	<b>GOALS</b>
	<ul style="list-style-type: none"> <li>i The goals are officially spelled out</li> <li>ii The goals are concrete enough</li> <li>iii The action centres on improving the health of the population</li> <li>iv <i>*The action centres on meeting basic needs of the population</i></li> <li>v <i>*The action centres on mitigating environmental health risks related to basic needs of the population</i></li> <li>vi <i>*Actions centres on citizen satisfaction</i></li> <li>vii <i>*The action centres on intersectoral collaboration</i></li> </ul>
<b>B</b>	<b>OBLIGATIONS</b> <i>*[towards health of population]</i>
	<ul style="list-style-type: none"> <li>i Personally, I feel obliged to do something in this field</li> <li>ii The action is part of my professional <i>*[official]</i> duties</li> <li>iii Scientific results demand the action</li> <li>iv We are obliged to the population to act in this area</li> <li>v <i>*CoGTA &amp; DoH obliged to monitor and evaluate local government EHS</i></li> </ul>
<b>C</b>	<b>RESOURCES</b>
	<ul style="list-style-type: none"> <li>i There are enough personnel</li> <li>ii My organisation has the necessary capacities (capabilities)</li> <li>iii There are sufficient financial resources</li> </ul>
<b>D</b>	<b>OPPORTUNITIES</b>
<b>I</b>	<b>Organisational opportunities</b>
	<ul style="list-style-type: none"> <li>i My own involvement has worsened/improved</li> <li>ii The cooperation within my organisation has worsened/improved</li> <li>iii <i>*My own involvement with the sectoral departments (internal/external) responsible for BMS has worsened/improved</i></li> <li>iv <i>*The planning, programming, and control cooperation among the MHS unit and the interdependent sectoral departments (internal/external) has worsened/improved</i></li> <li>v <i>*The intergovernmental relations cooperation among the DM and LM has worsened/improved</i></li> <li>vi <i>*The cooperation from the administrative support has services worsened/improved</i></li> </ul>
<b>II</b>	<b>Political opportunities</b>
	<ul style="list-style-type: none"> <li>i The political <del>**climate</del> <i>*and managerial (leadership) collaboration (IGR) has worsened/improved</i> <i>*The political and managerial (leadership) symbolic support has worsened/improved</i> <i>*The political and managerial (leadership) action support has worsened/improved</i></li> <li>ii The support from other <i>*internal/external support service</i> sectors (<i>finance, SCM, Corporate Service – MMs office – across municipalities - dispersed governance</i>) has worsened /improved <i>*Support from other internal and external interdependent (dispersed governance) sectors has worsened /improved</i></li> <li>iii The cooperation between political <i>*and executive managerial</i> levels (<i>internal/external - two-tiered dispersed governance</i>) involved has worsened/improved</li> </ul>

- iv ~~\*\*The cooperation between public and private organisations has worsened/improved~~
- v The lobby for the action has worsened/improved

### III Public opportunities

- i The ~~\*\*involvement of the population\*~~ *'s satisfaction with community conditions/services* has worsened/improved
- ii The population supports the action
- iii The media's interest has worsened/improved

## E POLICY IMPACT

### I Output

- i Various programs were implemented *\*to improve community conditions and services that reduce priority EH risks*
- ii *\*Sectoral policy changes aligned to support preventive health outcomes with clear institutional winning KPIs*
- iii *\*Legislation provides for political and executive management's performance contracts to include institutional winning KPIs targeting the reduction of EH risks in communities*
- iv *\*Legislation requires that all MHS authorities to have EH risk profile reports with clearly indicated priority EH risks to be included in the DM and LM IDPs*
- vi *\*Legislative changes to provide for priority EH risks to be part of annual s46 (Systems Act) report – clearly showing IDP period risk reduction target and progress. Historical and current perspective*
- vii *\*Auditor General annual municipal audits (both DMs and LMs) cover the monitoring of the priority EH risk reduction*
- viii *\*CoGTA's municipal service delivery audits to include the local government EHS status*

### II Outcome

- i The action has achieved the intended behaviour change in the population *\*and institutional administrative arrangements*
- ii Considering cost-benefits, the action was worthwhile
- iii Personally, I am satisfied with the results

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**NOTE: Modifications to original Rütten ADEPT model: Additions (\* red italics inserts); Omissions (\*\* original text are struck-through)**

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#### 4.2.7.1 Goals as a policy determinant and variable

According to Rütten *et al.* (2010), policy goals should be (i) officially spelled out; (ii) specific and concrete; and (iii) centre on improving the population health. In addition, the GT study discussed in Chapter 2 also revealed that effective preventive health services in a multi-sectoral and dispersed governance context have to (iv) fulfil the basic needs of the citizens (v) to their satisfaction by way of a (vi) problem-oriented and risk-oriented process and (vii) intersectoral collaboration (Von Schirnding, 1995; 2002; South Africa, 1996; 2000; Listorti & Doumani, 2001; South Africa, DoH, 2013; 2015; 2016b; Stanton, 2009; May & Agenbag, 2021). Goals must align with and be

expressed in clear mandates for both institutions and functionaries to direct mandate execution and leadership support to ultimately satisfy the community's basic needs.

The section dealing with goals as a policy impact determinant in the original ADEPT model aligns with what the revised model requires to test the impact of policies in the South African context (Table 4.2). Therefore, all the components have been included while four were added. These concern whether the actions centre on (i) meeting basic needs of the population following a problem and risk-oriented approach; (ii) mitigating environmental health risks related to basic needs of the population; (iii) citizen satisfaction; and (iv) intersectoral collaboration and cooperation in institutions subjected to a dispersed governance configuration in the two-tiered local government arrangement.

The legislation map put forward in Chapter 3 forms the basis for determining the clarity and feasibility of each sector's legislative goals as well as the sectoral alignment, collaboration and coordination and IGR expectations in general. It also serves as the measure for establishing if the actions flowing from the legislation would reduce health risks, raise levels of service delivery effectiveness, promote health, and satisfy the community's basic needs.

#### ***4.2.7.2 Obligations as a policy determinant and variable***

Obligations as a policy impact determinant aligns with the second fundamental of effective service delivery identified in Chapter 2: institutions and functionaries executing their mandates in a collaborative and reciprocal manner in a multi-sectoral system (Figure 2.1, Fundamental 2).

Local government's key objective as stated in the constitution is to ensure that basic municipal services are rendered in an effective and sustainable way to facilitate a safe and healthy environment (section 152 of the constitution). The next section, s153, direct municipalities to

meticulously follow the legal and regulatory mandates that guide their scopes of functions and authority (Figure 2.1, Fundamental 1). They must also structure their administration, management, planning and budget processes to prioritise the communities' basic needs (South Africa, 1996; Mafunisa, 2003). For effective service delivery, the functionaries' personal and the professional commitments towards their obligations set out in the formal and legal mandates are key to achieve the institution's goals and to satisfy basic human needs.

In the revised ADEPT model, four quantitative elements have been devised to gauge this set of policy impact determinants: (i) personal commitment expressed as *Personally, I feel obliged to do something in this field*; (ii) professional commitment expressed as *This action forms part of my professional (\*official) duties*; (iii) evidence-based decisions and actions expressed as *This action is grounded in science*; and (iv) answerable to the people expressed as *We are obligated to the population to act in this particular area*.

a) Personal commitment

Personal commitment in the workplace according to the literature rests on an employee's level of job satisfaction, positive psychological capital (agency, hope, resilience, optimism, and usefulness) and perception of the organisational environment (Adams, 2017; Berberoglu, 2018; Masale *et al.*, 2021). This is reflected in the phrase, *Personally, I feel obliged to do something in this field*.

b) Professional commitment

Professionalism, generally defined in terms of competencies and qualities, refers to an occupation that i) requires specialised training to develop specific knowledge, skills, behaviours and attitudes; ii) fosters an individual and collective identity; iii) is practised according to a (state) sanctioned scope and standard of practice and a code of ethics; and iv) assumes an implicit personal and moral imperative to serve (Mukerji & Tripathi, 2014; Perez, 2019). Officially and actively functioning as part of a profession, for example, EHPs in South Africa registering with the HPCSA serve as a measure of professional commitment, expressed as, *This action forms part of my professional (\*official) duties.*

c) Evidence-based decisions and actions

The diversity and complexity of any modern public system, including that of health and local government and specifically those in arrangements that have multi-management levels and dispersed governance, affect policy implementation and service delivery effectiveness. One way of counteracting this is using scientific evidence to make decisions and implement policy (Shafaghat *et al.*, 2022). This not only streamlines strategic and operational processes but helps optimise financial and human resources. The “direct consequence of ignoring evidence is poorer health for the community” (Shafaghat *et al.*, 2022: 2).

The study field of EHS as well as the day-to-day application thereof relating to plan, supply, manage and test quality water, sanitation and solid waste services are embedded in evidence-based science. Developing measurements like the South African National Standards (SANS 241) for drinking water to determine *Escherichia coli* levels that indicate faecal pollution, and thus water safety, is based on science (SABS, 2015). So are sampling methods and standards (number of

samplings per population) and so are organisational and project management procedures (SABS, 2015; Steyn, Carruthers, Dekker *et al.*, 2017; Larsen, Volden and Andersen, 2021). Insights into the psycho-neurology of employees improve our understanding of the perceptions, biases, behaviour, and attitudes related to their work and home life. Social system theorists like Luhmann broaden our understanding of decision-making and communication within an organisation like a municipality. However, thanks to scientific evidence-based knowledge, it is not only academics who are looking in from the outside to improve their understanding. Institutions and functionaries themselves, by way of CPD, benefit from this. Effective environmental health services hinge on officials' capabilities in applying both the 'hard' and 'soft' sciences. This ranges, for example, from dealing with the increase in climate-related ill health to raising awareness about adapting to climate change particularly among the at-risk communities (Shezi *et al.*, 2019). Other such skills that an EHP has to master are, according to Omid *et al.* (2021: no page) "advocacy, reasoning and planning, instructional techniques, personal and social skills, and professionalism". To the researcher's knowledge and experience, an understanding of financial systems, negotiation, persuasion, and conflict resolution skills as well as oral, written, and visual communication and reasoning can be added to the list. Most important for this study, EHPs must have a clear grasp of their official mandate and the required IGR to foster harmonisation and collaboration based on science to bridge the construal level bias gaps. In addition, in the context of the multi-sectoral dispersed local government arrangement where EHPs operate, they should also have an in-depth understanding of the project and risk management regimes. Larsen *et al.*'s (2021: 1) view that societal developments where different sectors are involved are progressively following a project approach for successful strategic outcomes are relevant for this study. The national environmental health policy also promotes using a project and risk management approach in EHS delivery (SA,

DoH, 2013). Although Larsen and her team cautioned that public projects have a bad reputation due to time delays and poor value for money, mainly due to political aspects, they still value the direction forthcoming from the project governance regimes. Project and risk management allow for a systematic and targeted intervention that optimises available resources by keeping the team focused on the goal. In addition, project management requires each team member to collaborate in achieving the set targets to ensure the successful delivery of the “project” (Burke, 2013; Ferreira & Groenewald, 2016; Steyn *et al.*, 2017). To navigate the planning, communication, collaboration, and IGR complexities, EHPs can draw on the scientific project management body of knowledge to facilitate effective preventive service delivery in dispersed governance arrangements.

d) Answerable to the people

A civil service is defined as “the core, permanent administrative arm of government” and refers to officials in national, provincial, and local government who “advise on, develop, and implement government policies and programmes and manage day-to-day activities” (Rao, 2013: 5). According to Rogger (2017: 2), “[t]hese individuals matter to the macro-economy” making up 30% of paid employees in the developing world. They are the ones responsible for implementing public policy and its

*qualities and actions therefore have a direct impact on the working of a nation’s economy and welfare of its people... Understanding the civil service is a window into the determinants of state capacity. (Rogger, 2017: 2)*

This personal and moral imperative to serve, implied by the professional obligations of local government officials, functions as a policy impact determinant expressed as “We are obliged to the population to act in this area” (Rütten *et al.*, 2010: 325). It applies to institutions and officials

involved in planning, programming, and control functions, from strategic to operational. It is contingent on IGR for synchronisation and collaboration to achieve its fundamental objective, namely, to serve the community in an ethical, effective manner adhering to mandates and applying sound governance and organisational systems that should culminate into the municipalities' planning and performance management systems. The integrated development plans (IDPs), sectoral service delivery and budget implementation plans (SDBIPs), and the subsequent performance management system are important strategies to anchor functionary and leadership commitment towards an issue. Therefore, it is essential that the municipal planning, programming, and control instruments include “winning KPIs” that aim to mitigate priority environmental health risks at the origin. For EHS to exploit this opportunity to use institutional planning instruments, they should maintain an environmental health risk profile (status report) for the entire district. The priority environmental health risks should then be included in the institutional and sectoral plans, and KPIs should be designed that measure its reduction at each institution and sector during the IDP period.

For the revised ADEPT model, no element was omitted from the policy determinant obligations, but the word ‘official’ was added (Table 4.2). The element dealing with professional obligations was changed to *Actions* is part of my professional (**official**) duties. This was necessary as not all functions relating to water supply, sanitation and solid waste management require registration with a professional or statutory body. In the case of EHS, all staff performing functions within a professional scope are required to register with the HPCSA. For water and sanitation services, the engineers, as the professional process controllers, are guided by the *Water Services Act* (Act 108

of 1997) and are obliged to registered with a statutory professional body e.g., ECSA (see Chapter 3, Table 3.2, and section 3.3.2.3).

#### **4.2.7.3 Resources**

The policy determinant resources in the ADEPT model aligns with the second of the four fundamentals of effective service delivery as discussed in Chapter 2, inter-sectoral mandate execution (Figure 2.1). Effective execution of one's mandate is dependent on sufficient and well-managed personnel and finances, efficient systems, appropriate tools and technology and supportive leadership, all of which create a positive organisational culture (Adams, 2017). However, a positive culture is more than the tangible and physical artefacts. It also relates to the unseen aspects of an organisation – norms and values, language, patterns of behaviour and communication, assumptions that influence beliefs, perceptions, and attitudes towards the organisation (Cresswell, Moizer, Lean, 2014; Huragu & Chuma, 2019).

In this study, three aspects relating to resources in an organisation and the impact resources have on policy implementation are considered: (i) the capabilities and adequacy of personnel; (ii) the financial resources; and (iii) the organisational capacity to support and sustain service delivery to achieve organisational objectives (Table 4.2).

##### a) Adequacy of human and financial resources

As is the case with other departments of local authorities, having enough people and money to achieve their objectives is an unattainable state, and so is environmental health (Stillman, 1983; Burke, 2013; Couch, 2016). Formulae exist to calculate ideal ratios and methods of an organisation. Ferreira and Groenewald (2016) suggest using benchmarks based on comparing

systems and practices. In the absence of any empirically supported benchmarks for resource ratios in MHS, an option is to apply the local government equitable share (LGES) and the National Department of Health's functional EHP to population ratio. The latter prescribes having one functional EHP for every 10 000 of the population (South Africa, DoH, 2013; 2016a; 2016b).

b) Organisational capacity/capability

The term organisational capacity simply refers to an organisation's capability to perform its functions and achieve its goals (Cox, Jolly, Van Der Staaij & Van Stolk, 2018). In the public sector, according to Cox *et al.* (2018: 7), capacity describes a government institution's "ability to marshal, develop, direct and control its financial, human, physical and information resources" to facilitate growth and development, information sharing, communications (internal and external). Leadership, strategy, governance, systems, skills, and accountability further reinforce organisational capacity (Cox *et al.*, 2018). Other drivers of organisational capacity mentioned in the literature are political and managerial leadership, organisational culture, effective planning, performance management and control (Van Dooren *et al.*, 2015; Tierman, 2015; Cox, *et al.*, 2018; Chigangacha, Haupt & Awuzie, 2021). Rütten *et al.* (2003b) concur, stating that policy impact determinants like goals and resources show a significant two-way interaction with policy outcomes and facilitate change towards success (see Table 4.1). According to Cox *et al.* (2018: 12), the terms structure and governance refer to,

*a system that consists of institutional rules, policies and processes which govern how work roles and responsibilities are delegated, managed, and co-ordinated ... [while] "strategy" involves the ... strategic plan that enables an organisation to achieve its long- and short-term objectives.*

Organisational capacity, like organisational culture, is not influenced by tangible factors only. Several of the drivers mentioned above originate in the unseen ‘personality’ of an organisation. This understanding of organisational capacity has important parallels in Luhmann’s social systems theory and his understanding of an organisation as simultaneously complex and relational but also comprised simply of the internal decisions-making processes in which it unceasingly engages (Cooren & Seidl, 2019). True to a system, an organisation demonstrates self-organising positive and negative feedback loops and a high level of interrelatedness that either enhance or undermine effectiveness and capacity (Valentinov, 2017; Van Der Heijden, 2022) (see also Chapter 2 discussion).

David Easton’s political systems theory (1965, in Pernia, 2017: 126) brings a further dimension to organisations as decision-making institutions. He interrogates how a political system influences “decision-making on behalf of society”, and specifically, decisions dealing with scarce resources. Easton (1957: 384) introduces the concept of the “black box” or the opaque space in which demands are converted to decisions to be executed by functionaries. There is, however, no guarantee that the decisions-turned-actions will benefit the community. The mysterious process of making decisions in the ‘black box’ links with another policy impact determinant, political opportunities, discussed below.

Considering Luhmann’s theory and Easton’s understanding of the role of decision-making, it is key in assessing organisational capacity to reflect on the decision-making mechanisms, procedures, and practices in municipalities in general and EHS and BMS specifically. Viewing a local government institution this way help bring to light what happens in the ‘black box’ in terms of IGR and how it influences effective service delivery in a multi-sectoral and dispersed governance environment. Functionaries’ and politicians’ knowledge and understanding of their

obligations (mandate cognition) as well as the level of support they offer, determine how and what decisions are converted into actions (mandate execution, Figure 2.1, Fundamental 2) to enhance community satisfaction. As indicated in Chapter 2, these become feedback-loops that shape the organisation and its ability to achieve its goals.

Again, the elements used to determine policy impact related to organisational capacity, as suggested by Rütten *et al.* (2010), have been applied. However, it is essential when using the ADEPT model to assess the EHS and BMS policy and practice alignment to reflect on the insights from Luhmann and Easton, among others, as outlined above and in Chapter 2.

#### **4.2.7.4 Organisational opportunities**

Organisational opportunities refer to the cooperation among decision making structures and the people in the organisation (Rütten *et al.*, 2010). Two policy impact determinants are used in the ADEPT model to determine existing organisational opportunities. The first is expressed as *My own involvement has worsened/improved*, and the second as *The cooperation within my organisation has worsened/improved* (Table 4.2). These determinants assess the individual's perception of their own situation in the organisation and the lived experience of managerial backing and career-development opportunities, thereby emphasising the interplay between the second fundamental of effective service delivery, mandate execution, and the third, leadership support (Figure 2.1). At the same time, it considers their experience of the general organisational culture as well as the effect of the MHS and BMS in the multi-sectoral, two-tiered local government system in South Africa. This requires not only self-reflection on a vertical plane (functionaries looking upwards to assess management's influence on their world of work) but also on a horizontal plane. To increase their mandate cognisance and to improve cooperation, collaboration, and IGR among different

sectors within LMs, it is necessary for an official to survey the organisational structure within which an EHP is located. Only when an EHP grasps what must be done (mandate cognition) and who forms part of the team, can water, sanitation and waste management services be delivered effectively. It needs to be emphasised that the same applies to functionaries in other sectors and levels of authority responsible for other aspects of delivering those services. It is therefore essential that a policy impact study probe both respondents, e.g., EHPs and sectoral functionaries.

Organisational opportunities, with obligations, are key predictors of policy output or implementation (Table 4.1). As policy output depends on collaboration between DMs and LMs, as well as their respective service and supporting departments, four additional measures were added to the revised ADEPT model (Table 4.2): (i) *My own involvement with the sectoral department(s) (internal/external), responsible for BMS has worsened/improved;* (ii) *The planning, programming and control cooperation among the MHS unit and the interdependent sectoral departments (internal/external) has worsened/improved;* (iii) *The inter-governmental relations and cooperation among the DM and LM have worsened/improved* and (iv) *The cooperation from the administrative support services has worsened/improved.*

No omissions were proposed for the policy impact determinant related to *organisational opportunities*. For the ADEPT variable, *My own involvement has worsened/improved*, it is suggested that participants' lived experience of the workplace be measured from both their own perspective and the perspectives of colleagues in other sectors with whom they collaborate. This ought to provide a more nuanced and balanced perspective regarding organisational opportunities within the inter-governmental context.

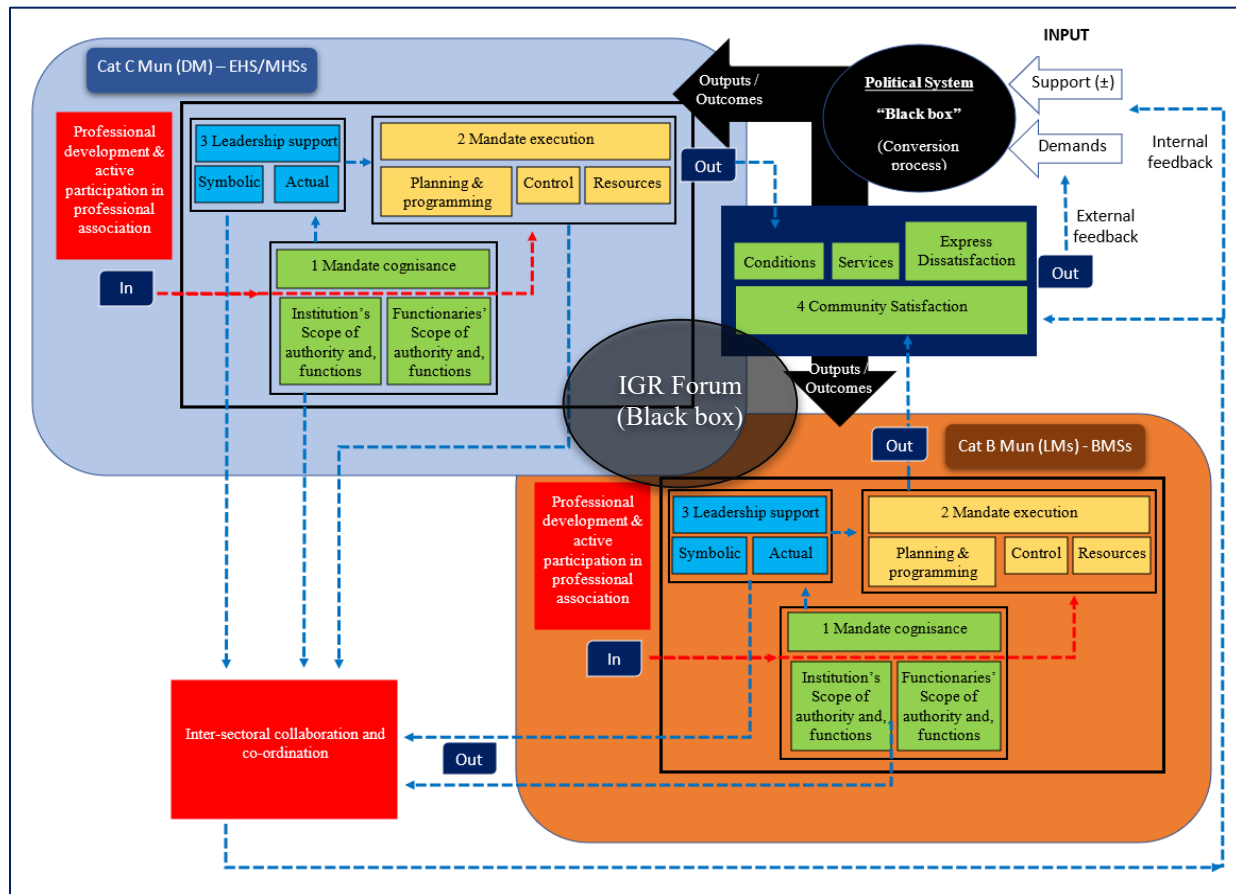
#### 4.2.7.5 *Political Opportunities*

Policy, according to Jansen, van Oers, Kok and De Vries (2010: 2) is “inherently a political enterprise that supplies services and allocates resources” locally, regionally, nationally, and internationally. Policy is characterised by accommodating different interests, agendas, and political priorities. The final decisions are mainly the result of compromise (Easton, 1957; Jansen *et al.*, 2010; Pernia, 2017; Bang, 2020). *Political opportunities* in the ADEPT model refers to the deterioration or improvement of relationships at all levels (Rütten *et al.*, 2010: 325), which include, for example, the country’s political climate and organisational culture, international relations and inter-sectoral collaboration, IGR, office politics, commercial support, and community satisfaction. Rütten *et al.* (2010) contend that political opportunities arise from internal and external as well as intra and inter-organisational settings. This again brings in the argument to Luhmann’s theory on the role of communication in organisations and Easton’s ‘black box’ where decisions are converted to actions.

Researchers distinguish between (i) political opportunity structures (POS) that are more stable and (ii) political opportunities (PO) that imply more volatility (Kriesi, 1995, in Earl, 2011: 263). While political opportunity structures can vary from a closed or authoritarian system to an open or democratic system, the term political opportunities refer to a suppressive system in which state apparatus is called on to stabilise (repress) angry and frustrated communities (Earl, 2011). The latter is reminiscent of the state’s handling of service delivery protests and specifically the death of Andries Tatane in Ficksburg in the Free State Province at the hands of the police in 2011 that sparked a community outcry for government responsiveness to municipal service delivery mandates (Hattingh, 2011; News24, 2011). David Easton’s political systems theory (1965, in

Pernia, 2017: 126) underscores the influence that a political system has when making decisions on behalf of society and the actions employed to implement it.

In the context of this study, at a municipal level, each municipality within the multi-governance arrangement has its own political system. In the case of the two-tiered local government arrangements between DMs and LMs, creates (in)direct reciprocal interplay between the two systems over and above the other sub-systems in the environment such as the IGR forums (Figure 4.1) that generate further internal and external feedback loops (see Chapter 2 for detailed discussions of positive and negative feedback loops).



**Figure 4.1: Illustrating two categories of municipalities in the two-tiered dispersed government arrangement responsible for delivering EHS/MHS (DM) and BMS (LM). Each has its own political system that is interrelated and interdependent (Chapter 2; David Easton's Systems Analysis of Political Life, 1965; Nisa *et al.*, 2021; Ayuningtyas *et al.*, 2021)**

To assess the political opportunities from an EHS and BMS perspective, one should carefully consider elements to measure (gauge) the political/managerial commitment as fundamental (Chapter 2, Figure 2.1). When assessing decision-making issues, the following should be carefully considered: inclusion of priority EH risks in the political and managerial IGR forum agendas; performance management KPIs (winning institutional KPIs) in the IDPs and SDBIP; budgets to frame preventive health and anchor leadership support. These are all options to explore for policy

impact assessments at an operational level (Shiffman, 2007; Briggs, 2008; Parmenter, 2012; Synnevåg *et al.*, 2018).

#### **4.2.7.6 Public opportunities**

The elements used by Rütten *et al.* (2010) to evaluate the determinant *public opportunities* (i) measures the involvement of the population to establish if it worsened or improved; while also (ii) assessing if the population supports the action; and finally, (iii) establishing if the media's interest has worsened or improved in support of policy objectives.

Rütten *et al.* (2003a: 2) suggest that the results from monitoring the above elements assist with determining the feasibility of the policy initiative, in their assessment, e.g., “healthy public policy”. Elements for public opportunities reflect the “interplay between the policymakers, interest groups, public support, and the media” that highlight factors informing the “agenda building” that brings about a policy change (Rütten *et al.*, 2003a: 2). Public opportunities, refers to “public support”, and “media interest” for example in a given health promotion policy (Rütten *et al.*, 2003a: 2; 2010: 326), while Milio (1998, in Rütten *et al.*, 2003a: 2) highlights the importance of sufficient “information strategies” and the role of mass media in shaping public support for the development of a specific policy. Shiffman (2007) emphasises the importance of garnering attention for health matters through events that create visibility for an issue (i.e., framing health matters).

In the context of this study, as portrayed in Chapter 2, community satisfaction as the fourth fundamental for effective service delivery culminates because of the interconnections among the other fundamental factors, e.g., mandate cognition, mandate execution and leadership support. The

interrelationships build on collaboration, communication, and contingencies within the political system (Figure 4.1). The crucial benchmark of effectiveness is a high level of community satisfaction that is evident in the community conditions and community services. Therefore, gauging public support in the context of this study should measure the satisfaction of the citizens with their community conditions and services, while also assessing the improvement or deterioration of EH priority risks using institutional winning KPIs.

The public opportunities emanating from municipal service delivery (or a lack thereof) is expressed, for example in South Africa, as a result of the escalation of service delivery protests by the population, bad publicity and litigation against municipalities (Alexander *et al.*, 2018; Breakfast, Bradshaw & Nomarwayi, 2019), resulting in various programmes introduced by government to change the tide. Because of citizen discontent, the Local Government Turnaround Strategy (South Africa, CoGTA, 2009; Meyer & Venter, 2014), the Back-to-Basics concept to better serve the communities (South Africa, CoGTA, 2014), and more recently (2019), the District Development Model (DDM) to facilitate better co-ordinated local government service delivery to the communities were introduced by government as a response to the demand for better services (South Africa, CoGTA, 2020). Despite these initiatives, population interest and support for the local government service delivery deteriorated, escalating the intensity of protests and litigation against municipalities, while the electorate withheld their votes during local government elections (Fransman, 2021). As seen in Chapter 2 and the discussion of political opportunities above, these public opportunities provide a feedback loop as an impetus into the ‘black box’ of the political system that stimulates organisational and political opportunities to create equilibrium. These events serve as triggering events for EHS within the context of the CLT to bring the preventive

service delivery issues closer to the decision-makers to respond appropriately (see perception challenges in chapter 2).

The challenge for environmental health is that the public does not easily respond to or interact proactively in preventing public health risks in the environment, while they quickly respond when things turn negative and affect them personally. The public typically responds only when dissatisfied, which translates into negative publicity in the local media and social media, compounded by pressure group actions, litigation, withholding taxes and then protesting. Therefore, it is imperative (i) to measure the local media (e.g., newspapers; TV, radio, etc.) to see if community conditions relating to priority EH risks improved or deteriorated, and (ii) if there is an increase or decrease in litigation or protests related to BMS, and (iii) if government responses improve the conditions in a sustainable way or only superficially (Milio, 1998 in Rütten *et al.*, 2003a). These triggering events are important measures to assess the public opportunities in the context of effective preventive EHS and BMS delivery.

In summary, according to Rütten *et al.* (2003a: 6), public support, together with concrete goals, sufficient staff and financial resources are “significant predictors” that bring about behavioural change at a population level, while the other policy impact determinants – obligations (i.e., personal commitment towards the mandate), and organisational capacities (i.e., opportunities and the institutions having the necessary capacities reflected under the resources determinant) – have significant influence on policy output that reflects on the variety of programmes implemented (Table 4.1). However, as stated earlier, Rütten *et al.* (2003a: 5) caution that “policy outputs do not automatically” result in health outcomes in the population. Therefore, the role of the political

systems ('black boxes') requires a careful assessment to support appropriate policy outcomes in line with policy intent of creating a safe and healthy environment for the citizens.

For the revised ADEPT model, no element was omitted; instead, the first element, The involvement of the population has worsened/improved, was reconfigured to reflect the population's satisfaction with the community conditions.

#### **4.2.8 Modifications and testing the revised ADEPT model**

The above modification to the original ADEPT model was informed by the insights from the ILR, the four fundamentals for effective service delivery, the various theories – OET, CLT, Luhmann's communications theory and the political systems theory of Easton – as discussed in Chapter 2 and earlier in this chapter, respectively. Subsequently, the clarification of the reciprocal interplay between institutional and functionary mandates across sectors within the multi-sectoral and multilevel dispersed local government arrangement shows the responsibilities of both the institutions and officials (Chapter 3). This clarification provides valuable input for expectations of institutions, functionaries, and leadership to execute mandates in support of sustainable preventive EHS and BMS, when testing the revised ADEPT model for its functionality, and subsequently, to gauge the gap between policy intent and practice of a safe and healthy environment for citizens.

The objective of this, the third phase in the study on effective service delivery in local government, was to develop a model, as stated above, the revised ADEPT model which was tested in the Western Cape Province. The revised ADEPT model was tested to assess policy and practice alignment in MHS and BMS within the South African dispersed local government context. This

occurred by exploring how EHPs experience their current circumstances and view their future ideal work, while also reflecting on their current interaction with LM sectoral departments. The results from this survey were categorised according to the determinants listed in the revised ADEPT model. While exploring functionaries' lived experience, it also served as a practice run to test the functionality, applicability, and generalisability of the model.

### **4.3 METHODOLOGY**

In this section of the study, a mixed-methods data collection approach employing face-to-face and online structured questionnaires as well as FG interviews was employed. Data were read to identify themes which were then categorised and used to inform the revised ADEPT model's list of policy impact determinants: goals, obligations, resources, and opportunities.

#### **4.3.1 Sampling methods**

To determine the alignment of the MHS water, sanitation, and solid waste policy goals with the associated quantifiable elements of the ADEPT model (section 4.2.7.1a), word clouds were generated from the legislation mapped in Chapter 3. The Atlas.ti 9 database was used to establish the frequency of words relating to effective EHS delivery, e.g., (i) improving the health of the population, (ii) customer-focused (i.e., citizen satisfaction), (iii) risk-oriented, (iv) basic needs-oriented and (v) intersectoral collaboration to determine the thrust of each sectoral policy goals.

The data collection was conducted by the researcher with two groups of functionaries in Western Cape local authorities (e.g., DMs and LMs). The first group were EHPs employed by MHS authorities (DMs, Category C municipalities), while the second group were officials employed at six purposive selected LMs (Category B municipalities) in middle management positions working

in water, sanitation, and solid waste departments, respectively. The targeted LMs are embraced within the MHS authorities' geographical jurisdictions in the Western Cape (Appendix A).

Due to budgetary and time limitations, a purposive sample of six LMs was drawn from the 24 LMs in the province (Appendix A). Criteria were used to select the six LMs for inclusion in the purposive sample based on the municipalities' ranking in the 2014 national Blue Drop and Green Drop assessment reports (South Africa, DoWS, 2015). These reports were the latest available from the Department of Water and Sanitation's IRIS (Integrated Regulatory Information System) online portal when the study commenced. The annual greenest municipality competition, which reflects solid waste management in the municipalities, also served as criteria in selecting the purposive sample. However, data were not readily available for all the municipalities in the Western Cape. Therefore, the final selection criteria for the purposive sample covered only the 2014 BD and GD rankings (Appendix C).

For the sample selection process, three categories of municipalities were created using the information in the reports. These were classified as municipalities (i) *doing well*; (ii) falling in a *middle category*, and (iii) *not doing well*. For the first and third categories, the top and the bottom three municipalities on the Blue Drop and Green Drop log lists were selected (Appendix C, part B) (South Africa, DoWS, 2015). The top performers on the respective lists were Overstrand (WC 32); Witzenberg (WC 22); Bitou (WC 47) and Beaufort West (WC 53). Laingsburg (WC 51), Kannaland (WC 41), Prince Albert (WC 52) and Stellenbosch (WC 24) represented the *not doing well* group (Appendix C, part A).

To identify participants employed by municipalities from the *middle category*, the ones marked as *average performance* (50-<80% score) and *moderate performance* (51.8- 64.5%), respectively, in the respective Blue Drop and Green Drop assessment reports were identified, generating a list

of 15 municipalities from the Blue Drop report and 14 from the Green Drop report. Duplications and overlaps from the two categories were eliminated, leaving a final list of 13 municipalities (n=13). From this list, with the help of Excel's random selection function, three municipalities were selected: Langeberg LM (WC26), Hessequa LM (WC42) and Swartland LM (WC15). The same selection procedure was followed to select the three municipalities from the *doing well* and *not doing well* categories, from the respective long lists (Appendix C, part B).

Although three names were selected per category, only two municipalities per category were targeted for interviews, totalling six. The sectoral departments in these municipalities, responsible for water, sanitation, and solid waste, were targeted for the BMS interviews. The third municipality in each category was used as a backup if any of the first and second choices declined to participate or missed the deadline to respond. This was the case for Kannaland (WC 41), declining the invitation on the grounds of the strain it was under due to a severe drought. This local authority was subsequently replaced by Prince-Albert (WC 52). The final list then comprised: Overstrand (WC 32) and Witzenberg (WC 12) in the *doing well* category; and Langeberg (WC 26) and Hessequa (WC 42) in the *middle category*' (Appendix B, part A). Once the participating municipalities confirmed, the middle managers (n=11) responsible for water, sanitation and solid waste at the selected municipalities were personally approached, as they serve as a bridge between operations and top management.

As stated, the other group of participants were officials employed by the DMs in the three job levels of EHPs (N=135) (e.g., functional level; middle management, and top management) that are responsible for executing the MHS authority functions, as described in Chapter 3. They were from

top management (n=5), middle management (n=29) and functional level EHP (n=101). Due to not all the DMs having the same nomenclature and responsibilities allocated to the different EHP levels, the middle management group of EHPs embraces the senior, regional, and chief EHPs from the respective DMs.

#### **4.3.2 Data collection methods**

Three sets of data were collected: (i) focus group interviews with a selection of EHPs; (ii) online structured questionnaires to all the EHPs (N=135) employed by the five DMs in the Western Cape Province; (iii) while structured questionnaires were used to collect data face-to-face from the sectoral participants employed by the purposive selected LMs.

Although authors suggest that between two and four focus group interviews are required to elicit the same responses with no forthcoming new insights – data saturation – there is no universal agreement (Richard *et al.*, 2000; Merriam & Tisdell, 2016:101; Guest, Namey & McKenna, 2017). Considering the total number of functional EHPs (n=101) employed by DMs in the province (Appendix A) and the numbers at each DM ranging from five to 32 functional EHPs, six focus groups were deemed adequate to obtain a balanced insight from the functional level EHPs from the various areas.

While all available officials of the MHS managers (N=5) and middle management (N=29) levels were targeted, the focus group interviews with EHPs at a functional level targeted eight participants per group to compensate for participants who might be unable to attend on the day. Even though eight participants were targeted, having less participants are not necessarily a

drawback where in-depth insights are required like in this study. This strategy is in line with the thinking of Richard, Krueger and Casey (2000: 73-74).

Except for the Central Karoo DM, with only five EHPs (n=5), and which due to logistical challenges had been excluded, of the six focus group interviews, two DMs (Cape Winelands DM and Garden Route) each had two functional level EHP focus groups per municipality. The total number of EHPs for the two districts varied from 31 to 35. The remaining two DMs (Overberg and West Coast) participated in one focus group session each, with nine and 21 functional level EHPs, respectively. Apart from Overberg DM where the entire functional EHP cohort (n=9) were included, the rest of the DMs employed more EHPs (Table 4.3). Of these, eight EHPs were randomly selected from lists provided by the DMs. Table 4.3 presents the total number of EHPs per DM, for the three job levels, respectively, as well as the number of FGs per DM.

**Table 4.3: Summary of number of EHPs and Focus Groups per DM**

District Municipalities	EHP Levels				Focus Groups and (Participants)			
	Funct EHP	Mid Man	Top Man	Total EHPs	Funct EHP (1-6)	Mid Man (7-10)	Top Man (11)	Total FGs
1 Central Karoo (CKDM)	5	0	1	6	0	0		0
2 Cape Winelands (CWDM)	35	9	1	45	2	1		3
3 Garden Route (GRDM)	31	8	1	40	2	1	1	3
4 Overberg (ODM)	9	4	1	14	1	1		2
5 West Coast	21	8	1	30	1	1		2
<b>TOTAL</b>	<b>101</b>	<b>29</b>	<b>5</b>	<b>135</b>	<b>6</b>	<b>4</b>	<b>1</b>	<b>11</b>

The purposive sampling protocols used for the random selection of participating sectoral institutions were applied to identify the eight EHPs per focus group. A formal invitation (Appendix H) and the list of randomly selected EHPs (not shown for confidentiality purposes) were sent to the respective MHS managers to inform their EHPs and to arrange for session attendance. If selected officials were unavailable or declined to participate, the next name on the randomised list

was put forward. All protocols regarding consent, confidentiality and permission to record were followed (Appendix I). As mentioned, in total there were eleven focus groups across the five DMs. Focus groups 1 to 6 covered the functional level EHPs (n=101), while four focus groups (FGs 7-10) targeted the EHP middle managers (n=29). Focus group 11 embraced the five MHS top managers from the respective DMs. The online structured questionnaires with open- and close-ended questions, distributed by email, using Google Forms, to EHPs (N=135) employed by the five DMs (Table 4.3) in the Western Cape Province.

The structured questionnaires (Appendix D) were used to collect data face-to-face from the sectoral participants (N=11). Prior to the interviews, the structured questionnaires were e-mailed to the sectoral participants (N=11) to obtain consent to be interviewed and for the interviews to be recorded. Also, information was provided to familiarise potential participants with the content and to solicit their consent to participate. Due to the Covid-19 pandemic, not all sectoral role players could be interviewed in person. In some cases, face-to-face interviews were conducted with officials, e.g., from Witzenberg (WC 12) and Overstrand LMs (WC 32), while those from Laingsburg (WC 51) and Prince Albert (WC 52) had to be interviewed telephonically. The Langeberg LM (WC 26) officials were interviewed via MS Teams.

#### ***4.3.2.1 Structured questionnaire for sectoral role-players***

This structured questionnaire (Appendix D) consisted of 32 questions, divided into two main sections with sub-questions. The first section dealt with the personal, educational, employment, registration status and demographic information of participants, and their responsibilities

connected to BMS – water, sanitation and or solid waste departments. This section also reflects on the participants’ lived experiences of their work in the sector and in local government.

The second section interrogates the sectoral mandate execution in relation to setting service delivery objectives, planning and role allocation. This section also examines whether and how often the sectoral departments consider environmental health risks in their planning, programming and control functions as well as the levels of interaction and collaboration with the MHS division at the DMs regarding EH risks.

A Likert- and paper-based Schutte scale were employed to gauge participant views to the quantitative questions in the interview questionnaires (Appendix D, questions 20-24). During the face-to-face interviews, all identified sectoral participants marked the scales themselves, and when interviewed telephonically, responses were recorded by the researcher and verified by the interviewee. All the interviews were recorded and transcribed in MS Word while the quantitative data pertaining to sector participants were logged in the Statistical Package for the Social Sciences or SPSS-27 software programmes. Notes and recordings were analysed in Atlas.ti 9 and coded.

#### ***4.3.2.2 Structured online questionnaire and focus group interviews with EHPs***

To collect data from EHPs, an online self-administered Google Forms questionnaire with 52 questions was developed and emailed to all who agreed to participate (n=133) (Appendix E). It was designed to encompass all EHP levels (e.g., functional level, middle management EHPs, and top management level) employed at the DMs in the Western Cape. The questionnaire was divided into five sections, one general and four broadly based on the fundamentals of effective service

delivery as identified in Chapter 2: mandate cognisance, mandate execution, leadership commitment and community satisfaction.

Again, the general section ascertained personal, educational, employment, registration status and demographic information and their responsibilities regarding EHPs employed in local government. The second section requested responses on their functional mandate and professional compliance and on EHP work experience in the field of environmental health and local government in general. It also covered the level of authority each had been assigned by the employer to perform functions within the legislative framework. The third consisted of five sub-sections including: (i) funding commitment; (ii) EH risks and planned objectives; (iii) availability of equipment; (iv) collaborative planning, programming and control procedures undertaken by MHS and sectoral departments; and (v) leadership support for MHS operational interventions. The fourth section interrogated EHP perceptions regarding perceived success in meeting the health prevention needs of the community.

To prevent a skewed outcome due to a too-low response rate per DM, respondents' email addresses were collected to verify responses against the list of available EHPs to calculate the response rate per DM area. A response register indicated the percentage of responses per DM. Weekly progress reports with graphs showing the respective DM responses were shared with MHS managers to encourage their staff members to complete and submit their online questionnaires by the due date to achieve at least a 70% response rate per DM. The data from the EHPs structured online questionnaire Google Forms responses were exported to SPSS-27 to analyse the quantitative data of nominal and ordinal scales.

As stated, focus group interviews were conducted with three levels of EHPs employed by the DMs in the Western Cape Province e.g., (i) functional level EHPs (N=101); (ii) middle management (N=29); and (iii) top management (N=5) Table 4.3. The interviewer designed two discussion maps that were used to collect data from the three levels of EHPs. One, entitled *Effective Preventive EHS: EHP Needs Analysis* (Appendix F), consisted of three sections. The first section addressed EHPs' experiences of their current situation, while the second part focused on how they viewed the delivery of EHS under ideal circumstances. The latter part of the interview map ascertained what the EHPs thought they required to effectively deliver services and fulfil their functions. The second interview map, entitled *Effective Preventative EHS: MHS / Sector alignment* (Appendix G), also consisted of three sections. The first section addressed EHPs' current planning, programming, and control collaboration experiences with sectoral departments (water, sanitation and solid waste). The second part focused on how the EHPs viewed the planning, programming, and control collaboration with sectoral departments under ideal circumstances. The latter part of the interview map gauged EHP perceptions regarding the current level of collaboration among MHS and the sectoral departments to mitigate the water, sanitation, and solid waste-related determinants of health at the source to fulfil their functions.

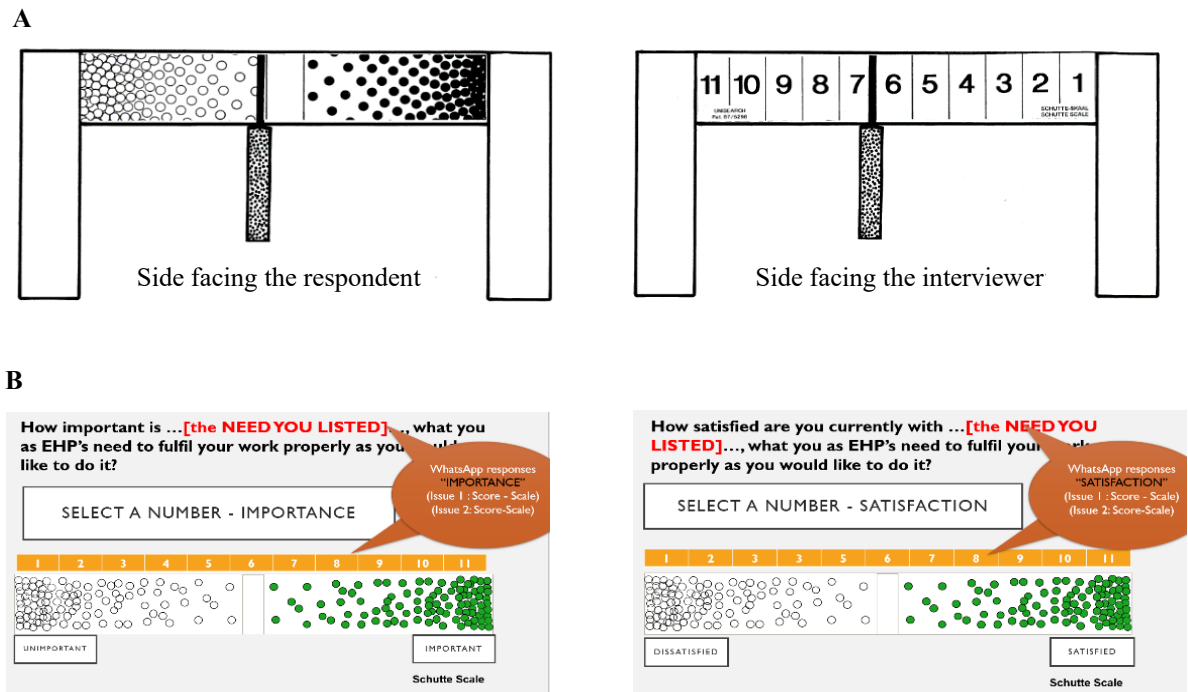
Data were collected using the Associated Group Analysis (AGA) technique, a quali-quantitative research technique (Diaz-Guerrero & Szalay, 1991; Szalay & Maday, 1983; Szalay, Strohl & Doherty, 2002). According to Diaz-Guerrero and Szalay (1991: 22), with this technique the stimulus theme becomes the unit of analysis and subsequently the fundamental unit in the perceptual understanding that crystallises from that. In the first and second parts of the interview map, the stimulus theme, *Think about your work as an EHP [under ideal circumstances], what*

*comes to mind first?* was the statement applied to determine the current and ideal circumstances for the EHPs. The goal of the data collected from the AGA exercise was to identify whether a gap exists between the current work environment of EHPs and the hypothetical ideal practice.

The third part of the interview map (Appendix F) encouraged EHPs to indicate what they thought they needed to effectively do their work. After identifying a need, they were required to motivate their answers. The process was repeated until saturation was achieved. The same protocol as described above for the interview map displayed in Appendix F were followed with the second interview map (Appendix G). The stimulus theme, *Think about the collaboration between MHS (DM) and sector departments (LMs - water, sanitation, and solid waste) with regards to planning, programming, and control. What comes to mind first?* was the statement used to determine the EHPs current and ideal collaboration experiences. The third part gauged EHP perceptions regarding the current level of collaboration among MHS and the sectoral departments, using the priority index (P-index).

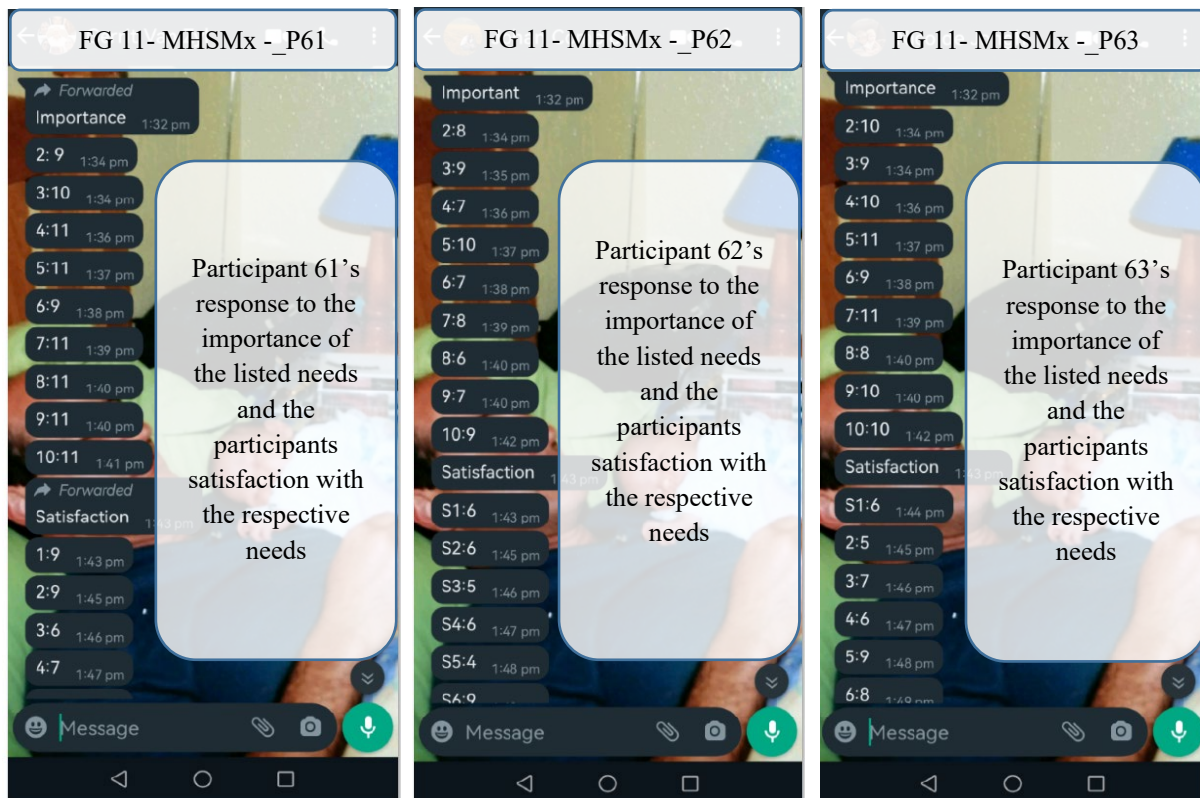
To determine and prioritise the 'true' needs of EHPs to effectively deliver MHS, the priority index needs analysis technique or (P-Index) was used (Schutte, 2015; 2018; 2020). Though this technique had originally been developed to prioritise community needs for planning purposes, its sound theoretical base allowed for adaption to this study (Chunga & Kumwenda, 2014; Schutte, 2015; 2018). To determine how important the participant considered a specific need, a handheld spring-loaded gauge of the Schutte Scale (Figure 4.2A) was used in loco when interviewing functional (FGs 1-6), and middle management (FGs 7-10) level EHP focus groups, respectively. Once each need was scored, the same list of needs was scored according to participants' perception with their satisfaction of the current state of need or level of collaboration fulfilment. All the interviews were recorded for verification purposes.

As the Covid-19 pandemic interfered with logistical arrangements, a virtual version of the Schutte Scale was designed based on the principles of the handheld version (Figure 4.2B) and used during a closed MS Teams meeting with the five DMs MHS managers. To ensure confidentiality, each participant was asked to select a private setting but also to set their computer cameras to a wide view to show activity in the background. The session started by reiterating the consent, confidentiality and ethical issues of the interviews and confirming that the session will be recorded. During the interview, the discussion maps (Appendices F & G) were displayed on the screen asking the MHS managers this question: *If you think about your work as an EHP (manager), what comes to mind first?* The question was repeated until a point of saturation was reached. This was followed by asking them what comes to their mind under ideal circumstances. The same protocol was used with top management as with the middle management and functional EHPs, with the only difference that the activities were done virtually. Virtually scoring the P-Index variables required particular caution to protect confidentiality and avoid participants influencing colleagues' answers. WhatsApp was utilised to receive responses. Prior to the researcher reading the 10 needs aloud, one at a time each participant had to send the word *Important* per WhatsApp to the researcher's cell phone upon which the virtual Schutte Scale (Figure 4.2B) was displayed to guide the participants in scoring their responses. Once the researcher had verbalised the need, the participants had to indicate how important they considered it to be by sending the number associated with the need, e.g., '2' for the second need, then a colon (:) followed by their score (Figure 4.2B). As example, the MHS Top Management needs e.g., (1) sufficient staff; (2) effective communication from national and provincial level; (3) recognition; etc. (see Appendix N for full list of MHS Management needs).



**Figure 4.2: Handheld (A) and virtual version (B) of the Schutte Scale used for EHP FG interviews, and the Microsoft Teams interview with MHS top management, respectively**

The researcher verbalises for example the second need by asking “how important is ‘effective communication from national and provincial level’ for you?”. Each MHS Manager then first sent the word ‘importance’ which is followed by number ‘2’ as an indication of the second need. A colon then separated the respondent’s respective scores from the need, which is sent via WhatsApp. Figure 4.2 shows for example three MHS Top Management participants WhatsApp responses to the researcher. Participant 61 (P61) scored the importance dimension for need 2 as 9, while P62 scored it as an 8, and P63 scored it as a 10 (Figure 4.3).



**Figure 4.3: Example of MHS Top Management's virtual responses to the importance and satisfaction with their listed needs to do their work properly**

The same procedure was followed until the importance of all needs had been scored. Subsequently, the same protocol was followed to establish their levels of *satisfaction* with each need. Thereafter, the same protocol for importance and satisfaction was followed for the third part of Appendix G, determining the P-index for each EHP perspective regarding the planning, programming, and control collaboration among EHS and sectors.

After all needs had been scored, the *satisfaction* score was deducted from the *importance* score, yielding the P-Index. The greater the gap between the two dimensions, the more significant the need and vice versa. The EHP and the sectoral P-Indices are displayed in the results and discussion section below.

Data collected via the different methods were uploaded on SPSS-27 and Atlas.ti 9 for analysis. The actual number of participants per FG and a detailed discussion on how data were used for policy impact analysis by way of the revised ADEPT model follows in the next results and discussion section.

#### **4.4 RESULTS AND DISCUSSION**

Regarding the response to the EHPs online questionnaire, except for two DMs that only attained a 61% and 67% response rate, respectively, the other three DMs response rates exceeded the target of 70%. These ranged between 82-87%, resulting in a 76% (n=100/132) overall response rate. The discrepancy in the total number of EHPs employed by DMs (N=134) and the denominator (N=132) used for the response rate calculations is due to the retirement of the Overberg DM's MHS manager, and the passing on of an EHP from Central Karoo DM while the survey was underway.

As stated, although authors (Richard *et al.*, 2000; Merriam & Tisdell, 2016:101; Guest, Namey & McKenna, 2017) suggest that between two and four focus group interviews are required to achieve data saturation, for this study six focus groups for the functional level EHPs were deemed adequate to obtain a balanced insight from the various DM areas. While the focus group interviews, for the reasons stated above, targeted eight participants per group session, the actual number of participants per DM's focus groups are detailed below. Table 4.4 provides the number of focus groups per EHP level e.g., the 1<sup>st</sup> column provides the number of focus groups for the functional level EHPs per DM area. The table also provide the targeted number of EHPs per EHP job level as well as the actual number of participants per DM. For example, except for the MHS Manager of CKDM that participated in the MHS Top Managers FG (e.g., FG 11), the mentioned DM had

no FGs or participants participating in any FG. Cape Winelands DM had in total three (n=3) FGs with 15 participants. Two of the FGs accommodated the nine functional level EHP participants, while the third FG housed the five middle management level EHPs in the CWDM area. In summary, the Garden Route DM had also three FGs that embraced 22 EHP participants, while the Overberg DM, and West Coast DM each had two FGs with 12, and 16 EHP participants.

**Table 4.4: Number of focus groups, with their targeted number and actual number of participants per DM**

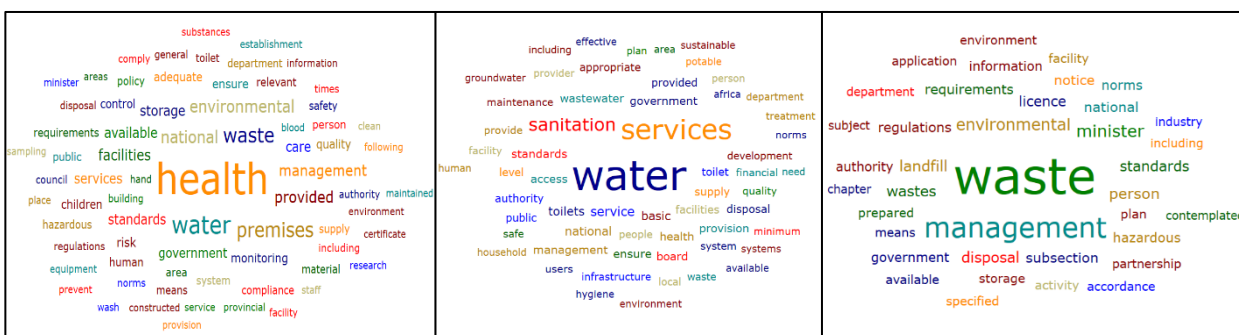
District Municipality	Focus Groups and Participants (Part)									
	Func EHP (FGs 1-6)	Target Part	Actual Part	Mid Man (FGs 7-10)	Target Part	Actual Part	Top Man (FG 11)	Actual Part	TOTAL FGs	TOTAL PART
1 CKDM	0	0	0	0	0	0		1	0	1
2 CWDM	2	16	9	1	5	5		1	3	15
3 GRDM	2	16	16	1	5	5	1	1	3	22
4 ODM	1	9	7	1	4	4		1	2	12
5 WCDM	1	8	8	1	7	7		1	2	16
<b>TOTAL (N)</b>	<b>6</b>	<b>49</b>	<b>40</b>	<b>4</b>	<b>29</b>	<b>21</b>	<b>1</b>	<b>5</b>	<b>N=11</b>	<b>N=66</b>

This exploratory study applied to the revised ADEPT model (Table 4.2) to test its suitability to establish the impact of policies pertinent to MHS and BMS and the four fundamentals for effective service delivery – mandate cognisance, mandate execution, leadership support and community satisfaction – as outlined in Chapter 2. The results are discussed in the order of the revised ADEPT model policy impact determinants: (i) goals; (ii) obligations; (iii) resources; and (iv) organisational, political, and public opportunities (see Table 4.2).

#### 4.4.1 Goals

To align the MHS water, sanitation, and solid waste policy goals with the associated quantifiable elements of the ADEPT model (section 4.2.7.1a) word clouds were generated from the legislation

mapped in Chapter 3: one each for water, sanitation, and solid waste (Figure 4.4). These were analysed using the Atlas.ti 9 database to establish the frequency of words relating to effective EHS delivery: improving health of the population, customer-focused (i.e., citizen satisfaction), risk-oriented, basic needs-oriented and intersectoral collaboration. These were then used to search the policy documents to identify the focus of the policy goals.



**Figure 4.4: Policy goals analysis using word clouds from legislative Acts of Parliament and norms and standards regulating MHS, water, sanitation, and solid waste, illustrating key words informing the goals of the legislation (see Chapter 3, Figure 3.2 for legislation evaluated in Atlas.ti 9)**

Table 4.5 indicates the frequency of words associated with the main themes relating to effective EHS delivery, per sector, and the percentage weighting within each sector. Each word is categorised in accordance with the policy goal elements in the revised ADEPT model (Table 4.2), namely customer-focused; risk-oriented; basic needs-oriented; citizen satisfaction; and sectoral collaboration. The top five words per sectoral category are shaded to contextualise the policy thrust in each sector's legislative framework, while the highest frequency words per sector are denoted with the number 1 in Table 4.5.

Table 4.5: Selective list of conceptual associations for sectoral legislation

Words	Health		Water & Sanitation		Solid waste	
	Freq	Percent	Freq	Percent	Freq	Percent
<b>Action centres on improving health of the population</b>						
Communicable	39	0.40	0	0.00	0	0.00
Disease(s)	189	1.95	32	0.50	3	0.09
Hazard(s)(dous)	1	2.87	8	0.13	154	4.58
Health(y)	2089	21.57	176	2.76	62	1.84
Healthcare	63	0.65	5	0.08	2	0.06
Hygiene	102	1.05	97	1.52	0	0.00
Hygienic(ally)	28	0.29	43	0.67	0	0.00
Nuisance(s)	44	0.45	4	0.06	3	0.09
Pollution/polluting	95	0.98	57	0.89	23	0.68
Prevention	62	0.64	12	0.19	8	0.24
Waterborne (disease prevention & sanitation)	19	0.20	10	0.16	1	0.03
<b>Actions centres on meeting basic needs</b>						
Basic	29	0.30	198	3.10	4	0.12
Need(s)	125	1.29	121	1.90	17	0.51
Potable/Drinking water	87	0.90	115	1.80	0	0.00
Sanitation/sanitary	93	0.96	570	8.93	0	0.00
Sewage/Sewer/Sewerage	50	0.52	45	0.71	1	0.00
Waste	757	0.13	102	1.60	1500	44.58
Wastewater	13	7.82	1	2.70	0	0.00
Water	993	10.25	1934	30.31	58	1.72
<b>Action centres on mitigating EH risks</b>						
Abatement	1	0.01	3	0.05	1	0.03
Comply(ce)(iant)	338	3.49	70	1.10	127	3.77
Control(s)	278	2.87	31	0.49	36	1.07
Disaster(s)	10	0.10	6	0.09	0	0.00
Disposal	189	1.95	175	2.74	260	7.73
Environment	126	1.30	94	1.47	103	3.06
Environmental(ly)	543	5.61	92	1.44	252	7.49
Identify(ing)(fied)	50	0.52	6	0.09	29	0.86
Inspect(s)(ed)(ion)(or)	132	1.36	9	0.14	65	1.93
Maintain(ing)(ed)	120	1.24	39	0.61	4	0.12
Maintenance	24	0.25	125	1.96	3	0.09
Mitigate(ing)(ion)	5	0.05	0	0.00	3	0.09
Monitor(ing)(ed)	327	3.38	75	1.18	28	0.83
Norm(s)	152	1.57	97	1.52	139	4.13
Notice(s)(fy/ing)	30	0.31	26	0.41	173	5.14
<b>Polluter</b>	2	0.02	4	0.06	1	0.03
Prevent(s)(ing)(ive)	150	1.55	57	0.89	25	0.74
Quality	235	2.43	116	1.82	8	0.24
Reduce(s)(d)	18	0.19	48	0.75	17	0.51
Reduction	7	0.07	12	0.19	23	0.68
Risk(s)	317	3.27	59	0.93	31	0.92
Sampling/Samples	247	2.55	2	0.03	7	0.21
Severity	4	0.04	0	0.00	0	0.00
<b>Actions centres on citizens (satisfaction)</b>						
Community(ies)	127	1.32	54	0.85	2	0.06

Household(s)	35	0.36	124	1.94	1	0.03
Human(s)	218	2.26	79	1.24	8	0.24
Inhabitants	0	0.00	5	0.08	0	0.00
Poor	25	0.26	15	0.24	3	0.09
Population(s)	38	0.39	14	0.22	1	0.03
Public	196	2.03	17	0.27	59	1.76
Rights	38	0.39	54	0.85	26	0.77
Satisfied(faction)(factory)	7	0.07	3	0.05	4	0.12
Service(s)(ing)	485	5.01	1146	17.96	86	2.56
Settlement(s)	11	0.11	18	0.28	0	0.00
<b>Action around intersectoral collaboration</b>						
Collaboration	33	0.34	0	0.00	0	0.00
Cooperation	9	0.09	4	0.06	2	0.06
Intergovernmental	2	0.02	0	0.00	3	0.09
Intersectoral	0	0.00	0	0.00	0	0.00
Partnership approach	2	0.02	0	0.00	0	0.00
<b>TOTAL conceptual associations per sector</b>	<b>9686</b>	<b>100.00</b>	<b>6380</b>	<b>100.00</b>	<b>3365</b>	<b>100.00</b>

#### 4.4.1.1 Improving the health of the population

Improving the health of the population is the overarching goal of EHS. This is reflected in the number of references identified in the national environmental health policy (South Africa, DoH, 2013) and in the norms and standards (South Africa, DoH, 2016). Control of waterborne diseases produced 18 paragraphs in these documents. The water and sanitation norms and standards make mention of waterborne disease control in 10 paragraphs in the context of waterborne sanitation management to prevent and control the spread of diseases. Sectoral legislation also emphasises the population's right to information and the means to protect themselves against diseases and nuisance vectors including water, sanitation, and solid waste- related illnesses. The search word "pollution", AND "control" showed 10 paragraphs in the sectoral legislation including the *NEMA Waste Act* (59 of 2008) dealing with the prevention of pollution and ecological degradation and the licencing of waste activities to control pollution. Water-related legislation covers prevention of water resource pollution and ways to sanction polluters and force them to remedy the effects.

#### ***4.4.1.2 Basic needs focused***

The health policies do not report on “basic needs” OR “basic services”; however, 18 paragraphs in the water, sanitation, and waste cluster policies (South Africa, 1997; 2008; South Africa, DoEA, 2008; South Africa, DoWS, 2017b) contain the search words “free basic services” that should be in place to, among others, prevent the spread of diseases. Although not specifically part of this analysis, funding to municipalities also makes provision for national funding to augment municipal funding shortfalls for indigent households to ensure safe water, sanitation, and solid waste services (South Africa, DoF, 2006; 2021; Stanton, 2009). Therefore, the excuse that there are not sufficient funds for such should be questioned.

#### ***4.4.1.3 Risk focused (mitigating environmental health risks)***

The terms “mitigating risks”, “reduce risks” OR “risk reduction” combined with “public health”, revealed 15 paragraphs in the health policy cluster (South Africa, DoH, 2009; 2013; 2016). The policy on environmental health (South Africa, DoH, 2013) states that EHPs should follow a risk management approach and conduct risk assessments when monitoring water quality and other EHS. This is reinforced by the Environmental Health Norms and Standards (South Africa, DoH, 2016) directing EHPs to be certain that facilities such as hospitals have a risk management plan in place to ensure safe drinking water quality. The search of the health legislation, however, did not yield results for “mitigating risks”, OR “reduce risks”, OR “risk reduction” AND “public health”. The norms and standards for water and sanitation produced one paragraph referring to “risk reduction” related to effective sustainable local nutrient re-use practices to protect public health and to prevent pollution. No direct instructions are set out for water, sanitation and solid waste services in general to consider health-related risk reduction for the community at large.

Only the norms and standards for the water, sanitation and waste cluster legislation (South Africa, DoEA, 2013; South Africa, DoWS, 2017b) make mention of “public health” and “mitigating health risks” as the responsibility of the water service authorities. It mentions key public health risks such as indiscriminate waste dumping and sewerage systems damage. It also refers to their obligation to sensitise the population, through the EHPs, while it should also take responsibility for their environment (25 paragraphs reported on public health) (South Africa, DoEA, 2013; South Africa, DoWS, 2017b).

The *NHA* (Act 61 of 2003) and subsequent policy documents list 56 paragraphs mentioning “public health” on a variety of issues. The *Environmental Health Policy* (2013) reiterates that the function of EHS is to protect all people from environmental threats in collaboration with communities and sectoral departments. Since the mandate of local government EHS is not to provide and maintain water, sanitation and solid waste infrastructure, the policy makes it clear that EHPs should receive full cooperation from other sectors when requiring their expertise to mitigate environmental health risks.

#### ***4.4.1.4 Citizen satisfaction (customer/population-focused)***

A search for the words “population”, “citizens”, “communities” generated 120 paragraphs in the health policy cluster (South Africa, 2003; South Africa, DoH, 2009; 2013; 2016), and the policy on environmental health refers specifically to citizens’ active involvement in successfully delivering health services. The policies also mention the significance of state institutions collaborating and cooperating with communities as well as with sector departments. The environmental health policy further expects EHS to determine risk levels for communities that are

exposed to EH hazards, while taking steps to interact with government, private institutions, individuals, or communities to mitigate any environmental health hazards.

The same word search generated 61 paragraphs mentioning EHS and the community in the water and waste sector legislation (South Africa, 1997; 2008; South Africa, DoEA, 2013; South Africa, DoWS, 2017b) concerning the community with reference to the Integrated Waste Management Plan (South Africa, 2008; South Africa, DoEA, 2013) and developing population profiles. This includes involving previously disadvantaged communities in recycling projects. Only a vague statement referring to the fluidity of the water and sanitation norms and standards was located, stating that it may be reviewed “for the benefit of the population” (South Africa, DoWS, 2017b: 5). However, the document on norms and standards also makes mention of the basic need to provide “universal access to safe water for all citizens”. It further emphasises hygiene education and promotion services (33) and sets a target of 75% of the population to “have access to and should be involved in identifying and promoting the use of hygiene items to ensure personal hygiene”. The phrase “satisfaction” appears in five places across the policy clusters of all sectors. Of these, only the water and sanitation norms and standards refer to customer satisfaction with the quality of water. The legislation on solid waste declares that services should be offered and conducted to the satisfaction of the authority and the communities.

#### ***4.4.1.5 Action around intersectoral collaboration***

As stated under section 4.2.7.1, the themes in support of effective service delivery also identified collaboration and cooperation as essential aspects of effective and sustainable service delivery. Searching these and related phrases (e.g., intergovernmental, intersectoral and partnership approach) generated 35 paragraphs underscoring the need for cooperation among environmental

health and other sectors to facilitate IGR. The National EH policy (South Africa, DoH, 2013) requires a partnership approach for holistic integrated planning in EH. The National Health Act (61 of 2003) obligates the provincial health department head to participate in interprovincial and intersectoral co-ordination and collaboration among health facilities, yet no mention is made of interaction with sectoral departments and municipalities renege on their constitutional responsibilities to support local government EHS to mitigate ill health at the origin. Therefore, segregating EHS at a local government level from the national and provincial health function supports the notion that the curative dominated health system is so inward looking that they don't hold the sectors causing ill health responsible, as stated by Listorti and Doumani (2001: xxiii).

With regards to the water and sanitation, and waste policy clusters ((South Africa, 1997; 2008; South Africa, DoEA, 2013; South Africa, DoWS, 2017b), only seven paragraphs contain the words '*collaboration*' or '*cooperation*'. The water and sanitation norms and standards (South Africa, DoWS, 2017b) only make mention of cooperation in the context of an appeal to functionaries in the field to uphold the reputation of their profession. The NEMA Waste Act (59 of 2008) merely makes a broad appeal for cooperative governance without broaching collaboration with the community or the health sector. Sectoral departments too, are not given instruction to consider health issues and the mitigation of EH risks when planning, programming, and controlling BMS projects. A corollary to Spitzer's (2007: 16) statement that "people will do what management inspects (measures), not necessarily what management expects" is overlooking the input EHS can make at an operational and planning level.

Searching these phrases shows how the sectoral policy goals can further support the broader government's IGR objective to facilitate intersectoral cooperation to achieve the objectives of the institutions, and importantly, of the constitution.

#### **4.4.2 Obligations**

The quantitative elements evaluating *obligation* as a policy impact determinant are as follows: (i) *Personally, I feel obliged to do something in this field*; (ii) *The action is part of my professional (\*official) duties*; (iii) *Scientific results demand the action*; and (iv) *We are obliged to the population to act in this area*. Themes related to each of the elements can be construed from questionnaires completed by the EHPs and sectoral participants.

##### **4.4.2.1 *Personally, I feel obliged to do something in this field***

Testing the suitability of the ADEPT model for application in the local government context required that the element, *Personally, I feel obliged to do something in this field*, be assessed on, (i) the EHPs' and sectoral participants' tenure in local government and (ii) their current jobs.

EHPs' and sectoral participants' years of service in local government and in their current position was categorised in  $<$  and  $\geq$  five years and 10 years, respectively (Table 4.6) to represent their mandate cognisance (expertise) and commitment.

**Table 4.6: EHP & sectoral local government work experience - showing commitment and obligation**

	EHPs (n=100 participants)		Sectors (n=11 participants)			
	Local Gov Exp (Yrs)	Period in current job (Yrs)	Local Gov Exp in Yrs	Period in current job (n=11)	WSA/WSP Exp (Yrs) (n=7)	Waste Exp (Yrs) (n=8)
Mean	17.7	12	15	8.3	11	11.4
Median	14	11	16	5	12	10.5
Min	1	1	2	2	3	4
Max	42	37	25	12	25	21
Std Dev	11.178	8.417	6.529	3.511	7.071	6.183
Percent <5 years	15.0	18.0	9.1 (n=1)	45.5 (n=5)	14.3 (n=1)	12.5 (n=1)
Percent ≥5 years	85.0	82.0	90.9 (n=10)	54.5 (n=6)	85.7 (n=6)	87.5 (n=7)
Percent <10 years	27.0	43.0	18.2 (n=2)	81.8 (n=9)	42.9 (n=3)	50.0 (n=4)
Percent ≥10 years	73.0	57.0	81.8 (n=9)	18.2 (n=2)	57.1 (n=4)	50.0 (n=4)

Although remaining in the same position with a single employer is not a current employment tendency, EHPs and officials in the water and sanitation and the waste sectors appear to buck the trend with an average tenure of 15 years. The literature presents several theories as to why people choose to remain in the same position for long periods – personal experiences, attitudes towards a comfort zone, valuing stability and job security, for example. However, it could also indicate a person's commitment to the job, the institution, and the higher calling (Fisher *et al.*, 2015; Bachmann & Felder, 2018). This commitment serves as a strong foundation for delivering essential municipal services.

However, rather than indicating high levels of commitment, the EHPs questionnaire responses show that for most, extended employment in their current positions is the consequence of limited opportunities for professional development in the municipalities. They explain the reasons for this as the flat MHS organisational structures resulting in a minimal number of senior positions, a lack of recognition for professional contribution and a disregard for expertise in environmental health. Focus

Group 4 reported that in the past their municipality employed a chief EHP, a senior in charge, and four or five senior EHPs. That meant up to seven opportunities for promotion for a junior EHP. Currently, there are only two posts in which to be promoted. As a result, “*EHPs are sitting in positions for 30 years while still being junior EHPs*”. This, they added, affects the staff morale negatively (Appendix L: Functional Level EHP Needs - Growth).

#### 4.4.2.2 *The action is part of my professional (\*official) duties*

To assess the impact of EHPs’ perception of their professional obligations on policy, aspects like statutory registration and continued professional development came into play. Non-compliance of either officials or the institutions employing them hinders them in executing their compliance enforcement roles. Table 4.7 overviews the professional registration status of all EHP respondents (n=100) and sectoral respondents (n=11) for the 2021/22 registration period.

**Table 4.7: Professional registration status of EHPs, water/sanitation and waste sectoral respondents**

Variables	EHPs (MHS) (n=100)				Sectors (n=11)	
	Independent Practice Yes	Independent Practice (..) & Community Service [..] No	Pending	Total	Yes	No
Prof Registration Certificate	n= (89)	n= (3) [1]	n= (7)	n= 99 [1]	n=5	n=6
Percent	89.0	4.0	7.0	100	45.5	54.5
Latest Practice Card	n= (67)	n= (14) [1]	n= (18)	n= 99 [1]	<ul style="list-style-type: none"> <li>4 of the 5 Pr. PCs that responded to the affirmative are registered with the Engineering Council of South Africa (ECSA)</li> </ul>	
Percent	67.0	15.0	18.0	100		

**NOTES:**

**EHPs**

- “Pending” –At the time of the study some EHPs were still waiting for their practicing cards due to various reasons e.g., late payment by practitioners, or where employers pay practitioners annual fees, they sometimes make bulk payments to HPCSA without linking practitioners’ names to payments which delay the verification processes.
- “Professional registration” – Refers to the proof that EHPs are registered with the HPCSA in the register for EHPs in Independent Practice.

- “Latest Practice Card” – Refers to the annual renewal for EHPs to be eligible to practice as EHPs in independent practice within their professional scope. The “latest practice card” is proof that EHPs are paid up for the latest financial year (e.g., April 2021 to end March 2022) that covered the survey period during June 2021).

### Sectors

- A professional process controller (Pr. PC) responsible for supervising and operating water care works (e.g., water treatment works (WTWs) used to purify water for human consumption and food processing; and wastewater treatment works (WWTWs) used for the purification, treatment or disposal of effluent or sewage), should be register with the appropriate statutory professional bodies, e.g., Engineering Council of South Africa (ECSA). See Chapter 3: basic municipal services professional mandate for water and sanitation services.

#### a) EHPs’ professional registration

All EHPs, irrespective of rank, must be registered with the HPCSA, starting when they enrol as students, for the duration of their studies and while doing their compulsory community service year. On completion of community service, the EHP must apply to the HPCSA to be registered as an independent practitioner. They are then issued with an HPCSA certificate and recorded in the HPCSA's environmental health register (South Africa, 1974; South Africa, DoH, 1976; HPCSA, 2017; Mbola, Human, & Melariri, 2019).

Table 4.7, show that 89% of the EHP respondents are registered as independent practitioners, and one in the community service category. Although these certificates are on-line when registration is paid and verified, seven EHPs said they were still waiting for their certificates from the HPCSA. That could be ascribed to various reasons e.g., ignorance by young EHPs, and or due to late application by the practitioners to register for independent practice, and or outstanding payment that delay the verification processes. Three EHPs are not HPCSA registered, while one of the three is employed in the DM’s air quality control unit. EHPs without proof of their HPCSA registration certificate in independent practice, and proof of latest practicing card are not eligible to work within the scope of the profession (South Africa, DoH, 1976; HPCSA, 2017; Mbola, Human, & Melariri, 2019).

EHPs, like other health professionals, pay an annual registration fee to remain eligible to perform their functions. As proof of registration, they receive a practising card which is available online from the HPCSA. Table 4.7 shows the 2021/22 annual registration standing of the EHPs with 67.6% (n=67) of the 99 independently practising EHPs showing their practising cards at the time of the survey. Fifteen percent (15%) of EHP respondents, including the one community service EHP, could not produce a current practising card, while 18% indicated that they paid but were still waiting on HPCSA. This could be ascribed to various reasons e.g., late payment by practitioners, or where employers pay practitioners' annual fees, they sometimes make bulk payments to HPCSA without linking practitioners' names to payments which delay the verification processes. It might also be due to a delay in the processing at the HPCSA because of the COVID-19 pandemic impact where HPCSA staff mainly worked from home. However, it should be noted that EHPs can (re)register on-line and get their certificates a few days later when proof of payment was verified.

b) Environmental health practitioners' continued professional development status

As stated, (Chapter 3), registered practitioners - EHPs - are obligated to maintain their continued professional development (CPD) status which follows a two-year cycle. This includes keeping a register of the 60 continuing education units (CEUs) completed, of which 10 must cover ethics (HPCSA, 2017).

Only 47% of the respondents indicated that their CPD activity records reflected completing CEUs pertaining to *ethics*, while even fewer (44%) had up to date CPD activity records (Table 4.8). Almost a third of the respondents (n=20) expressed not knowing whether CPD activity records were up to date. As the HPCSA has the right to conduct random audits of CPD records and gives practitioners 21 days to respond (HPCSA, 2017), respondents were asked if they would be able to

comply within the 21 days, to which 62% of EHPs concurring (Table 4.8). The respondents offered several explanations for their inability to meet the 21-day submission requirement, varying from not having a record at all (4%); not having kept it up to date (12%); not having sufficient CEUs related to ethics (18%); and not having sufficient other CEUs (17%). More than half (57%) stated they had other reasons but did not explain what these were.

**Table 4.8: EHPs' professional registration status - CPD compliance**

Variables	CPD Ethics CEUs	CPD Other CEUs	CPD Response (21 days)
Yes	47	44	62
No	24	30	13
Don't Know	11	9	-
On Track (<24mths)	15	16	-
Not Applicable	3	1	-
Maybe	-	-	13
Need more time	-	-	12
<b>TOTAL CPD</b>	<b>100</b>	<b>100</b>	<b>100</b>

The significance of HPCSA registration and a current CPD status is that it allows EHPs to perform their statutory mandates legally and ethically (South Africa, 1974; South Africa, DoH, 1976; South Africa, 2003; South Africa, DoH, 2009; HPCSA, 2017). Without it, they expose themselves, their subordinates, and the municipality to litigation (Connell, n.d.; South African News Agency, 2018; 2021; Ngema, 2023). As health officers, they act as representatives of the municipality and are appointed by the DM's executive mayor (s80 of NHA) to administer the NHA (2003a) for the rendering of MHS, i.e., the nine environmental health listed functions as stated in Chapter 3 (Box 3.1). The legislative and professional mandates require EHPs to regularly conduct inspections (s82) and investigations to monitor non-compliance (s83). If their registration and CPD status are not current, EHPs act *ultra vires* and are therefore not legally permitted to perform functions within their professional scope, including the issuing of compliance notices (Connell, n.d.; South Africa,

1974; South Africa, DoH, 1976; South Africa, 2003; South Africa, DoH, 2009; HPCSA, 2017; Herald, 2018). As a result, a court might consider their mandate execution invalid as they have acted *ultra vires* or without legal authority (Connell, n.d.). In turn, this leads to ineffective service delivery and resource management (Connell, n.d.; South Africa, 2003a; South African News Agency, 2021). Although the practitioners are primarily responsible for ensuring they always meet their professional registration requirements, the employers also have an obligation. The employers should ensure, where applicable, that only statutorily required registered professional employees such as EHPs and Engineers are appointed to perform municipal functions that fall within their professional scopes. While the municipalities should ensure that professional cadres get sufficient CPD training opportunities to keep their CPD status current, they should also have mechanisms to verify annual compliance with their officials' professional registration conditions. To ensure optimal service delivery to the citizens, no employer should allow any unregistered and inconsistent professional to perform statutorily regulated functions on behalf of a municipality (South Africa, 1974; South Africa, DoH, 1976; Connell, n.d.; Herald, 2018; South African News Agency, 2018; 2021; Ngema, 2023).

c) Environmental health practitioners' delegated authorisation status

An EHP's **scope of authority to execute the mandate**, as the second part of the first fundamental of effective service delivery identified in Chapter 2, *mandate cognisance*, refers to the institutions and the official's range of law enforcement. Most respondents (86%) indicated that they are duly authorised as health officers as required in s80(1) of the *NHA* (Table 4.9).

**Table 4.9: EHPs' delegated authorisation – have ID card**

<b>Variables</b>	<b>Yes</b>	<b>No</b>	<b>Pending</b>	<b>Total</b>
NHA (s80(1) Authorised	86	12	2	100
FCDA (s10) Authorised	83	14	3	100
NEMA (s31D – EMI)	22	72	6	100
Bylaw – Authorised	81	15	4	100
<b>Total</b>	<b>272</b>	<b>113</b>	<b>15</b>	<b>400</b>
<b>Percent</b>	<b>68.0</b>	<b>28.3</b>	<b>3.3</b>	<b>100</b>

By extension, that means that 12% of the EHP respondents are not authorised to perform their functions and are acting *ultra vires* in terms of the NHA (Connell, n.d.). Almost 83% of the EHPs responded that they are authorised to act as inspectors as set out in s10 of the FCDA (Act 54 of 1972) (Table 4.9). Statutorily, all the EHPs performing their MHS functions, which include food control at a local government level, should be authorised in terms of both the NHA and the FCDA. Again, this renders any actions or sanctions non-binding and could open the institutions and the officials to litigation. This not only leads to ineffective service delivery but also jeopardises public health (Connell, n.d.).

***i. Environmental management inspector authorisation***

Only 22% of EHP respondents indicated that they are authorised in terms of s31G of the *NEMA Amendment Act* (2003) to act as EMIs (Table 4.9) (South Africa, 2003b). While it is not compulsory for EHPs to be authorised as an environmental management inspector (EMI), this provides them with additional authority via the national and provincial environmental affairs departments. It allows them to respond to cases of pollution beyond the limited provisions of health legislation. Issuing compliance notices in terms of the *NEMA Amendment Act* carry more stringent compliance requirements than that of the NHA. Flouting EMI warnings requires the EMI, (i.e., the

authorised EHP) to report the case directly to the minister of the Department of Environmental Affairs. No such provisions exist for EHPs under the health legislation to report directly to higher authorities if they do not get the cooperation from offenders for continued non-compliance, where the internal support at municipalities is not forthcoming. Despite acknowledging that the *NEMA Amendment Act* offers them more powers, respondents expressed feeling restricted due to IGR dynamics with the general law-enforcement challenges; sectoral role-players and leadership not prioritising environmental health issues; and political interference (Appendices L, M & N).

***ii. Bylaw authorisation***

The EHPs were asked if they are also authorised to enforce the municipal bylaws, to which 81% responded favourably (Table 4.9). The bylaws allow EHPs to handle more complex regulatory and compliance issues that augment national and provincial legislation. In this case, the municipal manager delegates authorisation to EHPs and not the executive mayor, as mentioned in the case for the NHA.

**d) Sectoral professional registration**

When interviewing middle management participants from sectors that cooperate with EHPs (n=11), they were asked about belonging to a professional body and their level of education (Table 4.7). Water and sanitation sector functionaries are obliged to meet the regulatory requirements on compulsory national standards for process controllers and water services works (South Africa, DoWS, 1985; 2013).

Just less than half of the respondents (n=5) (45.5%) indicated that they are affiliated with a professional body, while one indicated an affiliation with the Institute of Waste Management of Southern Africa (IWMSA). This, however, is not recognised as a statutory professional body for waste management officers (personal interview with Mr Eddie Hannekom on 16 September 2021 Director – Western Cape Department of Environmental Affairs).

Respondents from the water and sanitation sector have the minimum qualifications to register as Class IV to V process controllers (PCs) (Table 4.10). Despite three respondents also qualifying for the top-level position, Class VI PC, with their NQF 6 level qualification (BTech), their years of experience are below the expected target.

**Table 4.10: Process Controller professional registration compliance**

WSA/ WSP (LM)	Class WCWs (Highest)	Process Controller		Water & Sanitation Respondents (Pr.PCs)					
		Minimum Requirement Supervisor	Weekly Inspection	Qualifications		Experience (Years)	Professional Registration	Eligibility Range	
				Degree / Diploma	NQF Level	WSA / WSP	Yes/ No	Body	
LM-A	D	II	III	NDip Civil	5	5	No	-	Class I - IV
LM-B	E	I	II	BTech Civil	6	3	No	-	Class I - IV
LM-C	C	III	IV	BTech Urban	6	6	Yes	ECSA	Class I - V
LM-D	B	IV	V	NDip Civil	5	25	Yes	ECSA	Class I - V
LM-E	C	III	IV	NDip Civil	5	15	Yes	ECSA	Class I - V
LM-E	C	III	IV	NDip Civil	5	12	Yes	ECSA	Class I - V
LM-F	C	III	IV	NDip Civil & Cert Water purification	5	12	No	-	Class I - V

**NOTES:**

- **LM** = Local municipality (LM-A to LM-F are purposive selected LMs that are both the Water Service Authority's (WSAs), and Water Service Providers (WSPs) in their respective areas).
- **Class Water Care Works (WCWs)** = the term embraces e.g., water treatment works (WTWs) used to purify water for human consumption and food processing; and wastewater treatment works (WWTWs) that purifies, treat or disposal of effluent or sewage. Class A WCWs are the more complexed works, while the class E works are less complexed. The listed WCW per LM indicates the highest rated WCWs listed for the purposive selected municipalities. The classification of the WCWs were used to determine to what extent the middle managers (Professional Process Controllers (Pr.PCs)), responsible for supervising the WCWs, are meeting the minimum registration requirements.
- **Classes of PCs as "Supervisor", and for "Weekly inspection"** = The class of PC that should supervise the category of WCW daily, whereas the class of PCs that should be available for the weekly inspections should be of a higher class (See Chapter 3).

In 2013, the South African Qualifications Authority (SAQA) recognised the Water Institute of South Africa (WISA) as a professional body for the registration of the professional process controller (Pr. PC Water) with an appropriate NQF 6 qualification for those who meet competency requirements. Although a PC need not to belong to or register with WISA as it is not a statutory professional body, a Pr. PC Water must register with the appropriate statutory professional bodies, e.g., Engineering Council of South Africa ECSA (see Chapter 3: basic municipal services professional mandate for water and sanitation services).

#### ***4.4.2.3 Scientific results demand action***

In assessing EHPs and participants from related sectors about their exposure to project management and risk management training for effective mandate execution, results revealed that 61% of EHPs have no project management qualifications, and 83% have no risk management qualifications. Of the middle management officials in the related sectors, 72.2% (n=8 out of n=11) had neither qualification (results not shown). Although all categories of municipalities have a constitutional mandate and are legally obliged to plan together to achieve its basic service as its main objective, the South African municipal services sector continues to grapple with a silo approach and failure to provide basic services in a sustainable way (SAHRC, 2018; South Africa, DoWS, 2018; 2020a; 2020b; May & Agenbag, 2021; Fransman, 2021). The latest strategy to resist the tendency to slip into silo mode in municipal planning and service delivery has been the District Development Model (DDM). The DDM approach is following President Ramaphosa's admission in his 2019 budget speech that the silo approach holds a challenge for coherence in planning and implementation of municipal services resulting in LMs inability to effectively provide sustainable services (CoGTA, 2020). As stated in Chapter 2, the importance of contextualising integrated

planning to provide clear direction to achieve the goals of the institution is essential. For example, the constitutional obligation for all municipalities to ensure a safe and healthy environment for the citizens as a basic need, requires of the EHS and sectoral units to identify the EH risks and mitigate the sources of the risks. The EH risks subsequently creates the context for their integrated planning and collaboration that are essential to guide sectoral role-players (Synnevåg *et al.*, 2018). In addition, by focusing on the reduction of the EH risks in a sustainable way to mitigate the EH risks, provide a clear target for the institutions and the sectoral functionaries as a measurable project objective to be achieved. By following the project management approach help to keep the project team focused with clear targets, while requiring dedicated communication among team members at each project phase to ensure the achievement of the objective(s).

Inter-sectoral mandate execution requires (i) aligned planning and suitable key performance indicators (KPIs); (ii) aligned programming or scheduling of tasks; and (iii) aligned control (Chapter 2 – 2.6.2).

At an operational level, the MHS units at the DM level are dependent on the sectoral departments at the LM, responsible for the provision, operation, and maintenance of the BMS to achieve the basic need objectives for a healthy environment to prevent ill health at the origin. Therefore, to overcome the silo-approach in BMS delivery, institutionally integrated risk-oriented planning, programming, and control with ‘winning KPIs’ (Parmenter, 2012) are critical tools to integrate EHS priority risks with BMS sectoral department plans and operational programmes. Appropriately identifying the most significant EH risks within the communities should form the basis for sectoral projects to mitigate the EH risks through collaboration. While project management help to keep a team and resources focused on the target until the final product is

delivered, the project management approach can benefit the reduction of the EH risks to an acceptable level. The (winning) KPIs included in such project(s) should focus on the reduction of the EH risks that should break the sectoral silos. Following a risk management and project management approach in preventive health service delivery can optimise limited resources, breaking through the silo approach, while promoting collaboration and improving IGR to achieve the institutional and constitutional objectives.

#### ***4.4.2.4 We are obliged to the population to act in this area***

The policy impact determinant, *We are obliged to the population to act in this area*, links with the second fundamental of effective service delivery, *mandate execution*. The third section of the four-part questionnaire for the EHPs covered five sub-sections: (i) funding commitment; (ii) EHPs and sectoral colleagues' focus on EH risks when planning; (iii) equipment availability; (iv) collaborative planning, programming, and control among MHS and sectoral departments; and (v) municipal leaders' commitment.

##### a) Sectoral planning perspectives

The grounded theory developed in Chapter 2 makes it clear that effective mandate execution in the context of a multi-sectoral and dispersed governance arrangement demands integrated inter-sectoral planning, programming, and control processes. This must be backed by adequate and appropriate resources and leadership support from both the political- and administrative executive. Furthermore, it requires a problem- and risk-oriented and customer-focused approach guided by fit-for-purpose institutional KPIs.

*i. Municipal health services perspective*

The EHPs' perspective of their value in the statutory collaborative planning instruments among MHS and LMs sectoral departments is illustrated in Table 4.11 (Appendix E, question 38). The two strategic and operational planning instruments referenced are the integrated development plans (IDPs) and the service delivery budget implementation plans (SDBIPs) that all three categories of municipalities (e.g., Category A, B, and C) in South Africa must have (South Africa, 1998), aimed at facilitating municipal service delivery. As sectoral plans, the WSDP and the IWMPs are expected to be incorporated in municipality IDPs according to s12 of the *Water Services Act* and s11(4) of the *NEMA Waste Act*, respectively. The objective with the WSDP and IWMP, as sectoral planning instruments, is to establish a co-ordinated approach in delivering water, sanitation, and solid waste services. It is expected of EHPs to participate in municipal IDPs and SDBIPs, as well as planning, designing, and managing water supply systems during the planning stages (South Africa, DoH, 2009; 2013; 2015).

**Table 4.11: The use of the statutory collaborative planning instruments to set service delivery targets by MHS authorities and sectoral departments for the 2018/19-2020/21 MTEF period**

<b>Planning instruments</b>	<b>Yes</b>	<b>Partial</b>	<b>Don't Know / Never / Not Applicable</b>	<b>Row Total Percent</b>
IDP	52	5	43	100
SDBIP	49	6	45	100
WSDP	22	8	70	100
IWMP	24	9	67	100

The results, however, suggest that just more than half (52%) of the EHP respondents, engaged with sector colleagues to set objectives using the IDP (Integrated Development Plan), while 49% EHPs used the SDBIPs to set objectives with sector colleagues. Between 22 to 24% used sector specific planning instruments such as the WSDP (Water Services Development Plan) and IWMPs

(Integrated Waste Management Plans) as a way of pointing the sectoral departments towards EH risks that if the risks stand a chance to be resolved at the source it must be included in the sectoral operational plans.

Of concern is that between 67 to 70% of EHP respondents have not considered the sectoral planning tools e.g., the WSDP, and the IWMP to set collective objectives with colleagues from related sectors. The lack of collaboration among MHS and BMS sectors during the strategic and operational planning stages results in a lack of integration of priority EH risks into strategic and operational sectoral planning instruments. To influence strategic and operational decision-making, the inclusion of priority EH risks in the political and managerial IGR forum agendas; the performance management KPIs (winning institutional KPIs) in the IDPs and SDBIP, and sectoral budgets should be considered to frame preventive health and anchor leadership support. It is essential that the municipal planning, programming, and control instruments include “winning KPIs” that aim to mitigate priority environmental health risks at the origin. For EHS to exploit this opportunity to use institutional planning instruments and the project management approach, the priority environmental health risks should be included in the institutional and sectoral plans. Subsequently, KPIs should be designed that measure EH risk reduction at each institution and sector during the IDP period. As Spitzer (2007: 16) stated, “people will do what management inspects (measures), not necessarily what management expects”.

Thirteen of the 70 EHPs in the category ‘Don’t Know / Never / Not Applicable’ indicated that it is not applicable for EHPs to collaborate in the sectoral WSDP. Three of them, one at a senior level and two at junior level, all with four to seven years’ experience in local government, experienced colleagues, did not consider it essential to collaborate with sectors when setting

objectives for the WSDP. Also, they did not deem it necessary to jointly set objectives against all the variables contained in the IDP/SDBIP, WSDP, and IWMP. Ten of the 13 EHPs that had selected the ‘not applicable’ option, however, explained that they do participate in sectoral IDPs and SDBIPs.

When asked what underlies the EHPs contributions to the IDP/SDBIP, WSDP, and IWMP objective setting sessions, EHPs (n=100) selected what is indicated in section A of Table 4.12. Section B of Table 4.12 provides an overview of the contributing elements (e.g., basic needs; customer needs; risk assessment; and political instruction) for each EHP level (e.g., functional level, middle management EHPs, and MHS Top management).

**Table 4.12: Matrix summarising key elements that informed EHPs and sectoral departments collaborative objective settings using the IDP/SDBIP, WSDP and IWMP as planning instruments during the 2018/19-2020/21 MTEF period**

**Section A: Planning instruments (e.g IDP/SDBIP; WSDP and IWMP)**

Variables	Basic needs		Customer needs		Risk assessment		Political instruction		Row Total (N)
	N	Percent	N	Percent	N	Percent	N	Percent	
<b>IDP/SDBIP</b>	78	36.1	16	34.8	19	39.6	11	34.4	<b>124</b>
<b>WSDP</b>	66	30.6	18	39.1	14	29.2	11	34.4	<b>109</b>
<b>IWMP</b>	72	33.3	12	26.1	15	31.3	10	31.3	<b>109</b>
<b>Grand Total</b>	<b>216</b>	<b>100.0</b>	<b>46</b>	<b>100.0</b>	<b>48</b>	<b>100.0</b>	<b>32</b>	<b>100.0</b>	<b>342</b>

**Section B: Levels of EHPs’ underlying contributions towards collective objective setting**

Variables	Basic needs		Customer needs		Risk assessment		Political instruction		Row Total (N)
	N	Percent	N	Percent	N	Percent	N	Percent	
<b>Func EHPs</b>	168	77.8	29	63.0	25	52.1	25	78.1	<b>247</b>
<b>Mid Man</b>	37	17.1	13	28.3	20	41.7	7	21.9	<b>77</b>
<b>MHS Top Man</b>	11	5.1	4	8.7	3	6.3	0	0.0	<b>18</b>
<b>Grand Total</b>	<b>216</b>	<b>100.0</b>	<b>46</b>	<b>100.0</b>	<b>48</b>	<b>100.0</b>	<b>32</b>	<b>100.0</b>	<b>342</b>

Of the EHP responses to the online questionnaire, between 5.1% (MHS Top Management) to 77.8% (Functional EHPs) indicated that *basic needs* are the dominant factor influencing their objective setting exercises for their IDP/SDBIPs, WSDPs, and IWMPs with sectoral departments (Table 4.12, section B). Overall, some EHPs (all levels, e.g., functional, middle management, and

top management) combined *basic needs* with other variables for the WSDP like *customer needs* (n=5), *risk assessment* (n=3) and *political instruction* (n=1) (results not shown). The next contributing factor was *customer needs* that ranged from 8.7%-63.0%, followed by *risk assessment* and *political instructions*, respectively. It is evident that most (78.1%) of the functional level EHPs experienced political interference regarding the community issues to be considered during their sectoral planning. Even though 70% of the EHPs insisted that MHS does not actively interact in applying the WSDP as a planning instrument (Table 4.11), it is the sectoral role players that are responsible for the delivery of BMS at the LMs. Even so, as stated above, a significant proportion of EHPs indicated that they used the citizen's basic needs, customer needs and risk information to inform their objective setting to mitigate EH risk.

A Chi-square statistical analysis was done on the data shown in Table 4.12 to determine the significance thereof. Due to the Chi-square test limitations in the SPSS program, regarding the number of variables to be assessed at once, a manual Chi-square test was performed. The following Chi-square test formula was used e.g.,  $\chi^2_c = \frac{\sum(O_i - E_i)^2}{E_i}$  where c is the degrees of freedom, O is the observed value, and E is the expected count (calculations not shown).

After conducting the Chi-square test the test statistic was compared with the Chi-square table (Appendix S). The critical value for the Chi square with 6 degrees of freedom, at 5 % significance level is 12.59 to accept or reject the null hypothesis that states that there is independence in collective goal setting.

With regards to the contributing elements used by the EHPs during collective goal setting, it is showing that section A's test statistic of 1.895 is less than the critical value of 12.59 which does

not fall within the rejection region. Hence, we do not reject the null hypothesis and conclude that there is no relationship between the different planning instruments and the contributing elements used for collective goal setting. Therefore, there is independence (calculations not shown).

Section B's test statistic of 18.406 is greater than the critical value, 12.59, which falls in the rejection region. Hence, we reject the null hypothesis and conclude that there is a relationship between EHP Level and collective goal setting.

ii. **Environmental health risk profiling and communication**

Question 37 of the EHP online questionnaire was designed to establish the frequency of reporting the EH risks to sectoral departments, while question 27 of the sector questionnaire probed the inverse. The latter intended to test how often the sectors received EH risk reports from the MHS authorities. The aim was to ascertain if structured collaboration between the MHS unit and sectoral participants at LMs exist in accordance with MHS units' statutory and professional obligation to communicate EH risks to related departments (South Africa, DoH, 2009; 2013).

Table 4.13 shows that 27% of EHPs are of the view that they have an EH risk profile for their area, while 17% indicated that they have 'partial' risk profiles. More than half (56%) admitted that they do not have or are not sure if they have an EH risk profile for their area. From the sector department side, four (36.4%) of the 11 sectoral participants acknowledged having received such risk reports from MHS. These findings are a source of concern as an EHP's core function is to identify and mitigate any EH risks at the source with the help of sectoral departments responsible for providing and maintaining BMS.

**Table 4.13: Environmental health risk profile (MHS authority) and sectoral interaction**

MHS perspective (n=100)								Sectoral perspective (n=11)																			
Availability of EH risk profile – MHS Authority Q36								MHS Authority share EH risk status reports with sectors (Q25)																			
Yes		Partly		No/Don't Know				Yes			No																
27		17		19/37 (56)				(n=4) 36.4%			(n=7) 63.3%																
Frequency of sharing official reports - Q37								Frequency receiving EH reports																			
N= Never; A= <i>Ad hoc</i> ; D= Daily; W= Weekly; S= 6-monthly; Q= Quarterly; O= Other																											
N		A		D		W		M		S		O		D		W		M		Q		S		O			
WSA/WSP sector		13		9		1		-		53		5		19		-		-		3		1		-		-	
Waste sector		14		13		1		-		45		6		21		Do your department's operational meetings reflect on priority EH risks? (Q27)											
Average (percent)		13.5		11.0		1		-		49.0		5.5		20.0								Yes (n=6) 54.5%		No (n=5) 45.5%			

Table 4.13 also reflects the frequency at which MHS authorities table progress reports regarding EH risks or 'hot spots' to the WSA/WSP (i.e., water and sanitation sectors), and the LM solid waste unit and the time it takes for them to respond. The frequency of reporting to the different sectors ranges from 13.5% that said never; on an *ad hoc basis* (11.0%); monthly (49.0%); to semi-yearly (5.5%); while 20.0% of the respondents were indecisive. Thus, just over half of the EHP respondents (n=55) reported that they followed a schedule for submitting reports whether daily, monthly, or six-monthly. Conversely, only 36.4% (n=4) of the sectoral participants indicated that they regularly received EH risk status reports from their MHS authority (Q26 - sectoral) (Table 4.13). Of those, 75% (n=3) received monthly EH reports.

Reporting on whether EH risks came under discussion at their operational meetings, just over half (n=6) of the sectoral respondents said it does (Table 4.13). This is another area of concern when considering that the participants involved in partner-sectors are the middle management cadre and as such, they plan, manage, and maintain LM water, sanitation, and solid waste operations on

which EHS is dependent to prevent ill health. Yet EH risks are not raised at meetings. These findings suggest the EHS units are remiss in optimising the planning instruments to ensure collaboration, cooperation, and IGR.

*iii. **Basic municipal service sector's perspective (water/sanitation and solid waste)***

Due to the complexity within the dispersed governance and delivery of BMS across different categories of municipalities and the wide range of LM sizes and capacities, interviewing the BMS sectoral participants required an open-ended question to ascertain how they set their service delivery objectives for planning purposes (Appendix D, questions 16 & 17). The responses provide insight into interactions among sectoral departments at LMs and DMs, as well as sectors with local government EHS. An English and Afrikaans word list was first created in Atlas.ti 9 to identify words that should be added to the stop list to remove all unnecessary words such as dates, person and place names that do not contribute to the survey. The word count threshold was set at three and word cloud key words were evaluated in the context of the text to determine their relevance. The Atlas.ti 9 database was used to generate word clouds from sectoral participant responses to questions 16 and 17, respectively, as depicted below.

The word cloud from sectoral participant responses to question 16 was analysed to establish the context of the key words showing the role players involved in their objective setting. As shown in Figure 4.5, participants from the water, sanitation and solid waste units identified the main impetus to their service delivery objectives into their IDPs as originating from their executive management cadre e.g., municipal managers and their directors.



An example of a national service norm is all households having access to basic water and sanitation services, while sufficient running water should be provided within 200 meters thereof. Also, the water quality should meet the SANS 241 requirements. Subsequently, the sectoral departments at the LMs measure the number of

**Box 4.1: Clarifying Afrikaans words in Figures 4.4 & 4.5**

The words in (brackets) are Afrikaans words originating from some of the sectorial questionnaires where respondents used their native language:

- (bestuurder) = manager
- (doelwitte) could mean goals or objectives
- (eksterne) = external
- (gemeenskap) means community
- (gemeet) = measured
- (klagte) = complaint(s)
- (langtermyn) = long term
- (munisipaliteit) = municipality
- (publiek) = public
- (raad) = council
- (raporteer) = report to

households not meeting the minimum requirements to target such shortcomings in the next financial year to meet the long term (langtermyn) objectives (doelwitte).

Nonetheless, manager impetus to their municipal IDPs drives the sectoral service delivery objectives at an operational level that is finally included in the sectoral SDBIP showing the targets (i.e., KPIs) that subordinates must achieve.

***iv. Role players involved in basic municipal services sectoral planning***

The main role players involved in setting the BMS service planning objectives are primarily managers (internal appointees), but also consultants (e.g., engineers) and external services providers including contractors managing bulk water, sanitation and solid waste, and laboratory services (Figure 4.6).



**Figure 4.6: Role players involved in sectoral participants planning for water, sanitation, and solid waste service delivery goal setting**

Respondents involved in sector departments explain that in general it is the Chief Financial Officer (CFO) telling them and the “*sub-directorate managers for technical services, planning and development, and their line managers*” as well as the municipal manager, “*what money was available for the next year*” (Appendix O: participant LM-A: WSW-1 - line 3). Another participant (LM-E: WSW-11) explained in Afrikaans that he with his “*director community services, 3x area managers, 4x operational managers*” are involved. “*Then we have a division systems analysis responsible for administering our operational departments*”. When asked if anyone from outside the municipality was involved in the planning process, he replied that he had established a list of consulting engineers he works with daily. Also, he added, there are the community ward committee members, the ratepayer’s association and municipal councillors to consider (Appendix O: participant LM-E: WSW-11 - lines 81-84).

The involvement of the ratepayer's association and ward councillors forms part of the community input session during the official IDP consultation process, as reiterated by participant WS-9 (Appendix O, line 94). Other external parties included in the sectoral planning process are the provincial waste management officer forum (WMOF) and people appointed by the Provincial Department of Environmental Affairs and Development Planning (DEAP). As participant W-10 explained in Afrikaans: "*We have a provincial waste management officer forum that meets quarterly with all municipalities. It has an important role, to us. If there is new legislation out for comment, we can give our input. They (DEAP) also have their objectives that should be met, but it plays an important role*" (Appendix O, lines 99-100).

In summary, Figures 4.5 and 4.6 suggest that the sectoral departments at the LMs are mainly internally focused when setting their BMS delivery objectives and involving role players in planning their BMS objectives. Except for the co-ordinating role of WMOF in waste, it is evident that the DM and the EHPs play a secondary role in the sectoral strategic and operational planning processes. Of note is that no such external co-ordinating structure exists for water and sanitation where the DM and EHS are involved in operational domestic water supply issues (Appendix O, lines 103-107).

b) Joined planning arrangements between basic municipal services sectors and environmental health services

From the data analysis, it appears that rather than involving MHS during the initial integrated development planning processes, the sectoral departments responsible for BMS in LMs tend to follow a reactive planning process. Their final LM IDPs are submitted and integrated into the district IDP afterwards (South Africa, 1998; 2000). It seems that the LMs do not involve the DM

or EHPs in their IDPs during the initial stages, other than during formal community engagement processes, and then only to provide selective input as requested by the LM executive management.

When asked during sectoral participant's personal interviews whether anyone from the DM is included during the planning stages, several sector department participants said no: "*[N]ormally after we are done with our plan, we will feed our plan to them (referring to the DMs IDP unit) so that they can include our plan into the district plan. But they don't sit in on our plans*" (participant WSW-1- Appendix O, line 9). In reply to who in the DM are included, the respondent explained that "*officials at the district ... are responsible for developing the IDP at the district level. They also have a role to play in what service delivery goals that are needed or must be included at the district level or regional level*" (participant WSW-2 - Appendix O, line 28).

This tendency to not involve MHS in local planning processes was echoed by the EHPs in their focus group interviews. They were asked to report on what comes to mind first when thinking about planning, programming, and control process collaboration among MHS and sector departments (Appendices G & P). One respondent stated that they "*[n]ever involve EHPs as part of initial IDP/SDBIP target setting*" and that they are only invited "*as part of community input*" at a final stage once the "*SIDP/SDBIP [is] done*". When they do invite them to community outreach sessions, EHPs are instructed "*to just talk about water*". "*When they plan, they don't involve us, [they] just give results / outcome*" (Appendix P: Functional level EHPs current alignment, lines 19, 31 & 49). There is no sitting together for "*IDP/SDBIP, control and budget discussions*", another added in Afrikaans (Appendix P: MHS Middle Management current alignment, line 12). Complaints by EHPs in some B category municipalities, that even when

approached for the sectoral input on new developments, the EHPs subsequent requests for proof from the LM that provision has been made to equip existing facilities including waste or sewerage systems to carry additional loads are ignored. *“Until today we have not received feedback to our request”*, the respondent proclaimed in Afrikaans (Appendix P: MHS Middle Management current alignment, lines 11& 14). An official in top management echoes that there is: *“[n]othing; just a vacuum”*; that no effective cooperation between the water and sanitation engineering services exists. This is ascribed to *“a lack of co-ordinating structures [among provincial and national authorities] for water and sanitation as is the case with solid waste and air pollution”* (Appendix P: MHS Top Management current alignment, lines 3-6).

On occasion there is cooperation among some LMs and the MHS units at the DM, another participant pointed out. Besides the availability of resources and competencies at such LMs, it can also be ascribed to the *“management style within the municipality”* (Appendix P: MHS Middle Management current alignment, line 26). The reply by another respondent confirmed in Afrikaans that it differs from *“district to district and from LM to LM within a DM’s jurisdiction”*. He added, *“You may have a good relationship with one or two of your LMs, while not with the other two or three of them”*. When asked to explain, the MHS Managers replied that it had to do with *“limited resources and competence”* (Appendix P: MHS Top Management current alignment, line 1).

Officials in MHS and sector departments agreed that cooperative joint planning operations are dependent on active involvement and good organisation at all levels of authority, but specifically from the top management at the sectoral institutions. This encourages collaboration between LMs and DMs. As one participant explained, the Provincial Department of Environmental Affairs and Planning (DEAP) has the task to co-ordinate the Western Cape’s provincial and district waste

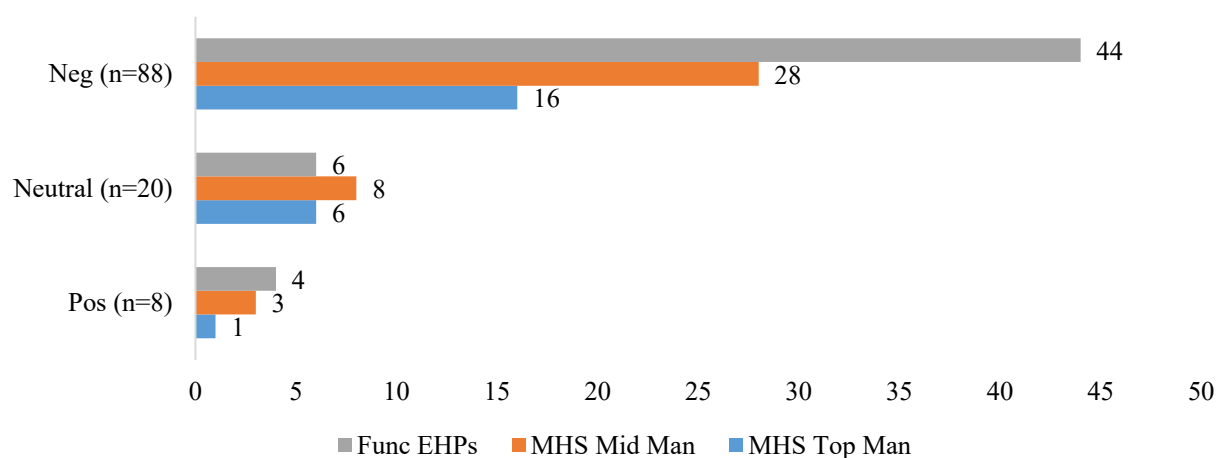
management officer forum (WMOF). In the local authority where she is employed, both the LM and DM waste officers are on the team that plans, guides and reports on district and local waste issues. In this case, EHPs employed by the DMs are appointed district WMOs, while the LM waste managers act as the WMOs at the LM level. The MHS Managers echoed that there is good cooperation among Category B (LM) and C (DM) municipalities at their WMOF for solid waste management, air pollution and municipal health (Appendix P: MHS Top Management current alignment, lines 2, 12).

Despite regular interaction at catchment management areas forums (CMAs), respondents involved in the water and sanitation services reported that the discussions typically focused on bulk water supply systems. MHS top management also stressed that EHPs are not actively engaged by CMAs regarding water quality planning or management (Appendix O: WS-9, lines 103-107). As this situation cannot foster a culture of co-ordination or collaboration as a precondition for effective service delivery, it is important to assess policy determinants at both EHS and sector departments. These channels of communication provide EHS with opportunities to table environmental health risks and input into the institutional winning KPIs identified to mitigate at the district IGR forum for inclusion in municipalities' performance management systems and future IDPs and SDBIPs to focus on preventive interventions.

c) EHP experience with collaborative planning, programming, and control

All the responses (n=116) of the three levels of EHPs (functional EHPs n=54; MHS middle management n=39, and MHS top management n=23), collected during the focus groups, were categorised as positive, neutral, or negative based on their current lived experience of the

collaborative planning, programming and control between EHS and BMS sectors. Neutral responses showed some positive experiences yet indicated a lack of complete cooperation and collaboration. Most respondents (n=88) reported negative experiences (75.9%) with eight (6.9%) having had positive experiences and n=20 (17.2%) expressing a neutral experience (Figure 4.7).



**Figure 4.7: EHP responses (n=116) per category regarding the planning, programming, and control collaboration between the BMS sectoral and MHS units at LMs and DMs, respectively (Source: Appendix P)**

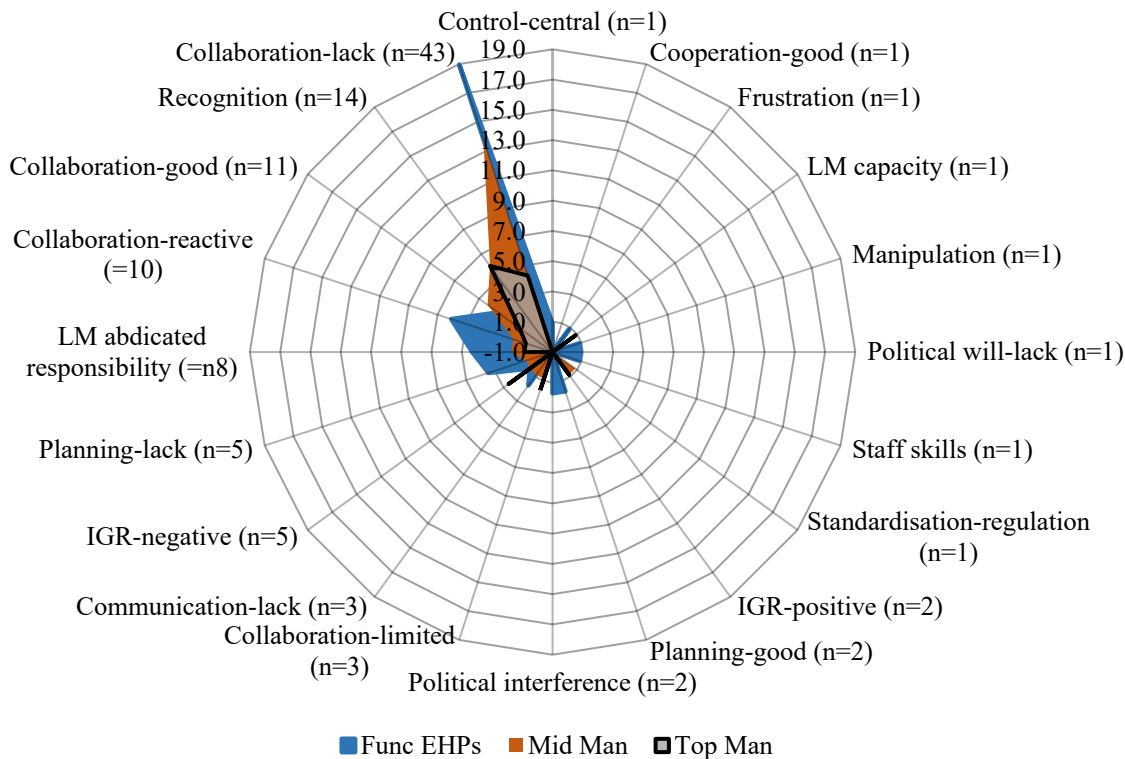
Responses to the question of what comes to mind first when contemplating collaboration among MHS at DMs and LM sector departments responsible for water, sanitation and solid waste at the levels of planning, programming and control, were recorded as follows: (i) collaboration (good/limited/lack/ reactive); (ii) communication; (iii) cooperation; (iv) control; (v) frustration; (vi) IGR (positive/negative); (vii) LMs abdicating their responsibilities; (viii) LM capacity; (ix) manipulation; (x) planning (good/lack); (xi) political (will/interference); (xii) recognition; (xiii) regulation (standardisation); and (xiv) staff skills. These were then categorised as positive, neutral, or negative. Replies at times had to be coded as more than one class, for example this comment by a functional level EHP:

*All the problems from communities are directed to EHP, they (LM employees) don't even listen to what the issue from community is, they just refer them directly to the EHP. They are so scared of the politicians and*

*just don't take responsibility - allow then things that are not supposed. When it is a problem, they refer the issues to the EHPs.* (Appendix P: Functional level EHPs current alignment, lines 29, 41& 51)

This comment required coding based on three distinctive themes: *collaboration-reactive* (line 29); *LM abdicated responsibility* (line 41); and *political interference* (line 51). Although the original response was from one participant, the responses were dissected into main issues, as cited in the example, and all of these were tagged and listed in Appendix P.

The response quoted above reflects the experience of all EHP levels with a lack of collaboration raised as their number one issue with functional level EHP (n=22) at 19.0% and middle management (n=16) at 13.8%. The MHS top management's experience made up 4.3% (n=5) (Figure 4.8).



**Figure 4.8: Current planning, programming and control aligned collaboration between MHS and BMS sectors - EHP perspective (Appendix P)**

The relational aspect of collaboration is illustrated in this example expressed in Afrikaans: *“It’s a personal thing (or) relationship with them. If you know LM staff members and socialise with them, e.g., playing golf together, then you get better cooperation. ... The absence of the connections (due to attrition) makes direct communication with the LM difficult”* (Appendix P: MHS Middle Management current alignment, line 4). This MHS middle management respondent’s description of the level of collaboration was coded as good but due to his lived experience of a lack of connection, the overall categorisation was considered neutral.

The response of a functional level EHP reflected a level of frustration: *“[They] [d]on’t involve us from the onset, even saying we don’t need you here, but when push comes to shove then they run to us”* (Appendix P: Functional level EHPs current alignment, line 16).

A summary of EHP concerns and positive experiences regarding collaboration are provided in Figure 4.8 (full list in Appendix P).

Data further show that the lack of collaboration is linked to perceptions of being disregarded. Not acknowledging EHP contribution leads to feeling unrecognised and undervalued. This was the second most reported issue raised by MHS top management and middle management as expressed by this respondent:

*EHPs take samples and sectoral appointed labs also sample water, sewage - EHPs results shows non-compliance, whilst sectoral labs show compliant results. When EHPs take follow-up samples still non-compliance. Sectors always question EHPs results - if it is compliant, they don't bother, but any non-compliant results from water and sewage they query it. ... One gets the feeling that the lab just giving them what they want to hear which give the impression that it is not giving a true reflection on what the situation is; Ek hoef nie aan jou te kommunikeer - hulle kyk neer op jou [translation: I don’t have to communicate to you – they look down on us].* (Appendix P: MHS Middle Management current alignment, lines 32 & 33)

The EHPs perceive LMs as abdicating their responsibilities and appeasing politicians which contribute to non-cooperation and poor IGR: “*LMs are afraid of politicians then [they] allow them to do things that later become a problem that we are called to resolve*” (Appendix P: Functional level EHPs current alignment, line 30).

EHPs are dependent on the cooperation from LM sectoral departments to execute the MHS functions effectively, particularly where they rub shoulders with LM sectoral staff to maintain infrastructure and to provide water, sanitation, and solid waste services. However, EHPs in general experience a lack of positive collaboration, as mentioned.

The following response in Afrikaans from an MHS middle management participant illustrates the frustrations of functional EHPs when LMs do not cooperate, and middle management must intervene:

*[My experience is] very bad.... [The LM] corporate service manager, I sent her a mail to ask if I could attend their portfolio committee meeting to explain my [monthly] report ... [M]y report is submitted to the portfolio committee, therefore, if they [councillors] see that there is water that is not compliant – then I can explain the reasons for the non-compliance. Her words to me were ‘I cannot allow you to expose my staff – do you get it! – therefore, I will not be attending the meetings.* (Appendix P: MHS Middle Management current alignment, line 3)

An MHS middle management official explains in Afrikaans that there are always members of the public phoning them about sewage blockages, often in states of high emotion. In one such case, the complainant was incensed, and understandably so, as she explained: “*[t]he sewage spillage is just behind her house and the bad odours pass through her house*”. When he told her he was going to phone the official at the LM responsible for water and sanitation, she informed him that that

specific official had just been there and had said he was going to send out the health inspector (referring to the participant) as the bad odour “*was a public health nuisance*”.

*This is the type of relationship we have with the LM. This is unfortunate – it makes you despondent because both of us have a role to play in our communities. I trust that it will improve in future, but I am not confident.*

(Appendix P: MHS Middle Management current alignment, line 3)

However, a few examples of collaboration were also reported, especially when: “*linked to performance like with awards*” (Appendix P: Functional level EHPs current alignment, line 4) such as the Blue Drop and Green Drop water and sanitation incentive schemes. As a MHS middle manager puts it in Afrikaans, when referring to a particular LM, “[*They*] *always give good cooperation and will always approach us for our inputs*” (Appendix P: MHS Middle Management current alignment, line 1).

d) Sectoral perspectives of the importance of planning, programming, and control alignment for effective health services delivery

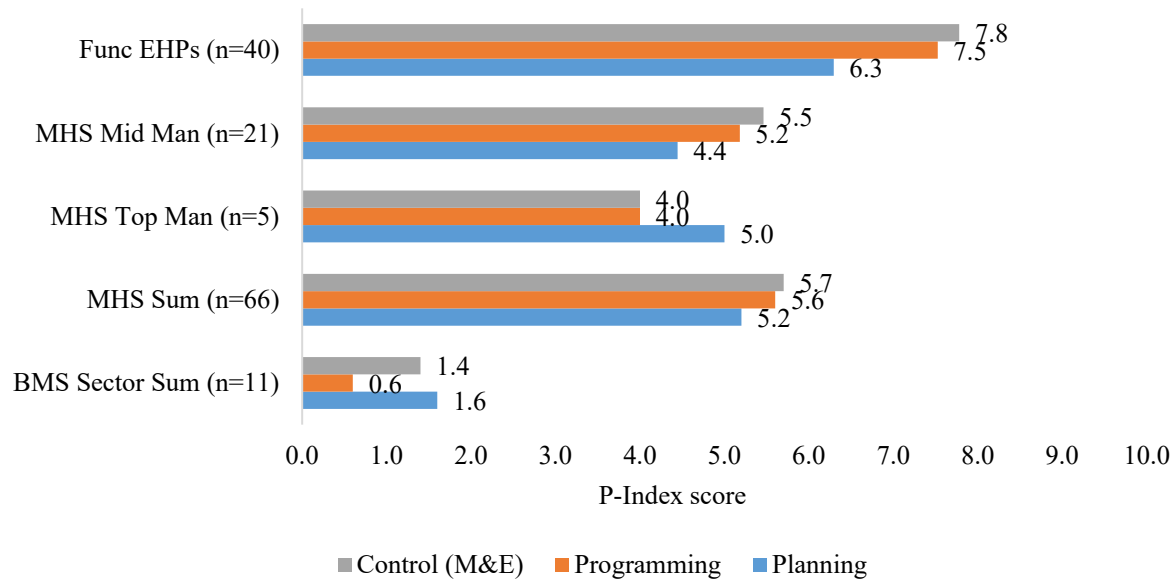
To establish the EHPs’ and sectoral participants’ conceptual alignment regarding the importance of collaborative planning, programming and control to mitigate ill health at the source, the AGA technique, described in the methodology section, was applied with the stimulus question, *How will you, as an EHP, evaluate the Planning/Programming/Control between MHS and Sector Departments (water/sanitation, and solid waste) to mitigate the BMS determinants of health at the source?* Data were collected as part of the EHPs’ FG interviews, using a separate interview map (Appendix G).

Perceptual data for the sectoral participants were obtained from their interview questionnaires (Appendix D: Questions 22-24). Participant views were scored using the importance and satisfaction dimensions to create a P-index among the EHPs and the sectoral participants based on the Schutte Scale technique described under methodology. Insight into the conceptual views of EHPs and sectoral participants provided triangulation between the experiences of the EHPs and sectors and their conceptual thinking of gap or alignment. The participants' views are shown below.

***Priority index (P-index) of EHPs' and sectoral participants' views on importance***

Figure 4.9 provides an overview of the EHP levels and the BMS sectoral participants' conceptual views on the importance of planning, programming, and control alignment between MHS and BMS sectors to supply effective local government environmental health services.

The values indicated in Figure 4.9 are the average P-indices (basic needs priority index [P-index]) originating from the various EHP focus groups (n=11), namely functional level EHPs (FGs 1-6), MHS middle management (FGs 7-10) and MHS top management. All EHP category views were summarised to compare the P-indices with that of the middle management sector responsible for water, sanitation, and solid waste (Figure 4.9). The results represent both groups' views on the importance of alignment among MHS and BMS sectors, and their satisfaction with the current level of alignment and cooperation.



**Figure 4.9: MHS and BMS sectoral participants' view of the importance of using planning, programming, and control to mitigate EH risks at source (P-Index values: difference between Importance and Satisfaction from a potential of 10)**

The difference between the participants' assessments of how important alignment is, and how satisfied they actually are about how it plays out currently, indicates the level of priority. The greater the gap between the importance and current satisfaction regarding each of the issues (planning, programming, and control), the higher the priority for attention/intervention.

Figure 4.9 suggests that the functional EHPs' priority index (P-Index) scores for planning, programming and control are 6.3, 7.5 and 7.8 on a 10-point scale. Therefore, the functional EHPs experience lower levels of cooperation between them and the sectoral departments when it comes to planning, programming, and control as compared to other categories of participants. The combined EHP P-Index for the same variables are 5.2, 5.6 and 5.7, respectively, compared to the sector participants' scores of 1.6, 0.6 and 1.4, respectively.

The gap between the satisfaction levels of sector officials and how important they considered it to be resulted in lower P-index values compared to the EHPs' P-indices, suggesting that BMS sector participants viewed the alignment of EH risks in their planning, programming, and control

programmes as primarily positive compared to the EHPs that are not satisfied, showing it as of higher priority and requiring attention. While the results in Figure 4.9 suggest higher levels of satisfaction among sector participants regarding collaboration, actual performance between the LMs and DMs, as a policy impact determinant, expressed as *We are obliged to the population to act in this area*, contradicts that (see also Appendix P).

Comparing the assessment of how EHPs and sectors value collaboration (Figure 4.9) in contrast with their actual lived experiences (Figures 4.7, 4.8, and Appendix P) provides a more accurate reflection of what happens in the practical work environment. It shows a gap in the mutual understanding of their mandates (mandate cognisance), and the execution of the mandates among EHPs and their sectoral counterparts that result in inadequate service delivery, particularly in preventive health outcomes. If there is a lack of mutual understanding and awareness of the actual importance of integrated multi-sectoral planning, programming, and control alignment, it can lead to missed opportunities for prevention, early intervention, and timeous treatment. The lack of collaboration and alignment can also lead to wastage of resources, inefficiencies, frustration, and disillusionment among staff (Pratt *et al.*, 2018; Alderwick, Hutchings, Briggs, & Mays, 2021; Masala, 2021).

***ii. Significance of EHPs' and sectoral participants' views regarding the alignment***

To determine the significance of the different levels of EHPs' and sector departments' views on the importance of using the planning tools, an analysis of variance (ANOVA) was performed on the basic needs priority indices (P-index) scores. This showed an overall significance ( $p=0.000$ ) between EHPs' and sectoral participants' perspectives, suggesting a dependency between the two groups, the EHPs and the sectoral participants.

A multiple comparison was conducted, using the Tukey (HSD) test to identify any differences among the groups. The Tukey test shows that significant differences exist between the views of the BMS sector participants and each of the three EHP levels using the P-index, with a P-value of 0.000 against all EHP categories (Table 4.14).

**Table 4.14: Significance of the different categories of EHP cadres and sectoral participants' views regarding the importance of planning, programming, and control to mitigate determinants of health at its origin (Test – ANOVA – Tukey HSD – multiple comparison)**

	Functional EHPs	Middle Man (MHS)	Top Man (MHS)	Sectoral Part
Functional EHPs	-			
Middle Management (MHS)	0.000	-		
Top Management (MHS)	0.003	<b>0.939</b>	-	
Sectoral Participant	0.000	0.000	0.001	-

The results as reflected in Table 4.14 suggest that the null hypothesis is accepted for the MHS middle management and top management cadres where a strong correlation exists in their views of the use of the managerial instruments in their planning, programming, and control processes. This differs from the experience of functional EHPs and the sectoral participants.

The sector departments' failures to recognise the need for collaboration with EHS to improve service delivery ultimately undermines the legal mandates, the IGR directives prescribed by the South African constitution to promote a safe and healthy environment for the citizens (South Africa, 1996; 2000). It further jeopardises government initiatives to facilitate integrated planning between all role players in local government (Presidency, 2019).

This discrepancy among the views of the EHPs and the sectoral participants suggests an unbearable situation for the integration of the sectors to collaborate effectively to mitigate ill health at the source, particularly if they do not have a 'meeting of minds' about their expected roles in preventive health outcomes. It requires a strong emphasis on mandate cognition, in particular, for

the sector departments on which the EHPs depend to provide, maintain and run the BMS in a sustainable way to facilitate preventive health outcomes at the origin. Interventions will require mandate cognition through training, CPD activities and clear KPIs in the sectoral planning instruments to enforce EH input. This should culminate with executive management performance contracts that ensure preventable disease control at the origin.

#### **4.4.3 Resources**

The third policy impact determinant, *resources*, encompasses human, organisational capacity and financial resources.

##### ***4.4.3.1 There are enough personnel***

Any environmental health unit's main asset but also biggest cost driver is its professional employees. In this assessment, the focus is on the functional level EHPs and the community service EHPs who find themselves on the frontline of municipal service delivery.

##### **a) Functional level EHPs**

The effective delivery of MHS is dependent on sufficient resources, including competent human resources that are essential, in conjunction with obligations, to achieve policy outputs (see Table 4.1). Section 8.1.1 of the National Environmental Health Policy (South Africa, DoH, 2013), read with the National Environmental Health Strategy (South Africa, DoH, 2016: 9), stipulates a norm of one functional EHP per population of 10 000.

The average functional EHP-to-population ratio for the DMs as the MHS authorities in the Western Cape is one EHP per population of 24 199. In the study area, it ranges from 1:18 562 in the Central Karoo DM to 1:40 969 in the Overberg DM (Table 4.15). Benchmarking these ratios against the national norm as a measure of sufficient resources suggests that DMs are run at 41% of the national norm (Table 4.15).

**Table 4.15: Functional level EHP-to-population ratio per DM, and their community service placement history, focusing on the last three financial years (MTEF period 2018/19-2020/21)**

District Municipality	Population (DM IDPs)	Func. EHPs (DMs supplied)	EHP / Pop Ratio (current)	1:10 000 (ideal)	Shortage	Annual Community Service Placements								Total of Com Serv Placements	Total Com Serv Placement for MTEF Period	Percent Com Serv placement against shortage for MTEF period		
												MTEF Period 2018/19-2020/21						
						2012	2013	2014	2015	2016	2017	2018	2019				2020	2021
Cape Winelands	866 001	33	26 242	87	54	5	5	1	5	5	5	4	6	0	1	37	11	20.3
Central Karoo	74 247	4	18 562	7	3	0	0	1	0	0	0	2	1	0	0	4	3	100
Garden Route	611 278	29	21 079	61	32	4	4	0	0	0	0	0	0	0	0	8	0	0
Overberg	286 786	7	40 969	29	22	0	0	0	0	0	0	0	0	0	0	0	0	0
West Coast	436 403	21	20 781	44	23	0	0	3	2	3	2	1	1	1	0	13	3	13.0
<b>TOTAL/(Avg) (n=)</b>	<b>2 274 715</b>	<b>94</b>	<b>24 199</b>	<b>227</b>	<b>133</b>	<b>9</b>	<b>9</b>	<b>5</b>	<b>7</b>	<b>8</b>	<b>7</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>62</b>	<b>17</b>	<b>(12.8)</b>
<b>(Func EHPs n=94 / Ideal n=227) x 100</b>			<b>41% of ideal</b>			<b>(Total MTEF Com Serv placement n=17 / EHP shortage n=133) x 100</b>											<b>13</b>	
<b>Percent Com Serv placement against EHP shortage</b>																		

b) Community Service EHPs

The DoH introduced compulsory community service for newly graduated EHPs in 2003. The aim was to augment capacity in under-serviced communities while also improving the knowledge, skills, and critical thinking of young professionals prior to registering for *independent practice* and taking up a permanent position in state facilities (Reid, 2018; Mbola, Human & Melariri, 2019; Mbazima, Mbonane & Masekameni, 2021). Community services (Com Serv) for EHPs consists of a one-year contract between the Com Serv professional and an NDoH-approved facility such as a hospital, clinic or local authority like a DM or Metro.

Data displayed in Table 4.15 originate from personal interviews with MHS managers from the respective DMs and their latest integrated development plans (IDPs: 2017-2022), while Com Serv data were sourced from the latest SALGA Annual MHS Status Quo Report (2018) and information from the MHS authorities.

Results reveal that while DMs are currently operating at 41% of capacity, the Com Serv EHP uptake was not filling the gap in under-served Western Cape communities either. This omission deprives young graduates of gaining experience before formally entering the labour market despite a dire need for EHPs throughout the country and a shocking youth unemployment rate of 64.2% in 2021 (Mbola *et al.*, 2019; Mbazima *et al.*, 2021; Stats SA, 2021). In turn, this further disadvantages communities that are already dissatisfied and deprived of basic services and who often express their frustrations vehemently and violently. One reason the municipalities are not appointing adequate numbers of EHPs and not optimising the Com Serv EHPs effectively stems from financial constraints. The second is their neglect of integrating EHS into the planning, programming and control functions and even barely considering EHS during emergencies (Chapter

2 section 2.2.3: perception challenges; section 2.6.6: managing distance construal factors that affect effectiveness) (South Africa, DoH, 2016a; Makhafola, Cele & Mokgalagadi, 2017).

In the past, SALGA assumed the responsibility of motivating a grant request at Treasury's financial fiscal commission (FFC) for local authorities to take on Com Serv professionals. However, the latest policy framework is vague in this regard (South Africa, DoF, 2020).

#### ***4.4.3.2 My organisation has the necessary capacities***

Organisational capacities – the collective set of skills, expertise and alignment of the people, resources, processes, performance systems and leadership – contribute to an organisation's strengths and weaknesses in achieving its objectives.

##### **a) EHPs' current experiences**

The stimulus phrase, *What comes to mind first when you think about your work as an EHP*, was used as the unit of analysis to establish EHPs' perspectives and experiences of their occupation (Diaz-Guerrero & Szalay, 1991). While the FG interviews gave respondents the opportunity to reflect on their *current* work experiences (Appendix J), they were also asked to share their thoughts on their ideal MHS service delivery circumstances (Appendix K). Finally, the participants were asked to list their *needs* in relation to delivering services optimally. These were scored to create a priority index (P-Index) of the most pressing issues, using the Schutte Scale (see methodology section). Participants were then asked to provide reasons for the needs they listed (Appendices L, M & N). Each theme, based on the EHPs current experiences, was categorised as either a strength or a weakness based on each one's contribution to effective MHS service delivery (Table 4.16).

**Table 4.16: Strengths and weaknesses of all levels of EHPs based on their current work experience (If you think about your work as an EHP, what comes to mind?)**

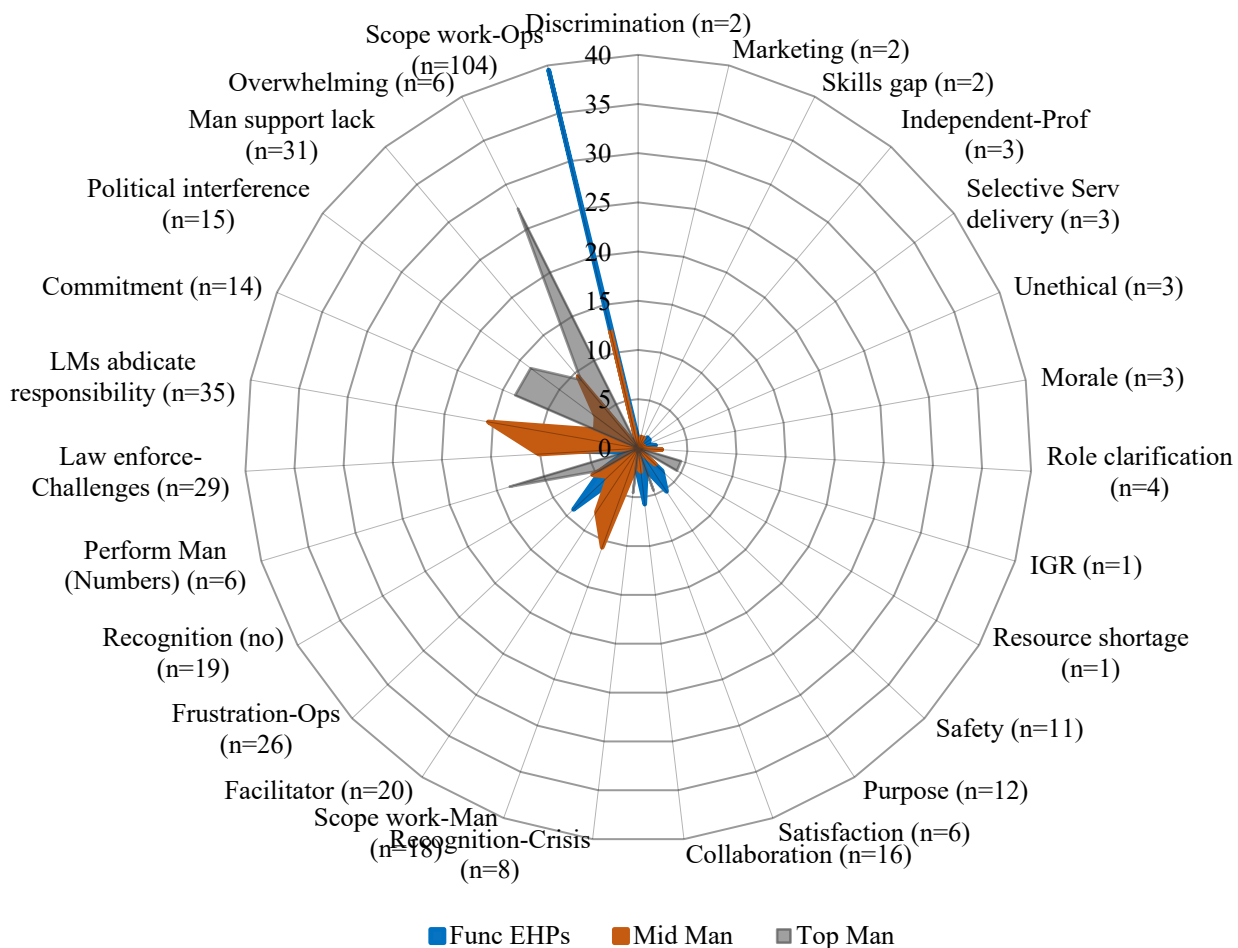
<b>Strengths</b>	<b>N</b>	<b>Percent</b>	<b>Weakness</b>	<b>N</b>	<b>Percent</b>
Scope of work-operational	104	26.1	LMs abdicate responsibility	35	8.8
Facilitator	20	5.0	Management support lacking	31	7.8
Scope of work-management	18	4.5	Law enforcement challenges	29	7.8
Commitment	14	3.5	Frustration-operational	26	6.5
Purpose	12	3.0	Recognition (no)	19	4.8
Recognition (yes) crisis/benefit	8	2.0	Collaboration	16	4.0
Satisfaction (Achievement)	6	1.5	Political interference	15	3.8
			Safety	11	2.8
			Overwhelming	6	1.5
			Performance management- numbers	6	1.5
			Role clarification	4	1.0
			Morale	3	0.8
			Selective service delivery	3	0.8
			Independence, professional	3	0.8
			Unethical	3	0.8
			Skills gap	2	0.5
			Marketing	2	0.5
			Discrimination	2	0.5
			Resources shortages (finance/staff)	1	0.3
			IGR	1	0.3
<b>TOTAL (N=400)</b>	<b>182</b>	<b>45.5</b>		<b>218</b>	<b>54.5</b>

The criteria that solicited positive responses from the EHPs directly relate to the execution of their institutional and functionary mandates where the *scope of work- operational* refers to their routine daily work such as monitoring, inspections, and compliance enforcement. Second highest was the theme *facilitator* depicting EHP insight into the multi-sectoral nature of their work environment and co-ordinating the various role players in the LM and the community to facilitate service delivery. They express their professional identity as project co-ordinators, mediators, and members of a team (Appendix J: issues 23-29). The theme *purpose* prompts self-reflection reflexive on what

their work as EHPs entails, and whether they, rather than just *doing for the sake of doing*, *make a difference in (their) community to find solutions* (Appendix J: issues 92-102).

Weaknesses were revealed from EHP feedback on issues that negatively affect their ability to provide EH services (Table 4.16). For example, Functional EHPs and MHS Middle Management said that *LMs abdicate their responsibilities*, while MHS top management felt *overwhelmed* by the pressure and frustration of the job (Figure 4.10). They cited political interference and undue pressurising from executive management to meet performance management targets. EHP performance gets linked to the executive performance contracts and subsequent performance bonuses. All the EHP focus groups expressed concern that executive managers seemed more concerned with achieving number targets (*number crunching*) to comply with clean audit requirements rather than effective service delivery in the communities (Figure 4.10, and Appendix J: issues 87-88). EHPs perceive these as structural limitations that prohibit them from acting optimally, pro-actively and effectively to keep communities healthy and safe.

The issues raised by EHPs can be directly linked to *leadership support* as the third and most important fundamental element for effective service delivery (Chapter 2, Figure 2.1). Environmental health is highly dependent on leadership support to facilitate appropriate IGR among authorities in the dispersed two-tiered multi-sectoral local government arrangement to facilitate alignment among MHS and BMS to ultimately sustain effective preventive EHS.



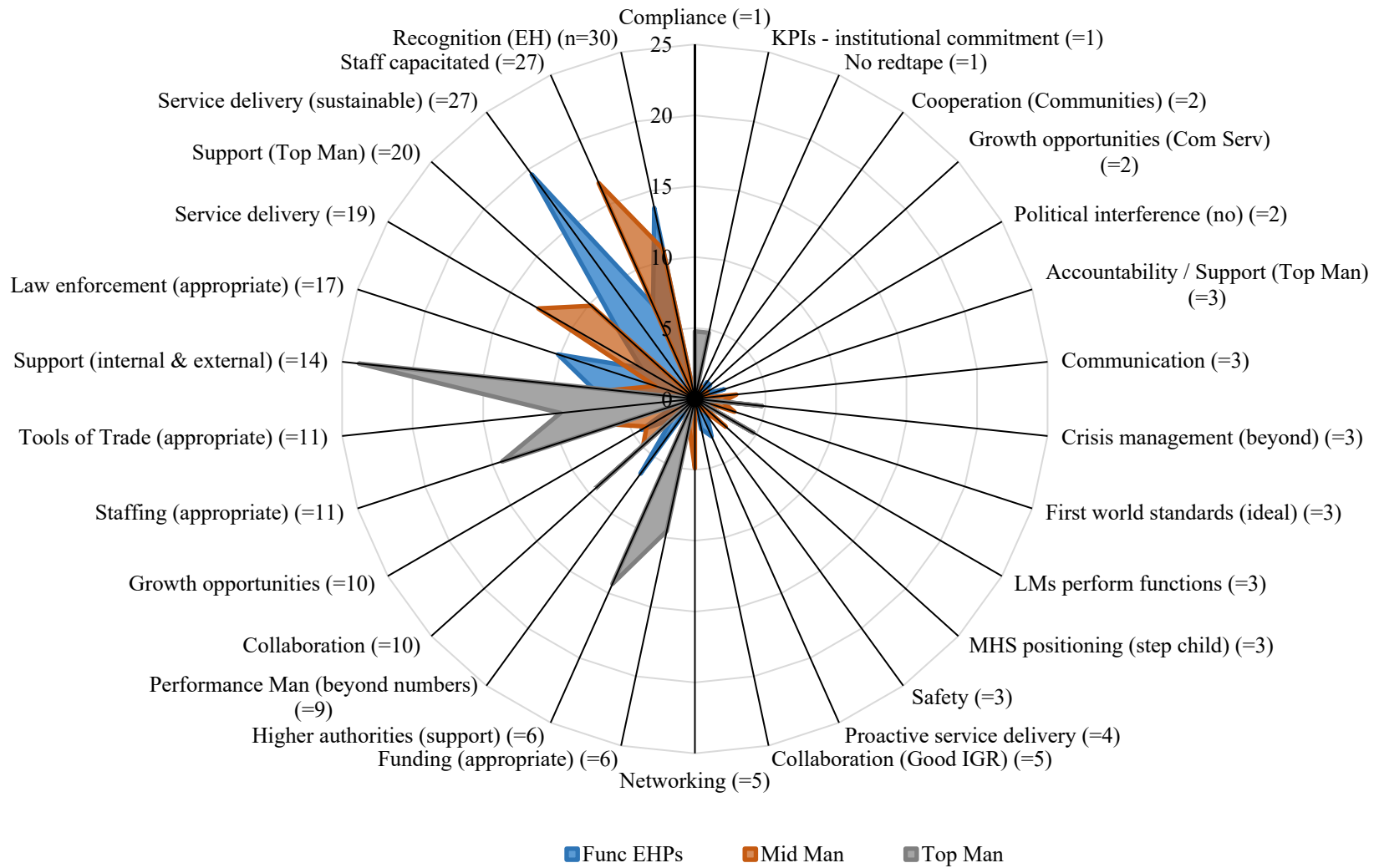
**Figure 4.10: The radar graph provides a dispersed impression of the experiences among the three levels of the EHPs (Appendix J provides additional supporting information about the issues listed in the graph)**

While Table 4.16 and Appendix J’s bar graph reflect on the EHPs’ overall experiences, with percentages calculated in the context of the combined contribution from all levels of EHPs, the percentages reflected in Figure 4.10 are based on the experiences within each EHP level focus group context. Figure 4.10 provides a dispersed impression of the issues raised among the various EHP levels.

b) EHP ideal circumstances

When it comes to EHP thoughts on the ideal circumstances in which to do their jobs, what came to mind first was support from sector department colleagues, from within the DMs between management and staff, as well as externally from other institutions and individuals at local and national levels (Figure 4.11). The MHS middle, and top management value being supported internal from the executive management, political leaders, and administrative departments, while they also expect external support by higher authorities in the spirit of IGR. In particular when reporting issues like persistent internal and private noncompliance are to be reported to provincial and national departments such as DoH and CoGTA (Appendix K).

The Functional level EHPs and MHS middle management further emphasised that they would appreciate sustainable service delivery under ideal circumstances. At the same time, they would expect to receive sufficient recognition that would result in increased resource allocation and staff capacitation (Figure 4.11). The support would play out in supportive leadership committing to sustainable service delivery and happy customers rather than mere *number crunching*.

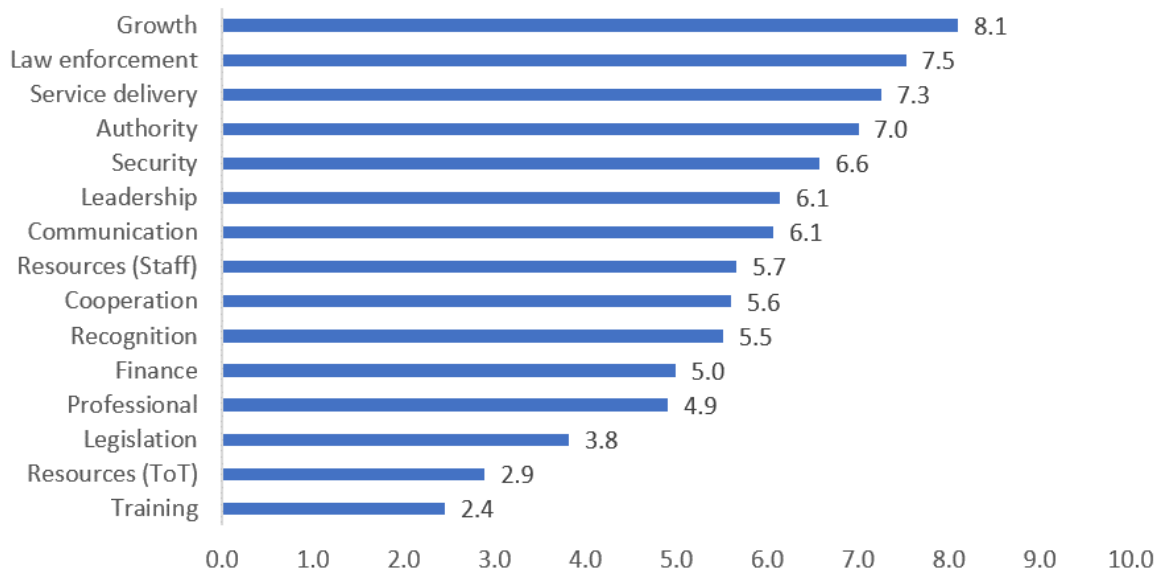


**Figure 4.11: Different EHP levels' ideal circumstances to deliver their functions appropriately for their institutional and functionary mandates, depicted as a percentage (Appendix K bar graph summarises the issues and lists all issues raised by the various groups coded into emergent themes)**

The EHPs anticipated ideal circumstances to respond appropriately to their functional mandates and articulate the EHPs' current experiences, is expressed in Figure 4.11. The EHPs' everyday experience, as shown in Figure 4.10, indicates that functional-level EHPs are mainly concerned about executing their mandates (service delivery functions). In other words, they want to do their job. The EHPs are frustrated with LMs abdicating their responsibilities, while they expect management to support them appropriately, as highlighted by MHS middle management. The MHS top management's overwhelmed feeling (Figure 4.10) refers to the need under ideal circumstances for internal and external support (Figure 4.11). The urge for management support, which spans across all levels of EHPs (Figure 4.11), appeals to executive managers to balance the pressures exerted on the environmental health team to meet administrative compliance targets. The EHPs stated that the executive management's performance targets (number crunching) (Figure 4.10) put extraordinary pressure on limited resources. At the same time, the performance management system does not appropriately measure or support improving community services and conditions, subsequently lacking institutional "winning KPIs".

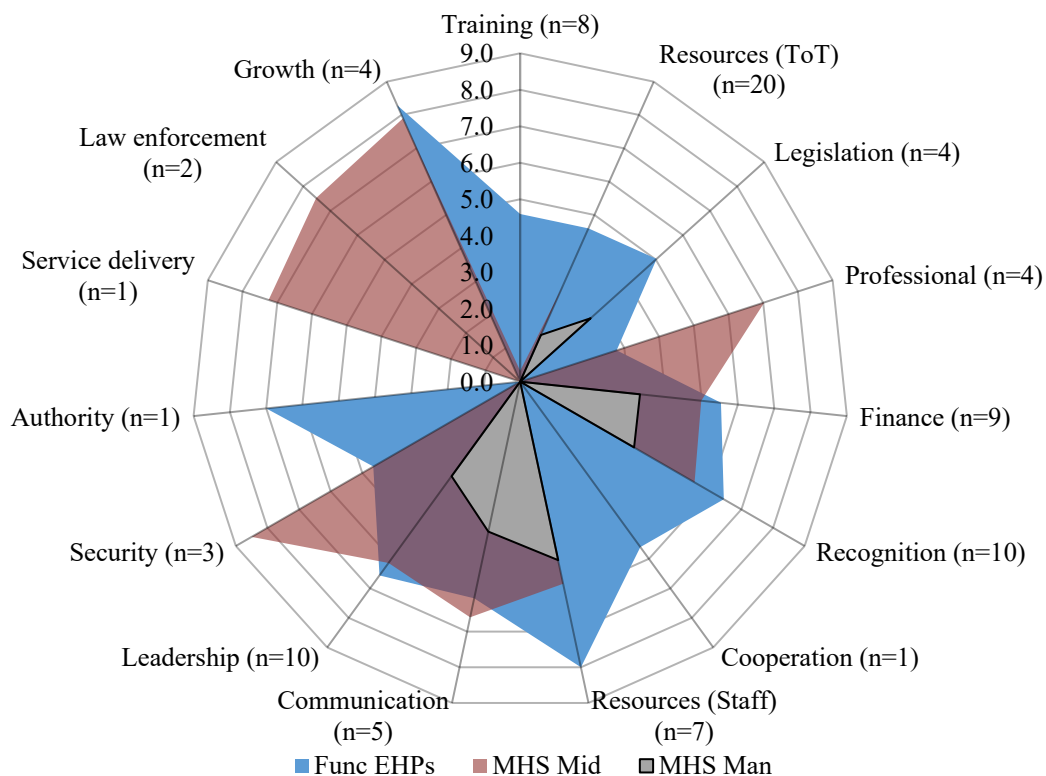
c) Environmental health practitioners' needs

At the top of the P-Index illustrated in Figure 4.12 is the need for *growth* (8.1 out of 10) and at the bottom is *training* (2.4). Figure 4.13 reports on EHP needs per job category in order of priority based on the median P-Index values. The various needs listed in order of priority (Figure 4.11) closely correlate to the collective set of organisational capacities (e.g., skills, expertise and alignment of people, resources, processes, performance systems and leadership).



**Figure 4.12: P-Index of overall EHP needs (functional, middle management & MHS top management: FGs 1-11) (Appendices L, M & N detail the reasons for the EHP needs)**

The functional EHP and MHS middle management corresponding emphasis on the need for *growth* (Figure 4.12) shows the lack of advancement opportunities for the functional EHPs as illustrated by some remaining at junior level in the same position for up to 30 years. This clearly affects staff morale and diminishes their levels of commitment towards the task at hand (*just go[ing] through the motions*) (Appendix L: Growth, lines, 1, 2, 6-8 & 10; Appendix M: Growth, lines 5, 6 & 10). Their professional jadedness is aggravated by the EHPs perceptions (all EHP levels – Figure 4.12) of lacklustre leadership (political and executive management) manifesting as a disregard for their contribution to effective mandate execution and service delivery. “*One becomes despondent*” one participant stated, “[and] unfortunately, sometimes I also drown in pessimism” (Appendix M: Leadership, line 62).



**Figure 4.13: P-Index showing the functional EHP, MHS middle management and MHS top management difference in emphasis between each category of EHP needs as flagged to do their job properly**

Another responded in Afrikaans: “*Being seen is in the interest of politicians, [but now] it is expected of me, prior to elections, to report on our projects in the local newspaper, just for the politician’s photo to be published with the article, [and that] while he was not even involved in the project. ... I am not here to massage someone’s ego*” (Appendix M: Leadership, lines 43-44). He adds that “*(t)here was a time that we were openly challenged in meetings, [about things] some of which are not even related to our programme. But I don’t keep quiet; I tell him [the executive director] that he is wrong*” (Appendix M: Leadership, line 50).

Officials in MHS top management and who should guide and support their subordinates, expressed feeling overwhelmed due to internal and external pressures (Figure 4.10, in particular being pressurised by executive management to reach performance targets annoyed them:

*“It is all about number crunching with little to no attention to service quality” (Appendix P: MHS Middle Management current alignment, lines 87 & 88).*

Some MHS and other categories of EHPs mentioned the political climate in the country characterised by service delivery challenges and frustrated communities. They expressed it in phrases and words like,

*Druk (pressures); frustrasie (frustration); mismooedig met toestande in die land (despondent with conditions in the country); overwhelming; voel ek wil pakiet vat (feel I can retire); gaan net oor clean audits – nie oor dienslewering nie – hamper die bereiking van ons OG dienslewering doelwitte (it’s all about clean audits – nothing about service delivery – it hampers the achievement of our environmental health (EH) objectives).*  
(Appendix J: Current Overall FGs - Functional level EHPs, lines 7-13).

Although training did not feature in the top end of the index (Figure 4.12), as raised by the functional level EHPs (Figure 4.13), the study has revealed that EHPs need to be convinced that they are getting the requisite professional development support. For example, EHPs are sometimes expected to pay for their own training, while others complain that the training provided is not recognised for CPD points. Rather than selecting programmes that keep them updated about the latest developments in their field, the human resource departments tend to appoint service providers that benefit other departments. With little or no growth opportunities now or available soon, EHPs are marginalised when it comes to managerial training (Appendix L: Finance, line 64; Appendix L: Growth, lines 3-4). Also, as one respondent said, even though *“training opportunities are there ... they never used it”*, or if they do the training, it is not utilised by the institution.

Participant P21 explained that he has attended air quality training and an EMI (Environmental Management Inspector) training but has not been able to apply his knowledge and skills. *“Posts not created [and so I] just don’t get an opportunity to use it. [We are sent] ... on management courses but we don’t use the management skills”* (Appendix L: Growth, lines 2, 5 & 7).

The role of leadership in effectively delivering EHS services is vital. Not only does operational support like resource allocation and management affect a functionary’s mandate execution, but also symbolic and relational support when presenting the officials’ cases in meetings with sector departments, executive directors, and politicians (see point 4.2.7.3). It is during the conversion process in Easton’s ‘black box’ where decisions become actions that leadership support for the EHPs is crucial (see point 4.2.7.3).

As stated above, while all the EHP levels emphasised a need for resources (staff and finances), leadership, recognition, and communication (Figure 4.13), they linked it to the need to recognise the role of EHPs in the local government and preventive health service delivery. The lack of growth and appropriate training opportunities for EHPs that was raised by the MHS middle management and functional level EHPs, respectively (Figure 4.13), were also linked to the lack of recognition of the EHPs as expressed in Appendix L: Functional Level EHP Needs – Growth, issues 1-10).

#### ***4.4.3.3 There are sufficient financial resources***

The final element gauging policy impact determinant resources is whether there are sufficient financial resources available. As shown in Table 4.1, although policy goals and resources alone are not significant predictors of policy outcomes, there is a significant two-way interaction with resource availability (Rütten *et al.*, 2003b). Performing a document content analysis of the annual

Division of Revenue Bills (DORB) provided insight into the indicative Local Government Equitable Share (LGES) allocations to municipalities which increased with 5.9% per annum on average over the past 16 years from R 12 per household in 2006 to R 135.24 in 2022 (South Africa, DoF, 2006; 2013; 2018; 2019; 2020; 2021; 2022). Since 2006, the LGES has been funding the local government environmental health services (MHS) as a *basic services component* that also encompasses water provision, sanitation, waste management and electricity supply. However, since 2013, MHS has been included as part of the *community services component* of the LGES formula (South Africa, DoF, 2013; 2018; 2019; 2020; 2021; 2022).

The implication for MHS is that it is now categorised with services that are not closely related to the core focus of EH (e.g., basic needs focused categorised as essential services of high priority) (see Chapter 3, Municipal health services mandatory scope of institutional functions). The services included under the community service component with MHS include fire services, municipal roads, cemeteries, planning, stormwater management, street lighting and parks (South Africa, DoF, 2021). The financial fiscal commission (FFC) argued that MHS be included under the community service component of the LGES formula because it is delivered to all households, while the basic service component target indigent households' costs for free basic services (SA, DoF, 2012; 2014:32-35; May & Agenbag, 2021). In the context of competing demands on municipalities and the priority given to EHS (Chapter 2, Managing distance construal factors that affect effectiveness), a poor understanding of the significance of the function is hampering its growth. Therefore, grouping EHS with politically competitive functions in demand for available resources strengthens the natural construal biases. The situation is aggravated by the LGES Review Task Team that recommended “that municipalities should be encouraged to use their discretion to use

any available funding provided through this formula [community service component] towards the costs of some other [unfunded] services” (South Africa, DoF, 2012: 17; May & Agenbag, 2021: 59).

Ferreira and Groenewald (2016) suggest using benchmarks for comparing systems and practices. In the absence of any empirically supported benchmarks for resource ratios in MHS, an option to determine the sufficiency of resources is to apply the local government equitable share (LGES) allocation to municipalities, and to use the National Department of Health’s functional EHP-to-population ratio. The latter prescribes having one functional EHP to every 10 000 of the population (South Africa, DoH, 2013; 2015). Considering that the biggest asset of local government EHS is its professional staff (EHPs), budget and expenditure for MHS should follow the same trajectory.

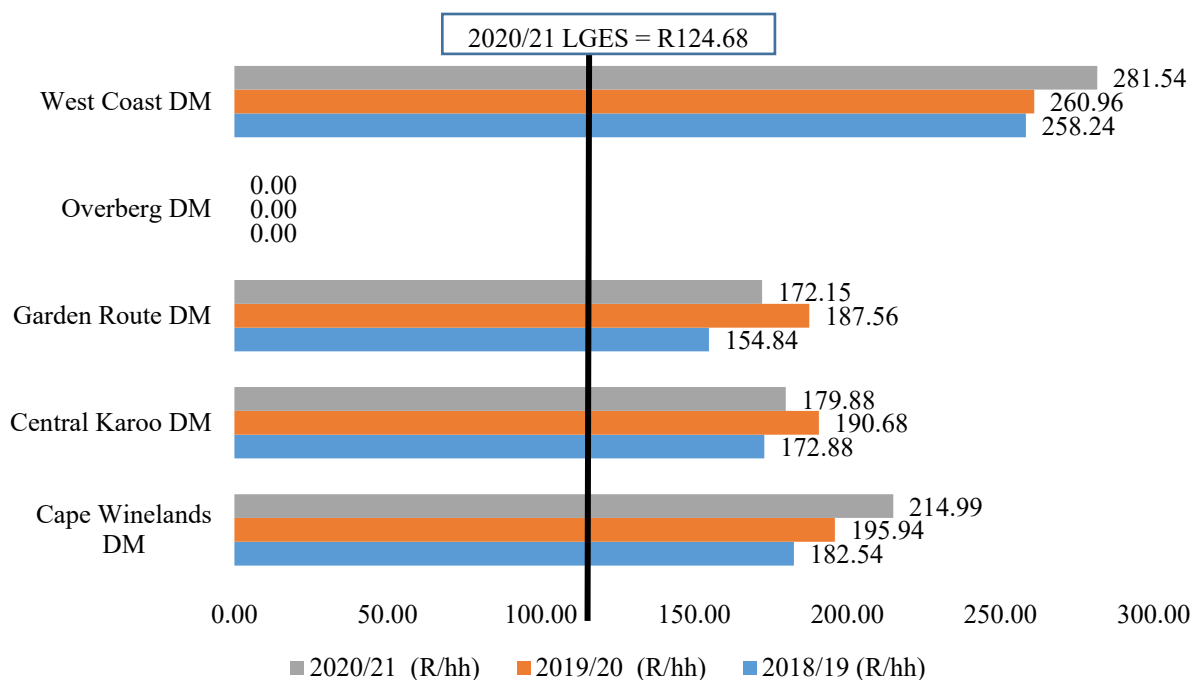
Table 4.17 shows the various DMs in the Western Cape and their ideal number of functional EHPs per DM. The cost per functional EHP is a packaged cost based on the actual budgets provided by four of the five DMs (excluding Overberg DM, which did not submit any budget information and then used the average DM cost per functional EHP). The crude costing per functional EHP embraces the costs for the MHS managerial and supervisory positions. The MHS benchmark calculator considers two factors: (a) the *staff costs* that contain the basic salary and benefits such as housing, medical aid, pension, bonus, essential user car scheme, cellular phone costs and skills development levy. The second part considers (b) the *operational expenditure* (Opex) entailing contributions from MHS unit towards the pro-rata municipal manager’s office costs, human resource department, accounting and auditing, professional body contribution, printing & stationary, municipal services, and samples.

**Table 4.17: MHS costing benchmark founded in the 2020/21 MHS current budgets, with an indicative costing for ODM (budget info not available)**

<b>MHS Authority</b>	<b>Households</b>	<b>Ideal EHPs (Norm)</b>	<b>Cost per EHP (Staff &amp; Opex) (Rand)</b>	<b>Budget Need for Norm (Rand)</b>	<b>Per/HH/Yr</b>	<b>Percent (Norm budget)</b>
Cape Winelands DM	236 006	87	1 493 572.09	129 940 772	551	40.5
Central Karoo DM	21 980	7	985 766.95	6 900 369	314	2.2
Garden Route DM	189 345	61	1 119 548.11	68 292 435	361	21.3
Overberg DM	91 913	29	1 334 975.67	38 714 294	421	12.1
West Coast DM	129 862	44	1 741 015.52	76 604 683	590	23.9
<b>Theoretical ideal</b>	<b>669 106</b>	<b>228</b>	<b>Ave 1 334 976.67</b>	320 452 553	447	<b>100.0</b>
	Current actual MHS -excl. ODM (incl. project & Capex)			123 851 402		38.6
	ODM indicative - current functional EHP levels			9 344 830		
	Theoretical current (incl. of ODM indicative)			133 196 231		41.6
	<b>Theoretical shortfall:</b>			<b>R 187 256 322</b>		<b>58.4</b>

ODM = "Overberg DM"

The per household per year (Per/HH/Yr) (Table 4.17) calculation shows the annual budget needed per household to fund the norm number of functional EHPs per DM. When comparing the current LGES allocation (Figure 4.14) with the respective DMs current per household average spending on MHS for the MTEF period (2018/19 - 2020/21) (Table 4.17) it shows the shortfall of the per household funding via the LGES (R124.68 - 2020/21) (Figure 4.14). Although Figure 4.14 shows that the respective DMs (No budget information was available for ODM) in the Western Cape are funding MHS beyond the LGES benchmark allocation, the DMs are currently running their MHS services at a 41.6% functional EHP capacity against the national EHP-to-population norm (see Table 4.17). Compared to the norm, current funding for MHS needs to be increased to cover the complete package of MHS to deliver sustainable preventive EHS (Table 4.17).



**Figure 4.14: Overview of Western Cape DMs annual per household spending on MHS for the MTEF periods 2018/19, 2019/20 and 2020/21, respectively. The solid vertical line shows the 2020/21 financial year’s LGES indicative allocation from National Treasury to the DMs (South Africa, DoF, 2020)**

It is of note that, since the initial costing study by the National Department of Health in 2004 that informed the MHS LGES allocations, no comprehensive costing was conducted ever since, even though National Treasury agreed to the necessity for a proper costing of MHSs (May, Agenbag, 2021: 58-64). However, with construal level biases and competing demands, EHS needs to be sufficiently prioritised (see Chapter 2). May and Agenbag (2021: 63) argued that in the absence of a “strong nationally driven initiative to cost the service, the status quo will remain”. The availability of funding (or lack thereof) directly impacts the availability of human resources and tools of the trade, such as purposive vehicles, sampling equipment, office equipment and communication and training needs.

The respective DMs insufficiency of MHS funding was echoed by the EHPs during their FG inputs when they reflected on their current work experiences (Appendix J), their ideal circumstances (Appendix K) for doing their work properly (Appendices L, M & N), as well as their 15 listed needs as depicted in Figures 4.12 and 4.13, respectively. Figure 4.15 provides an overview of the interplay among the EHPs needs and the organisational capacity issues that critically impact on the mandate execution. Figure 4.15 shows the relationship between the EHPs' other needs and finances (#11). Although the MHS FG raised the issue of finances eleventh in their P-Index, some of the other higher priority challenges – growth opportunity (#1), availability of staff (#8), communication (#7), purposive equipment (resource [ToT] #14), training (#15) and vehicles (resource [ToT] #14) – are directly linked to the availability of funding for the services. A paucity on leadership support (#6) and leadership recognition (#10) are ascribed to the managers' and political leaders' deficient understanding of the significance of the MHS function in basic municipal service delivery. EHPs also linked the lack of finances to the paucity of leadership commitment to MHS.

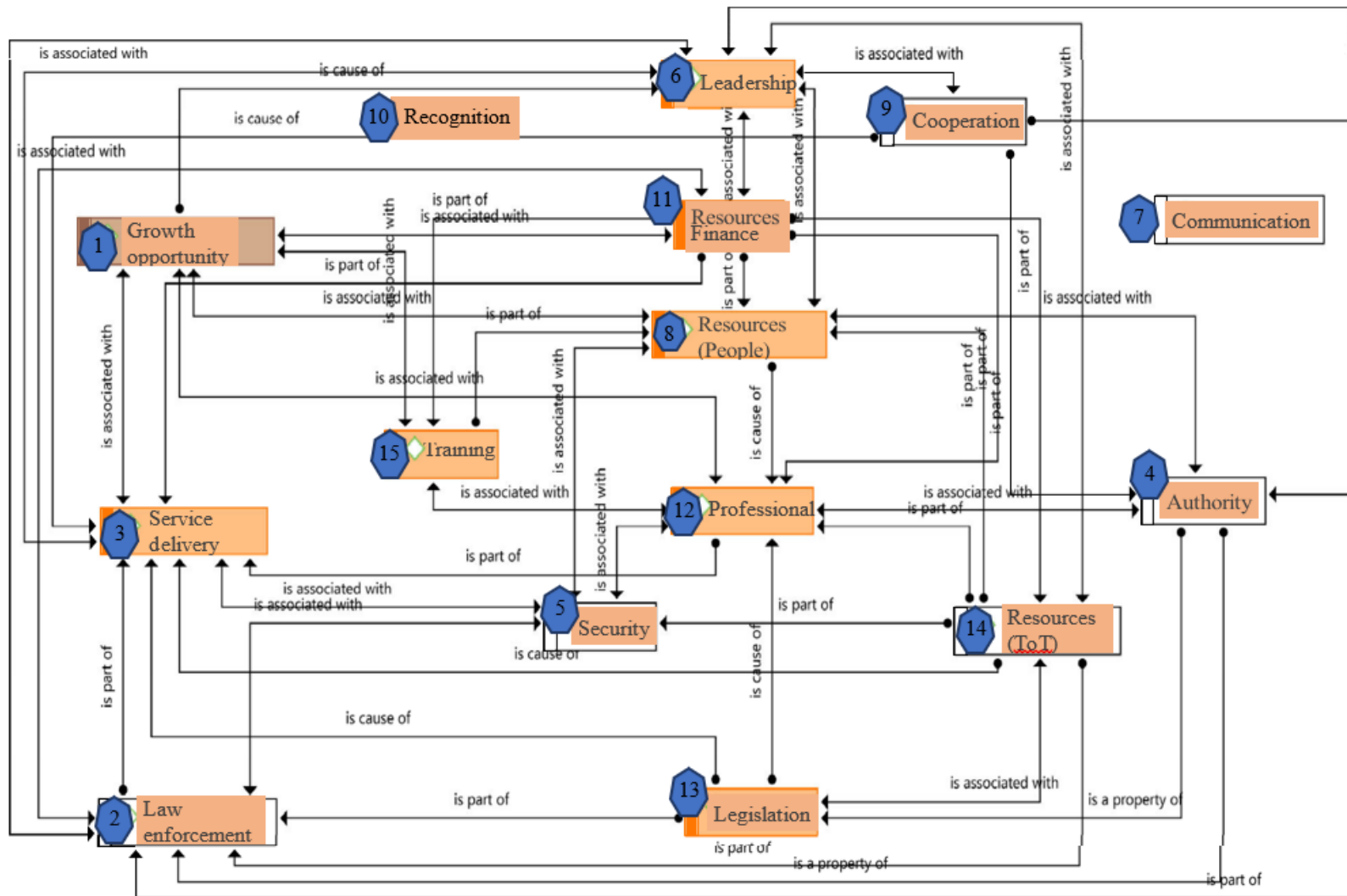


Figure 4.15: Network diagram showing the relationships between organisational capacity issues and MHS needs, analysed in Atlas.ti 9

#### 4.4.4 Opportunities

Opportunities are split into three variables: organisational opportunities, political opportunities, and public opportunities.

##### 4.4.4.1 Organisational opportunities

The *organisational opportunities*, as outlined under the section ‘adapting the ADEPT model for the local government context – opportunities’ above (see 4.2.7.4), point to the collaboration between and within organisations that are interdependent of each other to achieve organisational objectives such as the promotion of a safe and healthy environment and the mitigation of environmental health risks at the origin. Therefore, it is necessary for MHS and the sectoral departments responsible for water, sanitation, and domestic solid waste at the LM level to collaborate with each other.

##### a) My own involvement has worsened/improved

For any organisation to succeed, it is important to have positive staff dedicated to their mandate (Prabhu & Robson, 2000; Colwell & Joshi, 2013).

For the element, *My own involvement has worsened/improved*, to gauge the organisational opportunities policy impact determinant, a combination of variables reflecting on the EHPs’ and sectoral participants’ work experience (ambiance) when performing their daily tasks were assessed, using a scale with three clusters of variables ranging from *disappointing* to *thrilling*; *alone* to *supported*, and *static* to *transforming* (Appendix D, question 13; Appendix E, questions 21-23).

In addition, the EHPs were asked to reflect on their *past*, *current* and *future* perceptions about EHS delivery at their respective settings.

***EHPs' & sectoral participants' daily work experience***

To assess the impression of the daily work ambiance for both the EHPs and sectoral participants, a 7-point Likert scale was used to gauge the three clusters of variables, as mentioned.

During the EHP FG discussions, it surfaced that functional EHPs encountered safety challenges when conducting their daily tasks – such as gangster activity, dodgy areas for conducting inspections – that trouble or disrupt MHS service delivery. Therefore, an additional cluster *dangerous to safe* was added to the EHP online questionnaire (Appendix E, question 24).

In total, 100 EHPs participated in the survey that generated a total of 327 data points from the mentioned categories of variables. The variables measuring the daily work experience of EHPs and the sectoral participants were grouped together and averaged into the EHPs' three job categories and the sectoral respondents, as depicted in Table 4.18. Thereafter, the Likert scale was used to separate the inputs from the various categories of participants into either positive or negative responses as the scale was structured in such a way that the two opposite sides of the scale generate a positive and negative dimension. The value 4 was used as the lower end cut-off for the positive responses, below which responses are regarded as negative (Table 4.18). This approach clarified where the thrust of respondents' work experience is and provided an informed choice to gauge the variable's contribution towards the policy impact.

**Table 4.18: EHPs' and sectoral participants' perceptions about their daily working conditions to ascertain if they have a positive or negative attitude towards their work environment (Source: EHPs and Sectoral questionnaires)**

Variables Category	Disappointing / Alone / Static			Thrilling / Supported / Transforming				TOTAL
	Neg	Neg	Neg	Pos	Pos	Pos	Pos	
EHP & Sectoral Categories	1	2	3	4	5	6	7	
Functional EHPs	5	23	25	44	45	12	8	162
MHS Middle Management	9	18	17	27	24	18	7	120
MHS Top Management	0	3	2	0	1	6	0	12
Sectoral Participants	2	3	2	6	4	10	6	33
<b>TOTAL</b>	<b>16</b>	<b>47</b>	<b>46</b>	<b>77</b>	<b>74</b>	<b>46</b>	<b>21</b>	<b>327</b>
<b>Negative &amp; Positive</b>		<b>109</b>			<b>218</b>			<b>327</b>
<b>Percent</b>		33.3			66.7			100.0

The results in Table 4.18 show that the EHPs and sectoral participants are inclined positively towards their daily work, irrespective of the challenges the EHPs listed during their FG, and current and ideal experiences (Appendices J & K). The disaggregated data show that the sectoral participants, all middle managers from their respective municipalities, noted a higher positive response (n=26 [78.8%]) than the EHP responses (n=192 [65.3%]). This positive response sends a message to the executive management that staff goodwill needs to be nurtured as part of the *organisational opportunities* to improve service delivery to the communities. However, Martin *et al.* (2022: 21) cautioned that the “well of staff goodwill” can also be depleted. Martin and colleagues (2022), as well as Chen (2008) state that staff goodwill, reciprocity, and reputation are responsive in a trust relationship. Chen (2008: 351), in turn, also said that goodwill is the social capital that enhances social relationships essential for providing basic services within the dispersed local government arrangement among EHSs and BMS sectors. Therefore, effective collaboration requires partners to be committed to combining their resources for mutual benefit (Chen, 2008).

b) The cooperation within my organisation has worsened/improved

The second variable assesses only the EHPs' organisational opportunities, covering the EHPs' past, current and future perspective of their place of work (Questions 18-20, EHP online questionnaire). The EHPs were asked to reflect on their past, current, and future perceptions about EHS delivery at their work settings. The question is: *When you think about EHS at your municipality today, three years ago, and three years ahead, respectively, where do you see yourself on the 10-point Likert scale?* where 1 is the worst, and 10 the best situation. The medians for the respective independent variables – today, past and future – ranged from 6.62 (std dev 1.575), 6.38 (1.594) and 6.75 (2.100), respectively.

i. ***EHPs' past, current, and future work perception***

A Pearson correlation coefficient statistical analysis was done on the various categories of EHPs' perspectives (of top management, middle management, and functional level) about the delivery of EHS at their work settings. The results (see Table 4.19) suggest an absence of relationship among the levels of EHPs and their past, present, and future views about EHS in their respective places of work. However, a strong to very strong positive relationship was observed in general between the EHPs' current (Q18) experience and what they experienced in the past (Q19), and whatever they envisage in the future (Q20), respectively. A Pearson's correlation value of 0.6 is viewed as strong, while 0.8 indicates a very strong relationship.

The EHPs' current views of how they experience environmental health service delivery, resembled the EHPs' experiences in the past (three years ago). It is evident that essentially nothing changed for the EHPs, so they do not foresee that it will change, even though a cursory view of the medians of the three variables suggests slight optimism for the future.

**Table 4.19: EHPs' current, past, and future views of EHS delivery at their work setting**

Variables	Q3	Q18	Q19	Q20
Q3 - EHP job level	1			
Q18 – Current	0.0274	1		
Q19 – Past	0.1823	<b>0.5975</b>	1	
Q20 – Future	0.0485	<b>0.7973</b>	0.4275	1

Although the results for the purpose of the ADEPT policy impact analysis suggest that the conditions for the EHPs are stable, a consideration of the above to determine if the EHPs conditions deteriorated or improved is superficial. It would be advantageous to evaluate the concealed stable perspective in Table 4.19 within the context of the EHPs' actual daily service delivery experiences as reflected on during the EHP FG sessions.

A summary of EHPs' current work experiences is depicted in Appendix J, while their ideal circumstances that they need to do their work properly is captured in Appendix K. Appendix P also shows specific MHS and sectoral department cooperation issues, reported on under section 4.4.2.4 above, that touch on collaboration between the EHP and BMS sectors.

In general, EHPs described hostile circumstances where it is expected of them to implement their preventive health work under challenging conditions. This is evident in the following responses:

*Gesondheid is by DM en sector funksie is by LM - aksies gebeur nie - Kannie mekaar aankla nie a.g.v. IGR reëlings (translation: health is with the DMs and sectoral functions with LMs – actions do not happen – Cannot lay charges against each other due to IGR arrangements).* (Appendix P: Functional level EHPs current aligned, line 23)

*Kry nie ondersteuning want ons moet gewoonlik owerhede aanpraat oor goed wat nie voldoen nie en dit gaan nie goed af vir leiers nie (translation: Don't get support because we must normally reprimand authorities about issues not complying, and this is not auguring well with leaders).* (Appendix N: Recognition, line 11)

In the context of the multi-sectoral dispersed governance arrangement where EHPs are dependent on sectoral departments responsible for providing, operating, and maintaining the basic municipal service infrastructure and operational matters for water, sanitation and domestic solid waste, collaboration is essential. These mentioned BMS have a direct impact on local health outcomes. Therefore, the experiences of the EHPs regarding the cooperation between the MHS units from the various DMs in the Western Cape with that of the sectoral departments at the LMs were categorised as *positive*, *neutral*, and *negative* responses, as portrayed in Table 4.20.

**Table 4.20: EHPs' experiences regarding cooperation between MHS and sectoral departments responsible for water, sanitation, and domestic solid waste in the two-tiered local government arrangement (Source: Appendix R: Aligned collaboration- MHS & Sector, Current [FGs 1-11])**

EHP Categories	Positive		Neutral		Negative		TOTAL	
	N	%	N	%	N	%	N	%
Functional EHPs	4	7.4	6	11.1	44	81.5	54	100
MHS Middle Management	3	7.7	8	20.5	28	71.8	39	100
MHS Top Management	1	4.3	6	26.1	16	69.6	23	100
<b>TOTAL</b>	<b>8</b>	<b>6.9</b>	<b>20</b>	<b>17.2</b>	<b>88</b>	<b>75.9</b>	<b>116</b>	<b>100</b>

It is evident from the results in Table 4.20 that organisational cooperation to achieve policy objectives for improved services delivery is lacking, despite legal and regulatory directives to develop strong IGR from the constitution down (South Africa, 1996; 2000). Evidence emerged that EHPs experience this apparent lack of collaboration as sector colleagues disregard them and their mandate and that leadership fails to support them by mediating the situation (active leadership) and adjusting their own behaviour (symbolic leadership). Their responses reveal a perception that the enmity is systemic; this makes for a hostile work environment adversely impacting productivity and effectiveness (Stanton, 2009; Olivier & Martins, 2018; Johnsson *et al.*, 2021).

It is evident that EHP morale is in general low due to several issues related to, among others, a lack of growth opportunity, a deficiency of leadership support (political and executive management) and a lack of recognition of the significance of the EHP role in sustainable basic municipal service delivery. Some functional EHPs are 30 years on, still serving in a junior EHP position, as mentioned earlier. At this juncture that Martin *et al.*'s (2022) caution for the “well of staff goodwill” that can get depleted becomes a reality. The EHP's response, “*just go[ing] through the motions*”, illustrates the system's lack of trust and reciprocity. As Chen (2008) stated, goodwill is the social capital essential for service delivery within the multi-sectoral dispersed governance system.

#### ***4.4.4.2 Political opportunities***

*Political opportunities* as a policy impact determinant in the ADEPT model (Rütten *et al.* 2010: 325) is the factor that either contributes to relationship deterioration or improvement. The elements Rütten *et al.* (2010) consider are (i) political climate; (ii) sector support; (iii) cooperation among political levels involved; (iv) cooperation between public and private organisations; and (v) whether lobbying for actions has dwindled or improved. According to Rütten *et al.* (2010), political opportunities arise from external changes as well as inter-organisational settings.

The ADEPT model investigates political influences at international and national levels, aspects that fall outside BMS and EHP spheres of influence. Yet operating in such close proximity to the community and their needs and complaints, EHPs often find themselves directly in the political firing line. At times they get caught in the fallout from the pressure of political leadership on top management to ‘tick the boxes’ as a means to prove effective service delivery. Most often, such tensions stem from politicians and executive management making decisions

in Easton's 'black box' (1965) that do not align with EHPs' scope of functions. Reading this conversion process as redirecting environmental health service delivery away from the professionals' understanding of their mandate, with Luhmann's theory of organisations as decision-making machines (Chapter 2, Luhmannian model of organisations as complex social systems) explains the respondents' lived experiences of feeling disregarded and side-lined.

In the South African context, the impact of political opportunities on policy measured with the ADEPT model comes into play. The political climate, both nationally and locally, is unstable with communities demanding better service delivery and party politicians pressuring LMs to fulfil those needs in an effort to win elections (see Chapter 2). While the 'black box' decisions might benefit politicians and improve top management career opportunities, and performance bonuses, it undermines the sector support EHPs need to execute their mandate. Subsequently, this renders EHSs ineffective and frustrates any actions undertaken to provide and maintain essential services in communities. The result is operational and professional inertia.

To propel the organisation towards action may require a shift in one, a few or all these determinants. A political climate change in the shape of citizens voting in a new political administration at any level of government could serve as a trigger to alter the decision-action conversion process in the 'black box' and transform political oversight and operational and managerial processes at LMs to bolster effective service delivery.

In this study, EHP perceptions of the actions, commitment and support from top management and political leadership was gauged (see Chapter 2, fundamental 3: symbolic and actions support), using an ordinal scale with strongly agree, disagree, not agree, agree, and strongly disagree. Respondents were asked to evaluate the statement *The top management at the district*

*municipality is eager to allocate funds towards the MHS section's statutory obligations in the context of s152 and 153 of the Constitution.* Top management, in this case, referred to executive management, MHS top management and MHS supervisors that support MHS at an operational level. A similar question was posed for EHPs to respond on the willingness of the *political leadership* (e.g., mayoral committees, standing committees and political portfolio committees heading and interacting with specific municipal functions) to support MHS budgets.

With regards to top management and political support for allocating resources to MHS, EHPs in all three categories indicate a balance of eagerness among DMs' executive management and political leadership to support the implementation of their MHS statutory obligations (Table 4.21). Almost half (49%) of the EHP respondents have a positive view of funding support, while the remainder (50.5%) was less impressed. The results suggest that the respondents perceive their administrative executive leadership as more supportive than political leadership (Table 4.21).

**Table 4.21: Leadership eagerness to support allocation of funds for MHS statutory obligations in terms of s152 and 153 of the constitution**

Leadership support	Strongly Agree	Agree	Not Agree	Strongly Disagree	Disagree	Column Total (n)
Political leadership	4	40	27	8	21	100
Executive Management	5	50	22	6	17	100
Row Total	9	90	49	14	38	200
Summary Positive/Negative	<b>99</b>		<b>101</b>			
Summary percent	<b>49.5</b>		<b>50.5</b>			

Overall, EHPs in all categories are more optimistic about the support from political and administrative leadership for their EHS operational programmes (72.3%) (Table 4.22). Responses indicate that participants receive more support to implement EHS programmes from their MHS leaders (84.5%) than from the executive leadership (60%). This confirms a discrepancy between the level of support for executing their mandate and the willingness to

allocate funding to implement and maintain these programmes. The discrepancy illustrates the interplay between symbolic and actual leadership support (see Chapter 2 – Leadership support).

**Table 4.22: Leadership support for MHS operational level interventions (programmes)**

<b>Leadership support</b>	<b>Strongly Agree</b>	<b>Agree</b>	<b>Not Agree</b>	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Column Total</b>
Political leadership (Mayco)	6	51	24	7	12	100
Executive Management	6	57	20	6	11	100
MHS Top Management	19	65	12	1	3	100
MHS Supervisors	23	62	11	1	3	100
<b>Row Total</b>	<b>54</b>	<b>235</b>	<b>67</b>	<b>15</b>	<b>29</b>	<b>400</b>
<b>Summary</b>	<b>289</b>		<b>111</b>			
<b>Positive/Negative</b>						
<b>Summary percent</b>	<b>72.3</b>		<b>27.7</b>			

A Chi-square test on the data from both Tables 4.21 and 4.22 shows the only significant difference ( $p < 0.05$ ) in the EHPs' perspective regarding the leadership support (political, executive management and MHS leadership) is support for EHS programmes (see Appendix Q). It was detected in the support the EHPs are getting from their MHS top managers ( $p = 0.026$ ) and MHS middle managers ( $p = 0.035$ ), respectively (Appendix Q). No significant differences were detected in the views of the EHPs regarding the support received from executive management and political leadership for their budgets and the implementation of their operational plans (Appendix Q). A perspective from the various DMs also failed to yield any significant difference in any level of leadership support for EHP budgets and implementation plans at the respective DMs.

#### **4.4.4.3 Public opportunities**

*Public opportunities* that impact policy according to the ADEPT model measure the improvement or worsening levels of (i) public involvement; (ii) population support for an action; and (iii) media interest. As discussed in Chapter 2, community satisfaction is based on community conditions and community services. These two factors determine how the

community responds. An unhappy community ushers in negative media reporting and organised (even violent) protests and litigation.

When asked about how satisfied they are with the current MHS and BMS service delivery and whether it satisfies communities' basic needs, using a 7-point Likert scale, EHPs reported that they are mainly satisfied with their output to appease their communities' basic needs (Table 4.23). This statement, though, should also be viewed in the context of EHPs' knowledge about activities happening in their jurisdictions as an indicator of community response to the satisfaction with community conditions and services (Table 4.24).

**Table 4.23: EHPs' perspectives on community satisfaction with MHS, water, sanitation and solid waste output to satisfy a community's basic needs (Q45)**

Municipal functions (mandate)	Scale							Total
	Dissatisfied			Satisfied				
	1	2	3	4	5	6	7	
MHS	1	4	9	29	27	22	8	100
Water	0	6	9	24	29	21	0	89
Sanitation	0	7	13	31	24	16	0	91
Solid waste	0	15	11	34	18	15	0	93
<b>Total</b>	<b>1</b>	<b>32</b>	<b>42</b>	<b>118</b>	<b>98</b>	<b>74</b>	<b>8</b>	<b>373</b>
<b>Percent</b>	<b>0.3</b>	<b>8.6</b>	<b>11.3</b>	<b>31.6</b>	<b>26.3</b>	<b>19.8</b>	<b>2.1</b>	<b>100</b>
<b>Negative &amp; Positive</b>		<b>20.2</b>			<b>79.8</b>			<b>100</b>

A Chi-square test (Appendix R) shows no significance ( $p > 0.05$ ; CL 95%) among the different levels of EHP views about their satisfaction concerning the outputs from MHS and BMS in support of meeting the basic needs of the communities. The p-values (Appendix R) ranged from 0.121 (solid waste); 0.243 (water); 0.297 (sanitation) to the highest of 0.604 for MHS services based on the EHPs' views of the community's satisfaction with the listed services (Table 4.23). When considering the value of 4 as the start of the positive responses (see previous approach, Table 4.18), the EHP's perspective of community satisfaction regarding municipal functions (functional mandate) is quite positive. The EHPs view, however,

contradicts what the communities show (see section 2.6.7 on community protests over service delivery), suggesting that the EHPs are not viewing the community conditions and services the same way as their communities do.

The EHPs were probed about any actions, such as community mobilisation, protests, or litigation against the LM; or SAHRC investigations; or any other forms of expressed dissatisfaction because of non-delivery or ineffective delivery of services during the last three financial years from 2018/19 to 2020/21. While 7.8% (n=39) of EHP responses show that EHPs were aware of such activities and expressed dissatisfaction in their jurisdictions, 92.2% (n=459) of the responses indicate the contrary (Table 4.24).

**Table 4.24: EHPs' category knowledge about activities in their jurisdictions indicating community dissatisfaction with EH risks and poor basic municipal services**

	Yes	No	Don't know	Total
Litigation (court case(s))	4	59	37	100
Community protests	20	47	33	100
Pressure groups	11	52	37	100
SAHRC	1	59	40	100
Other	3	52	45	100
<b>Total</b>	<b>39</b>	<b>267</b>	<b>192</b>	<b>500</b>
<b>Percent</b>	<b>7.8</b>	<b>53.8</b>	<b>38.4</b>	<b>100</b>

The results suggest that the EHPs are not fully aware of activities in their areas as predictors of community dissatisfaction with services in which EHPs are involved concerning water, sanitation, and solid waste services. The factors listed by EHPs who are aware of issues contributing to the community dissatisfaction includes the following: generally poor service delivery; displeasure with provision of housing, water, and sanitation; refuse removal and toilets in informal areas; sewerage infrastructure; poor air quality; illegal informal settlements; waste management and landfill sites; illegal waste dumping; littering; sewer blockages; spaza shops and overcrowding.

It is evident from the above analysis (Tables 4.23 & 4.24) that the implication for future policy impact analysis suggests that EHPs' views of their community's satisfaction should not be evaluated in isolation, because these might not provide a fair judgement on their own. That most EHPs were unaware of activities (Table 4.24) such as service delivery protests or litigation that are predictors of community satisfaction with community conditions is a concern. It is important to contextualise and contrast such assessments with the EHPs' and sectoral role players' actual service experiences based on the current and future ideal perspectives, as described earlier (see 4.4.2.4; 4.4.3.2 and 4.4.4.1). It might also be helpful to use the EHPs and sectoral role-players' perspectives to align their respective mandate cognisance with their constitutional obligation to satisfy the citizens' essential needs.

According to Rütten *et al.* (2003a: 2; 2010: 326), public opportunities impact policy through the “interplay between the policymakers, interest groups, public support, and the media”. This spotlights factors that influence the agenda building for a policy change. This process is influenced by internal processes (lobbying and strong-arming others in the ‘black box’), external factors such as public support (positive or negative), and media interest. While Milio (1998, in Rütten *et al.*, 2003a: 2) emphasises the role of information strategies, Rice and Stankova (2019) consider communication as a policy tool to influence the discourse. Increasingly, communications are regarded as a policy tool too, as policy cognisance, comprehension, and adherence depend on effective internal and external communication. In general, environmental health leadership and EHPs can use public uproar and increased litigation reflecting on poor essential services, disease outbreaks, political regime changes and media interest as triggering events to influence the agenda building for the requisite policy changes to support sustainable preventive health services at the local government level.

## 4.5 CONCLUSION

As a retrospective (summative) policy impact analysis tool, the revised ADEPT model (Table 4.2) proved its usefulness in the local government context. The revised ADEPT model can support local authorities to recognise the systemic, procedural, and relational incongruences and the impact this has on policy implementation and effective preventive EHS delivery. Based on the policy impact determinants, namely policy goals, obligations, resources, and political and public opportunities, the study results from the revised ADEPT model led to the conclusions as described below.

### 4.5.1 Policy goals

The policy goals that should be clear and concrete and show fitness for purpose (improving the population's health) show varied degrees of alignment in each sector's legislative framework (see section 4.4.1). As essential pointers to mitigate environmental health risks, the assessment of the goals of the sectoral legislation considered their focus on (i) *the improvement of the health of the population*; (ii) *basic needs*; (iii) *focus on risk reduction*; (iv) *citizen satisfaction (customer/population-focused)*, and (v) *action around intersectoral collaboration*. The statistical and anecdotal evidence indicates a need for integration and articulation among the different legal mandates governing environmental health, water provision, sanitation, and solid waste management. As a result, EHPs and sector officials expressed an absence of a clear direction to set and achieve their separate and shared objectives effectively. Also, the lack of clarity perpetuates the silo approach to mandate cognisance and execution. For example, even though the National Environmental Health Policy requires a partnership approach for holistic, integrated planning in EH, the National Health Act (61 of 2003) only obligates the provincial health executive management to participate in interprovincial and intersectoral coordination and collaboration among health facilities (see 4.4.1). Nevertheless, there needs to be more

clarity regarding the interaction with sectoral departments and municipalities reneging on their constitutional responsibilities to support local government EHS to mitigate ill health at the origin of the determinants of health.

Regarding the water and sanitation policy clusters, the reference to '*collaboration*' or '*cooperation*', mentioned only in the water and sanitation norms and standards, states cooperation in the context of an appeal to the functionaries in the field to uphold the reputation of their profession. Likewise, the NEMA Waste Act merely broadly appeals to cooperative governance without broaching collaboration with the community or the health sector (see section 4.4.1.5). Sectoral and health departments are not instructed to consider health issues and mitigating EH risks when planning, programming, and controlling BMS projects. Therefore, segregating EHS at a local government level from the national and provincial health function supports the notion that the curative-dominated health system is so inward looking that they do not hold the sectors causing ill health responsible, as stated by Listorti and Doumani (2001: xxiii). The current performance management system reinforces the disjunction among the policy goals. The local government performance management systems emphasise numbers (*number crunching*) when assessing compliance (ticking boxes) rather than measuring concrete outcomes in community conditions. Clear performance indicators (winning KPIs) that have been devised by all sectors at all levels of authority and based on communication, collaboration, and coordination to gauge improvement in community conditions and services, including the reduction of EH risks in the communities, are missing (see section 4.4.3.2 – Table 4.16, and Figure 4.9).

The policy impact analysis results demonstrate the isolation's magnitude and the subsequent lack of professional confidence perceived in EHS (see section 4.4.2.4 – Figure 4.6). Despite not always being actively included in the sectoral operational processes, EHPs are not prohibited from giving input. However, they perceive their contributions as mostly disregarded

or diluted. Several EHS departments also indicate that they have not developed formal EH risk profiles that can be communicated to supporting sectors (see section 4.4.2.3 (a)(ii) and Table 4.13). At the same time, most EHPs and sectoral officials do not have project or risk management qualifications as a tool to navigate planning, programming, control, and collaboration challenges. The insights from Larsen *et al.* (2021) (see section 4.2.7.2) require considering a project approach in multi-sectoral environments to navigate the silo approach among sectors affecting municipal service delivery. EHPs should learn how to navigate the construal level dynamics using risk, project management, and planning as instruments to anchor leadership commitment.

#### **4.5.2 Obligations**

Although remaining in the same position with a single employer is not a contemporary employment tendency, EHPs and officials in the water, sanitation, and waste sectors work on average for 15 years at their institutions (Table 4.6). Subsequently, EHPs and sectoral participants showed a wealth of experience in the local government environment and their respective fields that set a strong foundation for delivering essential municipal services. The results, however, show that for most EHPs, extended employment in their current positions results from limited opportunities for professional development in the municipalities. Some EHPs are sitting in positions for 30 years while still being junior EHPs (see section 4.4.2.1). The EHPs ascribe the lack of growth opportunities on the flat MHS organisational structures resulting in a minimal number of senior positions, a lack of recognition for their professional contribution, and a disregard for expertise in environmental health which affect their morale and commitment towards their obligations (see section 4.4.3.2 (c) – Figures 4.11 and 4.12). The results for the professional registration and CPD status of the EHPs and their statutory authorisation status suggest that a few EHPs' professional registration requirements were unmet

(see section 4.4.2.2 and Tables 4.7 and 4.9). As a result, the lack of attention to EHPs' registration status risks the institution and the functionary running afoul of the law. EHPs' routine inspections and investigative duties become *ultra vires* when they are not authorised and do not meet all the professional registration requirements (Connell, n.d.).

### **4.5.3 Resources**

Environmental health functionaries also cite a need for more resources, including capacity development (Figure 4.11). Although results revealed that DMs currently operate at 41% of capacity (Table 4.17), it is evident that the Community Service (Com Serv) EHP uptake that should fill the gap in under-served Western Cape communities did not happen (Table 4.15). While the country is grappling with a shocking youth unemployment rate of 64.2%, the omission of not creating and placing Com Serv EHPs deprive not only underserved communities but also deprive young graduates of gaining the experience needed and authority to enter the labour market, despite a dire need for EHPs nationwide. Municipalities should create adequate EHP posts and optimise the Com Serv EHPs to fill the gaps. Although the placement of EHPs and Com Serv EHPs still needs to be done, the financial constraints and a lack of recognition of EHSs prohibit it from happening (see section 4.4.3). In addition, it also includes paying attention to integrating EHS into the sectoral planning, programming, and control functions, even though EHS are barely considered during emergencies (see section 4.4.2.4 - Figures 4.6 and 4.7).

### **4.5.4 Opportunities**

Opportunities consist of (i) organisational opportunities, (ii) political opportunities, and (iii) public opportunities. Opportunities point to the collaboration between and within interdependent organisations to achieve organisational objectives such as mitigating

environmental health risks. Collaboration is essential within the multi-sectoral dispersed governance arrangement, where EHPs depend on sectoral departments responsible for providing, operating, and maintaining the basic municipal service infrastructure and operational matters. Despite legal and regulatory directives to develop strong IGR from the constitution down, it is evident from the results in Table 4.20 that organisational cooperation to achieve policy objectives for improved service delivery needs to be improved. Evidence emerged that EHPs experience this apparent lack of collaboration as sector colleagues disregard them and their mandate. Leadership also fails to support them by mediating the situation (lack of active leadership) and adjusting their behaviour from symbolic to active leadership. A Chi-square test (Appendix Q) on the data displayed in Tables 4.21 and 4.22 shows no significant differences in the views of the EHPs regarding the support they received from executive management and political leadership for their budgets and the implementation of their operational plans. However, the EHPs revealed that they receive support for their programmes from their immediate MHS leaders instead. The EHPs' responses reveal a perception that the enmity is systemic; this makes for a hostile work environment, adversely impacting productivity and effectiveness. The national and local political climate is unstable, with communities demanding better service delivery and party politicians pressuring LMs to fulfil those needs to win elections (see Chapter 2). While the 'black box' decisions might benefit politicians and improve top management career opportunities, it undermines the sector support EHPs need to execute their mandate. Subsequently, it renders them ineffective and frustrates any actions undertaken to provide and maintain essential services to citizens. The result is operational and professional inertia. The silo mentality of sectors and executive management that EHPs experience as hampering effective EHS delivery affects officials' workplace experiences and personal reading of their professional fitness for purpose. Perceiving exclusion

from key operational processes (except when a disaster looms) as devaluing their expertise warps their mandate cognition and diminishes their mandate execution.

Combined with the statistical results, the voices of EHS role players, including all levels of EHPs, and sector functionaries from LM middle management, provide a detailed and dense description of their life worlds and the meaning they ascribe to practical challenges at work and in the community (see sections 4.4.2.4 and 4.4.4). More importantly, the revised ADEPT model (Table 4.2) also revealed a significant gap between what EHPs and sector colleagues experience in their current situation and what they consider ideal circumstances (see Appendix P, Figures 4.6 and 4.7). In short, they perceive policy intended to be different from practice, linking this to the isolation of their profession, institutional indifferences, and power play among LMs and DMs. This link with the grounded theory, as illustrated in the legislation map, is significant as it confirms that effective service delivery in local authority institutions also depends on a network of decision communication. The tenet of the grounded theory follows the argument of system theorists Luhmann and Easton that a public institution, such as a local authority comprised of networks of decision communication, is heavily dependent on reciprocity and cooperation to be effective. These communication networks act both vertically and horizontally. The principle of inter-governmental relations among all levels of authority in public organisations is also mandated from the constitution to local authority legislation, as explained in Chapter 3. However, it also has a horizontal component which is vital if effective EHS delivery is to be attained at an operational level. Despite most participants reporting a lack of collaboration among sectors, in most cases, EHPs in this study were sceptical about the IGR among EHS and higher-level authorities, including national and provincial departments and forums. Except for the Western Cape's Environmental Affairs and Development Planning (DEAP) department, which has instituted the provincial and district waste management officers' forum to coordinate waste matters among the authorities, communication and

collaboration on a vertical level, in general, among other departments such as water and sanitation, need to be revised.

Comparing how EHPs and sectors value collaboration (Figure 4.8) in contrast with their actual lived experiences (Figures 4.6 and 4.7) provides a more accurate reflection of what happens in the practical work environment. It shows a gap in the mutual understanding of their mandates (mandate cognisance) and the execution of the mandates among EHPs and their sectoral counterparts, resulting in inadequate service delivery, particularly for preventive health outcomes. The lack of mutual understanding and awareness of the importance of integrated multi-sectoral planning, programming, and control alignment (Figure 4.8) leads to missed opportunities for prevention, early intervention, and timely treatment. The lack of collaboration and alignment also leads to wastage of resources, inefficiencies, frustration, and disillusionment among staff.

In addition, based on the evidence from the analysis (Tables 4.23 & 4.24), the implication for future policy impact analysis to gauge community satisfaction from an EHP's view should be triangulated. On its own, EHPs' perspectives might not provide a fair judgement. Most EHPs were unaware of activities (Table 4.24), such as service delivery protests or litigation, that are predictors of community satisfaction with community conditions in their jurisdictions. It is important to contextualise and triangulate such assessments with the EHPs' and sectoral role players' actual service experiences based on the current and future ideal perspectives and monitoring the predictors of community satisfaction, as described in Chapter 4.

In the context of the study, research and anecdotal reports have verified that ineffective service delivery is attended to by LMs and politicians when communities take to the streets to express their unhappiness (Booyesen, 2007; Alexander *et al.*, 2018; Breakfast *et al.*, 2019; Twani &

Soyapi, 2022). Community dissatisfaction acts as a catalyst (feedback loop) to reduce political and institutional leadership's construal level biases and to focus attention on essential service delivery (South Africa, CoGTA, 2009; 2014; 2017; South Africa, DoWS, 2020a; 2020b; Mudombi & Montmasson-Clair, 2020). As such, community dissatisfaction acts as a positive feedback loop (see Chapter 2), giving impetus to return to the letter and spirit of MHS and BMS legal mandates.

In practice, however, this seldom proves sustainable, for the urgency to change dissipates as soon as calm returns. As Overwijk (2020) pointed out, the noise emanating from the external environment only agitates the system. The 'noise' does not change the system. Change can only happen once an organisation has converted the 'noise' into decisions that become actions (within the 'black box'). However, change is not a guaranteed outcome. Rather than despairing and planning around perpetual community dissatisfaction, opportunities occasionally emerge from implementing organisational change. However, such attempts to change the system tend to be vulnerable to organisational decisions to counter the destabilisation. Still, Overwijk (2020: 141) is confident that in the Luhmannian system, interpreting external disturbances concerning the existing operational methods always involves intricate "contingency, difference and paradox" and that it is precisely this open-for-closure paradox that opens a system to modification, adaptation, and robustness. Therefore, in the context of this study, policy impact analysis using the revised ADEPT model can support EH leadership in identifying essential areas, such as community satisfaction with community conditions, disease outbreaks, community protests, and services relating to the scope of the daily work of EHPs, to influence the policy discourse within the 'black box' of IGR provisions to support effective preventive EH interventions.

Opportunities exist further to improve the revised ADEPT model (Table 4.2). Following the initial testing of the revised ADEPT model (Table 4.2) revealed the potential for further improvements that might also consider a comparative analysis component. Interpreting the extent to which the policy impact determinants, e.g., policy goals, obligations, resources, and opportunities, are met among sectors within the multi-sectoral dispersed local government arrangement requires a way to assess the alignment among policy determinants across sectors. For example, Cheung *et al.* (2010) used a qualitative scale ranging from '*Fulfilled/Strong*'; to '*Room for improvement*' and '*Not fulfilled/Weak*' to assess the fulfilment of policy objectives against the policy determinants. Although potential scales, such as a three-dimensional scale (e.g., "Strong", "Partial", and "Weak") and an interquartile range (e.g., >75% for *Very strong* commitment; 50-75% for *Strong*; 26-49% for *Weak*, and finally  $\leq 25\%$  for *Very weak*) scale were considered during the revised ADEPT model testing phase, it was decided not to include the results because more research is needed. However, the interquartile range proved helpful in assessing in a nuanced way the extent to which the MHS and BMS policy impact determinants among the multi-sectoral role-players are met.

Applying the interquartile range as an example to gauge the commitment of the MHSs and BMSs sectors to do something in the field as part of the policy impact determinant *obligation*, the period that functionaries work in local government and their current fields, respectively, were used. To set criteria for comparing alignment, working for five years or more in local government and a specific field was used as a norm that functionaries gained sufficient knowledge and expertise to facilitate sustainable service delivery to benefit the citizens. The results from Table 4.6 show that 85.0% (n=85) of EHPs, and 90.9% (n=10) of the BMSs sectoral participants responsible for water, sanitation, and solid waste, were working for  $\geq 5$  years in local government, while 82% (n=82) of the EHPs, and 54.5% (n=6) of sectoral participants were working for  $\geq 5$  years in their respective fields. Using the interquartile range

(e.g., >75% for *Very strong* commitment; 50-75% for *Strong*; 26-49% for *Weak*, and finally  $\leq 25\%$  for *Very weak*), the results from Table 4.6 suggest that both the EHPs and BMS participants' years working for local government falls into the >75% (very strong) interquartile range. Working in a specific field for >5 years show that EHPs' tenure in environmental health and BMS participants working in the water, sanitation, and waste fields fall within >75% (very strong) and the 50-75% (*strong*) range, respectively. Therefore, based on the participants' period working at an institution and within a field as a yardstick of commitment, one can assume, that the functionary's commitment towards their obligation is firm.

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## **CHAPTER FIVE**

### **CONCLUSION AND RECOMMENDATIONS**

## 5.1 INTRODUCTION

As the first line of defence in protecting the population against environmental risks Environmental health service (EHS) is mandated as a basic municipal service that is fundamentally a human rights issue in the South African Constitution. Despite its constitutional mandate, the South African municipal services sector continues to grapple with failure to achieve its primary objective of providing basic services. Unfulfilled expectations, flagging service delivery and infrastructure deterioration resulted in community protests and litigating against municipalities. Chapter 1 of this study foregrounded the systemic incongruences in environmental health service (EHS) delivery in South Africa, exacerbated by misalignment among the planning, programming and control functions of the MHS and BMS sectors. It was argued that the need for articulation among sectors and levels of authority in the multi-level management and dispersed governance set-up is a crucial factor precluding institutions from achieving their overall goals of preventing ill health at the local municipal level. Collaboration is essential in the multi-sectoral dispersed governance arrangement where EHPs are dependent on sectoral departments responsible for providing, operating, and maintaining the basic municipal service infrastructure and operational matters. Basic municipal services (BMS) directly impact local health outcomes. In addition, EHSs are also highly dependent on leadership support to sustain effective preventive EHS. As emphasised in Chapter 2, effective mandate execution in a multi-sectoral and dispersed governance arrangement demands integrated inter-sectoral planning, programming, and control processes backed by adequate and appropriate resources and leadership support from the political- and administrative executive.

The study pursued a path towards developing and testing a retrospective (summative) policy impact analysis tool (a revised ADEPT model) that can support local authorities to recognise the systemic, procedural, and relational incongruences and the impact this has on policy

implementation and effective EHS delivery. Therefore, this study aimed to elucidate the fundamentals underlying effective service delivery and clarify the EHP and sectoral functions and obligations related to the institutions and the officials responsible for executing the functions. While testing the revised ADEPT model, a further objective was to explore the EHPs' lived experiences of collaboration, cooperation and communication with sector colleagues, executive management, political leadership, and the community. Reflecting on the lived experiences of EHPs helps to observe systemic and procedural impediments at the multi-sectoral interface between MHS and BMS in the two-tiered dispersed local government system that can affect the sustainability and effectiveness of preventive health interventions at the source.

## **5.2 CONCLUSION**

This overall concluding chapter reflects on the journey embarking on the exploration of organisational effectiveness and identifying the fundamental building blocks for effective local government service delivery. Chapter 2 describe an integrated literature review and a dendrogram development process that unpacked the fundamentals for effective service delivery. These investigative methods revealed four fundamentals that contribute to effective service delivery: (i) mandate cognisance, (ii) mandate execution, with sufficient (iii) leadership support, to achieve that ultimate (iv) community satisfaction. This chapter, like Chapter 3, contextualises the organisational, political, and legal landscape within which service delivery must be realised. More significantly, applying Luhmann's social systems theory, Chapter 2 emphasises the necessity for multi-level intergovernmental relationships, alignment, cooperation and communication for constructive policy decision-making and objective setting if services are to be delivered effectively. The insights gained from the grounded theory and the legislation mapping methods in Chapter 3 theoretically inform the selection of policy

impact determinants, namely policy goals, obligations, resources, and political and public opportunities, for the retrospective policy impact assessment in Chapter 4. The study results that culminated in testing the revised ADEPT policy impact analysis model originated from district municipalities (DMs) in the Western Cape, South Africa, that are also presented in Chapter 4, are briefly reflected below.

### 5.2.1 Policy goals

The policy goals that should be clear and concrete to improve the population's health shows varied degrees of alignment in the EHSs and water, sanitation, and waste sector's legislative framework (see section 4.4.1). The goals of the sectoral legislation were assessed to ascertain their focus on (i) the *improvement of the health of the population*; (ii) *basic needs*; (iii) *focus on risk reduction*; (iv) *citizen satisfaction (customer/population-focused)*, and (v) *action around intersectoral collaboration*, as essential pointers to mitigate environmental health risks at the origin. The statistical and anecdotal evidence suggests a need for integration and articulation among the different legal mandates. For example, EHPs and sector officials lack clear direction on setting and achieving their separate and shared objectives effectively, perpetuating the silo approach to mandate cognisance and execution. Sectoral and health departments are not instructed to consider health issues and mitigating EH risks when planning, programming, and controlling BMS projects. Therefore, segregating EHS at a local government level from the national and provincial health function. Municipality's current performance management system also reinforces the disjunction among the policy goals. Clear performance indicators (winning KPIs) that have been devised by all sectors at all levels of authority and based on communication, collaboration, and coordination to gauge improvement in community conditions and services, including the reduction of EH risks in the communities, are missing (see section 4.4.3.2). As their foundation, the sectoral policy goals do not consider

the constitutional obligations for prioritising essential municipal services in their planning, programming and control to facilitate sustainable services (Table 4.5).

### 5.2.2 Obligations

Although the EHPs and sectoral participants showed high levels of commitment with a wealth of experience in the local government milieu that sets a strong foundation for delivering essential municipal services, the results show a need for growth opportunities. For most EHPs, extended employment in their current positions is the consequence of limited opportunities for professional development in the municipalities. Some EHPs have been in junior EHP positions for 30 years (see section 4.4.2.1). The lack of growth opportunities, recognition for their professional contribution and a disregard for expertise in environmental health affect the EHPs' morale and commitment towards their obligations (see section 4.4.3.2 (c) – Figures 4.11 and 4.12). The positive goodwill of the EHPs and sectoral staff towards their mandates and communities provides an opportunity for the executive management that requires particular interventions to improve service delivery to the communities. However, the current performance management system, more concerned about administrative compliance linked to the executive leadership's lack of support for preventive health, IGR, and reciprocity, does not support the optimisation of staff goodwill.

A few EHPs' professional registrations with the HPCSA and their statutory authority to execute their legislative mandates were not current, suggesting that those EHPs acted *ultra vires* when conducting inspections and investigations (see section 4.4.2.2). The implication for the institutions and the functionaries is that they are running afoul of the law if EHPs do not meet all the professional registration requirements and are not authorised to perform their daily duties.

### 5.2.3 Resources

Benchmarking the EHP to population ratios of the various District Municipalities, as the municipal health service authorities in the Western Cape, against the national norm as a measure of sufficient human resource capacity suggests that DMs operate at 41% of the national norm of one EHP per 10 000 of the population (Table 4.17). At the same time, the Community Service (Com Serv) EHP uptake needed to be optimised to fill the gaps in underserved communities (Table 4.15). The 12.8% (n=17) average Com Serv EHP uptake against the 133 functional level EHP shortage for the latest three-year period ranged from zero placements at two DMs to a maximum of eleven at another. Not creating and placing Com Serv EHPs deprives young graduates of entering the labour market in their field of expertise, despite a dire need for EHPs nationwide with a high youth unemployment rate (see section 4.4.3.1 and 4.5.3).

### 5.2.4 Opportunities

Opportunities that embrace organisational, political, and public opportunities point to collaboration between and within interdependent organisations to achieve organisational objectives such as mitigating environmental health risks. Collaboration is essential within the multi-sectoral dispersed governance arrangement, where EHPs depend on sectoral departments responsible for providing, operating, and maintaining the basic municipal service infrastructure and operational matters. Despite legal and regulatory directives to develop strong IGR from the constitution down, the results (Table 4.20) show that organisational cooperation to achieve policy objectives for improved service delivery requires attention. Evidence emerged that EHPs experience this apparent lack of collaboration as sector colleagues disregard them and their mandate. Leadership also fails to support them by mediating the situation through active

leadership. Other than the support from their immediate MHS leaders for their programmes, the EHPs' views regarding the support they received from their executive leadership for their budgets and the implementation of their operational plans remained superficial. The EHPs' responses revealed a perception that the enmity is systemic. Within the unstable national and local political climate, communities demanding better service delivery while party politicians pressuring LMs to fulfil those needs to win elections make for a hostile work environment, adversely impacting productivity and effectiveness. While the 'black box' decisions might benefit politicians and improve top management career opportunities, it undermines the sector support EHPs need to execute their mandate. Subsequently, it renders them ineffective and frustrates any actions undertaken to provide and maintain essential services to citizens. The result is operational and professional inertia. The silo mentality of sectors and executive management that EHPs experience as hampering effective EHS delivery affects officials' workplace experiences and personal reading of their professional fitness for purpose. Perceiving exclusion from key operational processes (except when disaster looms) as devaluing their expertise warps their mandate cognition and diminishes their mandate execution.

The revised ADEPT model (Table 4.2) revealed a significant gap between what EHPs and sector colleagues experience in their current situation and what they consider ideal circumstances (see Figures 4.6 and 4.7). In short, they perceive policy intended to be different from practice, linking this to the isolation of their profession, institutional indifferences, and power play among LMs and DMs. This link with the grounded theory, as illustrated in the legislation map, is significant as it confirms that effective service delivery in local authority institutions also depends on a network of decision communication. The tenet of the grounded theory follows the argument of system theorists Luhmann and Easton that a public institution, such as a local authority comprised of networks of decision communication, is heavily

dependent on reciprocity and cooperation to be effective (see 4.5.4). Despite most participants reporting a lack of collaboration among sectors, in most cases, EHPs in this study were sceptical about the IGR among EHS and higher-level authorities, including national and provincial departments and forums (see 4.4.4).

Comparing how EHPs and sectors value collaboration (Figure 4.8) in contrast with their actual lived experiences (Figures 4.6 and 4.7), the results show a gap in the mutual understanding of their mandates (mandate cognisance) and the execution of the mandates among EHPs and their sectoral counterparts, resulting in inadequate service delivery. The lack of mutual understanding and awareness of the importance of integrated multi-sectoral planning, programming, and control alignment (Figure 4.8) leads to missed opportunities for prevention, early intervention, and timely treatment. The lack of collaboration and alignment also leads to wastage of resources, inefficiencies, frustration, and disillusionment among staff.

The current performance management system reinforces the disjunction among the sectoral policy goals that sustain the silo approach in service delivery. With Luhmann's theory of organisations as decision-making machines where the status quo is maintained, one can rarely expect political, and executive leadership to introduce institutional winning KPIs of their own free will in executive management performance contracts that hold the entire institution accountable to reduce the priority EH risks. Several EHS departments indicate that they have not developed formal EH risk profiles that can be communicated to guide supporting sectors planning, programming, and control programmes (see section 4.4.2.3 (a)(ii) and Table 4.13). A possible reason for EHPs not developing EH risk profiles could be ascribed to most EHPs and sectoral participants needing project and risk management skills. However, the policy impact analysis demonstrated the magnitude of the isolation EHPs experience resulting in the

subsequent lack of professional confidence perceived by EHPs that could also impact their eagerness to initiate such risk projects (see section 4.4.2.4 – Figure 4.6).

### 5.3 RECOMMENDATIONS

Although community dissatisfaction acts as a catalyst (acts as a positive feedback loop) to reduce political and institutional leadership's construal level biases to focus attention on essential service delivery, in practice, however, this seldom proves sustainable (see Chapter 2). As soon as calm returns, the urgency to change dissipates. As Overwijk (2020) points out, the noise (e.g., protests and disease outbreaks) emanating from the external environment only agitates the system. The 'noise' does not change the system. As the organisation is intertwined with decision-communication among political and operational role players who are invested in the status quo, they attempt to avoid the destabilisation that change brings. They do this by narrowing their decision options and selecting what is known and what has been done before in a recursive loop. Therefore, political and executive leadership rarely introduce institutional winning KPIs of their own free will in executive management performance contracts that hold the entire institution accountable to reduce the priority EH risks. Subsequently, this will require constant external triggering events to spark a debate to change municipalities' performance management system and approach. Preventive health should explore and optimise the triggering event(s) as opportunities for positive feedback loops into the "black box" of executive decision-making. Optimising trigger events requires performance management systems to have an institutional winning KPI that holds each sector and management level across municipalities accountable for reducing EH risk in their jurisdictions. Otherwise, improving community conditions will remain a far-fetched objective if the silo approach focusing mainly on numbers (administrative compliance) continues without explicit institutional winning KPI(s) to improve community conditions and community services. Given

Spitzer's (2007: 16) insight that "people will do what management inspects (measures), not necessarily what management expects", it is vital that the performance management system embrace institutional winning KPIs that can anchor political and executive management commitment towards prevention.

Although all categories of municipalities have a constitutional mandate and are legally obliged to plan together to achieve its basic service as its primary objective, the South African municipal services sector continues to grapple with a silo approach and failure to provide essential services sustainably. Despite not always being actively included in the sectoral operational processes, EHPs are not prohibited from giving input. Therefore, EHPs should learn how to navigate the construal level dynamics using risk and project management and planning as instruments to anchor leadership and sectoral commitment. As a result, the EHS input to improve essential municipal service delivery needs to be addressed at a planning and operational level, guided by clear policy goals and a supportive performance management system that holds executive management and sectors focused and accountable. Aligning the performance management system with external higher-level coordination and aligned sectoral policy goals can support the broader government's IGR objective to facilitate intersectoral cooperation to achieve the preventive health objectives of the institutions and, significantly, that of the constitution.

Further research is required to establish whether a correlation exists between EHPs' perceptions of their merit and the dearth of formal risk profiles. However, it highlights the need to obligate all MHS authorities to compile EH risk profiles for their districts. In the context of the multi-sectoral dispersed local government arrangement, it is essential for the inclusion of EH risks as an institutional target (winning KPI) to be reduced in the institutional and sectoral formal

strategic planning, programming, control, and performance management systems. Having EH risks included in the institutional performance system is preferable to EHS's reliance on individual EHP's ability to coax management into considering EH risks on an *ad hoc* basis.

Despite most participants reporting a need for more collaboration among sectors, EHPs in this study were sceptical about the IGR among EHS and higher-level authorities, including national and provincial departments and forums. The silo approach challenges coherence in planning and implementing municipal services, resulting in LM's inability to provide sustainable services effectively. It is vital to contextualise integrated planning to provide clear direction to achieve the constitutional obligation for all municipalities to ensure a safe and healthy environment for the citizens as a basic need. It requires the EHS and sectoral units to identify the EH risks and the sources of the risks, which should create the context for the sectoral integrated planning and collaboration to mitigate the risks sustainably. The mitigation of the EH risks should culminate in each municipality's performance management system with clear performance indicators (winning KPIs). Such institutional "winning KPIs" should involve all sectors at all authority levels based on proper communication, collaboration, and coordination. Sectoral departments, like the health department, need to be instructed as part of the policy goals to consider EH risks when planning, programming, and controlling BMS projects at a municipal level to mitigate such risks. Segregating EHS at a local government level from the national and provincial health function supports the notion that the curative-dominated health system is inward-looking and not holding the sectors causing ill health responsible. The local government performance management system requires revision. The overt administrative compliance (ticking boxes - 'number crunching') emphasis should balance the assessment of improvements in community conditions which can support mitigating EH risks in the communities.

Rather than despairing, opportunities occasionally emerge to change the system even though it might be vulnerable to organisational decisions to counter the destabilisation. As stated, Overwijk (2020) is confident that the open-for-closure paradox created through contingencies, differences and paradoxes opens a system to modification and adaptation that preventive service units should explore and optimise to sustainably improve community conditions and services.

While EHS officials must have a clear grasp of their own, their institutions' and their colleagues' mandates, an awareness among sector departments and authority levels is also crucial. Effective service delivery requires supportive organisational and political leadership that participates in decision-making ('black boxes') with integrity and a clear grasp of the responsibility and accountability to provide a better life for all, including preventive health. Clear communication and alignment are also crucial among levels of authority. Among external higher-level coordinating structures that should support EH outcomes, e.g., the Waste Management Officers Forum (WMOF) in Western Cape needs similar structures for water and sanitation at the national level and within all provinces. In contrast, CoGTA's municipal service delivery audits must include EHS/MHS as an essential service.

External regulatory bodies, e.g., the HPCSA, are responsible for clearly communicating the content and motivation of EHP's obligations to serve the public while maintaining their professional development. At the same time, active and robust professional associations and higher education institutions in partnership with private providers should have a two-pronged approach to CPD across interdependent sectors. It would be beneficial to EHPs if, with a focus on the profession itself, an inter-sectoral approach to CPD is encouraged that brought together all role players in EHS to augment municipal service delivery. Although officials belonging to a statutory professional body are primarily responsible for upkeeping their registration and

CPD status, the institutions employing such professionals should ensure that the professionals meet their registration requirements to avoid any *ultra vires* actions by the officials that might hamper the execution of the institutional and functionary's mandates. Employing institutions should also introduce dedicated training programmes supporting individualised professional groups' CPD requirements to ensure that professional cadres' CPD activities and their CPD status remain relevant.

Equally important is nurturing a sense of professionalism among EHPs and students beyond expert knowledge and skills in their field to fit the public institutional, professional, and societal contexts. Professionalism is also an attitude that manifests in professional behaviour. Professionalism is also an attitude that manifests in professional behaviour. Unless EHPs set the tone for creating a milieu in which they can execute their mandate without being dependent on emergencies for temporary support (ignored by management unless an emergency arises) or thwarted by the political and organisational system and its leaders, effective service delivery is and will continue to be, hampered. In the context of this study, professionalism refers to acquiring skills that directly affect decision-making processes, such as problem-solving, conflict resolution, effective communication, network building, leadership, reasoning, teamwork, emotional intelligence, creativity, an awareness of their own and others' cognitive biases and time management.

Considering that executive management and political leadership will not change the status quo out of their free will, EHPs and sectoral departments must consider innovative ways to navigate the executive management and political leadership's historical, current, and foreseen biases against prevention. According to Rütten *et al.* (2003a: 2; 2010: 326), public opportunities impact policy through the "interplay between the policymakers, interest groups, public support, and the media". These opportunities spotlight factors that influence the agenda-building for a policy change. This process is influenced by internal processes (lobbying and strong-arming

others in the 'black box'), external factors such as public support (positive or negative), and media interest. Milio (1998, in Rütten *et al.*, 2003a) emphasises the role of information strategies in influencing agenda-building. Introducing training programmes for executive and political leaders from the parliamentary to a local level about the role and importance of EHS in preventive health and sustainable essential service delivery is crucial to influence the "black box" decisions. Rice and Stankova (2019) consider communication as a policy tool influencing the discourse. Increasingly, communications are regarded as a policy tool, as policy cognisance, comprehension, and adherence depend on effective internal and external communication. Therefore, in the context of this study, policy impact analysis using the revised ADEPT model can support EH and sectoral leadership to identify essential areas, such as community satisfaction with community conditions and EH risks status, to influence the policy discourse within the 'black box' of IGR provisions to support effective preventive EH interventions in achieving the constitutional objectives.

In conclusion, recommendations involve policymaking; local and district municipality management and operations; national and provincial sectoral departments. It also involves education and training by professional bodies and higher education institutions preparing students for environmental health, public administration, and civil engineering careers. Though presented here, these recommendations warrant further research.

#### **5.4 LIMITATIONS**

Despite the time and financial resources restricting this study to Western Cape DMs, the insights gained from theory building and subsequent policy impact analysis in the field suggest that the revised ADEPT model is suitable to assess policy impact and alignment between MHS and BMS within the multi-sectoral dispersed governance system. Although sectoral participants' views were included in this study to develop a perspective on collaboration among

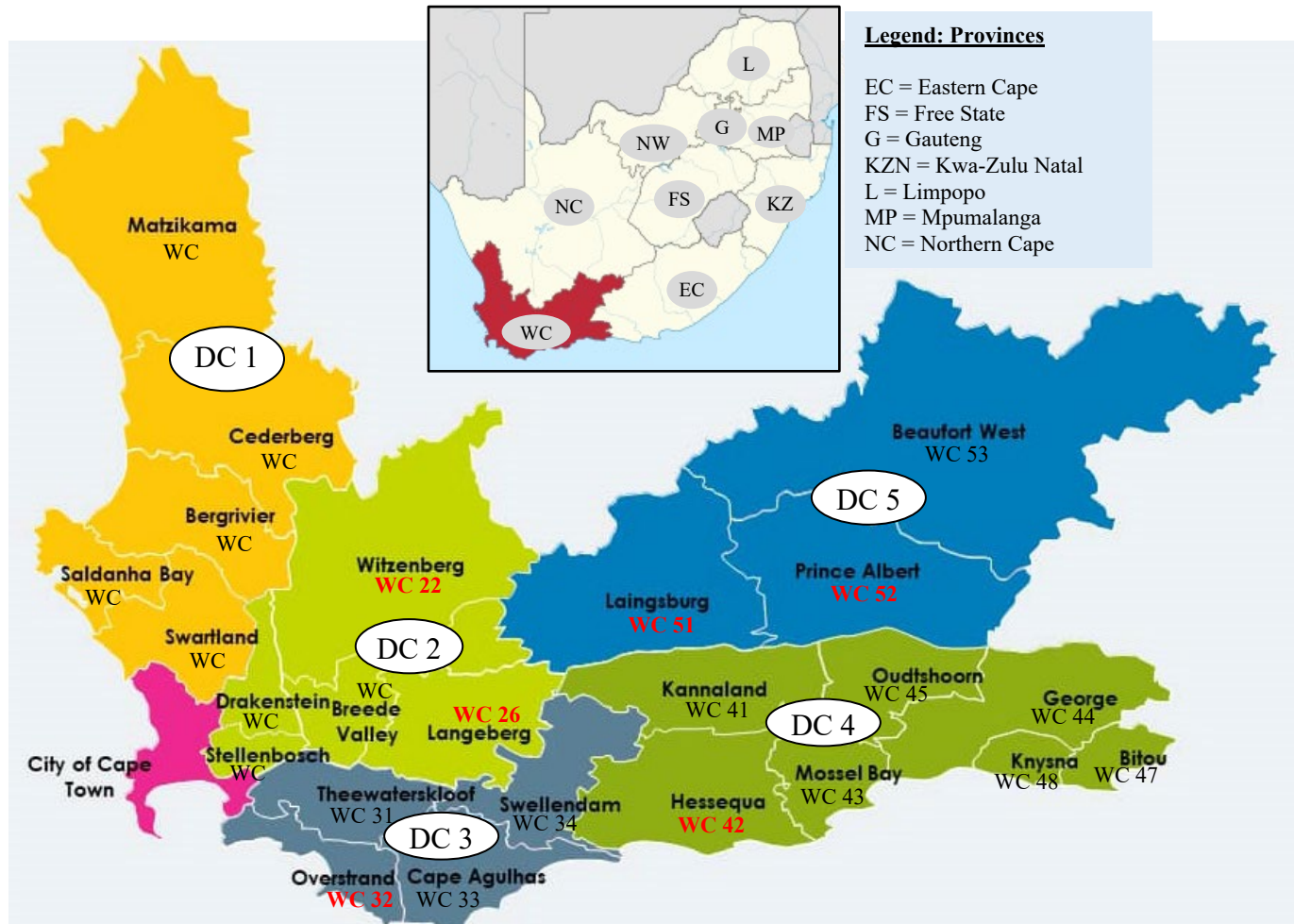
MHS and BMS sectors, the study mainly focused on service delivery challenges impacting preventive health from an environmental health perspective. While the picture presented in this study does not represent the circumstances and opinions of EHPs and sector colleagues at DMs and LMs in other parts of the country, the model appears flexible and robust enough to be generalisable. Further testing to refine the revised ADEPT model (Table 4.2) should explore other EHP-perceived policy-implementation gaps in the broader multi-sectoral MHS and BMS local government context. At the same time, it should also assess the policy output and outcome variables in the revised ADEPT model (Table 4.2). Further research might also consider an analysis tool for the revised ADEPT model, using a scale to interpret the extent to which a policy impact determinant, such as the *obligation's* criterion, e.g., *Personally, I feel obliged to do something in this field*, are met, within the context of the dispersed multi-sectoral local government arrangement. For example, Cheung *et al.* (2010) used a qualitative scale ranging from 'Fulfilled/Strong'; to 'Room for improvement' and 'Not fulfilled/Weak', while an interquartile range scale proved promising for assessing the multi-sectoral local government environment. A potential interquartile range can consider the following scale, e.g., >75% for *Very strong* commitment; 50-75% for *Strong*; 26-49% for *Weak*, and finally  $\leq 25\%$  for *Very weak*.

The question of what constitutes effective environmental health service (EHS) delivery in South Africa's local government's complex, multi-sectoral and two-tiered dispersed governance set-up has laid the foundation for this study. Nevertheless, at its core, the question not only probed ways to improve EHS and relevant sector departments' legal and organisational planning, programming, and control systems that contribute to ineffective policy implementation, but it also revealed the lived experience of a particular group of EHPs and their sector colleagues executing their mandates in this milieu. Most importantly, this enquiry into the fundamentals of effective service delivery reaches back to the letter and spirit of the

South African constitution demanding a better life for all. While this phrase refers to effectively ensuring that communities live in a safe environment with clean water, waste removal and sewage, this study also makes a case for improving the workplace experience of the EHPs and sector colleagues functioning in a multifaceted organisational, political, relational, and decision-communication system. While effective service delivery creates a better life for the community, so does effective decision-communication improves the work life of the functionaries and, thus, the institution itself.

**APPENDICES**

**Appendix A: Western Cape Province contextualising the different categories of municipalities**



Western Cape municipalities. DC 1 to DC 5 denote the respective district municipalities [DMs] (Category Cs), whilst the divisions within the DC area (matching colours), represents the local municipalities [LMs] (category Bs) within the jurisdiction of the respective district municipalities. DC 1 = West Coast DM; DC 2 = Cape Winelands DM; DC 3 = Overberg DM; DC 4 = Garden Route DM, and DC 5 = Central Karoo DM. (Data source <https://www.westerncape.gov.za/general-publication/municipalities-western-cape>. - map downloaded [2021, 29 July] <https://www.facebook.com/windealan/photos/pcb.1198541660620639/1198539290620876>



**Appendix C: Purposive selection of six Local Municipalities in the Western Cape Province for face-to-face interviews with their sectoral water, sanitation, and waste units**

Blue Drop and Green Drop water, and sanitation audit outcomes – used for purposive selection of six local municipalities in the Western Cape Province

**Part A:**

<b>Top 3: Long list</b>	<b>Random</b>	<b>Shortlist '<i>Doing Well</i>'</b>
1 <b>Overstrand Local Municipality</b>	0.367019138	Overstrand Local Municipality
2 <b>Witzenberg Local Municipality</b>	0.565275198	Witzenberg Local Municipality
3 <b>Bitou Local Municipality</b>	0.685559574	Bitou Local Municipality
4 Beaufort West Local Municipality	0.720385249	

<b>Middle category: Long list</b>	<b>Random</b>	<b>Shortlist '<i>Middle Category</i>'</b>
1 <b>Langeberg Local Municipality</b>	0.020522651	Langeberg Local Municipality
2 <b>Hessequa Local Municipality</b>	0.42475353	Hessequa Local Municipality
3 <b>Swartland Local Municipality</b>	0.465885472	Swartland Local Municipality
4 Cape Agulhas Local Municipality	0.68671569	
5 Bergrivier Local Municipality	0.705673192	
6 Knysna Local Municipality	0.713578296	
7 Mossel Bay Local Municipality	0.750518328	
8 Swellendam Local Municipality	0.769834877	
9 Theewaterskloof Local Municipality	0.789831337	
10 Breede Valley Local Municipality	0.808179443	
11 Saldanha Bay Local Municipality	0.846983521	
12 Oudtshoorn Local Municipality	0.93356984	
13 Drakenstein Local Municipality	0.950037747	

<b>Bottom 3: Long list</b>	<b>Random</b>	<b>Shortlist '<i>Not Doing Well</i>'</b>
1 Laingsburg Local Municipality	0.026243861	Laingsburg Local Municipality
2 Kannaland Local Municipality	0.136553209	Kannaland Local Municipality
3 Prince Albert Local Municipality	0.57293628	Prince Albert Local Municipality
4 Stellenbosch Local Municipality	0.629528546	

**Part B:** 2014 Blue Drop System (BDS) & Green Drop System (GDS) log positions of Western Cape Province municipalities that the random sample for the six participating municipalities were selected.

Blue Drop (2014) Western Cape Log			Green Drop (2014) Western Cape Log		
Municipality	Score	Log	Municipality	Scores	Log
Witzenberg Local Municipality	95.77	1	Bitou Local Municipality	20.2	1
Overstrand Local Municipality	90.79	2	Beaufort West Local Municipality	36.8	2
Bitou Local Municipality	90.44	3	Witzenberg Local Municipality	38.5	3
Beaufort West Local Municipality	89.52	4	Overstrand Local Municipality	41.1	4
Breede Valley Local Municipality	89.16	5	Knysna Local Municipality	47.3	5
George Local Municipality	82.77	6	Mossel Bay Local Municipality	47.7	6
Stellenbosch Local Municipality	80.12	7	George Local Municipality	49.2	7
Mossel Bay Local Municipality	78.76	8	Theewaterskloof Local Municipality	49.6	8
Swartland Local Municipality	74.26	9	Hessequa Local Municipality	51.8	9
Langeberg Local Municipality	72.30	10	Bergrivier Local Municipality	55.3	10
Drakenstein Local Municipality	72.14	11	Drakenstein Local Municipality	56.1	11
Cape Agulhas Local Municipality	69.48	12	Oudtshoorn Local Municipality	57.6	12
Saldanha Bay Local Municipality	69.38	13	Saldanha Bay Local Municipality	58	13
Theewaterskloof Local Municipality	64.18	14	Breede Valley Local Municipality	63	14
Bergrivier Local Municipality	63.79	15	Swartland Local Municipality	64.4	15
Knysna Local Municipality	61.62	16	Langeberg Local Municipality	64.5	16
Swellendam Local Municipality	57.25	17	Cape Agulhas Local Municipality	72.1	17
Hessequa Local Municipality	55.18	18	Matzikama Local Municipality	74.5	18
Oudtshoorn Local Municipality	51.29	19	Swellendam Local Municipality	75.3	19
Matzikama Local Municipality	48.64	20	Cederberg Local Municipality	75.6	20
Cederberg Local Municipality	39.96	21	Prince Albert Local Municipality	76.5	21
Prince Albert Local Municipality	34.18	22	Kannaland Local Municipality	78.4	22
Kannaland Local Municipality	31.66	23	Stellenbosch Local Municipality	79.5	23
Laingsburg Local Municipality	26.06	24	Laingsburg Local Municipality	88.2	24
Mean	62.7		Mean	56.6	
Median	69.4		Median	57.8	
Std Dev	19.6		Std Dev	16.1	
Middle range selection - Std dev up and down from median	89.0	Upper	Middle range selection - Std dev up and down from median	73.9	Upper
	49.8	Lower		41.7	Lower

## Appendix D: Questionnaire for sectoral departments

Towards effective local government environmental health services: a policy impact analysis approach

### REQUEST TO PARTICIPATE IN RESEARCH PROJECT

Dear participant

South Africa continues to grapple with a quadruple burden of disease that is associated with ‘basic municipal services’ (BMS) (South Africa, 2000; South Africa: Department of Health, 2013; May 2015). Over and above the quadruple burden of disease that reflects on a lack of appropriate BMS the country also experiences service delivery protests that suggest, among others, a deficit in these BMSs such as water, sanitation, hygiene, and poor governance (CoGTA, 2017b).

The Department of Health emphasised the challenges in MHS delivery in South Africa that suggest concerns about the effectiveness of MHS amid others. The Constitution of South Africa (sections 152 and 153) expects of local government to promote a safe and healthy environment and to give priority to basic needs of the community. These ‘basic needs’ refer directly to BMS and the mandate of MHS.

The World Health Organization (WHO) expects countries not to only focus on accessibility of water and sanitation amid others, as determinants of health, but to also address the safety thereof to ensure a more lasting contribution to health outcomes. This request is aligned with the focus of the current Sustainable Development Goals (SDGs) (WHO/UNICEF, 2012).

The Minister of Cooperative Governance and Traditional Affairs (CoGTA) in turn, explicitly said, during his speech on “*Building on back to basics: towards developmental local government*”, that “more clear responsibilities should be assigned to municipal management, and the need exists to ensure the co-ordination of administrative units and mechanisms to improve service delivery to communities” (CoGTA, 2017a).

The researcher is currently enrolled with this institution for a Doctoral degree in Environmental Health with the aim of developing “**a strategy for effective preventative local government environmental health services**”, that can facilitate preventative health outcomes that are related to BMS. To achieve this aim, the input of sectoral authorities, who are essentially responsible for the provision and maintenance of such BMS, is of utmost importance. These BMSs also fall within the scope of the profession of Environmental Health and the mandate for the delivery of MHS. It will therefore be appreciated if you will allow time to complete the attached questionnaire. Further, your participation gives you an opportunity to raise your views to assist with the crafting of a strategy for South Africa to improve the effectiveness of local government environmental health services and BMS, to mitigate the associate burden of disease at its origin.

Your participation in this study is entirely voluntary. Further, you will remain anonymous and although you cannot be identified, the content of your response will be handled with confidentiality. Neither your name nor will your municipality’s name be mentioned in any report or other communication. The purpose of the study is not about the municipality or you but rather to obtain critical pointers that affect the effectiveness of MHS delivery that should be considered in a proposed strategy. The agreement to complete the questionnaire serves as consent to

participate in the research and that the outcome of the questionnaires can be used for publication in a thesis and subsequent research articles and during conference proceedings. Nowhere will reference be made to your name or that of your municipality.

For information and convenience, the contact details of the following persons are provided:

**Researcher:** M.H.A. Agenbag – *See below*

**Supervisor:** Professor Izanne Human - | e-mail: [humani@cput.ac.za](mailto:humani@cput.ac.za)

**Co-supervisor:** Professor De Wet Schutte - | e-mail: [delaw@mweb.co.za](mailto:delaw@mweb.co.za)

Your willingness to participate in this research will be appreciated. If you agree, your honest completing of the questionnaire will be appreciated.

Yours faithfully

Mike Agenbag

RESEARCHER

**The questionnaires will be completed during a personal interview between the researcher and the relevant staff from the sectoral departments**

Researcher: Mike Agenbag – | (021) 4603206 | email: [agenbagm@cput.ac.za](mailto:agenbagm@cput.ac.za)

You are requested to encircle the number in the category that corresponds most with your answer. And where you see a dotted line, please write your response requested.

		Official use												
Questionnaire number	<input type="text"/>	<input type="text" value="1"/>												
<b>Section A. General</b>														
1.	<b>In which district municipality area is your municipality located?</b>													
	<table border="1"> <thead> <tr> <th>Municipality</th> <th></th> </tr> </thead> <tbody> <tr> <td>Cape Winelands DM</td> <td>1</td> </tr> <tr> <td>Central Karoo DM</td> <td>2</td> </tr> <tr> <td>Garden Route DM</td> <td>3</td> </tr> <tr> <td>Overberg DM</td> <td>4</td> </tr> <tr> <td>West Coast DM</td> <td>5</td> </tr> </tbody> </table>	Municipality		Cape Winelands DM	1	Central Karoo DM	2	Garden Route DM	3	Overberg DM	4	West Coast DM	5	<input type="text" value="2"/>
Municipality														
Cape Winelands DM	1													
Central Karoo DM	2													
Garden Route DM	3													
Overberg DM	4													
West Coast DM	5													
2.	<b>Local municipality name: .....</b>	<input type="text" value="3"/>												

3. Are you a Section 57 Manager?

Yes	1
No	2

4
5

3.1 If no, provide details:.....

3.2 If yes, what is your official job title? .....

6
---

4. What is the name of your department, as indicated on the official organisational structure of the municipality?

7
---

5. Name all the units within the above-mentioned department that report to the departmental head (director).

.....

.....

.....

.....

8
9
10
11

6. Which of the following functional areas are covered within your daily work responsibilities?

Functional areas	
Water Service Authority	1
Water Service Provider	2
Waste management	3
Environmental management	4
Other	5

12
13
14
15
16
17

6.1 If other, specify .....

7. Which period, in years, best describe your working experience in local government?

Years	
< 1	1
1-2	2
3-4	3

5-6	4
7-8	5
9-10	6
11-12	7
13-14	8
15-16	9
≥ 17	10

18
19

7.1 If greater than 17 years, please specify, .....

8. Indicate your job experience in the respective functional fields

Functional areas	Years	Months		
Water Service Authority	.....	.....	20	21
Water Service Provider	.....	.....	22	23
Waste management	.....	.....	24	25
Environmental management	.....	.....	26	27
Other .....	.....	.....	28	29

9. For how long are you working in your current position?

Period			
Years	.....	31	32
Months	.....	33	34

10. Are you affiliated with a professional body?

Yes	1	
No	2	35

10.1 If yes, please specify .....

36
----

11. Indicate all your relevant tertiary qualifications

.....	37
.....	38
.....	39
.....	40

12. Do you hold any project management and or risk management qualifications?

Yes	1
No	2

41

12.1 If yes, please indicate the course and level

Course	Level	
Project Management	Certificate	1
	Diploma	2

42

Risk Management	Certificate	1
	Diploma	2

43

12.2 List any other additional managerial qualifications

.....  
 .....  
 .....

44  
 45  
 46

13. How will you describe your current work experience when performing your daily tasks? Indicate with a cross on the line, regarding the word pairs that appear next to the end of each line.

Thrilling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Disappointing
	—————								

47

Alone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Supported
	—————								

48

Conforming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Change things
	—————								

49

14. Have you or your team received any awards, letters of appreciation or certificate(s) from your employer for extraordinary services provided?

Awarded to	Yes	No
Individual	1	2

50

Team	1	2
------	---	---

51

15. Have you or your team received any national or international awards for extraordinary services provided in your field?

Awarded to	Yes	No
Individual	1	2
Team	1	2

52

53

**Section B. Mandate Execution**

16. How do you set your service delivery objectives/goals?

.....  
 .....  
 .....

54

17. Who are all the role-players that form part of your planning to determine the department/unit's service delivery goals for water/waste/pollution control? (Proof – minutes)

.....  
 .....  
 .....

55

18. Who are all the role-players that form part of the information sharing to inform and monitor service delivery goals for water/waste/pollution control? (Proof – minutes)

.....  
 .....

56

19. How often do you inform your staff what the service delivery goals are and progress with the achievement thereof? (Proof – minutes)

Frequency	
Never	1
Weekly	2
Monthly	3
Half yearly	4

57

Other, specify: .....

5

59

58

20.

**Think about the alignment of your department/units action plan for the water/waste/pollution control functions (whichever is applicable) and that of the MHS Authority’s related action plan, What comes to mind first?**

- 1. ....
- And what else? .....
- And what else? .....
- And what else? .....
- And what else? .....
- And what else? .....
- And what else? .....
- And what else? .....

60
61
62
63
64
65
66
67

20.1

**How important is the alignment of your department/units action plans (water/waste/pollution control) for the effectiveness of the MHS Authority’s preventative role? (Schutte Scale)**

Unimportant																				Important

68

20.2

**How satisfied are you with the current alignment of your department/units’ action plans (water/waste/pollution control) for the effectiveness of the MHS Authority’s preventative role? (Schutte Scale)**

Dissatisfied																				Satisfied

69

21.

**What criteria do you use to determine the effectiveness of the outcomes of your water/waste/pollution control programme(s)?**

- .....
- .....
- .....
- .....

70
71
72
73



23.1 How **important** is the use of environmental health risks in your **programming** of your water/waste/pollution control delivery programme(s)? (Schutte Scale)

Unimportant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Important
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

92

23.2 How **satisfied** are you with the use of environmental health risks in your **programming** of your water/waste/pollution control delivery programme(s)? (Schutte Scale)

Dissatisfied	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Satisfied
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

93

24. Think about the use of environmental health risk status in your **current control** of water/waste/pollution control (whichever is applicable) delivery programme(s), What comes to mind first?

- 4. ....
- And what else? .....
- And what else? .....
- And what else? .....
- And what else? .....
- And what else? .....
- And what else? .....
- And what else? .....
- And what else? .....

- 94
- 95
- 96
- 97
- 98
- 99
- 100
- 101

24.1 How **important** is the use of environmental health risk status in your **control** of water/waste/pollution control delivery programme(s)? (Schutte Scale)

Unimportant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Important
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

102

24.2 How **satisfied** are you with the use of environmental health risk status in your **control** of water/waste/pollution control delivery programme(s)? (Schutte Scale)

Dissatisfied	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Satisfied
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

103

25. Do you get environmental health risk status reports from the MHS Authority about water/waste/pollution challenges?

Yes	1
No	2
Don't know	3

104

26. If yes, how often do you receive these environmental health risk status reports from the MHS Authority?

Frequency	
Daily	1
Weekly	2
Monthly	3
Half yearly	4
Other	5

105

If other, specify: .....

106

27. Do your department's operational meetings reflect on priority environmental health risks? (Proof - minutes)

Yes	1
No	2
Don't know	3

107

28. Is the water/waste/pollution control performance objectives part of your municipality's audit committee agendas, for the current MTEF period? (Proof - minutes)

Yes	1
No	2
Don't know	3

108

29. Does your department's risk plan and risk registers reflect priority environmental health risks? (Proof)

Yes	1
No	2
Don't know	3

109

30. Does the performance objectives (KPIs) of the municipality's director's performance contracts include basic needs? (Proof)

Directorate	Contract provision	
Municipal Manager	Yes	1
	No	2
	Don't know	3

110

Finance	Yes	1
	No	2
	Don't know	3

111

Water / Waste / Pollution control	Yes	1
	No	2
	Don't know	3

112

31. Are the water/waste/pollution control challenges part of the district IGR Forum's agendas? (Proof - minutes)

Yes	1
No	2
Don't know	3

113

32. Has your department/units budget for water/waste/pollution control increased, decreased or remained the same over the past MTEF period?

Budget	
Increased	1
Decreased	2
Same	3
Don't know	4

114



## PARTICIPATION CONSENT

### Towards effective local government environmental health services: a policy impact analysis approach

- I..... (surname and name of participant) voluntarily agree to participate in this research study.
- I understand that even if I agree to participate now, I can withdraw at any time or refuse to answer any question without any consequences of any kind.
- I understand that I can withdraw permission to use data from my interview within two weeks after the interview, in which case the material will be deleted.
- I have had the purpose and nature of the study explained to me in writing and I have had the opportunity to ask questions about the study.
- I understand that participation involves being part of a focus group discussion, and or a face-to-face individual interview.
- I understand that I will not benefit directly from participating in this research.
- I agree to my interview being audio-recorded.
- I understand that all information I provide for this study will be treated confidentially.
- I understand that in any report on the results of this research my identity will remain anonymous. This will be done by changing my name and masking any details of my interview which may reveal my identity or the identity of people I speak about or my institution.
- I understand that masked extracts from my interview may be quoted in the thesis, conference presentations, and published papers.
- I understand that if I inform the researcher that myself or someone else is at risk of harm, they may have to report this to the relevant authorities - they will discuss this with me first but may be required to report with or without my permission.
- I understand that signed consent forms and original audio recordings, password protected, will be retained in the researcher's safe to which only the researcher will have access. The recordings will only be kept for the minimum prescribed period, where after it will be safely disposed as mutually agreed.
- I understand that a transcript of my interview in which all identifying information has been removed will be retained for the minimum allowable period.
- I understand that under freedom of information legalisation I am entitled to access the information I have provided at any time while it is in storage as specified above.
- I understand that I am free to contact any of the people involved in the research to seek further clarification and information.

#### ***Signature of research participant***

\_\_\_\_\_  
Signature of participant

\_\_\_\_\_  
Date

#### ***Signature of researcher***

I believe the participant is giving informed consent to participate in this study

\_\_\_\_\_  
Signature of researcher

\_\_\_\_\_  
Date

\*NOTE: Template adopted from:

<https://www.tcd.ie/swsp/assets/pdf/Participant%20consent%20form%20template.pdf>

[Accessed: 09 February 2019].

## Appendix E: Questionnaire - Municipal Health Authorities – All Environmental Health Practitioners

Towards effective local government environmental health services: a policy impact analysis approach

Email \*

The research is registered with and approved by the Higher Degrees Committee and Ethical Committee

of:



### REQUEST TO PARTICIPATE IN RESEARCH PROJECT

Dear participant

South Africa continues to grapple with a quadruple burden of disease that is associated with 'basic municipal services' (BMS) (South Africa, 2000; South Africa, DoH, 2013; May, 2015). Over and above the quadruple burden of disease that reflects on a lack of appropriate BMS the country also experiences service delivery protests that suggest among others a deficit in these BMS such as water, sanitation, and poor governance (CoGTA, 2017b).

The Department of Health emphasised the challenges in MHS (Municipal Health Service) delivery in South Africa that suggest concerns about the effectiveness of MHS amid others. The Constitution of South Africa (sections 152 and 153) expects of local government to promote a safe and healthy environment and to give priority to basic needs of the community. These 'basic needs' refers directly to BMS and the mandate of MHS.

The World Health Organization' (WHO) expect of countries not to only focus on the accessibility of water and sanitation amid others, as determinants of health, but to also address the safety thereof to ensure a more lasting contribution to health outcomes. This request is aligned with the focus of the current Sustainable Development Goals (SDGs) (WHO/UNICEF, 2012).

The Minister of Cooperative Governance and Traditional Affairs (CoGTA) in turn explicitly said, during his speech on "building on back to basics: towards developmental local government", that "more clear responsibilities should be assigned to municipal management, and the need exist to ensure the co-ordination of administrative units and mechanisms to improve service delivery to communities" (CoGTA, 2017a).

The researcher is currently enrolled with the Cape Peninsula University of Technology for a Doctoral degree in Environmental Health to develop "a strategy for effective preventative local government environmental health services" that can facilitate preventative health outcomes that are related to BMS. To achieve this, aim the input of municipal health authorities who are mainly responsible for the compliance enforcement role related to BMS, that are within the scope of the profession and the mandate for the delivery of MHS, is of utmost importance. It will, therefore, be appreciated if you will allow time to complete the attached questionnaire. Further, your participation allows you to raise your views to assist with the crafting of a strategy for South Africa to improve the effectiveness of local government environmental health services, to mitigate the associate burden of disease at the origin.

Your participation in this study is entirely voluntary. Further, you will remain anonymous, and although you cannot be identified, the content of your response will be handled with

confidentiality. Neither your name nor will your municipality's name be mentioned in any report or other communication. The purpose of the study is not about the municipality or you but rather to obtain critical pointers that affect the effectiveness of MHS delivery that should be considered in a proposed strategy. Agreement to complete the questionnaire serves as consent to participate in the research and that the outcome of the questionnaires can be used for publication in a thesis and subsequent research articles and during conference proceedings. Nowhere will the reference be made to your name or that of your municipality.

For information and convenience, the contact details of the following persons are provided:

Researcher: M.H.A. Agenbag – See below

Supervisor: Professor Izanne Human - (021) 460 3194 | e-mail: [humani@cput.ac.za](mailto:humani@cput.ac.za)

Co-supervisor: Professor De Wet Schutte - (082) 784 8368 | e-mail: [delaw@mweb.co.za](mailto:delaw@mweb.co.za)

Your willingness to participate in this research will be appreciated. If you agree, your honest completing of the questionnaire will be appreciated. Yours faithfully

Mike Agenbag  
RESEARCHER

Questionnaires can be returned through online completion or emailed RETURN DATE: 27 June 2021 (or preferably earlier)

Researcher: Mike Agenbag | email: [agenbagm@cput.ac.za](mailto:agenbagm@cput.ac.za)

You are requested to select the most appropriate answer that describes your circumstances where applicable. And where you see a dotted line, please write your response requested.

## Section A. General

Demographic information

1. Indicate the Municipal Health Authority where you are

- Cape Winelands District Municipality
- Central Karoo District Municipality
- Garden Route District Municipality
- Overberg District Municipality
- West Coast District Municipality

2. Indicate which age category best describes your

- <20
- 20-25
- 26-30
- 31-35
- 36-40
- 41-45
- 46-50
- 51-55
- 56-60
- 61-65

3. What is your current job level at the

- Manager Municipal Health Services (heading MHS)
- Principle / Chief Environmental Health Practitioner (P/CEHP)
- Senior EHP (SEHP)
- Environmental Health Practitioner (EHP)
- Community Service EHP (Com. Serv. EHP)

4. For how long are you in the position that you selected above? \*

Select the date when you were appointed in your current position

MM    DD    YYYY

**5. Which period, in years, best describe your work experience in local government as an EHP? \***

If you worked for 5 months to 11 months into the new bracket, round up to the next level e.g. you work for 2 years and 5 months, you mark the bracket for 3-4 years. To the contrary, if you worked for 2 years and 4 months and below, you mark the bracket 1-2 years.

- < 1 year
- 1-2 years
- 3-4 years
- 5-6 years
- 7-8 years
- 9-10 years
- 11-12 years
- 13-14 years
- 15-16 years
- Other: .....

**6. Indicate all your tertiary qualifications \***

- Nat. Diploma Env. Health / Nat. Diploma Public Health
- B. Tech. Env. Health / Nat. Higher Diploma in Public Health
- Bachelor of Environmental Health (new 4 year degree)
- M. Tech. Env. Health
- D. Tech. Env. Health / PhD in Env. Health
- Other: .....

7. Indicate your management-by-objectives (MBO) qualifications and level. \*

	Certificate	Diploma	None
Project	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Risk	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Other:	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

8. List any other managerial qualifications \*

If you DO NOT have any additional management qualifications, just indicate NONE in the section below to progress to next session.

.....

8. List any other managerial qualifications \*

### Section B. Mandate

Scope of mandate and authority to execute the mandate

#### PROFESSIONAL MANDATE

9. In which HPCSA category are your

- Independent practice
- Community service
- Student
- Not registered

10. Are you in possession of your HPCSA registration certificate, indicating your current registration category as selected above? \*

- Yes
- No
- Pending

11. Are you in possession of your latest (2021/22-annual) HPCSA practicing card? \*\*\*\*

- Yes
- No
- Pending

12. Indicate the frequency that the HPCSA conducted a CPD audit of you, during your professional career as an EHP?

\*

- Never
- Once
- Twice
- Trice
- Other: .....

13. Does your Individual CPD Activity Record (CPD 1 IAR) reflect your current 60 CEUs in the respective categories, for the past 24-month period? \*

If you were employed for less than a year, you can indicate "Not Applicable" (NA). If you are employed for more than 12 months (a year) but less than 24 months (2 years) and you meet half the CEUs, you can indicate "On Track".

	Yes	No	Don't know	On Track (<24 mths)	NA
10x Ethics CEUs?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
50x Other CEUs, excluding ethics?	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. On request of the HPCSA, to submit your Individual CPD Activity Record (CPD 1 IAR) for audit purposes, will you be able to meet the 21-day submission deadline to provide proof of your CEUs status? \*

- Yes
- No
- Maybe
- Need additional time to complete

15. If your answer is no, or you need additional time to complete, indicate the reason(s) why you will not be able to submit your records within the 21 days. \*

Allowed multiple selections.

- No CPD activity record
- CPD activity record not up to date
- Shortage of "ethical" CEUs
- Shortage of "other" CEUs
- Other.....

16. Indicate the different options that you mainly used to accumulate your CEUs for your current CPD cycle. \*

Allowed multiple selections.

- eCPD
- Short courses
- Conference
- Post graduate study
- Learning portfolios
- Other: .....

17. Who covered the costs for your CEUs in the past 24-month period? \*

	Self	Employer	NA
eCPD	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Courses	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Conference	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Post graduate study	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

18. Think about environmental health services at your municipality today. Where do you see yourself on the scale today? \*

If 1 on the scale is the worst situation you could see yourself in and 10 would be the best situation you could see yourself. Indicate the appropriate position on the scale.

	1	2	3	4	5	6	7	8	9	10	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

19. Think about environmental health services at your municipality today. Where do you think you were on the scale 3 years ago? \*

NOTE: If you worked for less than three years, please still provide your opinion. Indicate the appropriate position on the scale.

	1	2	3	4	5	6	7	8	9	1	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

20. Think about environmental health services at your municipality today. Where do you think you will be on the scale 3 years from now? \*

Indicate the appropriate position on the scale.

	1	2	3	4	5	6	7	8	9	1	
Worst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Best

21. How will you describe your current work experience when performing your daily tasks? \*

Indicate your current position on the scale, regarding the word pairs that appear next to the end of each scale.

	1	2	3	4	5	6	7	
Thrilling	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Disappointing

22. How will you describe your current work experience when performing your daily tasks? \*

Indicate the appropriate position on the scale.

	1	2	3	4	5	6	7	
Alone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Supported

23. How will you describe your current work experience when performing your daily tasks? \*

Indicate the appropriate position on the scale.

	1	2	3	4	5	6	7	
Static	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Transforming

24. How will you describe your current work experience when performing your daily tasks? \*

Indicate the appropriate position on the scale.

	1	2	3	4	5	6	7	
Safe	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Dangerous

25. Have you or your team received any awards, letter of appreciation or certificate(s) from your employer for extraordinary services provided? \*

	Yes	No
Individual	<input type="radio"/>	<input checked="" type="radio"/>
Team	<input type="radio"/>	<input checked="" type="radio"/>

26. Have you, your team or municipality received any regional, national, or international awards for the provision of municipal services? \*

	Yes	No
Individual	<input type="radio"/>	<input checked="" type="radio"/>
Team	<input type="radio"/>	<input checked="" type="radio"/>
Municipality	<input type="radio"/>	<input checked="" type="radio"/>

26.1 If yes, specify the institution(s) that provided the award(s) and for what it was awarded for. \*

If you answered NO to all the variables above, just indicate NONE to allow you to progress to the next section

.....

**SERVICE MANDATE**

Scope of mandate and authority (Tools of the trade)

27. Indicate your authorisation status for each of the following Acts of Parliament. \*

NHA = National Health Act (61 of 2003); FCDA = Foodstuffs, Cosmetics and Disinfectants Act (Act 54 of 1972); NEMA = National Environmental Management Amendment Act; NA = Not Applicable

	Yes (have ID Card)	No	Pending
NHA, 2003 (s80(1))	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
FCDA, 1972 (s10)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
NEMA, 2003 (s31D - EMI)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
By-laws	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Section C. Mandate Execution**

Resources and service alignment

Funding – Commitment

Commitment can either be symbolic or actions.

28. Think about the MHS budget allocation within your municipality. The TOP MANAGEMENT at the District Municipality is eager to allocate funds towards the MHS Section's statutory obligations in the context of sections 152(1)(b) &(d) and 153(a) of the Constitution (in a sustainable manner; promotion of a safe and healthy environment and prioritise basic needs) \*

Indicate your level of agreement. SD= Strongly disagree; D= Disagree; NA= Not agree; A= Agree; SA= Strongly agree.

	S	D	N	A	S
MHS Budget	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

29. Think about the MHS budget allocation within your municipality. The POLITICAL leadership at the District Municipality is eager to support additional funding towards the MHS Section's statutory obligations in the context of sections 152(1)(b)&(d) and 153(a) of the Constitution (in a sustainable manner; promotion of a safe and healthy environment and prioritise basic needs) \*

	S	D	N	A	S
MHS Budget	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**HUMAN RESOURCES**

Mandate Execution: Staff focus on objectives and availability

30. Indicate the frequency that MHS Management team shared the achievements towards the basic municipal services (e.g. water, sanitation and solid waste) delivery targets to the functional level EHPs during the 2018/19 - 2020/21 MTEF period, using the various listed management tools. \*

KPIs - (Key Performance Indicators); MTEF - (Medium Term Expenditure Framework); \*\*Sector KPIs refers to the Water Service Authority (WSA) / Water Service Provider (WSP), and waste unit at the local municipalities.

	Never	Weekly	Monthly	Half yearly	Once a year	Uncertain
MHS - KPIs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
EH Risk profile	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
**Sector - KPIs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
MTEF Budget	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
MTEF Expenditure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

**EQUIPMENT**

Mandate Execution: Availability of equipment

31 Indicate the availability of the following basic facilities/equipment to you as an official. \*

	Own	Shared	None
Office space	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Computer	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Connectivity	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Printer	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Transport	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Burner	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thermometer	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Colorimeter	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Cooler box	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Camera	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Telephone (landline)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cellphone	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

31.2 Indicate the availability of the following basic facilities/equipment to you as an official. \*

\*AA= Always available; \*\*MA= Mostly available (>50%); \*\*\*MNA= Mostly not available (<50%).

	*AA	**MA	***MNA
Office space	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Computer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Connectivity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Printer	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Transport	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Burner	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thermometer	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Colorimeter	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Cooler box	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Camera	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Telephone (landline)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cellphone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

32. Do you have up to date work procedures for the following MHS functional areas that relate to basic municipal services (BMS)? \*

Mandate Execution: Copies of work procedures (Standard Operating Procedures)

	Yes	No	Don't know
Water quality	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sanitation	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Solid waste (Refuse)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pollution control	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

32.1 If yes, does the work procedures have a clause(s) that guides the alignment for integrated planning, programming, control, communication, and reporting between the MHS unit and the BMS sectoral departments (eg. Water Service Authority & Water Service Providers, and Waste Units at Local Municipalities) to ensure the mitigation of related priority EH risks at the source?

\*

Int. (integrated) - Planning, Programming (work scheduling), and Control; Communication lines; Reporting lines and frequency; Intergovernmental Relations (IGR) specifically focusing on EH Risks

	Yes	No	Partly	Don't know
Int. planning	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Int. programming	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Int. Control	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Int. communication	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Int. reporting	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
IGR (MHS specific)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

33. Does the District Municipality (MHS Authority) have a formal service level agreement (SLA), Memorandum of Understanding (MOU) (e.g. IGR arrangements), with the Local Municipalities (e.g. sectoral departments - WSAs/WSP/Waste Unit), to facilitate alignment between the compliance enforcement role of MHS and the sector departments service provision and maintenance roles? \* Provide copies of such arrangements

	Yes	No	Don't know
SLA	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
MOU	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Other, specify:	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

**PLANNING AND PROGRAMMING**

Mandate Execution: Planning to achieve institutional objectives - Integrated Development Planning (IDPs), Service Delivery Budget Implementation Plan (SDBIP) and Operational planning

34. Does the MHS Authority have a formal data management system that records the environmental health risks that are related to basic municipal services (BMS - water, sanitation, and solid waste)? \* NOTE: Water quality refers to potable water quality, availability etc.; WWTWs (Wastewater Treatment Works)

	Yes	No	Partly	Don't know
Water quality	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Water availability	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Water accessibility	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sewage spillages	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Waste site conditions	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Illegal waste dumping	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other health nuisances	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

35. Can the MHS data management system quantify risks, highlight 'hot spot' areas (priority EH risks associated with the BMS), and show trends across financial years, and per geographical area? \*

BMS (Basic Municipal Services) sector departments refer to WSAs / WSPs and Waste Management Units

	Yes	No	Partly	Don't know
Quantify risks	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Highlight 'hot spot' areas	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Financial year trends	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Geographic trends	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

36. Does the MHS Authority have a formal environmental health risk profile (atlas or status report) for the 2018/19 - 2020/21 MTEF period, showing the basic municipal services (BMSs) 'hot spots' for the entire jurisdiction, that can be used for input to the sector departments' IDPs and SDBIPs service delivery focus areas (KPIs)? \* Environmental Health Risk Profile (Atlas/Status Report) geographically showing environmental health-related 'hot spots' (priority areas).

	Yes	No	Partly	Don't know
Water quality risks	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Sanitation (sewage spillages)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Solid waste risks	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

37. Indicate the frequency that the MHS Authority provides official reports to the BMS sectoral departments at local municipalities, showing the improvements of the sector department's interventions towards priority environmental health risks 'hot spots'? \*

BMS (Basic Municipal Services) sector departments: WSA (Water Service Authority); WSP (Water Service Provider); Waste Management Units; EHPs (Environmental Health Practitioners). The effect of interventions should show either a status quo, improvement, or deterioration in the conditions of the EH risk(s).

	Never	Ad hoc	Daily	Weekly	Monthly	6 monthly	Other
WSA	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
WSP	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Waste Unit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

38. Did the MHS Authority set service delivery objectives together with Sector departments during the 2018/19 - 2020/21 MTEF period to inform the IDP/SDBIP, WSDP, WSP and IWMP targets, to facilitate integrated MHS & Sectoral focus on priority environmental health risks? \*

IDP (Integrated Development Plan); SDBIP (Service Delivery, Budget Implementation Plan); WSDP (Water Services Development Plan); WSP (Water Safety Plan); IWMP (Integrated Waste Management Plan); Minutes of meetings

	Yes	Never	Partly	Don't know	Not applicable
IDP	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SDBIP	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
WSDP	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
WSP	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
IWMP	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

38.1 If yes or partly, what informed your collective goal setting? \*

IDP (Integrated Development Plan); SDBIP (Service Delivery, Budget Implementation Plan); WSDP (Water Services Development Plan); WSP (Water Safety Plan); IWMP (Integrated Waste Management Plan); Minutes of meetings

	Basic needs	Customer needs	Risk assessment	Political instruction
IDP/SDBIP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WSDP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WSP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IWMP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

39. How IMPORTANT is the alignment of the WATER SAFETY PLAN(s) for the effectiveness of the MHS Authority's preventive role? \*

Indicate on the scale regarding the word pairs that best describe the importance of alignment.

	1	2	3	4	5	6	7	
Unimportant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Important

39.1 How SATISFIED are you with the inclusion of the Environmental Health associated priority risks in the current WATER SAFETY PLANS to support the MHS Authority's preventive role? \*

Indicate on the scale regarding the word pairs that best describe the satisfaction with the alignment.

	1	2	3	4	5	6	7	
Dissatisfied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Satisfied

40. How IMPORTANT is the alignment of the municipalities Integrated Waste Management Plans (IWMPs) for the effectiveness of the MHS Authority's preventative role? \*

Indicate on the scale regarding the word pairs that best describe the importance of alignment.

	1	2	3	4	5	6	7	
Unimportant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Important

40.1 How SATISFIED are you with the inclusion of the Environmental Health associated priority risks in the current INTEGRATED WASTE MANAGEMENT PLANS (IWMPs) to facilitate preventive health outcomes? \*

Indicate on the scale regarding the word pairs that best describe the satisfaction with the alignment.

	1	2	3	4	5	6	7	
Dissatisfied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Satisfied

**CONTROL**

41. How often do you have project team meetings between MHS staff and staff from sector departments to report deviations from the set milestones (targets) to ensure that the environmental health risks are appropriately alleviated at the source? \*

Applying project management principles (Objectives - s 152 of Constitution). Water= water quality, availability and accessibility; Sanitation= availability, functionality, WWTWs operations, pump stations and reticulation systems not causing sewage spillages or release of untreated sewage into water bodies or in the surrounding environment e.g. residential areas or public open spaces; Solid waste= running of solid waste sites/transfer stations, prevention and containment of indiscriminate refuse disposal; Pollution control= pollution in the surroundings caused amongst others as a result of broken drains cause sewage spillages, illegal waste dumping etc.

	Never	Daily	Weekly	Monthl	Ad hoc	Other
Water	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sanitation	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Solid waste	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Pollution control	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

42. Did managers and supervisors, from both MHS and Sectors departments, officially pledged commitment to focus on priority environmental health risks associated with water, sanitation, and solid waste to achieve preventive health objectives at the source? \*

	Yes	No	Don't know	Not applicable
MHS	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
WSA	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
WSP	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Waste Unit	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

42.1 If not, how is the MHS Authority dealing with environmental health risks associated with water, sanitation, and solid waste to mitigate the risks at the source?

-----

**COMMITMENT**

43. The District Municipality's leadership supports MHS interventions at an operational level. \*

Indicate your level of agreement to the above statement on the scale opposite each variable. SD= Strongly disagree; D= Disagree; NA= Not agree; A= Agree; SA= Strongly agree. Top Man= Top Management (MM & [Executive] Directors); MAYCO= Mayoral Committee; Stand Com= Standing Committee (Portfolio councilors responsible for MHS functions); MHS Man = Municipal Health Service Manager; MHS Sup= Senior and or Chief/Regional EHPs supervising EHPs in a jurisdiction

	SD	D	NA	A	SA
Top Man	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MAYCO	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Standing Com	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
MHS Man	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
MHS Sup	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

44. The sector departments, at the local municipalities in your jurisdiction, responds positively to MHS reported environmental health risks related to water, sanitation, and solid waste. \*

Indicate your level of agreement to the above statement on the scale opposite each variable. SD= Strongly disagree; D= Disagree; NA= Not agree; A= Agree; SA= Strongly agree. Water= Water quality and availability; Sanitation + Sewage spillages from Wastewater Treatment Works [WWTWs], and sewerage reticulation system; Solid waste= Inappropriate management of solid waste sites/transfer stations, and indiscriminate dumping of waste within communities.

	SD	D	NA	A	SA
Water	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Sanitation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Solid waste	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Section D. Client Satisfaction

Achieving the Constitutional objectives

45. How satisfied are you with the current MHS and BMS outputs to satisfy the communities' basic needs in support of preventative health outcomes at the source? \*

Indicate on the scale regarding the word pairs that best describe the satisfaction with the commitment.

	1 (Dissatisfied)	2	3	4	5	6	7 (Satisfied)
MHS	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Water	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Sanitation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Solid waste	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

46. Are you aware of any actions, during the 2018/19 - 2020/21 MTEF period, that indicates community dissatisfaction about municipal services that relate to environmental health risks and poor basic municipal services (BMS)? \*

Pressure Groups (Organised pressure groups, e.g., Rate Payers Association etc.); SAHRC (Human Rights Commission - investigation reports reflecting on poor municipal service conditions for your jurisdiction, as a basic human rights issue)

	Yes	No	Don't know
Litigation / Court case(s)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Community protests	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pressure groups	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
SAHRC	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

46.1 If yes, for any of the above actions, elaborate on what the issue(s) is/are:

.....







**What else do you as EHPs need to fulfil your work properly as you would like to do it?**

2. NOTE: Repeating until saturation

**Reasons: Why do the people say they need this?**

NOTE: Repeating until saturation

**Importance (Schutte Scale)****Satisfaction (Schutte Scale)**



<b>Why?</b>
And what else?
<b>Why?</b>
And what else?
<b>Why?</b>
And what else?
<b>Why?</b>
And what else?
NOTE: Repeat question until saturation
<b>2 Think about the collaboration between MHS &amp; Sector departments (water, sanitation &amp; waste) planning, programming and control in <u>ideal</u> circumstances. What comes to mind first?</b>
1.
<b>Why?</b>
And what else?
<b>Why?</b>
And what else?
<b>Why?</b>

And what else?
NOTE: Repeat question until saturation
<b>How will you, as an EHP, evaluate the <u>PLANNING</u> between MHS &amp; Sector Departments (water/sanitation, and solid waste) to mitigate the BMS determinants of health at the source?</b>
<b>Importance (Schutte Scale)</b>
<b>Satisfaction (Schutte Scale)</b>
<b>How will you, as an EHP, evaluate the <u>PROGRAMMING</u> between MHS &amp; Sector Departments (water/sanitation, and solid waste) to mitigate the BMS determinants of health at the source?</b>
<b>Importance (Schutte Scale)</b>
<b>Satisfaction (Schutte Scale)</b>
<b>How will you, as an EHP, evaluate the <u>CONTROL (M&amp;E)</u> between MHS &amp; Sector Departments (water/sanitation, and solid waste) to mitigate the BMS determinants of health at the source?</b>
<b>Importance (Schutte Scale)</b>
<b>Satisfaction (Schutte Scale)</b>

## Appendix H: Focus group invitations to all District Municipalities

### INVITATION

#### **Municipal Health Service Focus Group Interview(s): Garden Route District Municipality EHPs**

##### **1. Background**

These focus group (FG) interviews are part of the data collection strategy to gather the relevant information to achieve the objectives of Mr Michael (Mike) H.A. Agenbag's doctoral research (PhD in Environmental Health).

The objectives of this study are to:

- assess how local government environmental health services (EHSs) are rendered.
- determine the shortcomings that might prevent the rendering of effective and sustainable EHSs that should positively influence basic (municipal) services (BMS), and
- Develop a multi-sectoral strategy that can support sustainable and effective MHS and BMS to mitigate health determinants at the source.

This study is registered and approved by the Cape Peninsula University of Technology (CPUT) Higher Degrees Committee (HDC) and its Ethical Committee. The Western Cape Municipal Health Working Group (WCMHWG) and the South African Local Government Association (SALGA), as well as the South African Institute of Environmental Health (SAIEH), is in support of this study.

This study is informed by 'Municipal Health Services' (MHS), and 'Basic Municipal Services' (BMS) being a Constitutional mandate of municipalities, with its main objectives to provide these services in a sustainable way to their communities whilst promoting a safe and healthy environment (section 152).

South Africa continues to grapple with a quadruple burden of disease associated with these BMS, e.g., water and sanitation, amongst others. Also, the country experienced service delivery protests that suggest, among others, a deficit in these BMS. The COVID-19 pandemic then accentuated the lack of BMS.

The United Nations, through the Sustainable Development Goals (SDGs), emphasises the need for quality and functionality of water and sanitation to ensure sustainable health outcomes. Besides, South Africa introduced the "District Development Model" (DDM, [2020]) in support of the Back-to-Basics initiative (2014) to take local government back to their primary objectives as envisaged in the Constitution (Sections 152 & 153). One of the critical issues raised in the DDM, based on the President's 2019 budget speech, is the "patterns of operating in silo's" as a challenge, leading to a "lack of coherence in planning and implementation" of services which makes monitoring and evaluation difficult.

From an environmental health perspective, it is not the Environmental Health Practitioners (EHPs) or MHSs' responsibility to provide water, sanitation and waste infrastructure and maintain it. Still, MHS depends on the sector departments' performance within municipalities

to provide and maintain these BMS to deliver effective MHS to achieve sustainable preventive health outcomes. Therefore, in the interest of sustainable preventative health, these services should be closely planned, implemented, and monitored with sectoral departments to ensure that it does not unnecessarily result in ill health or community anger.

MHS plays a pertinent role to ensure that these BMS, as determinants of health, are mitigated at the source to facilitate sustainable preventive health outcomes. Therefore, MHS can play a critical role in reducing the quadruple burden of disease in the country related to BMS and improving the BMS that serves as triggers for associated community protests.

## **2. Focus Group Interview(s)**

You are invited to the FGs as a professional working in the frontline at a local government level. Your valuable experience and insights will make a significant contribution to better understanding the challenges and opportunities for the improvement of BMS from the environmental health practitioners' perspective. Your participation and input will assist with crafting a multi-sectoral strategy to facilitate the MHS contribution in improved sustainable BMS as determinants of health.

The FGs are divided according to the executive levels, e.g., MHS Top Management, MHS Middle Management and Functional (operational) EHPs.

### **The date, time and venue of your various Focus Groups in your area will be as follows:**

- **Date:** 17 March 2021
- **Venue:** George (GRDM – MHS Committee Room – Mission Street)
- **Time Slots per Group**
  - **Group 1** – Functional EHPs: 09:00 – 10:30
  - **Group 2** – Functional EHPs: 10:45 – 12:15
  - **Group 3** – MHS Middle Management: 13:00-14:30

## **3. Prior Confirmation Before Focus Group Interview(s)**

3.1 Each randomly selected participant should indicate:

- Their willingness to participate in the Focus Groups.
- Confirm their availability on the interview date.

3.2 If a participant cannot attend the Focus Group due to ill health or any other circumstances, please inform the researcher accordingly by email, WhatsApp, or SMS.

## **4. Contact details of the researcher:**

- Email: [agenbagm@cput.ac.za](mailto:agenbagm@cput.ac.za)

I want to use this opportunity to thank each one in advance for your commitment and support in this search for policy input towards sustainable preventive MHS and BMSs.

Mike Agenbag (26/02/2021)

## Appendix I: Participant consent

\*NOTE: Template adopted from

<https://www.tcd.ie/swsp/assets/pdf/Participant%20consent%20form%20template.pdf> [Accessed: 09 February 2019].

- I..... (surname and name of participant) voluntarily agree to participate in this research study.
- I understand that even if I agree to participate now, I can withdraw at any time or refuse to answer any question without any consequences of any kind.
- I understand that I can withdraw permission to use data from my interview within two weeks after the interview, in which case the material will be deleted.
- I have had the purpose and nature of the study explained to me in writing and I have had the opportunity to ask questions about the study.
- I understand that participation involves being part of a focus group discussion, and or a face-to-face individual interview.
- I understand that I will not benefit directly from participating in this research.
- I agree to my interview being audio-recorded.
- I understand that all information I provide for this study will be treated confidentially.
- I understand that in any report on the results of this research my identity will remain anonymous. This will be done by changing my name and masking any details of my interview which may reveal my identity or the identity of people I speak about or my institution.
- I understand that masked extracts from my interview may be quoted in the thesis, conference presentations, and published papers.
- I understand that if I inform the researcher that myself or someone else is at risk of harm, they may have to report this to the relevant authorities - they will discuss this with me first but may be required to report with or without my permission.
- I understand that signed consent forms and original audio recordings, password protected, will be retained in the researcher's safe to which only the researcher will have access. The recordings will only be kept for the minimum prescribed period, where after it will be safely disposed as mutually agreed.
- I understand that a transcript of my interview in which all identifying information has been removed will be retained for the minimum allowable period.
- I understand that under freedom of information legislation I am entitled to access the information I have provided at any time while it is in storage as specified above.
- I understand that I am free to contact any of the people involved in the research to seek further clarification and information.

### *Signature of research participant*

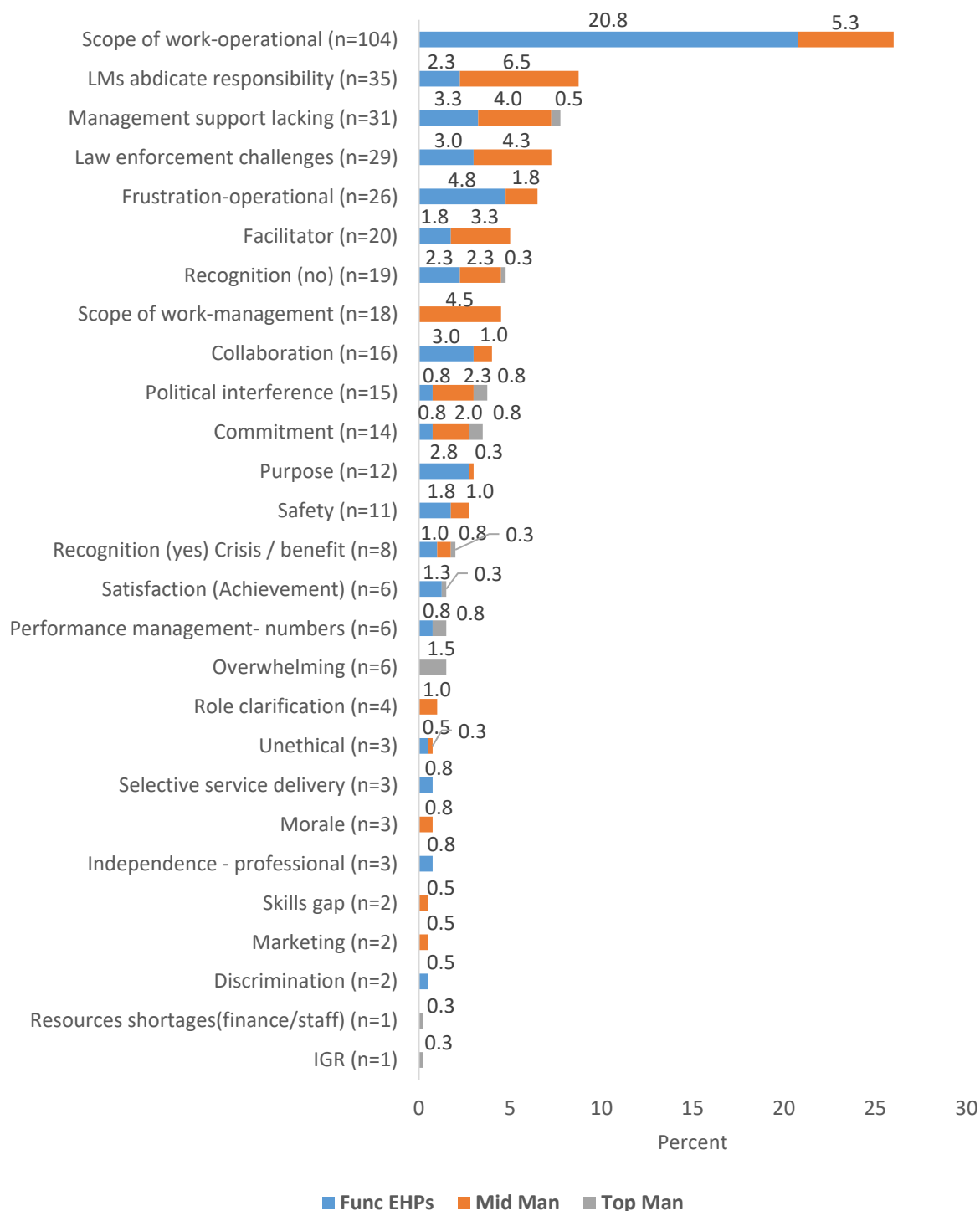
.....  
Signature of participant Date

### *Signature of researcher*

I believe the participant is giving informed consent to participate in this study

.....  
Signature of researcher Date

**Appendix J: Issues raised by different EHP levels during their focus group sessions reflecting on their current work experiences (FGs 1 – 11)**



*Functional level EHPs current work experience (FGs 1 – 6)*

**Responses to the question: Think about your work as an EHP, what comes to mind first?**

<b>Order</b>	<b>Responses</b>	<b>Coding</b>
1	Aanpasbaarheid (verskillende vlakke van die samelewing - van persoon wat pype oop grawe to CEO van maatskapy - kommunikeer en oortuig)	Collaboration
2	Encouraging public participation	Collaboration
3	Participate in development projects	Collaboration
4	Interaction with community	Collaboration
5	Liaise with stakeholders	Collaboration
6	Community	Collaboration
7	Stakeholder	Collaboration
8	Munisipaliteit (samewerking)	Collaboration
9	Collaboration	Collaboration
10	Co-operative governance	Collaboration
11	Government	Collaboration
12	Other departments	Collaboration
13	Living organisational mission & vision	Commitment
14	Jouself onder etiese normas en waardes te voeg	Commitment
15	Professionaliteit	Commitment
16	Racism, language barriers, discrimination	Discrimination
17	Discrimination	Discrimination
18	Researcher	Satisfaction (Achievement)
19	Exposure (gain experience)	Satisfaction (Achievement)
20	Need to shift focus for future dynamics	Satisfaction (Achievement)
21	Need research	Satisfaction (Achievement)
22	Satisfaction	Satisfaction (Achievement)
23	Project coordinator	Facilitator
24	Conflict handling	Facilitator
25	Mediator	Facilitator
26	Engagement very important - communities to councillors	Facilitator
27	Problem solving	Facilitator
28	Communication	Facilitator
29	Teamwork	Facilitator
30	Bored with routine kind of things	Frustration-operational
31	Status quo	Frustration-operational

32	In die spervuur kom vir ander se besluite, waar hulle jou override	Frustration-operational
33	Konflik (Conflict)	Frustration-operational
34	Availability on cell phones (24/7)	Frustration-operational
35	Staying in communities (availability and risks)	Frustration-operational
36	Conflict	Frustration-operational
37	Financial problems	Frustration-operational
38	Repetition	Frustration-operational
39	Routine	Frustration-operational
40	Boring	Frustration-operational
41	Annoying complaints	Frustration-operational
42	Jack of all trades	Frustration-operational
43	Purposive vehicle	Frustration-operational
44	Equitable service distribution	Frustration-operational
45	Environmental health is broad	Frustration-operational
46	Frustration	Frustration-operational
47	Jack of all trades	Frustration-operational
48	Frustration - for young EHPs - public will verify always with more experienced EHPs	Frustration-operational
49	Selfstandig(heid) besluite kan neem (ervaring)	Independence - professional
50	Bestuur moet besluite van professionele persoon met ervaring respekteer	Independence - professional
51	Gebruik diskressie	Independence - professional
52	Courts don't prioritise our issues - regarded as minor	Law enforcement challenges
53	Courts regard our things as wasting their time	Law enforcement challenges
54	Wetgewing (Legislation)	Law enforcement challenges
55	Law enforcement (EH not priority for courts)	Law enforcement challenges
56	Law enforcement	Law enforcement challenges
57	Lack sufficient power - although legislation - application is difficult - related to recognition - If SAPS	Law enforcement challenges
58	Closing shops - external forces not related to shop approach EHP, why you close it - raise concerns on safety of EHPs.	Law enforcement challenges
59	Vague legislation	Law enforcement challenges
60	Vague legislation	Law enforcement challenges
61	Is legislation and by-laws in line with Constitution?	Law enforcement challenges

63	Kan nie jou werk doen as jy nie jou wette ken nie	Law enforcement challenges
64	LMs don't know that their responsibility is towards EH	LMs abdicate responsibility
65	LMs throw services to EH that are not our responsibilities	LMs abdicate responsibility
66	Some services just hanging at LMs, nobody take responsibility for it.	LMs abdicate responsibility
67	LMs don't deal with non-compliant issues such as water, sanitation, and waste	LMs abdicate responsibility
68	You can write letters they (LMs) just don't respond to that	LMs abdicate responsibility
69	Big brother	LMs abdicate responsibility
70	Als is gesondheids oorlas	LMs abdicate responsibility
71	Lack co-operation from local municipalities and other departments	LMs abdicate responsibility
72	Frustration - EHPs only person to resolve issues - everything is a health nuisance	LMs abdicate responsibility
73	HPCSA requirements with 30 CPD points without opportunities at work for support, eCPD only produce 3 points - brings lot of frustration	Management support lacking
74	eCPD - online opportunity - time pressures	Management support lacking
75	We need to make change but no support for us	Management support lacking
76	Top management should create communication environment to deal with problems where premises do not comply	Management support lacking
77	Moving EH services from LMs to DMs, a lot of things got lost	Management support lacking
78	Getting instructions from top management (coming from national)	Management support lacking
79	Top management drop issues on us coming from national, but no communication on our feelings about this, sometimes we don't have clue what we must do, but we just get instructions "we must do". It is us facing the issue on the ground.	Management support lacking
80	Frustration dealing with public - not sufficient staff and time.	Management support lacking
81	Laid back	Management support lacking
82	Demotivated - lack of support	Management support lacking
83	Finances	Management support lacking
84	Bevorderings geleentheid - as daar nêrens heen is om te gaan, hoekom moet jy perform	Management support lacking
85	Not opportunity to study further - apply for study aid but no money - demotivated	Management support lacking

86	Changing governance environment from top - performance management driven from top - proof of evidence.	Performance management- numbers
87	Motivation from top management - Number crunching "heeltyd getalletjies op papier"	Performance management- numbers
88	Number crunching "The actual thing you have to do in the community is not happening"	Performance management- numbers
89	Political interference	Political interference
90	Premises that we cannot control, is as we are doing nothing	Political interference
91	Continues unresolved issues due to lack of management & systems support	Political interference
92	Did I make a difference in community?	Purpose
93	Not just doing for the sake of doing	Purpose
94	Finding solutions	Purpose
95	Health of the whole country	Purpose
96	Safe environment for everyone around the country (Healthy environment for all)	Purpose
97	What is your primary objective when you come to work?	Purpose
98	Do not just do your work	Purpose
99	Dienslewing	Purpose
100	Wat is jou primêre doel?	Purpose
101	Publiek dien	Purpose
102	Wat is jy nou eintlik, wetstoepasser of health educator?	Purpose
103	Community doesn't take us seriously	Recognition (no)
104	Most of the communities don't know us	Recognition (no)
105	Local SPAZA shops don't recognise us	Recognition (no)
106	Other professions don't acknowledge us	Recognition (no)
107	We are just there	Recognition (no)
108	Public doesn't recognise EH, but LMs definitely don't recognise us	Recognition (no)
109	Prevention	Recognition (no)
110	Recognition & experience - public will always	Recognition (no)
111	Respect	Recognition (no)
112	Only time something happens then national recognises us - e.g., listeriosis outbreak - Everything at Parliament was about the EHPs - EHPs did not do this and that, where was this. Where is the support, we are getting from them, there is nothing	Recognition (yes) Crisis / benefit
113	Only when there are bad things they ask, where is the EHPs	Recognition (yes) Crisis / benefit
114	HACCP companies acknowledge us, but not general public	Recognition (yes) Crisis / benefit
115	Only during COVID 19 were we acknowledged	Recognition (yes) Crisis / benefit
116	Closing shops - external forces not related to shop approach EHP, why you close it - raise concerns on safety of EHPs	Safety

117	Risky	Safety
118	Physical harm	Safety
119	Security - external forces	Safety
120	Veiligheid	Safety
121	Danger	Safety
122	EHPs security - external forces intimidate	Safety
123	Some colleagues see themselves as health educators	Scope of work-operational
124	Sien myself as health educator, wet is laaste uitweg (I see myself as health educator, law enforcement is last resort)	Scope of work-operational
125	Education and training	Scope of work-operational
126	Hygiene	Scope of work-operational
127	Hygiene	Scope of work-operational
128	Health	Scope of work-operational
129	Environmental health issues	Scope of work-operational
130	Prevention	Scope of work-operational
131	Environmental health	Scope of work-operational
132	Healthy cities	Scope of work-operational
133	Healthy communities	Scope of work-operational
134	Health risk	Scope of work-operational
135	Prevention	Scope of work-operational
136	Health	Scope of work-operational
137	Diseases	Scope of work-operational
138	Safe environment	Scope of work-operational
139	Environment as a whole (Soil, air ...)	Scope of work-operational
140	Keep it clean	Scope of work-operational
141	Human behaviour - good to keep clean	Scope of work-operational
142	Nuisances	Scope of work-operational

143	Financial limitations for implementation of projects to market EH through what we do	Scope of work-operational
144	Env Health issues control	Scope of work-operational
145	Law enforcement	Scope of work-operational
146	Compliance officers	Scope of work-operational
147	Legislator	Scope of work-operational
148	Policy developer	Scope of work-operational
149	Other colleagues see themselves as law enforcers	Scope of work-operational
150	Regulators	Scope of work-operational
151	Compliance	Scope of work-operational
152	Advisor	Scope of work-operational
153	Educator	Scope of work-operational
154	Community development	Scope of work-operational
155	Inspector	Scope of work-operational
156	Health promoter	Scope of work-operational
157	Water sampling	Scope of work-operational
158	Serving communities	Scope of work-operational
159	Health promotor	Scope of work-operational
160	Identify EH issues	Scope of work-operational
161	Monitor	Scope of work-operational
162	Evaluate	Scope of work-operational
163	Control	Scope of work-operational
164	Prevention	Scope of work-operational
165	Surveillance	Scope of work-operational
166	Risk assessment	Scope of work-operational

167	Food control	Scope of work-operational
168	Health & safety awareness	Scope of work-operational
169	Inspector	Scope of work-operational
170	Health education	Scope of work-operational
171	Inspections	Scope of work-operational
172	Complaints	Scope of work-operational
173	Food premises	Scope of work-operational
174	Monitoring	Scope of work-operational
175	Water quality	Scope of work-operational
176	Waste management	Scope of work-operational
177	Communicable disease	Scope of work-operational
178	Health education	Scope of work-operational
179	Areas we are working in requires different focus - developmental	Scope of work-operational
180	Rural areas, more education	Scope of work-operational
181	Sharing information on EH	Scope of work-operational
182	Communication on hygiene issues	Scope of work-operational
183	Job description	Scope of work-operational
184	Prevention	Scope of work-operational
185	Samples	Scope of work-operational
186	Safety	Scope of work-operational
187	Surveillance	Scope of work-operational
188	Voedselveiligheid	Scope of work-operational
189	Complaints	Scope of work-operational
190	Training	Scope of work-operational

191	Gesondheidsinspekteur (Health Inspector)	Scope of work-operational
192	Inspeksie	Scope of work-operational
193	Disease control	Scope of work-operational
194	Voedsel persele	Scope of work-operational
195	Nie-voedsel persele	Scope of work-operational
196	COVID	Scope of work-operational
197	Funeral undertakers	Scope of work-operational
198	Inspections	Scope of work-operational
199	Sampling	Scope of work-operational
200	Monitoring	Scope of work-operational
201	Chemicals & pesticides	Scope of work-operational
202	Helping community	Scope of work-operational
203	Kennis in vakgebied	Scope of work-operational
204	Understand the job you are doing	Scope of work-operational
205	Curbing spread of diseases	Scope of work-operational
206	Service delivery - more focused on affluent areas	Selective service delivery
207	Limitations - staff shortage - cannot reach all areas	Selective service delivery
208	Limitations - huge area - cannot reach all areas	Selective service delivery
209	Party van die ouens is so onprofesioneel soos nog iets (Some people (EHPs) are utterly unprofessional)	Unethical
210	Etiek / Code of conduct	Unethical

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*MHS Middle Management current circumstance (FGs 7-10)*

**Responses to the question: Think about your work as an EHP, what comes to mind first?**

<b>Order</b>	<b>Responses</b>	<b>Coding</b>
1	Samewerking in spesifieke area	Collaboration
2	Samewerking	Collaboration
3	Samewerking en skakeling met verskillende departemente by plaaslike oweverhede soos ingineurs met water, sanitasie. Met boubeheer en stadsbeplanning	Collaboration
4	Ons is uitgehaal uit B munisipaliteite, waar ons kon omgedraai het en vir ingenieurs afdeling gesê het daar is 'n waterpyp wat lek, of daar is riool wat uitloop. Ons is weg van watersuiwering, n riool suiwering af. In verlede, as jy gesien het daar lê 'n dooie hond se karkas, dan het jy sommer vir vullisverwydering, die voorman, "Oom Japie, daar lê 'n dooie hond, en hulle het die onmiddelik verwyder. Vandag moet jy die wet uithaal en vir die plaaslike munisipaliteit daarop wys wat hulle verantoorelikhied is. Vandat ons by plaaslike munisipaliteite weg is, is ons nie meer so gefokus op watersuiweringswerke en riool werke nie. Al wat ons gaan gaan doen is gou in te gaan en ons inspeksie doen. Daar is behoefte dat ons weer opleiding kry oor die werking van die werke. Prosesse het ook al verander in die tussentyd. Ons kannie meer doen wat ons gedoen het nie	Collaboration
5	Vat verantwoordelikheid - al is dit nie deel van funksie nie	Commitment
6	Listen - Experience told us, make assessment and steer community to exact responsible person	Commitment
7	Not sending people from pillar to post	Commitment
8	Verantwoordelikheid	Commitment
9	Legacy	Commitment
10	<i>Hou nie daarvan om publiek met lee hande terug te stuur - rond te stuur na iemand anders nie</i> , al is dit nie jou probleem nie, luister na hulle storie - help waar jy kan en kry iemand wat kan help	Commitment
11	Dienslewering - opvolg - oplossing te kry en terugvoering gee	Commitment
12	OGPs is op die grond - direkte interaksie met publiek - word gesien as die enigstes wat nog bereid is om te luister en te help	Commitment
13	Dealing with people from vastly different backgrounds	Facilitator
14	Foreigners don't know the laws	Facilitator
15	EHP is naaste aan publiek	Facilitator
16	Persoonlikhede	Facilitator
17	Menseverhoudinge	Facilitator
18	Netwerk	Facilitator
19	Mense verhoudinge	Facilitator
20	Goeie kommunikasie	Facilitator
21	Daaglik anders oortuig	Facilitator
22	Skakeling & kommunikasie tussen C& B munisipaliteite	Facilitator
23	Spoedige terugvoering op klagtes - help met gerusstelling en vertrouwe inboesem	Facilitator

24	Mispersepsies oor toestand wat gesondheids gevaar inhou - persoon in publiek versprei boodskap oor toestand wat sogenaamd gesondheidsgevaar is, terwyl dit effektief nie is nie	Facilitator
25	Hou nie daarvan om publiek met leë hande terug te stuur - rond te stuur na iemand anders nie, <u>al is dit nie jou probleem nie, luister na hulle storie - help waar jy kan en kry iemand wat kan help</u>	Facilitator
26	Jack of all trades and master of als (all)	Frustration-operational
27	Beter samewerking - Individue se houding approach (Big brother)	Frustration-operational
28	Grys areas (Env Management)	Frustration-operational
29	Frustrasie	Frustration-operational
30	Fragmentasie frustrasie	Frustration-operational
31	Due to low numbers of EHP are we not allowed as middle management to get together (committee) to workshop e.g., new legislation to apply standardised application in area	Frustration-operational
32	Tekort aan funksionele OGP's het tot gevolg dat ons as middelbestuur ook funksionele werk moet doen wat verhoed dat ons by ons strategiese bestuurs tiepe werk kan uitkom	Frustration-operational
33	Law enforcement	Law enforcement challenges
34	Botsende wetgewing - EHP's sit met probleem	Law enforcement challenges
35	Volg die wetgewing - as simple as that	Law enforcement challenges
36	Some foreigners no regard for laws of country	Law enforcement challenges
37	Baie klagtes van B munisipaliteite wat nie ons funksies is nie, maar hulle gooi dit na ons toe	Law enforcement challenges
38	LMs se bywette nie altyd in plek nie	Law enforcement challenges
39	LMs ken soms nie hulle eie bywette nie	Law enforcement challenges
40	Probleme sneeubal	Law enforcement challenges
41	Diverse toepassing van regulasies	Law enforcement challenges
42	Root cause wat B Mun moet aanspreek lei tot gesondheids probleem	Law enforcement challenges
43	Politiese inmenging - bal spelery	Law enforcement challenges
44	Probeer hou almal net gelukkig	Law enforcement challenges
45	Konsekwente toepassing van wetgewing is nie prakties haalbaar	Law enforcement challenges

46	Menseregte bemoeilik uitvoering van take in 3rde wêreld omstandighede	Law enforcement challenges
47	Ons magte is afgewater	Law enforcement challenges
48	Menseregte	Law enforcement challenges
49	Conflict of legislation alignment, in terms of bylaws - resulting in public being send from pillar to post	Law enforcement challenges
50	My werk en jou werk	LMS abdicate responsibility
51	Publiek se navrae begin en eindig by OGP	LMS abdicate responsibility
52	LMS verwys alle klagtes na DM	LMS abdicate responsibility
53	Verdeeltheid - wie moet wat doen	LMS abdicate responsibility
54	Env managers verwys publiek na Gesondheidsinspekteur	LMS abdicate responsibility
55	Dienslewering	LMS abdicate responsibility
56	Ken LMS	LMS abdicate responsibility
57	Contraventions continues	LMS abdicate responsibility
58	Publiek praat sy bek warm - frustrasie omdat dit die werk van die EHP was	LMS abdicate responsibility
59	Verwarring by publiek - wie moet wat doen	LMS abdicate responsibility
60	LMS heavy top structure - niemand wil die werk doen nie	LMS abdicate responsibility
61	Baie klagtes van B munisipaliteite wat nie ons funksies is nie, maar hulle gooi dit na ons toe	LMS abdicate responsibility
62	LMS se bywette nie altyd in plek nie	LMS abdicate responsibility
63	LMS ken soms nie hulle eie bywette nie	LMS abdicate responsibility
64	Mense (publiek) kry nie goeie dienslewering van B mun nie	LMS abdicate responsibility
65	Swak dienslewering by B Mun spoel oor na C mun	LMS abdicate responsibility
66	Probleme sneeubal	LMS abdicate responsibility
67	Root cause wat B Mun moet aanspreek lei tot gesondheids probleem	LMS abdicate responsibility
68	Doen jou pligte sodat ons, ons pligte kan uitvoer	LMS abdicate responsibility
69	B Mun pass the buck	LMS abdicate responsibility

70	B Mun vat nie verantwoordelikheid nie	LMs abdicate responsibility
71	B Mun verwag van C Mun om probleme uit te sorteer	LMs abdicate responsibility
72	Politieke inmenging - bal spelery	LMs abdicate responsibility
73	B Mun skram weg van konflik met burgers	LMs abdicate responsibility
74	Moeilikheid soekers (B - Munisipaliteite)	LMs abdicate responsibility
75	B's shifting of duties - don't know their duties - sending public from pillar to post. MHS	LMs abdicate responsibility
76	Uitvoerende direkteure het nie <i>clue</i> wat in MG aangaan nie	Management support lacking
77	Bestuur (politieke leierskap) weet nie waar klagtes hoort nie	Management support lacking
78	Lack of management support	Management support lacking
79	Bestuur is uit voelling	Management support lacking
80	Management hou nie by promises	Management support lacking
81	Probleme sneeubal	Management support lacking
82	Probeer hou almal net gelukkig	Management support lacking
83	Gebrekkige spesialisering	Management support lacking
84	Begroting en personeel tekorte	Management support lacking
85	Gebrek aan wetlike ondersteuning om op plaaslike owerhede te verplig en te kyk dat hulle gereguleer raak vir die aanstelling van genoeg OGP's. Maar ons het ook nog 'n ander probleem. As poste vakant raak vat dit partykeer tot meer as 'n jaar om gevul te raak. En daar is 'n wesenlike gebrek aan beheer en kontrole wat dit aan betref. 'n Plaaslike owerheid kan doen net wat hulle wil. Ons hoof pos het vakant geword (afgetree) in Januarie en in April nog nie eens geadverteer nie". Kritiese pos vir skakeling tussen ons funksie en die raad. "Ons het verlede jaar 2 kollegas verloor, daai poste is eers na meer as 'n jaar gevul. Só, dienslewering kannie plaasvind nie." Maar daar is nie beheer. oorkoepelende wetgewing of 'n liggaam...[ ]. Die funksie van provinsie en nasionaal [gesondheid] het heeltemal afgewater geraak	Management support lacking
86	Prioritising MHS function within the organisation	Management support lacking
87	Lack of support for EH - marketing material and opportunity	Management support lacking
88	Due to low numbers of EHP are we not allowed as middle management to get together (committee) to workshop e.g., new legislation to apply standardised application in area	Management support lacking
89	Learning opportunities for best practices - visiting areas exposed for example to disease outbreaks before. Learning from others e.g., KZN with cholera	Management support lacking

	outbreak. With Tsunami in China a person from Disaster Management was sent to represent us and learn from the experience to prevent possible disease outbreaks in our areas	
90	Word nie geleentheid gegee om opleiding by te woon nie - geld tekort	Management support lacking
91	Tekort aan funksionele OGP's het tot gevolg dat ons as middelbestuur ook funksionele werk moet doen wat verhoed dat ons by ons strategiese bestuurs tipe werk kan uitkom	Management support lacking
92	Gebrekkige bemerking van beroep	Marketing
93	Publiek tref nie ondersied tussen ou Gesondheidsinspekteurs rolle in ou dae en wetstoepassings rol	Marketing
94	Stresvol	Morale
95	Vreugde	Morale
96	Identiteitloos geraak	Morale
97	It is not convenient to tell fellow councillors of their responsibilities	Political interference
98	Manipulating of issues	Political interference
99	Manipulasie	Political interference
100	Probleme sneeubal	Political interference
101	Root cause wat B Mun moet aanspreek lei tot gosondheidsprobleem	Political interference
102	B Mun verwag van C Mun om probleme uit te sorteer	Political interference
103	Politiese inmenging - bal spelery	Political interference
104	Probeer hou almal net gelukkig	Political interference
105	Probleme word nie opgelos nie - sneeubal	Political interference
106	Continues learning	Purpose
107	Unwanted stepchild	Recognition (no)
108	Erkenning	Recognition (no)
109	Respek (kollegas)	Recognition (no)
110	Omgewingsgesonheid bly suig aan agterspeen	Recognition (no)
111	Miskenning van ons kwalifikasie - niemand doen iets daaraan	Recognition (no)
112	Rade het gebrekkige kennis van OG - Rol van provinsiale gesonheid in die verlede	Recognition (no)
113	MHS is not recognized	Recognition (no)
114	Lack of knowledge about MHS	Recognition (no)
115	Lack of support for EH - marketing material and opportunity	Recognition (no)
116	Al wanneer ons betjie erkenning kry is soos nou (COVID en listeriosis)	Recognition (yes) Crisis / benefit

117	Deur te help kry so publiek se ondersteuning en vertrou	Recognition (yes) Crisis / benefit
118	Gebruik limelight - COVID - Burgemeester bepaal dat geen geld van OG en brandweer gevat word vir begrotingstekorte - essensiële dienste.	Recognition (yes) Crisis / benefit
119	Verantwoordelikhede nie altyd so duidelik nie	Role clarification
120	Grys gedeeltes	Role clarification
121	B Mun se staff is nie ingelig oor hulle funksies	Role clarification
122	Grys areas - monitering funksie	Role clarification
123	Risikos raak net meer	Safety
124	EHP sekuriteit - Gangsters protect businesses	Safety
125	Veilige omgewing	Safety
126	Gevaar / veiligheids risiko vir OGP's - Informele gebiede raak agter weens intimidasie; Kan nie ingaan met privaat voertuie nie. Niemand waag dit om in die gebiede in te gaan nie, want jy weet nie of jy weer gaan uitkom nie	Safety
127	Line management functions - planning, co-ordination	Scope of work- management
128	Tweaking and twisting to manage	Scope of work- management
129	Sometimes too much involved in micro-management issues (sometimes necessary)	Scope of work- management
130	Persuasion	Scope of work- management
131	Toesighouding	Scope of work- management
132	Micro-management	Scope of work- management
133	Beplanning	Scope of work- management
134	Administrasie	Scope of work- management
135	Ko-ordinering	Scope of work- management
136	Totale bestuur van kantoor	Scope of work- management
137	Disipline	Scope of work- management
138	Wersaam buite kantoor	Scope of work- management
139	Leiding gee aan individue	Scope of work- management
140	Raadgewer	Scope of work- management
141	Werkgewer op hoogte te hou (adviseur) van ogewingsgesondheids toestande	Scope of work- management
142	Werkgewer adviseur	Scope of work- management

143	Spesialis toerusting - Veldtoetse doen sonder om duur laboratorium toetse te doen om vinnig vas te stel	Scope of work-management
144	Swak verslagdoening - mense kyk prentjies	Scope of work-management
145	Upliftment of people - 1st listen to recording to verify all notes	Scope of work-operational
146	Education and training	Scope of work-operational
147	Public servant	Scope of work-operational
148	Bemagtig gemeenskap	Scope of work-operational
149	Gesondheid van gemeenskap	Scope of work-operational
150	Voorkoming	Scope of work-operational
151	4 bene - goed wat ons eet (voedsel & water); riool & vaste afval, ander omgewings impakte (lugbesoedeling, omgewings besoedeling).	Scope of work-operational
152	Skoon en veilige omgewing	Scope of work-operational
153	Nege funksies	Scope of work-operational
154	Environmental scanning (not like horse with blinkers on)	Scope of work-operational
155	Voorkomend	Scope of work-operational
156	Waarneming	Scope of work-operational
157	Pro-aktiewe aksies	Scope of work-operational
158	Antisipasie	Scope of work-operational
159	Opvoeder	Scope of work-operational
160	Inspeksies	Scope of work-operational
161	Monitering	Scope of work-operational
162	Opleiding - Publiek op te lei	Scope of work-operational
163	Ontwikkeling	Scope of work-operational
164	Gemeenskaps verteenwoordigers adviseur	Scope of work-operational
165	Publiek perspektief te gee oor werklike gesondheidsgefare in die konteks van hulle verstaan wat aangaan - inlig / gerus stel oor klagtes - vertrouwe inboesem	Scope of work-operational

166	Gebrekkige doelgerigte opleiding van OGPs (OGPs in veld en nuwe toetreders - gebrek aan praktiese wetstoepassing)	Skills gap
167	Vorige opleiding - breë spektrum - boubeheer, grondgebruik beplanning - praktiese opleiding en teorie	Skills gap
168	Etiek	Unethical

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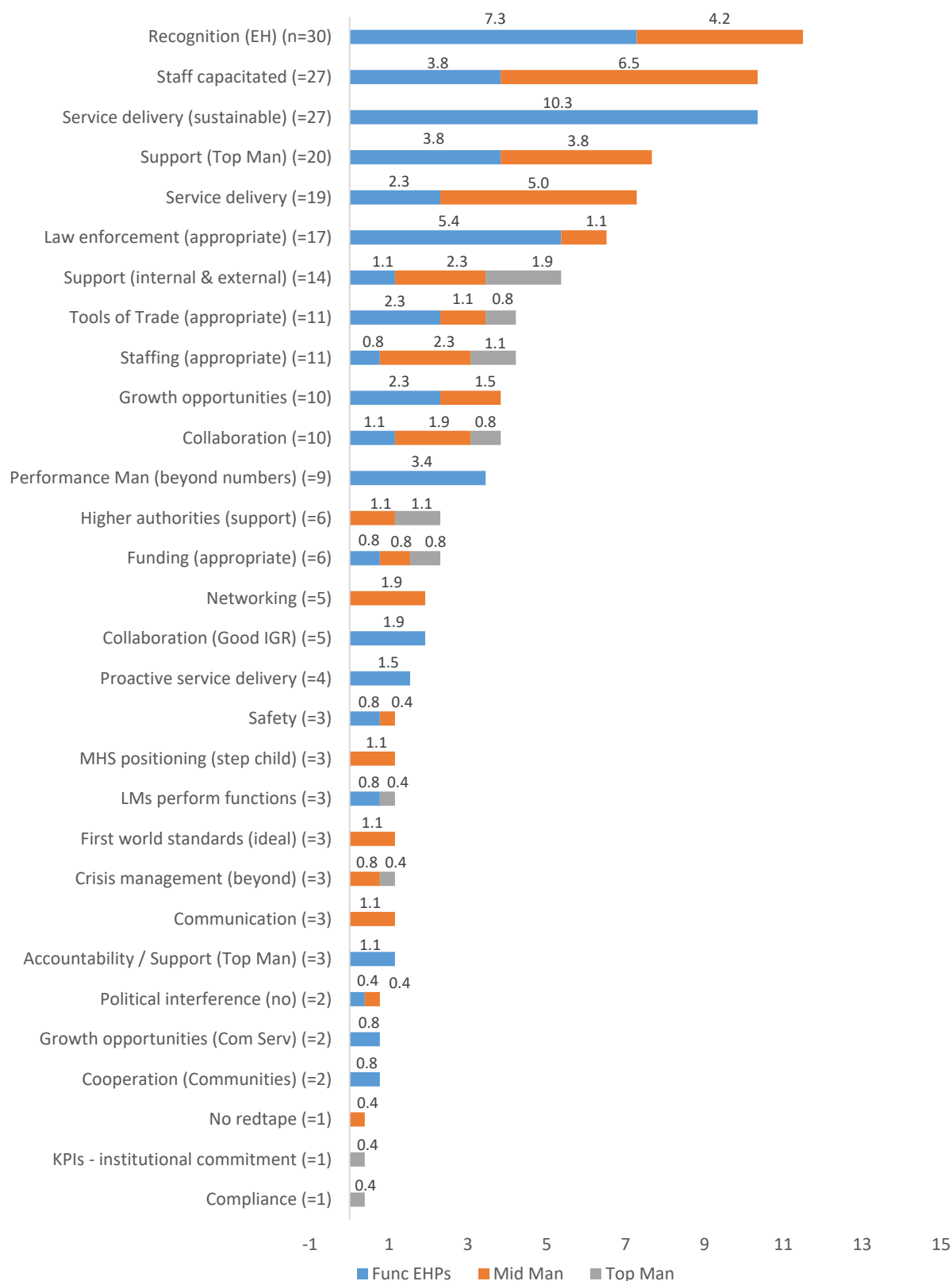
*MHS Top Management current circumstance (FG 11)*

**Responses to the question: Think about your work as an EHP, what comes to mind first?**

Order	Theme	Coding
1	Accountability	Commitment
2	Bekommernis - ou manne besig om af te tree - bekommerd dat jonger generasie nie selfde commitment gaan hê nie	Commitment
3	Ons moet positief bly - in Weskaap word goed nog gedoen	Commitment
4	MGD is afhanklik van eksterne owerhede bv. LMs om basiese dienste te lewer en regstellings te maak, met hulle eie outonome politieke partye wat beide in B & C munisipaliteite funksioneer wat sy eie uitdagings het	IGR
5	Bekommernis (gebrek aan aanstelling van meer OGP's terwyl bevolkingsgroei baie vinniger toeneem)	Management support lacking
6	Moet presteer te midde van omstandighede - word verantwoordelik gehou indien nie doelwitte bereik nie	Management support lacking
7	Druk	Overwhelming
8	Frustrasie	Overwhelming
9	Mismoedig met toestande in land	Overwhelming
10	Overwhelming	Overwhelming
11	Pressures	Overwhelming
12	Voel ek wil pakket vat	Overwhelming
13	Gaan net oor clean audits - nie oor dienslewering nie - hamper die bereiking van ons OG dienslewering doelwitte	Performance management-numbers
14	Moet presteer te midde van omstandighede - word verantwoordelik gehou indien nie doelwitte bereik nie	Performance management-numbers
15	Targets word vir OG daar gestel - ongeag omstandighede. Hardloop net om doelwitte te bereik. Kan nie goed dieper ondersoek wat nie voldoen nie, bv. waterkwaliteit uitdaging. Kan nie opvolg oor rede vir nie-voldoening en om regstellings te maak	Performance management-numbers
16	Political 'silly season' voor verkiesings	Political interference
17	Politieke inmenging - opdragte aan amptenary - probeer tevrede stel en indien nie reageer - rapporteer aan ander owerhede	Political interference
18	<i>Politiekery / political dynamics - affekteer begrotingsgoedkeuring wat negatief inwerk op dienslewering</i>	Political interference
19	Nie 'core functions' kry meer hulpbronne maar nie OG wat wel is	Recognition (no)
20	Positief - EHP word gesien as baie groot rolspeler in COVID-19	Recognition (yes) Crisis / benefit
21	<i>Politiekery / Political dynamics - affekteer begrotings goedkeuring wat negatief inwerk op dienslewering</i>	Resources shortages (finance/staff)
22	Tevredenheid (goed-voel gevoel - baie goed wat ons bereik met positiewe dienslewering in ons gebiede)	Satisfaction (Achievement)



**Appendix K: Issues raised by different EHP levels during their focus group sessions reflecting as a percentage of their ideal MHS circumstances to do their work properly (FGs 1 – 11)**



**Summary of the EHP levels' ideal circumstances listed during their focus group sessions**

Themes	Func EHPs		Mid Man		Top Man		TOTAL	
	n	Percent	n	Percent	n	Percent	N	Percent
1 Recognition (EH)	19	7.3	11	4.2			30	11.5
2 Service delivery (sustainable)	27	10.3					27	10.3
3 Staff capacitated	10	3.8	17	6.5			27	10.3
4 Support (Top Man)	10	3.8	10	3.8			20	7.7
5 Service delivery	6	2.3	13	5.0			19	7.3
6 Law enforcement (appropriate)	14	5.4	3	1.1			17	6.5
7 Support (internal & external)	3	1.1	6	2.3	5	1.9	14	5.4
8 Staffing (appropriate)	2	0.8	6	2.3	3	1.1	11	4.2
9 Tools of Trade (appropriate)	6	2.3	3	1.1	2	0.8	11	4.2
10 Collaboration	3	1.1	5	1.9	2	0.8	10	3.8
11 Growth opportunities	6	2.3	4	1.5			10	3.8
12 Performance Man (beyond numbers)	9	3.4					9	3.4
13 Funding (appropriate)	2	0.8	2	0.8	2	0.8	6	2.3
14 Higher authorities (support)			3	1.1	3	1.1	6	2.3
15 Collaboration (Good IGR)	5	1.9					5	1.9
16 Networking			5	1.9			5	1.9
17 Proactive service delivery	4	1.5					4	1.5
18 Accountability / Support (Top Man)	3	1.1					3	1.1
19 Communication			3	1.1			3	1.1
20 Crisis management (beyond)			2	0.8	1	0.4	3	1.1
21 First world standards (ideal)			3	1.1			3	1.1
22 LMs perform functions	2	0.8			1	0.4	3	1.1
23 MHS positioning (stepchild)			3	1.1			3	1.1
24 Safety	2	0.8	1	0.4			3	1.1
25 Cooperation (Communities)	2	0.8					2	0.8
26 Growth opportunities (Com Serv)	2	0.8					2	0.8
27 Political interference (no)	1	0.4	1	0.4			2	0.8
28 Compliance					1	0.4	1	0.4
29 KPIs - institutional commitment					1	0.4	1	0.4
30 No red tape			1	0.4			1	0.4
							<b>261</b>	<b>100.0</b>

*Functional level EHPs ideal circumstances (FGs 1 – 6)*

**Responses to the question: Think about the EHP's work in ideal circumstances, what comes to mind first?**

Order	Responses	Coding
1	Nie verantwoordelikheid vat vir ander se besluit wat ek moet uitvoer (inmening)	Accountability / Support (Top Man)
2	Vat verantwoordelikheid vir werk gedoen	Accountability / Support (Top Man)
3	<i>Acracia</i> (Jy weet wat is reg, jou hoof sê jy moet in vuur spring)	Accountability / Support (Top Man)
4	Samewerking	Collaboration
5	Teamwork / Teambuilding	Collaboration
6	Proper communication	Collaboration
7	Good working relationship with other stakeholders (communities, LMs etc.)	Collaboration (Good IGR)
8	Integration - COVID	Collaboration (Good IGR)
9	Good IGR (Intergovernmental Relations)	Collaboration (Good IGR)
10	IGR - clear roles & responsibilities	Collaboration (Good IGR)
11	Good working relations	Collaboration (Good IGR)
12	Communities changing behaviour	Cooperation (Communities)
13	Communication (less)	Cooperation (Communities)
14	Well-funded	Funding (appropriate)
15	Genoeg geld om monsters te neem en funksie te verrig	Funding (appropriate)
16	Growth opportunity	Growth opportunities
17	Clear career pathing	Growth opportunities
18	Managerial representation (race & gender)	Growth opportunities
19	Younger managers	Growth opportunities
20	Steppingstones - promotion opportunities	Growth opportunities
21	Organisatoriese struktuur wat genoegsame voorsiening maak vir bevordering - personeel motiveer	Growth opportunities
22	Com Serv. placement opportunities (EHPs)	Growth opportunities (Com Serv)
23	Zuma-jaar (compulsory community service year) wat toelaat dat OGP's vinniger deur die sisteem kan beweeg	Growth opportunities (Com Serv)
24	Compliance	Law enforcement (appropriate)
25	Respect - (Enforceability of compliance notices)	Law enforcement (appropriate)
26	Local to national legislation that speaks to each other (not conflicting / aligned)	Law enforcement (appropriate)
27	Enforcement	Law enforcement (appropriate)
28	Compliance	Law enforcement (appropriate)
29	Equipped with right legislation	Law enforcement (appropriate)
30	Know your legislation	Law enforcement (appropriate)

31	Wetstoepassing wat werk	Law enforcement (appropriate)
32	Clear guidelines (legislation interpretation)	Law enforcement (appropriate)
33	EHP law enforcement authority (impact - like police) - courts to issue fines - next time thinks twice	Law enforcement (appropriate)
34	Stricter law enforcement (alignment)	Law enforcement (appropriate)
35	Municipal legal support	Law enforcement (appropriate)
36	Good understanding of the regulations	Law enforcement (appropriate)
37	Standardisering van wetgewing (Standardisation of legislation)	Law enforcement (appropriate)
38	Full co-operation from LMs	LMs perform functions
39	LMs take up their responsibilities	LMs perform functions
40	Collaborator sisteem plaas onnodige administratiewe druk vir wetlike voldoening, maak nie voorsiening vir screening werk - effektiwiteit	Performance Man (beyond numbers)
41	Meeting van OGPs se werk moet nie net op wetlike voldoening gedoen word nie, maar ook vir veranderinge te weeg gebring deur goeie verhoudinge wat selfs reageer op minder coersive actions - nogsteeds effektief en bereik doel vinniger	Performance Man (beyond numbers)
42	Al hoekom ons stats doen is om ouens bo ons te laat goed lyk. Regulate the regulator	Performance Man (beyond numbers)
43	Maklik om 'n klerk te scrutinize, hoeveel fature het jy vandag geskryf (bv. 10) - dit was jou werkslading	Performance Man (beyond numbers)
44	Rêrig diens te lewer (Real service delivery)	Performance Man (beyond numbers)
45	Skuif die fokus van performance management na die uitvoering / dien die doel. Shift focus from pure performance management to the execution of services that serve its purpose [improve conditions in communities]. "Bottel water moet vol kom, maak nie saak hoe dit gebeur nie". PM meet die vol bottel, maar nie die kwaliteit nie." PM moet nie die alfa en omega wees nie. "Die pap val op die grond"	Performance Man (beyond numbers)
46	Integriteit word in twyfel getrek deur 'n vormpie as bewys	Performance Man (beyond numbers)
47	Measure outcomes to the service	Performance Man (beyond numbers)
48	Report writing cannot be disputed.	Performance Man (beyond numbers)
49	No political interference	Political interference (no)
50	Foreseeing things (forward looking)	Proactive service delivery
51	Predicting	Proactive service delivery
52	New emerging diseases	Proactive service delivery
53	Prevention is better than cure	Proactive service delivery
54	National needs to recognise us beyond a crisis	Recognition (EH)
55	Recognition	Recognition (EH)
56	Recognition	Recognition (EH)
57	Political recognition for EH profession	Recognition (EH)

58	Respect from communities	Recognition (EH)
59	EHPs well-compensated	Recognition (EH)
60	EHP with necessary background, qualifications and more - not just an EHP.	Recognition (EH)
61	Appreciation for the work we are doing, "again not based on thumb suck"	Recognition (EH)
62	Any involvement requiring the EHP, people will run to the EHP	Recognition (EH)
63	They (people) will know where the EHP is	Recognition (EH)
64	Need acknowledgement	Recognition (EH)
65	Opportunities to express ourselves (it is just not there)	Recognition (EH)
66	Onafhanklik te werk	Recognition (EH)
67	Erken dat ons het die kennis (ervaring)	Recognition (EH)
68	Salarisskale behoort personeel te motiveer	Recognition (EH)
69	Respect (public)	Recognition (EH)
70	Internal recognition	Recognition (EH)
71	Appreciation	Recognition (EH)
72	Recognition by wearing uniforms (Power / Authority)	Recognition (EH)
73	Safety and protection	Safety
74	Safety of EHPs	Safety
75	Inspections	Service delivery
76	Monitoring	Service delivery
77	Surveillance	Service delivery
78	Easy impact	Service delivery
79	Awareness & education	Service delivery
80	Continued health education	Service delivery
81	Changing lives	Service delivery (sustainable)
82	Com protection	Service delivery (sustainable)
83	Good sanitation	Service delivery (sustainable)
84	Adequate (effective) water	Service delivery (sustainable)
85	Proper waste removal	Service delivery (sustainable)
86	Basic services are compliant	Service delivery (sustainable)
87	No illegal dumping	Service delivery (sustainable)
88	Healthy and safe environment for public	Service delivery (sustainable)
89	Maintenance of good (ideal) standards	Service delivery (sustainable)
90	Frequent monitoring of basic services	Service delivery (sustainable)
91	Not going (falling) back	Service delivery (sustainable)
92	Evidence-based responses and intervention by EH (research-based) Move beyond "Big brother" (verbs of Identify, Evaluate, but lack words like implement) - referring things to other departments, but never take it in your own hands	Service delivery (sustainable)
93	Monitoring and referrals are based on research / evidence based, not thumb suck	Service delivery (sustainable)
94	Langtermyn blootstelling in area bou verhoudinge en kry vertrouwe in area	Service delivery (sustainable)

95	Kontinuiteit in area - bou verhoudinge - publiek is jou kliënt	Service delivery (sustainable)
96	Landelike en stedelike gebiede het verskillende eise - aanpasbaarheid	Service delivery (sustainable)
97	Eweredige verspreiding van werkslas en reverdige prestasie meeting. Die met 1000 persele word oor selfde kam geskeer as die met 500 persele	Service delivery (sustainable)
98	Kontinuiteit bou vertroue op - jy hoef nie probleme te soek, mense bel vir my as daar probleme is	Service delivery (sustainable)
99	Bou verhoudinge / vertroue - mense vrymoedigheid om jou te nader vir advies - almal weet wie ek is en waar om my te kry	Service delivery (sustainable)
100	Kontinuiteit baie belangrik - "As mense by jou uitkom weet hulle, hulle word gehelp"	Service delivery (sustainable)
101	Hoe sien jy jou werk - publiek is jou kliënte - jy is daar om hulle te bedien met kennis	Service delivery (sustainable)
102	Vertroue - fabriek doen recalls op my screening monsters (patogene), alhoewel hulle geakrediteerde labs intern het	Service delivery (sustainable)
103	Consistency	Service delivery (sustainable)
104	Voorkoming	Service delivery (sustainable)
105	Planning	Service delivery (sustainable)
106	Improved health	Service delivery (sustainable)
107	Clean environment	Service delivery (sustainable)
108	Making a difference	
109	Inter-provinsial (DMS) functional level EHP Forum	Staff capacitated
110	Knowledge is key	Staff capacitated
111	CPD opportunities	Staff capacitated
112	Sharing information & convincing others based on research & monitoring done by the EHPs themselves	Staff capacitated
113	Opleiding (kurrikulum) moet wyd en toepaslik wees om EHP agtergrond te gee (boubesker) en tegnologie	Staff capacitated
114	Blootstelling in alles (verskeidenheid) om op hoogte te bly - laat toe vir geografiese rotasie van personeel	Staff capacitated
115	Training	Staff capacitated
116	Know your field	Staff capacitated
117	Regular training	Staff capacitated
118	Happy EHP	Staff capacitated
119	Enough human resources	Staffing (appropriate)
120	Genoeg personeel	Staffing (appropriate)
121	Enthusiasm to do work	Support (internal & external)
122	Cooperation	Support (internal & external)
123	Support	Support (internal & external)
124	Appreciation from management	Support (Top Man)
125	Managers open for ideas	Support (Top Man)
126	Research based approach of EHPs	Support (Top Man)

127	Allow us (EHPs) to raise issues with our directors (Access to top management)	Support (Top Man)
128	Hear our feelings - proper communication	Support (Top Man)
129	Recognition (managers)	Support (Top Man)
130	Sympathy	Support (Top Man)
131	Empathy	Support (Top Man)
132	Trust	Support (Top Man)
133	Motivation	Support (Top Man)
134	Appropriate PPE (timely)	Tools of Trade (appropriate)
135	Better car scheme	Tools of Trade (appropriate)
136	SOPs in place	Tools of Trade (appropriate)
137	Provide us with resources	Tools of Trade (appropriate)
138	Right tools	Tools of Trade (appropriate)
139	Communication - functioning equipment, connectivity in satellite offices	Tools of Trade (appropriate)

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*MHS Middle Management ideal circumstances (FGs 7-10)*

**Responses to the question: Think about the EHP's work in ideal circumstances, what comes to mind first?**

<b>Order</b>	<b>Responses</b>	<b>Coding</b>
1	Samehorigheid	Collaboration
2	Perfekte verhoudinge	Collaboration
3	Samehorigheid	Collaboration
4	Samewerking tussen LMs and DMs	Collaboration
5	Sawewerking tussen & met die verskillende departemente	Collaboration
6	Moenie krap waar dit nie jeuk nie	Collaboration
7	Kommunikasie	Communication
8	Shorter lines of communication - Top management hierarchy - fragmentasie frustrasie	Communication
9	Follow lines of communication	Communication
10	Krisis-afhanklik	Crisis management (beyond)
11	Effektiwiteit	Crisis management (beyond)
12	Eerste wêreld standaard is ideaal	First world standards (ideal)
13	EHP loop in winkel in en as nie reg is, maak deur toe.	First world standards (ideal)
14	EHPs kan wetgewing toepas	First world standards (ideal)
15	Enough budget	Funding (appropriate)
16	Sufficient resources & tools	Funding (appropriate)
17	Spesialisasie	Growth opportunities
18	Specialised EHPs	Growth opportunities
19	Bevorderings geleentheid	Growth opportunities
20	Clear career paths	Growth opportunities
21	Betrek OG in formulering van nuwe (sektorale) wetgewing	Higher authorities (support)
22	Betrokkenheid van provinsiale departemente	Higher authorities (support)
23	Elke sweer van regering aanvaar hulle verantwoordelikheid	Higher authorities (support)
24	Immediate adherence	Law enforcement (appropriate)
25	Appropriate diversity challenge management (compliance enforcement)	Law enforcement (appropriate)
26	Persuasion (facilitate co-operation) instead of law enforcement	Law enforcement (appropriate)
27	MHSs be centrally located - Health/Local Government (unwanted stepchild)	MHS positioning (LMs; National - step child)
28	MHS placed at LMs	MHS positioning (LMs; National - step child)
29	Moes bly by B Mun - vervreem van funksies	MHS positioning (LMs; National - step child)
30	Netwerke bou, uitbou en instandhouding	Networking
31	Betrokkenheid, skakeling met groter forums soos boereverenigings, ACVV, community groups, schools - by instansies skep geleentheid om beïnvloeding te verhoog	Networking
32	Bemaking van beroep in groter gemeenskaps instansies	Networking
33	Bekendstelling van beroep -	Networking
34	Bewusmaking van gemeenskaps organisasie om te weet wat, hoe en waar hulle die EHP kan kry	Networking

35	Geen red tape	No redtape
36	Geen politieke inmenging	Political interference (no)
37	Acknowledgement by local government	Recognition (EH)
38	Erkenning	Recognition (EH)
39	Erkenning van EHP rol in COVID (President) "Soos dolk in my hart, elke slag as President die drs, nurses, traffic & SAPS uitlig, maar niks van ons gesê word nie"	Recognition (EH)
40	Erkenning kry vir ons kwalifikasie	Recognition (EH)
41	Hanteer ons soos professionele mense	Recognition (EH)
42	Magte moet erken word	Recognition (EH)
43	Ordentelike betaling	Recognition (EH)
44	Regte posvlakke en standaard	Recognition (EH)
45	Beroepsraad moet leiding neem vir erkenning van EHPs	Recognition (EH)
46	Be identified as MHS	Recognition (EH)
47	Recognition	Recognition (EH)
48	Veiligheid	Safety
49	Plaaslike munisipaliteite moet hulle dienste lewer	Service delivery
50	Profiling of area (know your area)	Service delivery
51	Batho Pele beginsels	Service delivery
52	Dienslewering	Service delivery
53	Eenvormigheid	Service delivery
54	Samewerking tussen DMs - OG standardiseer	Service delivery
55	Ideal community based projects	Service delivery
56	Groei, ontwikkeling en bevordering in beroep en gemeenskap wat ons bedien. Huidig werk ons op re-aktiewe manier en in ideale omstandighede kan ons op pro-aktiewe voet kom	Service delivery
57	Pro-aktief te werk gaan	Service delivery
58	Vooruit beplan	Service delivery
59	Inligtingsessies om die publiek op te voed.	Service delivery
60	Service level agreement	Service delivery
61	Geen duplisering van dienste	Service delivery
62	Job satisfaction	Staff capacitated
63	Opleiding van EHPs voorgraads)	Staff capacitated
64	Training vir managers	Staff capacitated
65	Knowledge sharing met jong EHPs "Outshine"	Staff capacitated
66	Deel best-practice ervarings (hanteer van pandemie)	Staff capacitated
67	Delegering van take	Staff capacitated
68	Training: Time management	Staff capacitated
69	Training: Conflict resolution	Staff capacitated
70	Training: Human resource management	Staff capacitated
71	Weet hoe funksioneer 'n span	Staff capacitated
72	2020 MHS - benchmark geskep (internasionaal) - Voorbeeld	Staff capacitated
73	Krisis - Help ID kollegas met leierseienskappe - "kan sien wie se harte is in hulle werk"	Staff capacitated
74	Tevrede personeel	Staff capacitated
75	LM personeel (front desk) weet na wie om te verwys	Staff capacitated
76	Well trained EHPs	Staff capacitated
77	Positive staff	Staff capacitated

78	Ongoing training and development	Staff capacitated
79	Meet EHP to population ratio (1:10 000)	Staffing (appropriate)
80	Genoeg EHPs - hou by frekwensies	Staffing (appropriate)
81	Genoeg personeel	Staffing (appropriate)
82	EHP to population ratio - 1:10 000	Staffing (appropriate)
83	Enough staff	Staffing (appropriate)
84	Sufficient resources & tools	Staffing (appropriate)
85	Weet wat in jou area aangaan - "voetwerk" - gaan saam met jou ouens uit - sien waarom hulle kla.	Support (internal & external)
86	Bou verhouding met personeel (Mnr K - voorbeeld)	Support (internal & external)
87	Entoesiasme (verloor) - vaardigheid om staff positief te hou.	Support (internal & external)
88	Goeie verhouding met personeel	Support (internal & external)
89	Positiewe verhouding in area	Support (internal & external)
90	Afwenteling van dienste na MHS	Support (internal & external)
91	Management training	Support (Top Man)
92	Professionele leierskap	Support (Top Man)
93	Top management support	Support (Top Man)
94	Support van bo (direkteure)	Support (Top Man)
95	Top bestuur wat tred hou met wat in veld gebeur	Support (Top Man)
96	Dubbel standaardde van bestuur	Support (Top Man)
97	Strong leader at top level	Support (Top Man)
98	COVID het gewys na leemtes - wat bestaan in bestuur op alle vlakke - dié wie se harte in hulle werk is, en daai wat daar is net vir wat dit vir hulle inhou	Support (Top Man)
99	Selfone - tools of trade & security challenge	Tools of Trade (appropriate)
100	Sufficient resources & tools	Tools of Trade (appropriate)
101	Purposive vehicles (Gepaste voertuie)	Tools of Trade (appropriate)
102	Integriteit	Support (Top Man)
103	Vertroue	Support (Top Man)

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*MHS Top Management ideal circumstances (FG 11)*

**Responses to the question: Think about the EHP's work in ideal circumstances, what comes to mind first?**

Order	Responses	Coding
1	OG benodig bystand van alle regeringsvlakke en departemente - hulle het ander fokuspunte wat weer ander druk op OG plaas om ander sphere /departemente se doelwitte te bereik	Collaboration
2	Inmenging van ander departement op OG - vat funksies af wat by OG behoort het	Collaboration
3	Areas wat almal voldoen in terme van infrastruktuur	Compliance
4	Geleentheid vir strategiese besluitneming - beweeg verby krisisbesluitneming - Resources - ratio van 1:0 000 moet in wetgewing vervat word. - wanneer konstant onder druk kan nie evalueer, situasies ontleed om strategiese besluite te neem nie	Crisis management (beyond)
5	Geld wat vir nonsensical dienste wat net polities aandag trek en nie bydra tot dienslewering nie, maar deur al LMs geld ontvang terwyl OG net by DMs is en ook nie voldoende befondsing ontvang nie. Die kollektief vir all LMs maak dat die funksies eksponensieel meer befondsing kry.	Funding (appropriate)
6	Genoegsame befondsing - kan werk dan beter doen	Funding (appropriate)
7	Duidelikheid kry tussen Gesondheid en CoGTA - kannie 2 gode dien nie - hulle moet sê wie is die belangrikste	Higher authorities (support)
8	Vertroue nodig van hoër gesag wat begin by HPCSA, NDoH, SALGA ens - want besluite word geneem tydens kongresse en hulle weet wat is ons issues, maar dit word nie uitgevoer nie	Higher authorities (support)
9	Ondersteuning van hoër gesag waartoe OG kan gaan as dienste nie voldoen nie op plaaslike vlak bv. - konstante rioolstortings en gebrek aan ondersteuning en samewerking van LMs - Verwag van Provinsiale & Nasionale Gesondheid waar OG kan rapporteer en weet dat ondersteuning is beskikbaar om verskil teweeg bring	Higher authorities (support)
10	Standardisering van KPIs vir elke DM met voorsiening vir unieke KPIs - vir gebruik om tendense te sien en om hoër gesag te beïnvloed om verandering teweeg te bring belangstelling te kweek in OG	KPIs - institutional commitment
11	B Munisipaliteite wat druk afhaal deur hulle funksies te vervul	LMs perform functions
12	Groter salarisse	Staffing (appropriate)
13	Voldoende personeel kapasiteit	Staffing (appropriate)
14	EHP tot population ratio moet in wetgewing vervat word soos brandweer / disaster management - geen verdere navrae - net voldoenning	Staffing (appropriate)
15	Meer werksgroep vergadering saam hou	Support (internal & external)
16	Zoom vergadering (Tegnologie) maak dit moeilik - In verlede kon meer tyd eenkant sit in persoon met ons werkgroep vergaderings	Support (internal & external)
17	Strategiese beplanning doen in werksgroep	Support (internal & external)
18	Voldoende administratiewe ondersteuning	Support (internal & external)
19	Ondersteuning van alle personeel	Support (internal & external)
20	Tools of the trade	Tools of Trade (appropriate)
21	Regte toerusting	Tools of Trade (appropriate)

## Appendix L: EHP Needs and reasons for needs (issue) - Functional Level EHPs (FGs 1-6)

Priority Order	EHPs Needs	Final (P-Index)	Issues listed per need (N=44)
1	Growth	8.3	3
2	Resources (Staff)	8.0	1
3	Authority	7.0	1
4	Leadership	6.6	4
5	Communication	6.1	3
6	Cooperation	5.6	1
7	Finance	5.5	3
8	Recognition	5.3	2
9	Legislation	5.0	3
10	Security	4.7	2
11	Resources (ToT)	4.6	13
12	Training	4.6	6
13	Professional	2.8	2

### 1. Growth (N=3)

**P-Index  
8.3**

FG 3&4	Issues 1 & 6: Growth opportunity & Staff benefit disparities - Standardisation (Growth)	Reason
		<ol style="list-style-type: none"> <li>1 Lack of training support to boost promotion opportunities - lacking promotion opportunity internally then at least one can compete outside [for senior positions]</li> <li>2 EHPs are sitting in positions for 30 years still being junior EHPs</li> <li>3 Use own money to do things</li> <li>4 Don't have knowledge about new developments - CPD etc, no support - own cost</li> <li>5 Training opportunities are there, but they never used it. For example, participant P21 attended air quality training and EMI training in 2007, not being used - Posts not created - just don't get opportunity to use it</li> <li>6 No growth under air quality - Only a manager but don't appoint people under the person. You have done training and sit with qualification, but no appointments happen</li> <li>7 Send us on management courses but we don't use the management skills</li> <li>8 Report produced about morale of staff - but EHPs sit for 30 years in same positions</li> <li>9 All EHPs throughout the country should get the same salaries, car allowances and benefits. - Look at adverts from other municipalities from south to north. Huge differences in benefits. E.g., car allowances in City are much higher than ours.</li> <li>10 Unfair treatment</li> </ol>

<b>FG 5</b>	<b>Issue 1: Growth opportunity</b>	<b>Reason</b>
		12 No growth opportunities - limited Senior EHP posts
		13 Standardisation of EHP post levels across municipalities

## 2. **Resources (Staff)** (N=1)

**P-Index**  
**8.0**

<b>FG 1&amp;2</b>	<b>Issue 1: More EHPs</b>	<b>Reason</b>
		14 Overburdened EHPs
		15 Not meeting the 1:10 000 norm
		16 Cannot serve entire area
		17 Become selective
		18 SDBIP pressures - meeting targets

## 3. **Authority** (N=1)

**P-Index**  
**7.0**

<b>FG 1&amp;2</b>	<b>Issue 4: Enforcement powers</b>	<b>Reason</b>
		19 Political interference in closing premises - non-compliance continues
		20 Take for ever for EHPs - they are wrong when they enforce
		21 Other departments can close

## 4. **Leadership** (N=4)

**P-Index**  
**6.6**

<b>FG 1&amp;2</b>	<b>Issue 3: Proper leadership</b>	<b>Reason</b>
		22 Need assistance with difficult decisions - cannot help then it comes back to you
		23 Lack of support from management
		24 When you go to your superior, nothing is happening. It just stops there

<b>FG 3&amp;4</b>	<b>Issue 6: Management support &amp; recognition</b>	<b>Reason</b>
		25 Problem experience by EHPs - Executive director doesn't know what is going on in Env. Health
		26 Women working in unsafe areas without support
		27 I should be safe - Security - crime
		28 Need to have my resources to fulfil my job
		29 I expect support from my management - if I don't get support from them - we supposed to have SOPs that should tell EHPs what to do, we don't have that- I must use my personal cell phone to take pictures, who's cell phone is this? At the end, your cell phone gets stolen, who is going to pay for this?
		30 Management doesn't know what we are doing, they just see us, we drive around
		31 Need management to understand our work - we are not just driving around for fun
		32 We have a lot of challenges that stress us, we even take those stresses sometimes to our houses, based on the things that are happening where we are working

<b>FG 3 &amp; 4</b>	<b>Issue 3: Strategic planning - excludes EHPs</b>	<b>Reason</b>
		33 EHPs should sit in at strategic planning for management to hear what we experience
		34 Identify problems in advance
		35 Can raise all these issues raised by EHPs affecting our growth opportunity, basic needs for tools of trade, cell phones, communication etc.
		36 Top management to respond in our presence on issues affecting us and service delivery
		37 E.g., tablets were procured but we cannot use it. If we could influence the decisions on what we really need - we are getting things that we cannot practically use in the field, however, decisions are taken and applied in general in the organisation

## 5. Communication (N=3)

**P-Index  
6.1**

<b>FG 1 &amp; 2</b>	<b>Issue 7: Current (Recent) information</b>	<b>Reason</b>
		38 3rd wave of COVID - not sufficient information - do we need to change?
		39 Strain
		40 Makes it difficult - we need to inform communities
		41 Need research group for EHPs - work closer and learn from each other
		42 Scare people in media and we don't have most recent and sufficient information to properly inform communities
		43 Transparency - public think we hide issues from them to achieve other outcomes
		44 Need to get co-operation from them [communities]
<b>FG 3 &amp; 4</b>	<b>Issue 4: Timeous communication</b>	<b>Reason</b>
		45 Time limit for information to get through - last minute response [crisis management]
<b>FG 5</b>	<b>Issue 5: Connectivity</b>	<b>Reason</b>
		46 Get messages out in good time to customers - not to create unnecessary bottlenecks - block work
		47 Time consuming to wait for connection until they are available
		48 Can't do monthly online eCPD training
		49 Difficult to quickly search for information
		50 Speedy connectivity - very slow and intermittent
		51 Effective communication

<b>6. Cooperation (N=1)</b>	<b>P-Index</b> <b>5.6</b>
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<b>FG 1 &amp; 2</b>	<b>Issue 10: Sectoral Cooperation</b>	<b>Reason</b>
		52 Municipal departments do not work together with each other
		53 Co-operation needed internal and external to deal with issues that fall within the local municipality's functions
		54 Communication required with all departments
		55 Internal and external IGR and local level with departments

<b>7. Finance (N=3)</b>	<b>P-Index</b> <b>5.5</b>
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<b>FG 1 &amp; 2</b>	<b>Issue 6: Budget</b>	<b>Reason</b>
		56 Sampling
		57 Can appoint more EHPs, we need more, but because of the budget we cannot
		58 Awareness campaigns
		59 Successful implementation of projects
		60 Regulation 638 requires (mandate) you have to do education as part of your work

<b>FG 5</b>	<b>Issue 6: More money</b>	<b>Reason</b>
		61 Pay overtime
		62 Post levels
		63 Increased petrol prices - timeous adjustment from SALGA / SALGBC - once a year - running costs are not monthly adjusted as the petrol price fluctuates
		64 Training for EHPs - CPD - AOSIS - No other training
		65 Need training equipment to conduct education / awareness in communities
		66 Legislation changes quickly - does not get in-depth training like a university training on it
		67 Norms and standards requirements
		68 Help standardisation

<b>FG 6</b>	<b>Issue 1: Enough funds</b>	<b>Reason</b>
		69 Equipment
		70 PPE - purposive
		71 Traveling allowance - geskikte voertuig / purposive vehicle or purposive pool vehicle(s)
		72 Support projects in community
		73 Dress code / Uniform - assist with enforcement responsibilities - create level of respect / recognition - visibility - marketing

8. **Recognition (N=2)****P-Index  
5.3**

<b>FG 1 &amp; 2</b>	<b>Issue 2: Recognition</b>	<b>Reason</b>
		74 No evaluation for effectiveness - just push numbers
		75 Health education during COVID - pushing only for numbers - reported 20 health education done - but how effective - Example cited where Xhosa speaking EHP working in Afrikaans speaking area and normally uses colleagues to assist with health education awareness presentations - during COVID all was pressurised to run numbers - "I used Afrikaans pamphlets to distribute, but I could see during my presentations that the community does not follow at all and understand. But we provided the numbers. Although we provided figures of 20 education sessions, I only did three - how could I explain to my superiors that I only did three?
		76 Erken EHP se werk in die hele land soos met ander professies
		77 President is not even mentioning EHPs - only make mention of doctors, nurses, SAPS, military during COVID pandemic
		78 Prevention is better than cure - We identify issues
		79 Shortage of staff, and resources, lack of support by management are related to a lack of recognition
		80 Bring new Com Serv EHPs in to assist
		81 Contact tracing focused - do not support prevention
		82 Makes it difficult for EHPs to get issues solved
		83 It is just quantity over quality - how much have you done?
		84 No interest in changes created

**FG 1 & 2 Issue 14: Respect (Experience)****Reason**

- 85 Respect in communities
- 86 Assist younger colleagues
- 87 EHPs were respected in past
- 88 Younger generation causes the problem - we do not write notices
- 89 We are not patient to go to police - provide proof - Be consistent till you get results
- 90 Racial challenges - EHPs not trained to deal with racial issues
- 91 Younger ones don't want to learn from older one's experience
- 92 Share experiences - go to the more experienced and learn from them
- 93 Enforcement = conflict

9. **Legislation (N=3)****P-Index  
5.0**

<b>FG 1 &amp; 2</b>	<b>Issue 8: legislation</b>	<b>Clear</b>	<b>Reason</b>
			94 Too many grey areas - clever persons ID grey areas to sidestep what you need to enforce
			95 National and provincial legislation speak against each other
			96 Interpretation and enforcement challenges
			97 Residential area next to agricultural zoned area
<b>FG 5</b>	<b>Issue 4: Clear legislation</b>	<b>Reason</b>	
			98 Changing environment - require legislation to also change accordingly

		99	Changing legislation make law enforcement difficult
		100	Opposing legislation- contradictions - COVID 19 - quick changes resulted in giving EHPs and funeral parlours different messages
		101	No unit in municipality to keep track of all legislation and changes
		102	Time management issues - to search around
		103	Need for training on new legislation
<b>FG 6</b>	<b>Issue 5: User friendly legislation (applicability)</b>	<b>Reason</b>	
		104	Applicability of the legislation to make provision for formal and informal settings - need clear guidelines how to apply it
		105	Narrative part of bylaws should describe issues such as floor colour etc.
		106	Need guidelines for interpretation of regulations and bylaws
		107	Legislation should deal with current reality - application with hawkers etc.

## 10. Security (N=2)

**P-Index**  
4.7

<b>FG 1 &amp; 2</b>	<b>Issue 12: Safety (Security)</b>	<b>Reason</b>	
		108	Doggy areas where we need to do inspections
		109	We should take male colleagues with, whilst not all offices do have males or very limited number of them
		110	Difficult to go to [risky] areas that you are sure you are not safe
		111	Young / new EHPs acceptance in communities - various issues in communities - security related issues - people dealing with drugs view you as spying them. Even though the EHP is doing his own job, community is suspicious on why this person is always around my business
		112	Foreign nationals - especially only a group of men in business - you are scared when going alone - rush your inspection because they can at any time close the door after you
		113	Taking samples at isolated places - you can slip and fall in
		114	Also, some surveillance places are doggy
		115	Wanted to close shop - guy had a knife
		116	Go to police
		117	You are coming with excuses - selective inspections
		118	Our lives are constantly in danger
		119	Share information
		120	Escalate your issue if you don't feel safe
		121	Take responsibility and ask for help

11. Resources (ToT) (N=13)			P-Index 4.6
FG 1 & 2	<b>Issue 5: Resources (Purposive Cars)</b>	<b>Reason</b>	
		122	Mixed areas that require also 4x4s or high-rise vehicles
		123	Rural areas are mountainous, gravel roads, muddy
		124	Cannot reach all the communities
		125	Selective service delivery
		126	We do have cars, share in 'essential user car scheme', but it is not enough to purchase a high-rise vehicle or 4x4 to reach all the communities. Schemes are not supportive
		127	Cargo of sizeable equipment e.g., banners that cannot fit in smaller car
		128	Reliability of vehicles small vehicles on muddy road
		FG 6	<b>Issue 4: Sampling equipment</b>
129	Old equipment - cannot trust results		
130	Not sufficient equipment for all EHPs		
131	Need good quality equipment to trust results and for consistency		
132	Need to do onsite monitoring		
133	Need thermometers		
134	Tape measures -		
FG 1 & 2	<b>Issue 15: [Proper] Sampling equipment</b>	<b>Reason</b>	
		135	Don't always get it
		136	Trust results
		137	Performance management targets must be met - for number of samples - require quick results
		138	No thermometer - cooled food - not sure
		139	No measuring tape to ensure appropriate occupation levels - etc.
		140	No blue torch to sterilise before water sampling
FG 3 & 4	<b>Issue 2: Cell phones (official/amptelik)</b>	<b>Reason</b>	
		141	Public cannot easily reach you, only have an office telephone.
		142	Security issues when we have a breakdown and visit areas
		143	We must use our own money to get cell phones, but we use it to phone people and take photos of conditions when doing inspections
		144	The vision of municipality is efficiency, yet, when I come back after a 150km drive from an investigation, I received a message at the office there is a complaint in that same area, requiring me to travel back to deal with the issue, using DM transport
		145	Administration people in the office are equipped with official cell phones
		146	Mense wat in kantoor sit het [amptelike] selfone
		147	When I do routine inspections and notice an incidence e.g., sewage spillage that was not there yesterday, I cannot always go back to the office where camera is locked up. Then I use my private phone

		148	Landelike gebied - kom voor geslote hek met nommer op. Bel met my privaat foon, en as ek nie persoon kry, bel hy my vannaand op my privaat foon by huis vir werks reëlings
		149	Om ons werk te vergemaklik
		150	In 2000 reeds gemotiveer vir R50 toelaag vir OGPs, maar net bestuur wat by telefone sit is met amptelike selfone uitgereik, ons wat elke dag uitgaan het nie
		151	Ons wil nie rond bel nie, jy kom net by toe hek, jy wil net ou binne bel om te sê hy moet oop maak, want jy het sy selfoon, want nie alle plase het interkoms by hekke nie
<b>FG 5</b>	<b>Issue 7: Individual office accommodation</b>	<b>Reason</b>	
		152	Cannot sit in vehicles
		153	Open space office - security of information
<b>FG 6</b>	<b>Issue 6: Office equipment</b>	<b>Reason</b>	
		154	Need scanner / photostat machine in satellite office - closest one is in head office about 25 km away
		155	Need to do many copies - cannot drive to head office every day
		156	Need to travel to head office to make copies - time consuming and not cost-effective
		157	Admin frustration
<b>FG 6</b>	<b>Issue 3: Kantore (ligging &amp; toestand)</b>	<b>Reason</b>	
		158	Location and condition of offices - share offices with roads division on outskirts of town - noisy, fumes, telephone, and cell phone connectivity challenges -
		159	Not easily accessible for local communities and neighbouring towns we serve to visit us - EHPs servicing rural communities and other towns
		160	Frustrating communities - people don't visit us as often as in the past when we were situated in town. Cannot report issues - not transport. Other people traveling from afar just to realise we are not in the offices - busy with inspections. Could not reach us per telephone due to connectivity issues at the offices and when we are out in the field
		161	We educate communities, and deal with compliance enforcement issues about good sanitation practices etc, yet our own offices are not meeting the requirements - mouldy, wet, toilets not maintained
		162	Share offices with other departments e.g., roads, disaster etc that need to go through their routines very day to test for example sirens, start heavy vehicles to warm up with diesel fumes all over and load noise
<b>FG 1 &amp; 2</b>	<b>Issue 13: PPE (Purposive)</b>	<b>Reason</b>	
		163	Male type PPE given also to ladies - supply chain lists
		164	PPE - hard toed shoes - not necessary for EHPs - supply chain specifications require revision - heavy, not always practical for EHPs
		165	EHPs are not working on roads or lifting heavy stuff or working with concrete slabs etc.

		166	Purposive shoes e.g., for wet conditions, inspections at milking parlours and sampling during winter conditions.
		167	On time when you need it
		168	Adequate PPE
		169	EHPs should wear hardnosed PPE shoes - to heavy - no need for such
		170	Correct PPE for need - SCM only procure certain type of PPEs not suitable for our conditions
<b>FG 3 &amp; 4</b>	<b>Issue 9: Doelmatige beskermende klere (PPE)</b>	<b>Reason</b>	
		171	Skoene en baadjie toelaag, soos paaie werkers wat in winter werk, werk ons ook in die winter in reën en sneeu op plase waar ek enkeldiep in nat gras loop (melkstal inspeksie). Skoene en kouse is pap nat. Baadjies is nie reën bestand
<b>FG 5</b>	<b>Issue 3: PPE</b>	<b>Reason</b>	
		172	Safety boots not provided - we need to take samples in risky areas - at river
		173	They can provide us with allowance for safety cloths - like for nurses
		174	Don't have any protective clothing
		175	Protection
		176	On specific days - certain actions

## 12. Training (N=6)

**P-Index  
4.6**

<b>FG 1 &amp; 2</b>	<b>Issue 9: Training (On the job)</b>	<b>Reason</b>	
		177	EHPs stuck as meat inspector get EHP job - Probation period - On the job training for specific area on an EHP
		178	Ensuring training opportunities granted to all interested
		179	3x denied for training - I am here for eight years already
		180	Inform all in time about training - not regular circulating
		181	Type of training based on what is expected to be done - was forced to do OSH Act
<b>FG 3 &amp; 4</b>	<b>Issue 8: Empowerment - Ken jou vakgebied / wetgewing</b>	<b>Reason</b>	
		182	Goed verander
<b>FG 3 &amp; 4</b>	<b>Issue 7: Doelmatige opleiding</b>	<b>Reason</b>	
		183	Kry informeel inligting via 'n funksionele kollega, kry nie goed somer van hoofde nie
		184	Om op hoogte van vakgebied te bly moet daar meer geleenthede geskep word om ordentlike opleiding te gee
		185	Raad kry baie maal mense wat nie opgewasse is in die vakgebied wat oorsigtelike inligting deel wat hulle <i>ge-memorise</i> het
		186	Moet mense kry wat werklik kundig is op die gebied van omgewingsgesondheid

- 187 Hoofde stuur baie maal goed aan "For your information", wanneer jy daardeur lees dan hou dit geen verband met ons vakgebied nie
- 188 Jy moet dwarsdeur jou loopbaan op hoogte wees. CPDs. Jy kan nie net op CPDs gaan nie. Moet van tyd tot tyd in klas opset opleiding kry en veral oor wetgewing
- 189 Hulle wil jou leer hoe om Engels te praat, sulke simpel goed
- 190 Alhoewel ons baie aktiewe opleidingsafdeling het, ek werk in fabrieksomgewing waar nie alle OGP's werk met ISO 20000 en ISO 24 000 [ ] wat nie ons standaard wetgewing is nie. Ons het al gevra vir ...opleiding, maar tot vandag toe het ons nog nie. Al wat hulle sê, julle is 52 OGP's, wat dit nie nodig het nie, daarom het julle dit ook nie nodig nie, alhoewel ek in fabrieksomgewing werk waar nie een van die ander werk nie
- 191 Ander kollegas, alhoewel hulle nie nou met fabriek werk nie, wat ook graag daardie kennis wil hê, want wanneer hulle daardie geleentheid kry om in so area te werk blootstelling kry, sodat hulle dit dan kan doen
- 192 Die industrië waar ek werk, werk nie met die gewone voedsel en ander wetgewing nie, hulle werk met internasionale standaarde. Daarom, my opleidingsbehoefte behoort my kapasiteit te bou. Die besluitnemers wil dit nie toelaat nie

**FG 3 & 4 Issue 10: Mense skills (Human behavioral skills)**

**Reason**

- 193 Ons is baie afhanklik van menseverhoudinge om ons werk gedoen te kry
- 194 Ons moet weet hoe om met mense te werk
- 195 Daai eerste kontak wat jy met iemand het maak baie keer die groot verskil
- 196 Jy kom professioneel voor

**FG 5 Issue 2: Appropriate training for EHPs**

**Reason**

- 197 Help EHPs to standardise their interpretation of legislation
- 198 Constant changes in policy environment requires dedicated training

**FG 6 Issue 2: Training (Not eCPD - other formal refresher)**

**Reason**

- 199 Stay current
- 200 Continual training
- 201 Constant new developments
- 202 Equip us with new information - COVID
- 203 Previously we attended forums - more training opportunities
- 204 Flooded with information but must do more practical training
- 205 Feel cut off / left behind
- 206 Competing for positions - should be able to show growth

13. **Professional (N=2)****P-Index  
2.8**

<b>FG 6</b>	<b>Issue 7: Uniforms</b>	<b>Reason</b>
		207 Recognition
		208 Respect
		209 Marketing (career stagnation) - EHP walk in community - child will ask who this is?
		210 Assist with law enforcement role - showing ID card does not have same effect as wearing uniforms -
<b>FG 1 &amp; 2</b>	<b>Issue 11: Independence</b>	<b>Reason</b>
		211 Continuity, as professional we are registered in independent practice
		212 You can explore and put practical things in place
		213 Sufficient input can be given so you can come up with the report and people (referring to management) should look at how they should support it instead of crushing it
		214 So much unnecessary control
		215 Do that, do that..., who is doing that and that... You don't have space to look after your community, externalities, and your approach
		216 You write and someone is just changing it
		217 SDBIP - targeting certain things selective statistical information - does not cover our nine functions

## Appendix M: Middle Management EHPs Focus Groups 7 - 10: Needs and reasons for needs (issue) (FGs 7-10)

Priority order	MHS Middle Management Needs	Final (P-Index)	Issues listed per need (N=35)
1	Security	8.5	1
2	Growth	7.9	1
3	Law enforcement	7.5	2
4	Service delivery	7.3	1
5	Professional	7.0	2
6	Communication	6.6	1
7	Leadership	6.1	5
8	Resources (Staff)	5.7	4
9	Recognition	5.5	7
10	Finance	5.0	4
11	Resources (ToT)	2.9	5
12	Training	0.3	2

### 1. Security (N=1) P-Index 8.5

#### FG10 Issue 4: SLA with SAPS - EHP security

#### Reason

- 1 Safety of EHPs, especially females conducting inspections - need protection
- 2 Selectively service safe areas and bypass risky areas
- 3 Need to be a regular management arrangement
- 4 EHPs get intimidated by gangsters - need SAPS support

### 2. Growth (N=1) P-Index 7.9

#### FG9 Issue 1: Groei geleentheid (Growth opportunity)

#### Reason

- 5 Beste motiveerder vir iemand in hierargie - as jy moet kompeteer vir hoër pos gaan jy *perform* om meer te kry
- 6 Gaan net deur die *motions* - nie kompetisie op junior vlak - personeel (met uitsondering) doen net wat verwag word - doen nie ekstra nie
- 7 Motivering
- 8 Stagneer - geen groeigeleentheid of *scope* in organisatoriese orde nie
- 9 EHP werk al 30 jaar as EHP - nie ander spesialis geleenthede nie
- 10 Wanneer interne bestuurs pos beskikbaar kom kan sulke persone nie kompeteer teen eksterne aansoeke wat ook inkom, want EHPs het nog nie in senior posisies gewerk in bestuursposisie nie - nie kompetender nie
- 11 Wag tot hoof aftree tot geleentheid kan skep

<b>3. Law enforcement (N=2)</b>	<b>P-Index 7.5</b>
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**FG9 Issue 2: Munisipale hof (Municipal Court) - Law enforcement unit**

- Reason**
- 12 Positiwiteit van personeel - howe ag nie omgewingsgesondheid aangeleenthede as prioriteit - lang uitgerekte prosesse om sake voor te bereien dan word dit nie aangehoor nie - moet dan weer van voor af sake opbou - gemeenskap gaan voort met nie voldoening - maak wetstoepassing baie moeilik om omgewingsgesondheidsrisikos onder beheer te kry
  - 13 Law enforcement van EHPs beter toegepas kan word en geprioritiseer kan word- onmiddellik deurgevoer kan word
  - 14 Sodat gemeenskap weer respek het vir EHPs se werk en beter samewerking te bewerkstellig
  - 15 Ons blaf net / gemeenskap vat ons nie ernstig as daar niks met buurman gebeur nie
  - 16 Nie onmiddelike tande nie
  - 17 EHP wat goed kan "bullshit"
  - 18 Sy wetgewing beteken niks nie - persepsie van gemeenskap

**FG10 Issue 6: SLA - LMs - Law enforcement**

- Reason**
- 19 SLA / MoU with B Municipality to use their law enforcement officers to enforce notices from MHS not to intimidate EHP
  - 20 MoU - public nuisance on plot - LM should clean and claim from owner - immediate solution to health risk. One doesn't have to wait for owner or court - Through that you then immediately you can solve the nuisance
  - 21 Alignment of bylaws between LMs and MHs
  - 22 Quick response and less administrative load - shortest possible route
  - 23 Polluter must pay - EHP achieved its role to reduce the health risks
  - 24 EHPs servicing also rural areas, other towns etc that take extra time - therefore, need for SLA/MoU - to safe unnecessary administrative time for law enforcement process for their law enforcement units to deal with this
  - 25 Space belongs to LMs - therefore SLA

<b>4. Service delivery (N=1)</b>	<b>P-Index 7.3</b>
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**FG10 Issue 10: Easily accessible decentralised offices**

- Reason**
- 26 Centralisation and accessible offices for the public
  - 27 Communication facilities e.g., telephones - public struggle - our telephone reception is so poor where we are now situated outside town. Our landline telephone lines are regularly stolen
  - 28 The public come to town (central area) this is time when public want to contact us because they want to see us personally. In the past we got 10 complaints, now nothing because of lack of accessibility
  - 29 Not all areas have satellite offices then public must make appointments to get to the bigger town centers to see us

5. Professional (N=2)		P-Index 7.0
<b>FG9 Issue 3: Spesialisering (Specialisation)</b>	<b>Reason</b>	
	30 Skep bevorderingsgeleentheid	
	31 Loopbaan beplanning	
	32 "Jack of all trades & master of none"	
	33 Daar word verwag dat EHP op spesialisvlak met industriële interaksie te hê, voedsel, wetgewing	
<b>FG10 Issue 9: Uniforms</b>	<b>Reason</b>	
	34 Recognition of EHPs that public should know it is EHP	
	35 With private clothing showing ID card is not having same effect	
	36 Need uniform for identification for communities and councillors	
6. Communication (N=1)		P-Index 6.6
<b>FG7 Issue 2: Kommunikase (EHPs geen amptelike selfone)</b>	<b>Reason</b>	
	37 Bode en driver kry selfoontoelaag	
	38 EHPs - Geen selfoontoelaag nie	
	39 EHPs werk in veld - weg van kantore in die gemeenskappe	
	40 Sekuriteit	
	41 Effektiwiteit	
7. Leadership (N=5)		P-Index 6.1
<b>FG8 Issue 5: Geen politieke inmenging</b>	<b>Reason</b>	
	42 Ekstra druk op beperkte hulpbronne - Nou is dit verkiesingstyd, nou vind ons dat al wat 'n raadslid kom en kla nou oor dit en dat, en dring daarop aan om sommer direk met ons mense te praat, en dit is sommer nonsens. Researcher: Hoekom? Dit is nou verkiesingstyd, hulle wil nou gesien word saam met... dan moet jy koerantberig skryf oor dit wat jy gedoen het, en dan staan die politikus netjies saam met jou op die foto en hy was nie eens daar [gedurende projek implementering] nie, hy het net gekom vir die foto. P49: Cheap law..[]. P47: Ja, nee, ek is nie daar om iemand se [...] dinges te polish nie. Iemand se beeld te poets nie. Dit is frustrerend!	
	43 Dit is vir politisie se eie belang om net gesien te word - Verwag van my om koerantberig voor verkiesing te skryf oor projek, net om saam afgeneem te word, terwyl hy nie eens betrokke was by die projek nie	
	44 Ek is nie daar om iemand se beeld te poets nie	
	45 "Saam met daai, gaan jou politieke aanstellings wat gemaak word in die lyne. Ons het hier 'n geval gehad waar hulle wou die 8ste, die 8ste beste kandidaat aanstel omdat die persoon politieke konneksies het." In [town] verskuif hulle personeel en sulke goed. Dit kom uit politieke motiverings uit." Hulle sal iemand bv. op een plek insit, wat politieke konneksies het, dan skuif hulle personeel weg van daar af en dan sit hulle sommer die persoon daar in sonder om prosesse te volg. Die gemors is, daar is maniere om met die	

goed te deel, bv. jy kan dispute verklaar. In background - skade is klaar gedoen].. maar die skade in jou departement is daar!, en, die persone wat dit doen, is nie groot genoeg om te sê, goed, OK, ons het dit verkeerd gedoen, hulle hou, daai ding [persons disputing it] teen jou vir die res van die tyd wat jy in plaaslike bestuursweese is. Dit loop jou sommer nog vooruit na die volgende plek toe, sou jy nog daar wou gaan aansoek doen. "Dit maak dat jy 'n swakker kandidaat kry wat moet kom werk." "Dit is nie al die OGP's wat die werk kan doen nie"

**FG8 Issue 2:  
Vertroulikheid  
(Integriteit)**

**Reason**

- 46 Bespreek nie kollegas met ander kollegas - sorteer die issue uit met die een wat dit op toepassing het - dit is embarrassing
- 47 Onprofessioneel
- 48 Integriteit gaan saam met vertroue
- 49 Neem op met persoon wat jy probleem mee het
- 50 Daar was tyd wat ons sommer só in vergadering aangevat word voor almal - party wat nie eens deel het in ons program nie - dan bly ek nie stil nie - sê hom dan - hy is buite orde
- 51 Om dan goed reg te stel lei net tot "geveg"
- 52 Respek en dissipline - as ons respek het vir mekaar sal dit nie gebeur nie - my pa het nog nooit met sy hand so voor my hard op 'n tafel geslaan nie - dié dag toe die direkteur so op sy lessenaar slaan toe het ek net vir hom gelag - omgedraai en wegge loop

**FG8 Issue 1: Motivering  
(Motivation)**

**Reason**

- 53 Topbestuur se betrokkenheid by OGP's is 'n leemte
- 54 "Wil nie hê dat daar gereelde vergaderings gehou moet word nie, maar net daai inloer en hoor hoe dit gaan - beteken baie." (FG8\_MidMx\_P48). Vorige MM - baie vergaderings in Kaap bygewoon - op sy pad terug het hy altyd by ons kantore gestop - net vir 2 minute - hoe gaan dit? Dit het die wêreld se verskil gemaak aan personeel se moraal
- 55 Vorige direkteur het ook van tyd-tot-tyd saam inspeksies gedoen - en só in voeling gebly
- 56 Gee erkenning vir werk wat EHP's doen
- 57 Management kollegas maak ander sleg teenoor mekaar (tweespalt tussen kollegas)
- 58 CoCT - het 'n wellness programme - gedurende COVID - personeel van huise werk het hulle gereeld met personeel opgevolg om seker te maak of hulle cope
- 59 CoCT - Al doen EHP's selfs 'n presentation en die direkteur hoor daarvan, dan stuur hy vir hulle 'n mail en sê, yes baie dankie julle, ek hoor julle het so goed gedoen
- 60 By ons lyk dit altyd of die jam-kwas word ingesmeer
- 61 Ek het kursus bygewoon waar hulle sandwich effek verduidelik het - deur iets goeds te sê en dan gou iets sleg te sê, en dan sê ek weer iets goeds - want onmiddelik word dit [slegsê] toegedruk. Ek voel, hier is dit omgedraai - die twee snytjies brood is binnekant en die slegsê is aan die buitekant - jy kannie vorentoe gaan nie! (FG8\_MidMx\_P48)
- 62 Jy raak heeltemal [...] Jy verloor entoesiasme, ongelukkig verloor ek myself ook partykeer daarin
- 63 Herevaluering van poste

<b>FG9 Issue 5: Gemotiveerde kundige personeel</b>	<b>Reason</b>
	64 Negatiewe goed wat gebeur
	65 Kundigheid van personeel
	66 Opleiding van studente - markgerig om probleem aan te spreek
	67 Positiewe werkgewer verander personeel

<b>FG10 Issue 5: Manager/HoD marketing profession</b>	<b>Reason</b>
	68 Manager / HoD market profession to get council positive towards EH
	69 Inform council
	70 Fight for budget for MHS
	71 Through that get rid of stumbling blocks
	72 He/she should be seen
	73 Will be able to get money to appoint people

## 8. Resources (Staff) (N=4)

**P-Index  
5.7**

<b>FG7 Issue 3: Sufficient staff</b>	<b>Reason</b>
	74 Ons het groot areas wat ons bedien
	75 1x Inspekteur het 150 plase wat hy/sy doen - plase met kelders op, restaurante, gaste fasiliteite, melkerie ens.
	76 Ons het doelwitte, ooreenkomstig die norme en standarde, om 1x per jaar ons plase te besoek
	77 Maar as daar voedsel personeel op is moet jy elke 6 maande daar kom - dit is ons KPIs
	78 As jy gaan kyk..., die ouens se werk betjie van nader beskou, dan sien jy hy was 5 jaar gelede daar [op plase]. Maar jy kannie vir hom kwalik neem nie, want daar is soveel ander goed, klagtes, en los goed wat inkom, wat jy dan net besef - die area is te groot en net te veel funksies vir een persoon." Ons kannie effektiewe diens lewer nie, dit is 'n geval van., ek kom eers weer na 6 maande terug om 'n ding op te volg. Maar as ek 'n kleiner area gehad het kon ek vinniger teruggekom het vir 'n herinspeksie
	79 External offices - constant work with 1x person
	80 Vacancies not filled
	81 Staff are internally moved to other office - bigger areas - commercial farms - n=450 - guest houses, package plants, arbeidershuise - farm workers - additional 50k that move into areas
	82 Buite werke kom in - kan later nie meer roetiene werk in landelike gebied doen nie

<b>FG8 Issue 4: Mannekrag</b>	<b>Reason</b>
	83 EHP Pop ratio (1:10 000)
	84 Norms & Standards oor die frekwensies van jou persele - jy kom nie eens amper naby dit uit nie! - "in daai opsig is die N&S 'n klug" Jy kom nie by dit uit nie. Hier by ons is dit onmoontlik om by dit uit te kom
	85 Om beter diens te lewer
	86 Ek praat nie eens van COVID tyd nie, ek praat van normale funksionering, as jy gaan vat... [...] Ek weet daar was 'n studie ... wat gedoen was, 'n klomp jare terug, om te sê, dit is die gemiddelde

tyd van 'n inspeksie, en water monsters neem, toe sien hoe min werk 'n OGP eintlik kan doen as hy nog veral al die ander admin doen wat na die tyd inkom. Dan is dit maar eintlik min tyd wat die OGP in die veld kan wees

**FG9 Issue 6: Meer personeel (More staff)**

**Reason**

- 87 EHP tot populasie (1:10 000) - tekorte aan personeel plaas ekstra druk op personeel - groei in populasie, inspeksie frekwensies - Norms & Standards

**FG10 Issue 2: More EHPs Reason**

- 88 Rural areas use more time to travel to milking parlours - driving time -  
 89 Number of EHPs should be informed by rural area covered to compensate for time lost for traveling.  
 90 Workload  
 91 Post takes more than year to be filled - Vacant funded  
 92 EHP to population ratio not met.

**9. Recognition (N=7)**

**P-Index  
5.5**

**FG7 Issue 6: Spokesperson (Highest levels understanding EH)**

**Reason**

- 93 Geen direkteur vir OG - Net deputy director - Ons is enigste professionele groep wat by beroepsraad (HPCSA), waar drs en tandardse ook geregistreer is, registreer, maar ons het nie eens 'n departement of direkteur wat namens ons kan praat en optree nie. Ons is sommer saam gegroepeer as 'n unit saam met brandweer ens.  
 94 We need somebody that understand our job - Die ED weet nie eens wat is OG en het ook nie eens moeite gedoen om daarvoor op te lees nie  
 95 Give recognition to subordinates - staan op vir ons  
 96 Too many functions

**FG7 Issue 5: Erkenning / Ondersteuning (B Mun, Public and Internal)**

**Reason**

- 97 Ons behoeftes word nie aangesien nie  
 98 Ons is enigste wettige funksie van die raad  
 99 Net wanneer daar probleme is konsulteer hulle ons, andersins ignoreer hulle ons insette. / Only when there is a problem they consult us, otherwise they ignore our input  
 100 My kantoor voel sterk dat ons raad dink niks van ons nie, en voel niks vir ons nie  
 101 Ons sit met ED wat geen idee het van wat OG behels nie, en het ook nie eens daarvoor opgelees ni

**FG7 Issue 4: Sectoral legislation Involvement (additional responsibilities)**

**Reason**

- 102 Other departments create legislation that involves EHPs which creates additional workload - without involving EHPs for input

**FG7 Issue 1: Proper IGR cohesion between DMs & LMs Proper IGR cohesion between DMs & LMs**

**Reason**

- 103 E.g., metros are one stop shops  
 104 LMs are sensitive when EHPs from DM raised issues  
 105 Procedural  
 106 LMs work with us - instead they refer issues to us which are actually their functions  
 107 New people in LMs don't understand their role and responsibility and the guys that use to work in the WTW and WWT are leaving the service and EHPs no longer have people inside LMs that understand the relationship and quickly respond to issues

**FG8 Issue 7: Vryheid (besluitneming)**

**Reason**

- 108 Micromanagement - Ek wil nie *ge-micromanage* word nie, ek wil ook nie my mense micromanage nie. Ek wil my mind applies in die raamwerk van wat gebeur  
 109 Vryheid om ingeligte besluit te neem en verantwoordelikheid ook daarvoor te aanvaar  
 110 Ek wil nie gesê word die beleid sê die crèche moet geregistreer wees by Social Services, en daai is een van die beste crèches, en daar kort nou 'n brandblusser, en jy kan nou nie vir hulle 'n CoA gee nie want hulle het nie die geld. Ek wil vir hom sê, gaan aan. Of ek gee vir jou ses maande om die geld in te samel, maar in die tussentyd gaan aan. Maar nou word jy *ge-micromanage*, want die wet sê só - en jy volg die letter van die wet  
 111 Partykeer moet jy micromanage, aanvaar dit  
 112 Partykeer mors ouens tyd - contradicting study referred to - EHPs can do much more - P48 requested his staff to list things they did, and they were amazed on what they achieved - somtyds mors kollegas tyd - doen net betjie moeite en kyk wat hulle doen en hoe hulle dit doen  
 113 Verwag dieselfde input van areas wat nie dieselfde is nie - effek op performance

**FG10 Issue 3: Performance recognition**

**Reason**

- 114 Will motivate staff to go extra mile  
 115 EHPs worked during COVID overtime - went the extra mile - but never got any recognition - one don't expect extra money but just a word of appreciation can go a long way

**FG10 Issue 1: Recognition**

**Reason**

- 116 Brilljante jong OGP's verlaat die instansie want hulle kry nie erkenning van bestuur / Worthy young EHPs resign, seeking greener pastures - does not get recognition from top management.

- 117 Budget probleme sal aangespreek word as daar erkenning is vir OG
- 118 Ontwikkeling van eie trots vir jou instansie gee aanleiding tot meer ...

## 10. Finance (N=4)

**P-Index**  
**5.0**

### **FG7 Issue 7: Sufficient budget to provide full MHS service**

#### **Reason**

- 119 Sampling - not just for sake of doing it, but to make a change in communities
- 120 Public to have access to safe food
- 121 Have basics in place
- 122 We partly and superficially cover the MHS function
- 123 Execution of MHS function in terms of the norms and standards

### **FG8 Issue 3: Befondsing (Geld)**

#### **Reason**

- 124 Meer personeel kan aanstel
- 125 Essensiële karskema / of [pool] karre - vir mense om werk voldoende te doen
- 126 Personeel het nie altyd genoeg geld om voertuie vol te maak nie (brandstof) - affekteer hulle moraal negatief
- 127 (Behoorlike) opleiding te doen
- 128 Ding van geld, ons het geweldige personeel omset, ek sê altyd, ou wat hier job kry, moet baie goed wees - as daar 200 aansoeke is - dan zoom hulle hom in na 30, en dan gaan daar 10 ouens wat vir 2 dae intensief ge-onderhoud word - dan vat jy net die beste een of twee. Op die ou einde werk hy net 'n jaar of twee - dit is net 'n steppingstone - dan gaan hy na die volgende distriksmunisipaliteit - want hy kry 'n beter motorskema en 'n beter salaris daar. Salaris nie noodwendig altyd nie, ons het nou 'n geval - die beste outjie gaan nou - eintlik na 'n kleiner munisipaliteit toe, maar hy gaan omdat dit 'n beter motorkar skema het"

### **FG10 Issue 7: Sufficient budget**

#### **Reason**

- 129 Appointment of EHPs
- 130 Training opportunities
- 131 Marketing outreach
- 132 Traveling beyond 1700 km per month - traveling anything beyond that is for EHPs own cost - those servicing rural areas
- 133 EHPs centralised in one town and travel out to other towns and rural - travel beyond 2000km
- 134 Running cost - essential user scheme is not sufficient to cover costs Policy issues - for functional / operational level EHPs
- 135 Funding model for dist municipalities with revenue stream
- 136 Health education projects - not vote available
- 137 B Mun have income source from urban and rural areas
- 138 Connectivity - dongles for emails to respond infield to optimise time and resources - received allocation but cannot even purchase airtime
- 139 Purposive vehicle - Pool 4x4 vehicle / or improve essential user scheme for EHPs to purchase such vehicle

<b>FG9 Issue 4: Befondsing (Money)</b>	<b>Reason</b>
	140 Gesny aan begroting
	141 Maandelikse / kwartaalikse teikens (getalle) raak meer maar daar is nie befondsing vir monsters (norms & standards)
	142 Begroting groei nie teen dieselfde tempo nie

## 11. Resources (ToT) (N=5)

**P-Index  
2.9**

<b>FG7 Issue 11: Tools of the trade - Fully equipped offices (technology)</b>	<b>Reason</b>
	143 Ideal offices
	144 Keep up with technology
	145 Everyone has offices - could get combined
	146 Telephones
	147 Desks, chairs, filing system, computer, connectivity etc

<b>FG7 Issue 9: Tools of the trade - Vehicles (purposive)</b>	<b>Reason</b>
	148 Listeriosis outbreak in Polokwane - showed that EHPs did not had cars to regularly visit Enterprise's premises
	149 We have big remote rural areas that we must travel
	150 Cannot service area without a vehicle
	151 Some areas are gravel and mountainous - need high rise vehicle or 4x4
	152 Car allowance does not allow one to purchase such vehicles
	153 Selective services delivery
	154 Inspekteur persele / visits premises e.g., dairies, schools, farms etc.

<b>FG8 Issue 6: Toegeruste kantore</b>	<b>Reason</b>
	155 Duiwehokkies as kantore
	156 Van mense sit in containers - as reën en wind waai is dit geraas
	157 Ek kan nie gemotiveerd bly as ek in so klein spasietjie moet sit nie.
	158 OGP se stoel se wiele weg - nie geld om te vervang nie
	159 As iets breek – kan nie wag vir volgende finansiële jaar nie - benodig prioriteits befondsing
	160 Goed raak weg - geen stoor beskikbaar nie

<b>FG9 Issue 7: Rekenaar toerusting en data (regte tools)</b>	<b>Reason</b>
	161 Internet meer af as aan
	162 Net hoofkantoor wat reg werk
	163 Internet pateties stadig
	164 Word gereeld gerapporteer
	165 Kannie werk doen nie - mail stuur nie - verslae raak agterwee
	166 Veroorsaak bottelnek na einde van maand - NOTE: PMS number crunching - expectations
	167 Goeie kommunikasie met bestuur en publiek vir terugvoering

- 168 Connectivity  
 169 Benodig data vir werk in die veld - anders moet altyd wag tot weer terug is in kantoor met swak konneksies

**FG10 Issue 8:  
 Communication  
 facilities**

**Reason**

- 170 Telephone reception is poor, landlines regularly stolen  
 171 People come from remote areas to visit EHPs outside town - need to make appointments to get you at the office

**12. Training (N=2)**

**P-Index  
 0.3**

**FG7 Issue 10: Experience  
 - Keep abreast with  
 your trade**

**Reason**

- 172 Keep abreast of your trade  
 173 Know what is needed  
 174 Experience comes with time  
 175 Willingness to want to know about your trade  
 176 Updated with your trade  
 177 Interested / asking  
 178 Learn from the experienced colleagues  
 179 Share experiences with each other  
 180 Have mixed teams consisting of experienced and young EHPs

**FG7 Issue 8: Mense  
 verhoudings is  
 belangrik**

**Reason**

- 181 Met 'n attitude sal jy nêrens kom nie - nie met ondergeskiktes, bestuur, politisie en gemeenskap  
 182 Ideal working conditions

## Appendix N: MHS Top Management: Needs and reasons for being an issue (Group 11)

Priority order	MHS Top Management Needs	Final (P-Index)	Issues listed per need (N=10)
1	Resources (Staff)	5.0	1
2	Communication	4.2	1
3	Recognition	3.6	1
4	Finance	3.3	2
5	Leadership	3.2	1
6	Legislation	2.6	1
7	Resources (Admin Support)	2.6	1
8	Resources (ToT)	0.8	2

### 13. Resources (Staff) (N=1) P-Index 5.0

FG11	Issue 1: Genoeg personeel	Reason
		1 Personeel gedrewe diens
		2 Om Norms & Standards vereistes na te kom - targets te bereik
		3 COVID wys dit uit
		4 Koste effektiew bereiking van doelwitte - huidig brush over

### 14. Communication (N=1) P-Index 4.2

FG11	Issue 2: Spoedige kommunikasie (nasionaal / provinsiaal)	Reason
		5 Effektiewe kommunikasie van provinsiaal en nasionaal
		6 Verminder en verhoed krisis optredes
		7 Verminder druk op program

### 15. Recognition (N=1) P-Index 3.6

FG11	Issue 4: Erkenning vir Omgewingsgesondheid	Reason
		8 Beïnvloed hulpbron toekennings [influence resource allocations]
		9 Meer politieke inkoop meer ondersteuning [more political buy-in the more support is forthcoming]
		10 Disaster Man kry meer geld omdat daar fokus op hulle is
		11 Kry nie ondersteuning want ons moet gewoonlike owerhede aanpraat oor goed wat nie voldoen nie en dit gaan nie goed af vir leiers nie

16. Finance (N=2)			P-Index 3.3
FG11	<b>Issue 3: Genoegsame befondsing (kapasiteit)</b>	<b>Reason</b>	
		12 Om kapasiteit te bou in terme van personeel, toerusting ens.	
		13 Verbeterde en meer omvattende dienste lewer	
		14 Enige aksie het hulpmiddels nodig bv. personeel en voertuie	
		15 Bereiking van 1:10 000 EHP tot populasie doelwit - personeel gedrewe diens	
FG11	<b>Issue 6: Effektiewe finansiële stelsel (integreer IDP)</b>	<b>Reason</b>	
		16 Die stelsel en begrotings kodes is nie gestandaardiseer. Mors baie tyd en is frustrerend om goed te soek terwyl jy reeds onder druk is	
		17 Moet raai waaronder jy moet aankoop - frustrasie	
		18 Rompslomp met supply chain sisteem waar jy baie keer dringend iets moet doen bv. water monsters' neem, maar jy moet dae wag eers sodat elkeen in die ry moet eers aanvraag oplaai, aanstuur, goedkeur ens.	
		19 Só gefokus op clean audits dat dienslewering negatief geaffekteer word	
		20 Ondersteuningsdienste behoort te ondersteun en nie dienslewering nog moeiliker te maak nie	
17. , (N=1)			P-Index 3.2
FG11	<b>Issue 5: Bestuurs ondersteuning</b>	<b>Reason</b>	
		21 As ons aspek promofeer verwag mens dat jou bestuur en politieke leiers weet waaroor dit gaan	
		22 Politisie sê hulle weet nie wat ons doen nie, want OG los hulle eie probleme op	
18. Legislation (N=1)			P-Index 2.6
FG11	<b>Issue 7: Beleidsvoorskrifte (intern &amp; ekstern)</b>	<b>Reason</b>	
		23 Tekort aan duidelike voorskrifte vanaf plaaslike tot nasionale vlak sodat almal weet wat om te verwag van mekaar en wie is verantwoordelik vir wat	
19. Resources (Admin Support) (N=1)			P-Index 2.6
FG11	<b>Issue 8: Administratiewe ondersteuning (kapasiteit)</b>	<b>Reason</b>	
		24 As bestuurders & EHPs moet ons baie goed self doen want ons het nie administratiewe ondersteuning nie	
		25 Plaas druk op beskikbare tyd en hulpbronne	
		26 Sal EHP en MHS bestuurder toelaat om meer diens georiënteerde take te verrig	
		27 EHP moet alreeds soveel meer administratiewe take verrig	

- 28 Kry ook ander funksies wat nie deel van ons hoof funksies is nie. (Nasionaal en politieke/bestuurs druk)

20. Resources (ToT) (N=2)		P-Index
		0.8
<b>FG11</b>	<b>Issue 9: Effektiewe werksprosedures (DM &amp; LMs)</b>	<b>Reason</b>
		29 Bestuursplanne
		30 Sentrale koördineering by DM wat ook situasies kan dek met LMs vir effektiewe dienslewering
		31 Standardiseer werk
<b>FG11</b>	<b>Issue 10: Tools of the trade (selfone)</b>	<b>Reason</b>
		32 Selfone - EHPs het nie selfone wat maak dat ons nie kommunikasie het met EHPs wanneer hulle in die veld is nie
		33 Ander departemente besluit oor belangrikheid oor wie kwalifiseer
		34 Word nog gesien as luukse vir OGP's om selfone te hê

## Appendix O: Sectoral responses – role-players in planning (Q-17)

Combined LMs and participant responses to Question 17 - *Who are all the role-players that form part of your planning to determine the department/unit's service delivery goals for water/sanitation?*

- 1 **LM-A (WSW) (WSW-1)**
- 2 **Researcher:** (17:44.807) – Who are all the role-players that forms part of your planning to determine the department/unit's service delivery goals for water/sanitation?
- 3 **WSW-1:** (18:00.707) – Normally it would be the CFO, telling us what money we have available for the next year. It will be myself and the Municipal Manager (MM). The sub-directorate managers for technical services, planning and development, and their line managers as well.
- 4 **Researcher:** (18:35.873) – So the sub-directorate, the initial one you are referring to are the ones reporting directly to you.
- 5 **WSW-1:** (18:44.766) – Yes, the technical and the building and development. So, under them you will have... Under technical, you will have PMU person that does project management. He will inform our planning staff. We will have our operations manager who does to water, sewer collection, the refuse collection that will inform his challenges and set goals accordingly.
- 6 **WSW-1:** (19:18.581) – Planning and development we have building control and we have the land-use management section, and also information we use for planning.
- 7 **WSW-1:** (19:33.386) – So, those are the bunch.
- 8 **Researcher:** (19:38.361) – Do you include anybody from the DM?
- 9 **WSW-1:** (19:46.141) – No, normally after we are done with our plan, we will feed our plan to them so that they can include our plan into the district plan. But they don't sit in on our plans.
- 10 **Researcher:** (20:36.134) – Do you receive any reports from the MHS section from the DM ABC about water quality issues, sanitation, and waste?
- 11 **WSW-1:** (20:50.655) – Yes, we receive those reports on a monthly basis, or on an hoc basis, depending on the urgency of the report. They do water quality monitoring at the sewer outfall and also with the water, bulk water. They also do MHS where it comes to shops and other for waste management and places like that.
- 12 **WSW-1:** (21:17.683) – Depending on if their report expects action, we will translate that action over into our operational plan. But most of the time the report will report on something that somebody else is doing then we sent in our law enforcement unit to enforce our by-laws.
- 13 **Researcher:** (21:41.719) – Is there anything from those reports that you include into your planning?
- 14 **WSW-1:** (21:48.789) – Unless there is a big problem like, let say the sewer outfall for the past six months has not met standards, we would not normally consider that reports. If something like what I say the sewer outfall that happen for a couple of months, we would than take consideration of their report on how we can improve or correct the highlighted areas.

15 **LM-B (Water/Sanitation & Waste) (WSW-2)**

16 **Researcher:** (16:36.757) Who are all the role-players that forms part of your planning to determine the department/unit's service delivery goals for water/waste/pollution control?

17 **WSW-2:** (17:09.152) Well, I would say...your councilors, politicians, management, top management.... Sector departments at Provincial and National level. Ja, those are the stakeholders.

18 **WSW-2:** (18:01.556) obviously, your community is represented by the politicians.

19 **Researcher:** (18:19.486) do you have separate session with your communities as well, where the politicians are present, or are you only working through your official councilors (politicians)?

20 **WSW-2:** (18:35.603) As Technical Manager, I don't have that kind of contact with the community, but during the development of the IDP process there is community engagement.

21 **Researcher:** (19:05.489) And your staff (involvement in planning)?

22 **WSW-2:** (19:13.705) Yes, the staff as well.

23 **Researcher:** (19:20) From those different units?

24 **WSW-2:** (19:21) Yes.

25 **Researcher:** (19:27:) And the District Municipality?

26 **WSW-2:** (19:33.094) Ja..., you can say that also, yes, the District Municipality (DM) as well.

27 **Researcher:** (19:38) Who in the DM are then normally part of that?

28 **WSW-2:** (19:43) Well, it is (.) the officials at the district that are responsible for developing the IDP at the district level. They also have role to play in what service delivery goals that are needed or must be included at the district level, or regional level.

29 **LM-C (Water/Sanitation) (WS-3)**

30 **Researcher:** (20:36) – Who are all the role-players that form part of your planning? Wie is al die rolspelers?

31 **WS-3:** (20:43) Dit is dan eerste die publiek, dan is dit my Direkteur. Ek beplan rondom die publiek en die Direkteur. En die munisipaliteit, wat hulle se doelwitte is. Dit is maar waarvolgens ek my beplanning doen.

32 **Researcher:** (21:03) En enig iemand anders?

33 **WS-3:** (21:04) Nee (laughter).. nee, nie eintlik nie... Só, my beplanning is maar eintlik rondom die IDP. So jy moet jou beplanning so werk dat, jy kry jou publieke insette, jy kry jou munisipaliteit se doelwitte, sy beplanning, so jy moet rondom daai.... Moet jy maar jou beplanning doen.

- 34 **Researcher:** (21:23) Waterwese, Omgewingsake, Distriksmunisipaliteit?
- 35 **WS-3:** (21:27) Ons het nie eintlik regtig rondom... Ons projekbestuurder werk baie meer met Waterwese. (21:43) Ons het nou project gedoen saam met die DM met paaie – pavement management system wat ons gedoen het.
- 36 **Researcher:** (22:04) Niks rondom water, sanitasie, en vaste afval nie?
- 37 **WS-3:** (22:06) ...Neee... As dit nou vaste afval is – Dit is mos nou die DM wat die regional landfill site wat hulle in Mosselbaai gaan vestig of gevestig het, met al die munisipaliteite in die Distrik wil gaan aansluit, soo... So ons beplanning werk eintlik rondom dit ook ja. Op die einde van die dag sal ons oor die volgende 3 tot 5 jaar sal ons moet hulle gaan aansluit, daar by hulle. So dit is hulle...
- 38 (22:42) Die water afdeling, het ons saam met Provinsie nou vir ons ekstra boorgate geboor, en ons beplanning daarvolgens gedoen. So, ons het nou die desalination plant opgesit saam met Provinsie hierse, en ons het addisionele boorgate gebou. So ons bou dit nou in ons meesterplanin, en daarvolgens kan ons nou 'n indikasie hê oor wat is nou die pad vorentoe. Só, ons beplanning werk maar volgens dit.
- 39 (23:04) Só, ons het baie sektore daar buite wat ons help, wat vir ons befondsing en goed gee.
- 40 **LM-C (Waste) (W-4)**
- 41 **Researcher:** (15:22) – Who are all the role-players that form part of your planning? Wie is al die rolspelers?
- 42 **W-4:** (15:32) Munisipale Bestuurder; My Direkteur; Hoof Tegniesedienste; Voormanne; Toesighouers; Expertise van buite af – Raadgewende Ingenieurs; en natuurlik die publiek. Raadslede ook mos maar. Dit is maar dit.
- 43 **LM-D (Water & Sanitation) (WS-5)**
- 44 **Researcher:** (0:18: 29.541) – Who are all the role-players that forms part of your planning to determine the department/unit's service delivery goals for water/sanitation?
- 45 **WS-5:** (0:18:36.357) Dit is die bestuurders van die verskillende departemente. Ongelukkig het ek nou nie baie van hulle gehad die laaste tyd nie, maar die bestuurder van sewe, bestuurder van elektris, bestuurder van stadsbeplanning, bestuurder van project management, en die bestuurder van solid waste. Só, met daai vyf (..) is ek veronderstel om .. (phone rings – request to first respond to phone call).
- 46 **Researcher:** (0:20:39.030) Ok, werk jy net met jou interne bestuurders of is daar ander ouens wat julle ook betrek?
- 47 **WS-5:** (0:20:47.345) Nee, kyk vir van die goed gebruik ons konsultante, (..) raadgewende ingenieurs. Ek is juis nou besig met 'n tender vir raadgewende ingenieurs vir die opgradering van die rioolwerke van Town A. Ja, ek gebruik eksterne diensverskaffers waar nodig, Hmm (..) maar nogsteeds bly dit deel van daai vyf manne, vyf posisies se verantwoordelikheid om toe te sien dat die eksterne diensverskaffer dan ook die diens voltooi. Daai manne is aan die einde van die dag verantwoordelik vir dit.
- 48 **Researcher:** (0:21:28.467) enigiemand anders eksterne, behalwe nou daai wat dierek daarmee werk?

- 49 **WS-5:** (0:21:36.936) Water en wastewater het ons, gebruik ons 'n eksterne laboratorium om ons maandelikse toetse te doen om te kyk of ons comply in die verskillende (..) kriteria van effluent en van water, of ons voldoen aan SANS 241 of nie. Só, ons gebruik 'n eksterne laboratorium vir dit, en verder is dit maar intern.
- 50 **Researcher:** (0:22:07.769) Ok, vorm hulle saam deel van daai beplanningskomitee of goeterse of groep wanneer julle dan doelwitte en goed ook stel?
- 51 **WS-5:** (0:22:14.398) Nee, nee – daar is 'n spesifieke senior ingenieurs tegnikus van water en riool, suiwer aangestel en dit is sy funksie om te raporteer aan die bestuurder seviel om seker te maak dat daai laboratorium die nodige toetse doen en dat en as daar failures is, om te hertoets. Daai mense doen ook hulle maandelikse verslag interme van ons water en riool om te sê vir elke afdeling waar is daar foute en watse verbeterings kan gedoen word, en so aan. Daar is 'n spesifieke amptenaar wat moet kyk daarna en dit moet implementer.
- 52 **Researcher:** (0:22:54.766) Ok, so daai konsultante – sit hulle ook in op jou oorspronklike beplanning om jou doelwitte en goeterse te bepaal?
- 53 **WS-5:** (23:02.979) Nee, nee – daai oorspronklike beplanning word saamgevat in 'n tender – so, ek self en die bestuurder van siviël en die Senior Ingenieurs Tenikus wat die spesifikasies opstel. Só, die ouens moet net die nodige toetse en monitering doen daarvan.
- 54 **LM-D (Waste) (W-6)**
- 55 **Researcher:** (0:20:01.708) – Who are all the role-players that forms part of your planning to determine the department/unit's service delivery goals for water/sanitation and waste?
- 56 **W-6:** (0:20:18.038) Dit sal maar die Bestuurder wees, dan die Suprintendent, en dan jou toesighouers. Ja, dit is maar op die stadium hoe ons organigram gebou is. Dit is maar hulle wat die toesighoudende funksie moet uitvoer binne die departement.
- 57 **Researcher:** (0:20:32.899) Enigiemand anders?
- 58 **W-6:** (0:20:37.481) Die Director speel ook baie keer 'n rol, soos in die sin van sekere goed wat deur hom goedgekeur moet word alvorens ons iets kan implementeer.
- 59 **Researcher:** (0:20:51.265) Okay, so, jy het nie ander rolspelers wat julle betrek voor die tyd wanneer jy jou beplanning doen, soos met daai KPIs se identifisering en waarop julle gaan fokus nie.
- 60 **W-6:** (0:21:01.531) Nee, as dit gaan oor dienslewering self, daar is 'n werkskedule. En ja, dan sal dit basies net die Waste Management Department se top structure wees wat daai beplanning doen.
- 61 **LM-E (Bulk Water & Sanitation) (WS-7)**
- 62 **Researcher:** (22:21.08) – Who are all the role-players that forms part of your planning to determine the department/unit's service delivery goals for water/sanitation and waste?

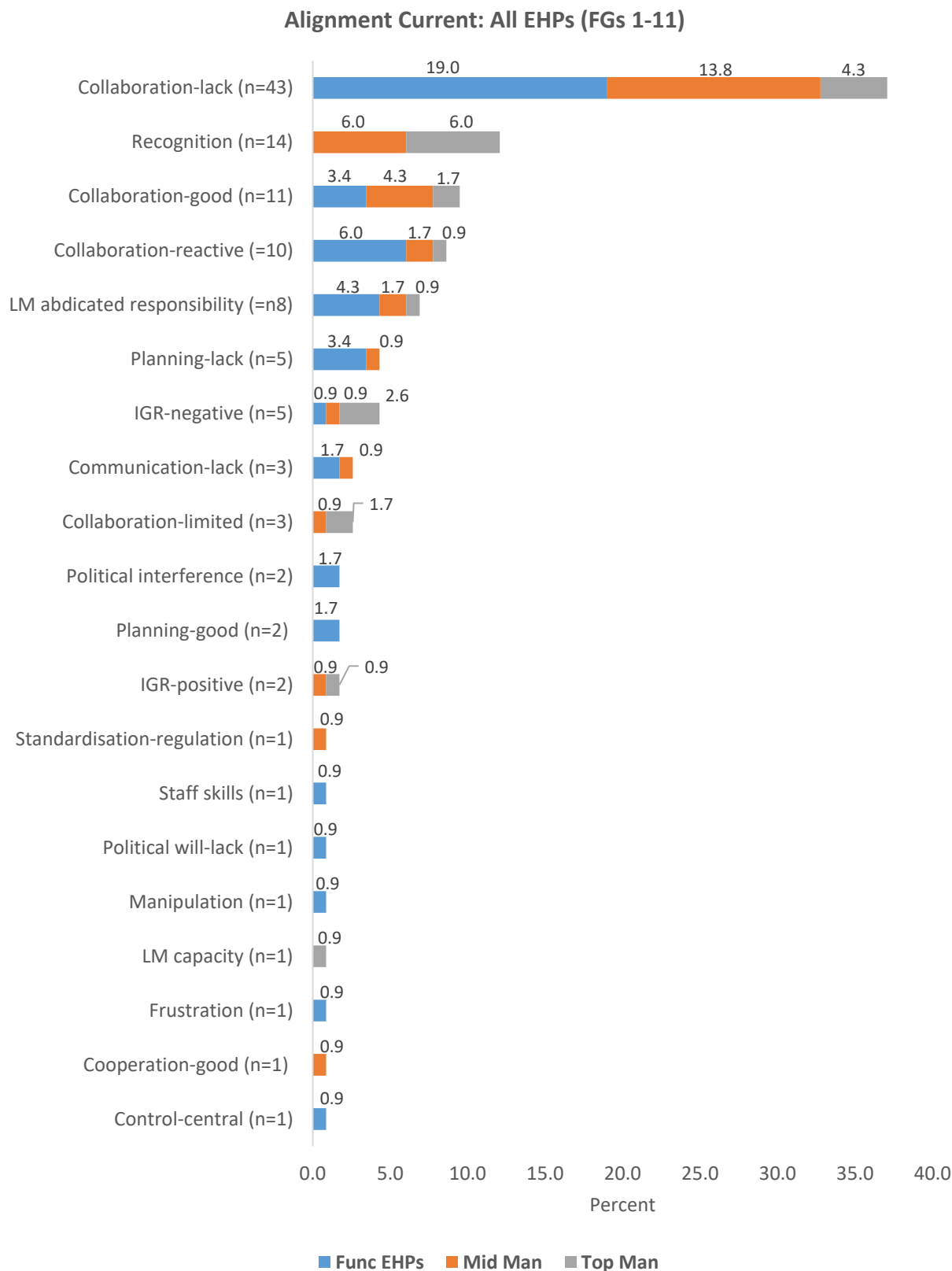
- 63 **WS-7:** (22:27.35), Dit is nou basies ons Ingeneursdienste ek weet nou nie of jy die posisie wil he nie maar dit is maar die munisipaliteit se ingeneurs afdeling dan is dit maar net die Bulk Kontrakteur ja ons het natuurlik ook externe konsultante ons sit daar ook met n tender n 3 jaar tender so enige iets in die 22:51.72 water riool lyne is daar op n 3 jaar kontrak aangestel om sulke feasible studies te doen om te kyk of die prosesse nog in plek is as ons nou sien ons begin betjie n valingjie kry of kapasiteit dan word daai goete ondersoek en voorstelle tot verbetering. So dit is omtrent sou ek se in my geval die rolspelers daar. 23:19.27 Ek sal net iets uitlaat miskien maar die Environmental departement ons interne een. Ons hak so bietjie hande dan net as hulle dan goedjies optel wat hulle so bietjie pla want dit, hulle goed gaan darm baie na die riool kant toe obviously dit is net...
- 64 **Researcher:** (23:40.01), Maar is dit net julle interne Environmental Management unit.
- 65 **WS-7:** (23:44.33), Kom ons ons ja laat ek dit so stel dit is nou net baie individue ons sit nou bv. met die 23:49.19 Town B estuary maar dit is n forum wat gestig is deur die publiek maar kom ons se die hulle sal daar dien ons environmental departement dien daar op ons dien daar op en dit is amper die naaste wat ek kom aan ODM se environmental gedeelte en dan hulle bestuur mos eintlik die riviere en die esteries binne die local Munisipaliteite so hulle het eintlik die se oor die riviere en die goete so daarso het ons so bietjie van n link, maar dit ja ek wil nie se dit speel n rol van die beplanning nie as daar goed uitkom natuurlik risiko dan moet ons dis mos maar absorbeer. 24:28.70 Maar die main spelers is maar ons self die bulk kontrakteur en die konsultante wat spesifiek tot n tipe sectorsal wees so hy sal n spesialis in water wees of hy sal n spesialis in riool wees watever so ons stel hulle so aan.
- 66 **LM-E (Bulk Waste) (W-8)**
- 67 **Researcher:** (22:44.00) – Who are all the role-players that forms part of your planning to determine the department/unit's service delivery goals for water/sanitation and waste?
- 68 **W-8:** (23:04.60), On my side, ja, collections or operations that would be [participant's] WS&W-11 and his 3 deputies.
- 69 **Researcher:** (23:14.36), So you involve them as well.
- 70 **W-8:** (23:16.440), Ja, they would be involved with WS&W-11 on their side of the planning collection and operations and that is where the truck needs their allocation and that sort of road.
- 71 **Researcher:** (23:29.73), And anybody else?
- 72 **W-8:** (23:32.54), I am not sure who else is involved in that forum. I should sit in the forum normally because I am on the operation side.
- 73 **Researcher:** (23:44.03), But even from your side now being responsible for the Managing the waste sides and all those kinds of things.
- 74 **W-8:** (23:48.31), What I do is I talk with the supervisor on the ground of the different areas. So, from my compliance issues for the "Mores" I talk to the supervisor there saying they need to do this and that for the next year to put it into the budget or to see our score and what we need to improve in it. But it is all Project specific focused you know what I mean they don't work together the 3 different areas they all work in silence the 3 different Hermanus, Town A and Town B. (24:28.54) And then what they do if they got breakdowns of truck and things, they'll borrow from each other and cross subsidize and help out where they can.

- 75 **Researcher:** (24:38.20), So you, your involvement in that planning kind of thing and the people involved of that you involved there's a more internal kind of thing so there are no external role players that you involve there as well?
- 76 **W-8:** (24:49.06), In planning for external I use consultants sometimes like write an organic waste plan and for the site care for them for example. It is a legal requirement for us for the permit we have to do. They want us to do 50% of organic waste by 2022 and 100% by 2027.
- 77 **Researcher:** (25:06.40), You use consultants, but all that is again back to your original thing of the targets or the compliance issues ja.
- 78 **W-8:** (25:28.12), My portfolio is very much compliance and awareness and like with the communities like when you do the recycling and that initiatives getting out there and get them involved with the baboon the committee and the baboon group on when we need to have a baboon proof bin and try stop illegal picking and scavenging that sort of side community involvement and awareness.
- 79 **LM-E (Water/Sanitation & Waste- Ops) (WSW-11)**
- 80 **Researcher:** (21:26.16) – Who are all the role-players that forms part of your planning to determine the department/unit's service delivery goals for water/sanitation and waste?
- 81 **WSW-11:** (21:35.29), so ek het my direkteur gemeenskaps dienste en dan het ek 3 area bestuurders en dan 4 operasionele bestuurders wie almal deel vorm van ons beplanning. En dan het ek n afdeling Systems Analysis department, so hulle is verantwoordelik vir basies die administrasie van die operasionele departemente. Hulle doen ook my skedulering en dan doen hulle ook die moniteering van die skedulering dit is die 2de vraag wat nou opkom. So ek het n team wat daai monitering doen en dan vir my my feedback gee waar op ek dan nou weer my instruksies aan ons ops manager en area managers dan nou uitreik.
- 82 **Researcher:** (22:53.92), laat ons net gou terugkom na punt 17 toe? is daar enige iemand anders buitekant die munisipaliteit wat jy betrek by die beplanning en goeterse?
- 83 **WSW-11:** (23.01.95), O Nee ek werk op n daaglikse basis ek het my reeks konsultante met wie ek werk jou pad ingeneurs ek het ook jou liners consultant almal is ingeneurs konsultante. Natuurlik as jy so daar aan dink jou verskillende wyke en hulle wyks kommittees en hulle belasting betalers vereniging met wie ek deel rakende munisipale probleme en dan help ek ook met die moniteering en dan is daar natuurlik ook die raads lede.
- 84 **Researcher:** (23:51.66), Ok met hierdie inligting mededeling en goed ook. Dit is nou tipies waar jy jou beplanning en goed gedoen het en waar julle julle targets en goed het wat dan nou uitspeel in jou SDBIP KPIs en sulke tipe dinge met die terugvoering van daai progres wat gemaak is en gapings wat daar nog is en sulke tipe goeterse.

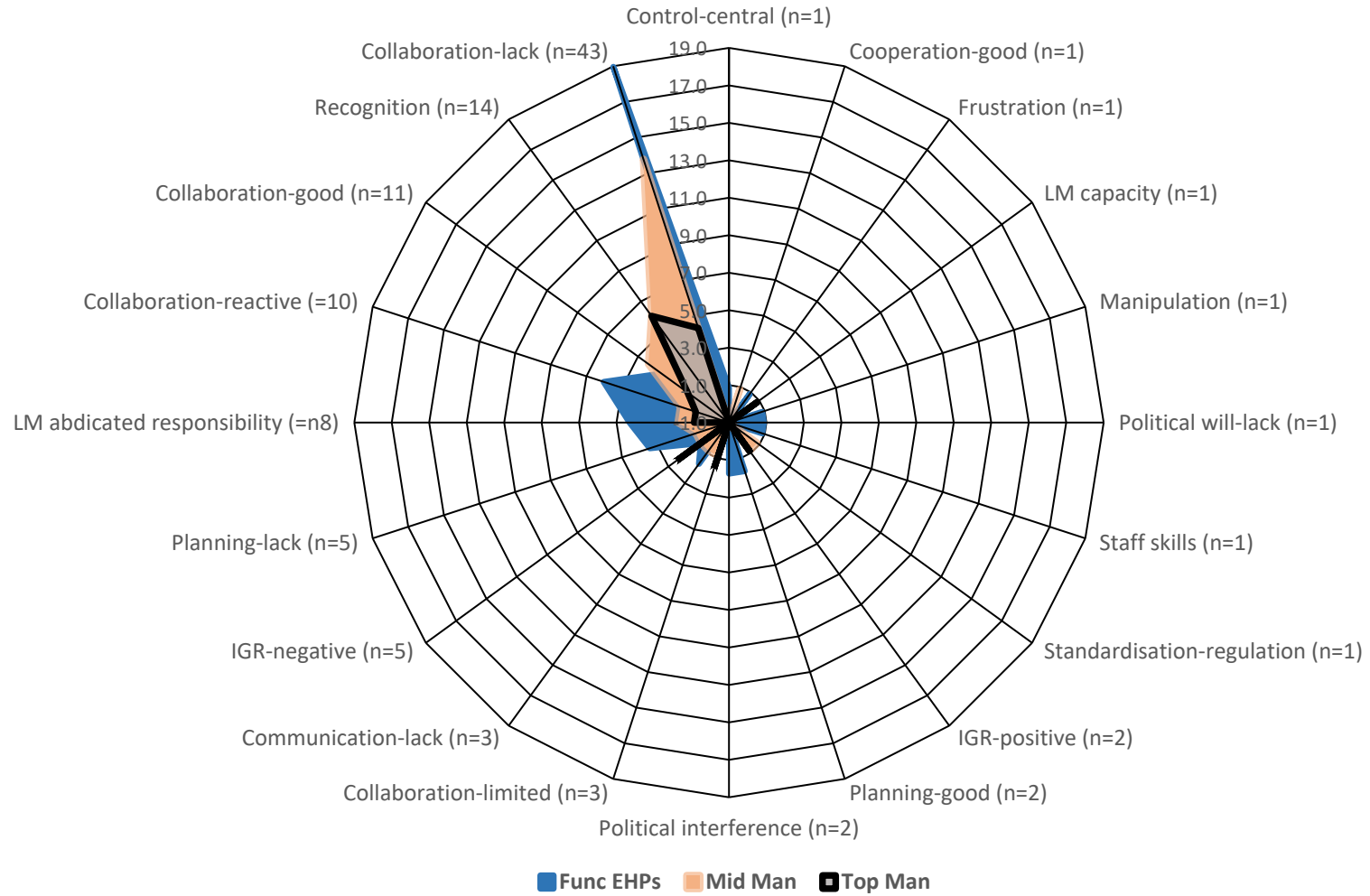
- 85 **WSW-11:** (24:11.38), Dit is maar jou operasionele en jou area bestuurders wat deel vorm van daai span soos ek se ek het in die kantoor net langsaan my 'n systems analysis en 'n system administrator. Hulle is verantwoordelik vir alle inligting wat ingevoer word uit jou operasionele departement uit die 3 dorpe. Dan is hulle ook verantwoordelik vir die werking daarvan om vir my die statistiek terug te gee. Wat doen ons, wanneer doen ons dit, waar word dit gedoen. is dit gedoen en wat is die flags wat op gepop het. ons het n redelike goeie sisteem The Municipal infrastructural system wat ingebou is in ons dag tot dag werking. Ons noem dit EMIs 25:08.83 municipal Infrastructure maintenance program so daai program gee vir my op n daaglikse basis alles wat ek nodig het. Ek kan op die einde van die dag n verslag trek en se wie het wat vandag gedoen, moes hulle dit gedoen het, moes hulle dit nie gedoen het nie, ens. Dit is n baie goeie inligting sisteem wat ons het en ek kry dan nou n maandelikese verslag wat se... Ek het nou net toe jy uitkom in die gang het jy gesien ek praat met die systems administrator ek het gevra hoeveel slag gate is daar vandag gepatcht in TOWN A deur n spesifieke span dan kan hy vir my alle stats deurgee. Ek kan vir hom vra hoeveel tenker services is daar vandag. Dit is n baie goeie stelsel wat hier in plek is wat ons help met ons inligting sisteem.
- 86 **Researcher:** (26:03.34), En dit is nou uit dit uit wat jy dan nou ook so jy se die flags en goed kry en dan werk jy daarmee.
- 87 **WSW-11:** (26:08.22), Ek kry my reports wat se wat was n lag time ek baie vinnig gaan kyk aan die sinde van die dag hoekom het dit n ou so lank gevat om n spesifieke taak te verrig en dan sal die stelsel vir my se luister dit is die rede hoekom hy dit nie gedoen het nie. Hy het of.... Ek is terloop verantwoordelik vir die float ook so as daar nou n flag en se sy voertuig was vandag buite werking dan flag dit by fleet management en dan kan ek met hulle praat en vra hoekom was die voertuig nuite werking. Daar is in fact nou die rede hoekom ek my selfoon dophou daar is nou n voertuig van my wat geflag is vanoggend en dit was nou meer vir inligting vir tyres. Ek het nou vir hulle n boodskap terug gestuur toe ek van my huis af kom hoe kan ons vandag tyres flag. 26:52.51 Die tyres dis nie vandag glad nie dit is nou al glad seker vir 3 weke hoekom word dit vanoggend geflag. Die jobkaart moes al uitgemaak geword het 3 weke terug en die bestelling moes geplaas geword het daai voertuig moes vanoggend nie gestaan het nie hy moes super quick toe gery het en tyres opgetrek het en aangegaan het met sy daaglikse werk. So die goed die inligting hardloop back and forth elke dag. So ek kan basies in my kantoor sit en n skerm dophou en sien wat buite aangaan.
- 88 **LM-F (Water/Sanitation & Waste) (WS-9 and W-10)**
- 89 **Researcher:** (23:30) – Who are all the role-players that forms part of your planning to determine the department/unit's service delivery goals for water/sanitation and waste?
- 90 **WS-9:** (23:51) As jy nou sê goals, is dit nou goals wat die afdeling vir homself stel?
- 91 **Researcher:** (23:45) Kyk hierdie objectives wat gestel word en so-aan vir julle, waarop julle gaan focus wat dan nou inspeel van jou IDP, SDBIP en implementering en so-aan, wie is almal deel van daai?
- 92 **WS-9:** (23:57) kyk in my geval is dit maar, ons het 'n senior technician en in die afdeling wat baie betrokke is, onse voormanne en suprintendente daar buite. (Researcher: – Ja). Ons sit maar saam en (pause) en formuleer die goals. (pause).
- 93 **Researcher:** (24:12) is daar enige ander rolspelers buitekant die munisipaliteit wat deelneem aan daai.
- 94 **WS-9:** (24:19) kyk die buite rolspelers se insae is reeds binne die IDP (W-10, confirm in background – in the IDP) ingetrek.
- 95 **Researcher:** (24:24) nou daai buite rolspelers wat jy van verwys, is ...

- 96 **WS-9:** (24:25) dit is nou, dit is maar, kyk ons het hier ...(pause) (W-10 - ward committees), ward committees – ja...(pause). Dan het ons ook 'n plaaslike sakekamer wat al die besighede en industrië verteenwoordig...(pause). (W-10, added landbou). En dan landbou ook.
- 97 **Researcher:** (24:47) só, dit is die tipiese IDP. Wat noem jy dit? Maar, daai hele kommunikasie ding wat voorgeskryf word deur die ... - Systems Act, nê (WS-9 and W-10 confirmed)- Yes.
- 98 **W-10:** (25:01) myne is dieselfde (soos hierbo beskryf deur WS-9), maar net nog 'n belangrike rolspeler by ons, is, is Departement Omgewingsake. Ons het só...ag wat noem jy? Kannie eintlike 'n aksie kommittee,..(laugher). Ons het 'n Provinsiale... Waste Management Officer Forum (WMO) wat elke quarterly kom ons bymekaar. Dit is nou al die munisipaliteite (Researcher, Ja). Hy speel 'n belangrike rol, veral vir ons...Aa, as daar wetgewing is wat nog nie gepromulgeer is nie dat ons kan insette lewer. Hulle het ook maar hulle doelwitte wat gedoen moet word (Researcher: – Mmmm), speel 'n belangrike rol (DEAP, jy sal mos nou maar weet. Researcher, Ja, – [Department of] Environmental Affairs and Planning).
- 99 **Researcher:** (25:45) en van die Distriksmunisipaliteite spesifiek?
- 100 **W-10:** (25:46) Ons het ook 'n distrik, net soos ons 'n provinsiale een het, het ons ook 'n distrik ene, DC 2.
- 101 **Researcher:** (25:51), dit is nou die Waste Management Officers Forum? W-10 – op distrik vlak ook ja, Researcher: – so dit is 'n provinsiaal en 'n distrik? W-10 added, ja, right.
- 102 **Researcher:** (26:00) En vir die water, sanitasie?
- 103 **WS-9:** (26:03) Nee... (pause) kyk ons het 'n ... nou kom ek nie op die forum se naam nie, maar dit is ook basies al die munisipaliteite (Researcher, IGR forum, of wat?), nee dit is nie rereg IGR nie. Dit is al die munisipaliteite saam met Waterwese...(pause). Dit is eintlike 'n tiepe van 'n IGR kommittee...(pause) maar, maar, maar basies is dit al die munisipaliteite tesame met Waterwese (W-10, wat, wat, is die een met catchments?). (Researcher) die Catchment Management Agencies, ja ons werk baie met hulle ook, CMAs (Catchment Management Agencies).
- 104 **Researcher:** (26:39) maar is hulle... (pause), is hulle, is daai CMA se goeters deel van jou beplanning, wat jou beplanning beïnvloed vir die bereiking van jou objectives?
- 105 **WS-9:** (26:45) Sommige, sommige kan hulle goed beïnvloed ons beplanning in terme van, as ons kyk na grootmaat.... (Researcher: – 26:52, water onttrekking en dan onttrekking en opgarig).
- 106 **Researcher:** (26:56) Wat noem jy hom?
- 107 **WS-9:** (26:57) CMA's (Catchment Management Agencies).

**Appendix P: Aligned collaboration: Current MHS levels perception regarding sector aligned planning, programming, and control – reflected as a percent: (FGs 1 – 11)**



### Alignment Current: EHP Levels (FGs 1-11)



**Summary of the priority order of EHP levels' perspectives of their current collaboration alignment among EHS and Sectoral planning, programming, and control functions (FGs 1 - 11)**

Theme	Func EHPs		Mid Man		Top Man		TOTAL	
	n	Percent	n	Percent	n	Percent	N	Percent
Collaboration-lack	22	19.0	16	13.8	5	4.3	43	37.1
Recognition			7	6.0	7	6.0	14	12.1
Collaboration-good	4	3.4	5	4.3	2	1.7	11	9.5
Collaboration-reactive	7	6.0	2	1.7	1	0.9	10	8.6
LM abdicated responsibility	5	4.3	2	1.7	1	0.9	8	6.9
IGR-negative	1	0.9	1	0.9	3	2.6	5	4.3
Planning-lack	4	3.4	1	0.9			5	4.3
Collaboration-limited			1	0.9	2	1.7	3	2.6
Communication-lack	2	1.7	1	0.9			3	2.6
IGR-positive			1	0.9	1	0.9	2	1.7
Planning-good	2	1.7					2	1.7
Political interference	2	1.7					2	1.7
Control-central	1	0.9					1	0.9
Cooperation-good			1	0.9			1	0.9
Frustration	1	0.9					1	0.9
LM capacity					1	0.9	1	0.9
Manipulation	1	0.9					1	0.9
Political will-lack	1	0.9					1	0.9
Staff skills	1	0.9					1	0.9
Standardisation-regulation			1	0.9			1	0.9
<b>TOTAL</b>	<b>54</b>	<b>46.6</b>	<b>39</b>	<b>33.6</b>	<b>23</b>	<b>19.8</b>	<b>116</b>	<b>100.0</b>

*Functional level EHPs current alignment (FGs 1 – 6)*

**Responses to the question: Think about the collaboration between MHS (DM) and sector departments (LMs - water, sanitation, and waste) with regards to planning, programming, and control. What comes to mind first?**

Order	Responses	Coding	Positive / Negative / Neutral
1	Maandelikse vergaderings gehad - Kry toe nuwe bestuurder - geen verdere vergaderings	Collaboration-good	Pos
2	Relations was good if you know them - depending on if you know the people	Collaboration-good	Neutral
3	Air - good relations - local - DM - Province; Good communication; Prevention meetings - supported; Communication is forced because of the legal responsibilities that are allocated to role-players; due to appointment of Air Quality Officer & Provincial engagement; Regular provincial meetings; Support from Province	Collaboration-good	Pos
4	Sometimes cooperation - wanneer daar prestasie aan gekoppel is - soos Awards - NOTE: from other FGs - related to Blue & Green drop, etc.	Collaboration-good	Neutral
5	Not part - just get to the problem	Collaboration-lack	Neg
6	Inadequate	Collaboration-lack	Neg
7	No cooperation	Collaboration-lack	Neg
8	LM do not put issues on agenda	Collaboration-lack	Neg
9	Maandelikse vergaderings gehad - Kry toe nuwe Bestuurder - geen verdere vergaderings	Collaboration-lack	Neg
10	Een rigting verkeer - hoor nooit iets terug nie	Collaboration-lack	Neg
11	Verhouding nie lekker	Collaboration-lack	Neg
12	Ad hoc - Geen terugvoer	Collaboration-lack	Neg
13	Verskonings van vaste afval	Collaboration-lack	Neg
14	When EHP identify a problem, they call on us and shift the responsibility, but they don't involve us from the onset or inform us initially	Collaboration-lack	Neg
15	Don't accept responsibility - don't understand the EHPs monitoring role compared to their provision and maintenance role. "Daar is somtyds betjie <b>enemy blood</b> in" - Others confirm in background	Collaboration-lack	Neg
16	Don't involve us from the onset, even saying we don't need you here, but when push comes to shove then they run to us	Collaboration-lack	Neg
17	EHP stop process later	Collaboration-lack	Neg
18	Building control allows fisheries, without involving EHPs from onset. When there is an overflow then it is your duty. They don't provide the EHPs with the original building plans from the owner. But they don't even want your advice	Collaboration-lack	Neg
19	Never involve EHP as part of initial IDP / SDBIP target setting - Only invite as part of community input - final stage - IDP / SDBIP done - when they invite the EHPs they also dictate to them during community outreach to just talk about water	Collaboration-lack	Neg
20	MM prevent EHPs to talk directly to administrative staff	Collaboration-lack	Neg
21	17 KPIs for EHPs - separately stated - dealing with issues such as water quality, sewage pollution and waste that are monthly reported to B - Municipalities - They don't respond to the issues listed	Collaboration-lack	Neg
22	Initial involvement is lacking or poor	Collaboration-lack	Neg
23	Gesondheid is by DM & sector funksie is by LM - aksies gebeur nie - Kannie mekaar aankla nie a.g.v. IGR reëlings	Collaboration-lack	Neg

Order	Responses	Coding	Positive / Negative / Neutral
24	Get no feedback from LMs when we ask them to provide update on issues to be addressed	Collaboration-lack	Neg
25	Enough planning - No implementation - hotspots	Collaboration-lack	Neg
26	Non-existent	Collaboration-lack	Neg
27	Don't involve us from the onset, even saying we don't need you here, but when push comes to shove then they run to us	Collaboration-reactive	Neg
28	Building control allows fisheries, without involving EHPs from onset. When there is an overflow then it is your duty. They don't provide the EHPs with the original building plans from the owner. But they don't even want your advice	Collaboration-reactive	Neg
29	All the problems from communities are directed to EHP, they don't even listen to what the issue from community is, they just refer them directly to the EHP. They are so scared of the politicians and just don't take responsibility - allow them things that are not supposed. When it is a problem, they refer the issues to the EHPs	Collaboration-reactive	Neg
30	LMs are afraid of politicians then allow them to do things that latter become a problem that we are called to resolve	Collaboration-reactive	Neg
31	When there is a community meeting about IDP issue the municipality's management dictate to us to only talk about water (listen to the recording regarding the BDS&GDS samples provided by EHPs that contribute to the benefit for the municipality - positive response- for other things only deals with the complaints - does not involve them from planning stage - don't want EHPs there	Collaboration-reactive	Neg
32	Re-active approach - complaints then response	Collaboration-reactive	Neg
33	Communication restrictions - MM prevent EHPs to talk directly to LM technical staff - Must first go through MM	Collaboration-reactive	Neutral
34	Lack communication	Communication-lack	Neg
35	No proper communication	Communication-lack	Neg
36	Communication restrictions - MM prevent EHPs to talk directly to LM technical staff - Must first go through MM	Control-central	Neutral
37	Frustration	Frustration	Neg
38	Gesondheid is by DM & sector funksie is by LM - aksies gebeur nie - Kannie mekaar aankla nie a.g.v. IGR reëlins	IGR-negative	Neg
39	Lack of knowledge on their role - what they need to do	LM abdicated responsibility	Neg
40	Don't accept responsibility - don't understand the EHPs monitoring role compared to their provision and maintenance role. "Daar is somtyds betjie enemy blood in" - Others confirm in background	LM abdicated responsibility	Neg
41	All the problems from communities are directed to EHP, they don't even listen to what the issue from community is, they just refer them directly to the EHP. They are so scared of the politicians and just don't take responsibility - allow them things that are not supposed. When it is a problem, they refer the issues to the EHPs	LM abdicated responsibility	Neg
42	Tender out functions to service providers - shifting blame	LM abdicated responsibility	Neg
43	Do not take accountability	LM abdicated responsibility	Neg

Order	Responses	Coding	Positive / Negative / Neutral
44	When there is a community meeting about IDP issue the municipality's management dictate to us to only talk about water (listen to the recording regarding the BDS&GDS samples provided by EHPs that contribute to the benefit for the municipality - positive response- for other things only deals with the complaints - does not involve them from planning stage - don't want EHPs there	Manipulation	Neg
45	Enough planning - No implementation - hotspots	Planning-good	Pos
46	Waste section do better planning - Functional level - immediate cooperation - higher up less support	Planning-good	Pos
47	Limited planning - What role - "shacks" service	Planning-lack	Neutral
48	Geen beplanning	Planning-lack	Neg
49	When they plan, they don't involve us - just give results / outcome	Planning-lack	Neg
50	IDP/SDBIP - Never involve EHP as part of initial IDP / SDBIP target setting - Only invite as part of community input - final stage - IDP / SDBIP done - when they invite the EHPs they also dictate to them during community outreach to just talk about water	Planning-lack	Neg
51	All the problems from communities are directed to EHP, they don't even listen to what the issue from community is, they just refer them directly to the EHP. They are so scared of the politicians and just don't take responsibility - allow them things that are not supposed. When it is a problem, they refer the issues to the EHPs	Political interference	Neg
52	LMs are afraid of politicians then allow them to do things that latter become a problem that we are called to resolve	Political interference	Neg
53	Lack of political will	Political will-lack	Neg
54	Expertise - having the right skills for the work	Staff skills	

**Functional level EHPs current alignment (FGs 1 – 6)**

<b>Positive</b>	4 (7.4)
<b>Neutral</b>	6 (11.1)
<b>Negative</b>	44 (81.5)
<b>Total</b>	54 (100)

*MHS Middle Management current alignment (FGs 7-10)*

**Responses to the question: Think about the collaboration between MHS (DM) and sector departments (LMs - water, sanitation, and waste) with regards to planning, programming, and control. What comes to mind first?**

Order	Responses	Coding	Positive / Negative / Neutral
1	[LM XYZ] gee goeie samewerking en sal ons altyd nader vir insette ([LMXYZ] provide good cooperation and will always approach us for our inputs)	Collaboration-good	Neg
2	Goeie samewerking met [LM ABC] munisipaliteit - daaglik - 1 uur vergaderings waar die MM, Disaster, Fire, Statsbeplanning, water, sanitasie ens is - MHS is deel van dit	Collaboration-good	Pos
3	<p>Researcher: Enige ervaring van jou kant af? – “uiters swak” - kom ek noem net vir u 'n voorbeeld - die Corporate Service Manager, wat ek vir haar 'n mail gestuur het en vra dat ek op hulle portefuelje komitee sit, om my verslag te gaan verduidelik, as daar... my verslag kom mos nou daar in, só, as hulle nou sien daar is water wat nie voldoen nie - dan kan ek mos darem vir hulle sê - dit is die redes. Haar woorde aan my was 'sy kannie toelaat dat ek haar amptenare ontbloot nie - klaar - só, ek gaan nie daarso sit nie'.</p> <p>Ons het altyd probleme as ons issues het, bv., met riool verstoppings - dame skakel my vir die klagte - ek kom by haar en dan gooi sy haar toys uit die kot uit. Wel, dit is agter haar huis en die reuk trek deur haar huis. Ek sê toe vir haar, juffrou, gee my net gou 'n kansie - ek gaan net gou hierdie amptenaar bel. Toe sê sy, 'nee die amptenaar, van die (Cat B - Mun - Water Serv Provider official) was nou net hier by haar huis gewees, en hy het gesê, omdat dit 'n reuk oorlas is, gaan gou-gou vir P49 - die Gesonheidsinspekteur bel'. Dit is die tiepe verhouding wat ons het met die munisipaliteit." "Dis is ongelukkig - dit maak jou ongelukkig, want ons altwee het 'n rol om te speel in die gemeenskap. Ek hoop maar dit sal beter gaan in die toekoms, maar ek weet nie</p>	Collaboration-good	Neg
4	Persoonlike ding / Verhouding met hulle - as jy amptenare in die LM ken en met hulle sosialiseer dan kry jy beter samewerking bv. saam golf speel. In die verlede toe ons nog by LMs geplaas was, was ons naby die tegniese departemente - maar baie van die ouens in water, sanitasie en vasteafval is nie meer werksaam by LMs wat direkte kommunikasie moeilik maak	Collaboration-good	Neutral
5	Druk kom van gemeenskappe op die munisipaliteit deur pers en sosiale media - skep konflik	Collaboration-good	Neutral
6	Hulle het rioolwerke by ons gebou maar daar is geen screening in nie. Plastiek gaan deur die rioolwerke tot binne in die rivier	Collaboration-lack	Neg
7	Ander munisipaliteite gee nie goeie samewerking nie en wil ons nie deel van hulle operasionele goed he nie	Collaboration-lack	Neg
8	As nuwe besinkingsdamme gebou word kry ons nooit kennis daarvoor nie. Ons sien ook maar net hier begin bou hulle die damme.	Collaboration-lack	Neg
9	Compel to serve us as well	Collaboration-lack	Neg

Order	Responses	Coding	Positive / Negative / Neutral
10	Conflicting sampling results - EHPs take samples and sectorial appointed labs also sample water, sewage - EHPs results show non-compliance, whilst sectorial labs show compliant results. When EHPs take follow-up samples, they are still non-compliant. Sectors always question EHPs results - if it is a compliant, they don't bother, but any non-compliant results from water and sewage they query it. "Ons het gevind dat dieslefde dag wat EHPs monster neem, their appointed lab also takes samples, but their comply and ours is not complying. Even our follow-up samples show non-compliance. One gets the feeling that the lab just giving them what they want to hear which give the impression that it is not giving a true reflecting on what the situation actually is"	Collaboration-lack	Neutral
11	Gebrek aan kommunikasie en insette tussen ingenieurs en MHS wanneer hulle bv WWTW ontwerp / ontwikkel - hulle sluit oksidasiedamme en rietbed stelsels deesdae uit en die water kwaliteit wat ons kry is baie swakker as in die verlede	Collaboration-lack	Neg
12	Geen saamsit vir IDP/SDBIP/Kontrole - Begrotings besprekings	Collaboration-lack	Neg
13	Geen samewerking	Collaboration-lack	Neg
14	In selective areas where B municipality request our (MHS) input for new developments - they don't respond to our requests to provide proof that they make provision in current facilities such as waste or sewerage systems for the additional loads to have sufficient capacity. Tot vandag het ons nog geen terugvoer ontvang op ons versoeke nie	Collaboration-lack	Neutral
15	Leemtes - nie altyd samewerking nie	Collaboration-lack	Neg
16	B & C municipality relationship - Ons maak partykeer 'n fout om te dink dit gaan net oor Munisipale Gesondheid - dit is net die verhouding tussen die B & C munisipaliteite. "Die B munisipaliteit hou nie daarvan dat die C munisipaliteite vir hom sê wat om te maak nie." Dit gaan nie spesifiek oor die beroep nie [confirmation in background by another participant]	Collaboration-lack	Neg
17	Kommunikasie - Voorbeeld, "...by [dorp], het ek al baie gepraat, ek is al afgelope amper 18 jaar daar, rondom drinkwater, rouwater opgaar kapasiteit vir drinkdoeleindes. Daai dorp se opgaardamme is nog presies dieselfde wat dit die afgelop 50 jaar was. Daar was nog nooit 'n projek om die opgaar kapasiteit te vermeerder nie. As [dorp] nie opvolg reëns kry nie, gaan ons sit met groot water krisis sit in daai dorp. Ons is baie gelukkig ons kry...[ ], ons gebruik tans daai dorp se drinkwater volume - die damme wat daar is - twee keer uit per jaar. Die totale kapasiteit - relatiewe klein damme. As daar goeie kommunikasie is en die ouens luister na wat aangaan, "want die oomblik wat daar nie drinkwater is nie, is dit 'n gesondheids krisis en dan kom dit na ons toe by munisipale gesondheid waar waters dan moet aangery word en dan staan alles stil, soos jy weet, sanitasie, voedsel voorbereiding, begrafnisondernemings besighede ens. Dit is hoekom kommunikasie só belangrik is. "Hulle luister nie na die inset wat ons vir hulle gee of op wil wys nie	Collaboration-lack	Neg

Order	Responses	Coding	Positive / Negative / Neutral
18	<p>Researcher: Enige ervaring van jou kant af? - "uiters swak" - kom ek noem net vir u 'n voorbeeld - die Corporate Service Manager, wat ek vir haar 'n mail gestuur het en vra dat ek op hulle portefuelje komitee sit, om my verslag te gaan verduidelik, as daar... my verslag kom mos nou daar in, só, as hulle nou sien daar is water wat nie voldoen nie - dan kan ek mos darem vir hulle sê - dit is die redes. Haar woorde aan my was 'sy kannie toelaat dat ek haar amptenare ontbloot nie - klaar - só, ek gaan nie daarso sit nie.'" "Ons het altyd probleme as ons issues het, bv., met riool verstoppings - dame skakel my vir die klagte - ek kom by haar en dan gooi sy haar toys uit die kot uit. Wel, dit is agter haar huis en die reuk trek deur haar huis. Ek sê toe vir haar, juffrou, gee my net gou 'n kansie - ek gaan net gou hierdie amptenaar bel. Toe sê sy, 'nee die amptenaar, van die (Cat B - Mun - Water Serv Provider official) was nou net hier by haar huis gewees, en hy het gesê, omdat dit 'n reuk oorlas is, gaan gou-gou vir P48 - die Gesonheidsinspekteur bel'. Dit is die tiepe verhouding wat ons het met die munisipaliteit." "Dis is ongelukkig - dit maak jou ongelukkig, want ons altwee het 'n rol om te speel in die gemeenskap. Ek hoop maar dit sal beter gaan in die toekoms, maar ek weet nie"</p>	Collaboration-lack	Neg
19	There are no service delivery meetings	Collaboration-lack	Neg
20	Water, and Sanitation - WSA - solely LM responsible - not a problem	Collaboration-lack	Neutral
21	Zero contact	Collaboration-lack	Neg
22	Nuwe ontwikkeling en onderhandelinge - Bulk services establishment limited involvement of EH	Collaboration-limited	Neutral
23	<p>Taking responsibility - "Even though you report it to them, they don't have that worrying factor what you have as MHS, that you are polluting - that you are the service authority." You find that their preparation and corrective measures are so slow as if they are not more worried about the community or public condition. You will find that they do not have a backup mechanism in place due to budgets as if they don't have that responsibility as a service authority. What do you do?</p>	Collaboration-reactive	Neg
24	Little bit improvement - new developments - does not include us from onset- later on sewage problem	Collaboration-reactive	Neg
25	Gebrek aan kommunikasie en insette tussen ingenieurs en MHS wanneer hulle bv WWTW ontwerp / ontwikkel - hulle sluit oksidasiedamme en rietbed stelsels deesdae uit en die water kwaliteit wat ons kry is baie swakker as in die verlede	Communication-lack	Neg
26	Daar is uitsonderings waar munisipaliteite goed saamwerk - dit hou verband met bestuursstyle in die munisipaliteite -	Cooperation-good	Pos
27	<p>B &amp; C municipality relationship - Ons maak partykeer 'n fout om te dink dit gaan net oor Munisipale Gesondheid - dit is net die verhouding tussen die B &amp; C munisipaliteite. "Die B munisipaliteit hou nie daarvan dat die C munisipaliteite vir hom sê wat om te maak nie." Dit gaan nie spesifiek oor die beroep nie [ confirmation in background by another participant]</p>	IGR-negative	Neg
28	Goeie samewerking met [LM ABC] munisipaliteit - daaglik - 1 uur vergaderings waar die MM, Disaster, Fire, Statsbeplanning, water, sanitasie ens is - MHS is deel van dit	IGR-positive	Pos

Order	Responses	Coding	Positive / Negative / Neutral
29	Taking responsibility - "Even though you report it to them, they don't have that worrying factor what you have as MHS, that you are polluting - that you are the service authority." You find that their preparation and corrective measures are so slow as if they are not more worried about the community or public condition. You will find that they do not have backup mechanisms in place due to budgets as if they don't have that responsibility as a service authority. What do you do?	LM abdicated responsibility	Neg
30	LM see their responsibility as old traditional municipality boundaries - does not cover rural areas	LM abdicated responsibility	Neutral
31	Civil engineering plan - new plan - does not include EH	Planning-lack	Neg
32	Conflicting sampling results - EHPs take samples and sectorial appointed labs also sample water, sewage - EHPs results show non-compliance, whilst sectorial labs show compliant results. When EHPs take follow-up samples, they are still in non-compliance. Sectors always question EHPs results - if it is a compliant, they don't bother, but any non-compliant results from water and sewage they query it. Ons het gevind dat dieselfde dag wat EHPs monster neem, their appointed lab also takes samples, but theirs comply and ours is not complying. Even our follow-up samples show non-compliance. One gets the feeling that the lab just giving them what they want to hear which give the impression that it is not giving a true reflection on what the situation actually is	Recognition	Neg
33	Ek hoef nie aan jou te kommunikeer - hulle kyk neer op jou.	Recognition	Neg
34	Gebrek aan kommunikasie en insette tussen ingenieurs en MHS wanneer hulle bv WWTW ontwerp / ontwikkel - hulle sluit oksidasiedamme en rietbed stelsels deesdae uit en die water kwaliteit wat ons kry is baie swakker as in die verlede	Recognition	Neg
35	In selective areas where B municipality request our (MHS) input for new developments - they don't respond to our requests to provide proof that they make provision in current facilities such as waste or sewerage systems for the additional loads to have sufficient capacity. Tot vandag het ons nog geen terugvoer ontvang of ons versoeke nie	Recognition	Neg
36	Little bit improvement - new developments - does not include us from onset- later on sewage problem	Recognition	Neg
37	Kommunikasie - Voorbeeld, "...by [dorp], het ek al baie gepraat, ek is al afgelope amper 18 jaar daar, rondom drinkwater, rouwater opgaar kapasiteit vir drinkdoeleindes. Daai dorp se opgaardamme is nog presies dieselfde wat dit die afgelop 50 jaar was. Daar was nog nooit 'n projek om die opgaar kapasiteit te vermeerder nie. As [dorp] nie opvolg reëns kry nie, gaan ons sit met groot water krisis sit in daai dorp. Ons is baie gelukkig ons kry...[ ], ons gebruik tans daai dorp se drinkwater volume - die damme wat daar is - twee keer uit per jaar. Die totale kapasiteit - relatiewe klein damme. As daar goeie kommunikasie is en die ouens luister na wat aangaan, "want die oomblik wat daar nie drinkwater is nie, is dit 'n gesondheids krisis en dan kom dit na ons toe by munisipale gesondheid waar waters dan moet aangery word en dan staan alles stil, soos jy weet, sanitasie, voedsel voorbereiding, begrafnisondernemings besighede ens. Dit is hoekom kommunikasie só belangrik is. "Hulle luister nie na die inset wat ons vir hulle gee of op wil wys nie	Recognition	Neg
38	Wil nie kommunikeer nie - sien as "klaas en baas"	Recognition	Neg
39	Different work ways between EHP offices applying the rules	Standardisation-regulation	Neutral

Order	Responses	Coding	Positive / Negative / Neutral
	<b>MHS Middle Management current alignment (FGs 7-10)</b>	<b>Positive</b>	3 (7.7)
		<b>Neutral</b>	8 (20.5)
		<b>Negative</b>	28 (71.8)
		<b>Total</b>	39 (100)

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*MHS Top Management current alignment (FG 11)*

**Responses to the question: Think about the collaboration between MHS (DM) and sector departments (LMs - water, sanitation, and waste) with regards to planning, programming, and control. What comes to mind first?**

Order	Responses	Coding	Positive / Negative / Neutral
1	Maar dit verskil ook van distrik tot distrik en van LM tot LM binne die DM jurisdiksie. Dit mag wees dat jy met 1 of 2 van jou LMs baie goeie verhouding het maar met ander 2 of 3 nie. Waarom sê julle is dit? Hou maar verband met beperkte hulpbronne en vaardighede	Collaboration-good	Neutral
2	Forum vergadering vir afvalbestuur, lugbesoedling en MHS - goeie samewerking tussen Bs & Cs	Collaboration-good	Pos
3	Niks [Noting]	Collaboration-lack	Neg
4	Dooie lugleegte [ <i>just a vacuum</i> ]	Collaboration-lack	Neg
5	Werk nes Nasionale Gesondheid - Wil hê jy (OG) moet iets doen maar van hulle kant doen hulle niks	Collaboration-lack	Neg
6	Water & Sanitasie (Ingenieurs) dienste - nie goeie samewerking - Word toegeskryf aan gebrek aan koördinerings struktuur vir water en sanitasie soos met vasteafval en lugbesoedling	Collaboration-lack	Neutral
7	Maar dit verskil ook van distrik tot distrik en van LM tot LM binne die DM jurisdiksie. Dit mag wees dat jy met 1 of 2 van jou LMs baie goeie verhouding het maar met ander 2 of 3 nie. Waarom sê julle is dit? Hou maar verband met beperkte hulpbronne en vaardighede	Collaboration-lack	Neg
8	Karoo, minder goeie samewerking	Collaboration-limited	Neg
9	Waar LM en Distrik Mun se hoofkantore in dieselfde dorp geleë is, is samewerking beter, maar waar EHPs vanuit DM sataliet kantoor kommunikeer met LM se Hoofkantoor, ervaar EHPs van sataliet kantoor nie dieselfde nie	Collaboration-limited	Neutral
10	Weinig of geen reaksie of eers paar dae later	Collaboration-reactive	Neutral
11	Big brother - B Munisipaliteit het dit in hul koppe	IGR-negative	Neg
12	Gestruktureerde kommunikasie Forum, soos vir vasta afval bestaan nie vir water en sanitasie nie	IGR-negative	Neg
13	B Munisipaliteit is autonome organisasie en nie verantwoordelikheid teenoor jou nie	IGR-negative	Neg
14	Gestruktureerde kommunikasie Forum, soos vir vasta afval bestaan nie vir water en sanitasie nie	IGR-positive	Neutral
15	Sommige munisipaliteite beskik ook nie oor kapasiteit, (mense en geld) hulpbronne wat samewerking affekteer. Het nie die vermoë en vaardigheid om die diens te verrig nie. Kannie doeltreffende diens lewer as daai faktore in aggenneem word nie	LM abdicated responsibility	Neg
16	Sommige munisipaliteite beskik ook nie oor kapasiteit, (mense en geld) hulpbronne wat samewerking affekteer. Het nie die vermoë en vaardigheid om die diens te verrig nie. Kannie doeltreffende diens lewer as daai faktore in aggenneem word nie	LM capacity	Neg
17	Wanneer MHS sisteme aanvat is hulle vark in die verhaal	Recognition	Neg
18	Gesien, dat ons moenie los - publiek is aan ons kant - beslis nie aan hulle kant nie	Recognition	Neutral
19	Ingenieurs is ongevoelig - wil nie veel van ons weet nie	Recognition	Neg
20	Ons nie deel van hulle - word behandel as buitestaanders	Recognition	Neg

Order	Responses	Coding	Positive / Negative / Neutral
21	Waar LM en Distrik Mun se hoofkantore in dieselfde dorp geleë is, is samewerking beter, maar waar EHPs vanuit DM sataliet kantoor kommunikeer met LM se Hoofkantoor, ervaar EHPs van sataliet kantoor nie dieselfde nie	Recognition	Neg
22	B Munisipaliteit met stadsstatus, baie verheve bo LMs and DM. Like to talk up, but not down. Hulle kom nie na my toe nie. "Gaan eerder na my ED (Executive Director) of MM en vra hoekom skryf ek nou dit aan hulle, maar hulle sal nie na my toe kom nie". Gaan maar oor Big Brother konsep. Ag hulle hoër as ander en omdat hulle ook autonome owerheid is en voel dat hulle nie verantwoording het teenoor jou as Dist Mun nie, alhoewel jy verantwoordelik is vir die monitering van daardie diens. Omdat hulle outonome owerheid is voel hulle kan maak en breek soos hulle wil en het nie verantwoording teenoor jou (Dist Mun)	Recognition	Neg
23	B Munisipaliteit is autonome organisasie en nie verantwoordelikheid teenoor jou nie	Recognition	Neg

**MHS Top Management current alignment (FG 11)**

<b>Positive</b>	1 (4.3)
<b>Neutral</b>	6 (26.1)
<b>Negative</b>	16 (69.6)
<b>Total</b>	<b>23 (100)</b>

**Overall score for all FGs (1-11)**

<b>Positive</b>	8 (6.9)
<b>Neutral</b>	20 (17.2)
<b>Negative</b>	88 (75.9)
<b>TOTAL</b>	<b>116 (100)</b>

**Appendix Q: Chi-square test – Top management and political commitment / support for MHS budget and operational programmes**

<b>Variables</b>	<b>Test statistics</b>	<b>Df</b>	<b>Asymptotic Significance (2-sided)</b>	<b>Observation</b>	<b>Decision</b>
<b><u>MHS budget support</u></b>					
EHPs - Top Man budget support	7.285	8	0.506	0.506 > alpha = 0.05	
EHPs - Political budget support	10.290	8	0.245	0.245 > alpha = 0.05	Not significant. Accept null hypothesis No association (there is dependence)
DMs - Top Man budget support	16.264	16	0.435	0.435 > alpha = 0.05	
DMs - Political budget support	23.296	16	0.106	0.106 > alpha = 0.05	
<b><u>MHS Operational support</u></b>					
EHPs - Top Man Ops support	6.265	8	0.618	0.618 > alpha = 0.05	
DMs-Top Man Ops support	21.447	16	0.162	0.162 > alpha = 0.05	
EHPs – Mayco Ops support	7.767	8	0.457	0.457 > alpha = 0.05	
DMs – Mayco Ops support	19.950	16	0.222	0.222 > alpha = 0.05	Not significant. Accept null hypothesis No association (there is dependence)
EHPs – Standing Com Ops support	9.065	8	0.337	0.337 > alpha = 0.05	
DMs – Standing Com Ops support	17.357	16	0.363	0.363 > alpha = 0.05	
DMs – MHS Man Ops support	14.646	16	0.551	0.551 > alpha = 0.05	
DMs – MHS Sup Ops support	8.261	16	0.941	0.941 > alpha = 0.05	
EHPs – MHS Man Ops support	17.408	8	<b>0.026</b>	0.026 < alpha = 0.05	<b>Significant</b> Reject null hypothesis Association (independence)
EHPs – MHS Sup Ops support	16.522	8	<b>0.035</b>	0.035 < alpha = 0.05	

**Appendix R: Chi-square test - EHP categories' satisfaction with the current MHS and BMS outputs to satisfy the community's basic needs in support of preventive health outcomes**

<b>Variables</b>	<b>Test statistics</b>	<b>Df</b>	<b>Asymptotic Significance (2-sided)</b>	<b>Observation</b>	<b>Decision</b>
MHS	15.829	18	0.604	$0.604 > \alpha = 0.05$	Not significant; Accept null hypothesis; No association (there is dependence)
Water	14.976	12	0.243	$0.243 > \alpha = 0.05$	
Sanitation	14.052	12	0.297	$0.297 > \alpha = 0.05$	
Solid waste	17.822	12	0.121	$0.121 > \alpha = 0.05$	

## Appendix S: Chi-square table – Critical values comparative table

Chi-Square Right-Tail Probability ( $\geq \chi^2$ )										
DF	0.995	0.99	0.975	0.95	0.9	0.1	0.05	0.025	0.01	0.005
1	---	---	0.001	0.004	0.016	2.706	3.841	5.024	6.635	7.879
2	0.010	0.020	0.051	0.103	0.211	4.605	5.991	7.378	9.210	10.597
3	0.072	0.115	0.216	0.352	0.584	6.251	7.815	9.348	11.345	12.838
4	0.207	0.297	0.484	0.711	1.064	7.779	9.488	11.143	13.277	14.860
5	0.412	0.554	0.831	1.145	1.610	9.236	11.070	12.833	15.086	16.750
6	0.676	0.872	1.237	1.635	2.204	10.645	12.592	14.449	16.812	18.548
7	0.989	1.239	1.690	2.167	2.833	12.017	14.067	16.013	18.475	20.278
8	1.344	1.646	2.180	2.733	3.490	13.362	15.507	17.535	20.090	21.955
9	1.735	2.088	2.700	3.325	4.168	14.684	16.919	19.023	21.666	23.589
10	2.156	2.558	3.247	3.940	4.865	15.987	18.307	20.483	23.209	25.188
11	2.603	3.053	3.816	4.575	5.578	17.275	19.675	21.920	24.725	26.757
12	3.074	3.571	4.404	5.226	6.304	18.549	21.026	23.337	26.217	28.300
13	3.565	4.107	5.009	5.892	7.042	19.812	22.362	24.736	27.688	29.819
14	4.075	4.660	5.629	6.571	7.790	21.064	23.685	26.119	29.141	31.319
15	4.601	5.229	6.262	7.261	8.547	22.307	24.996	27.488	30.578	32.801
16	5.142	5.812	6.908	7.962	9.312	23.542	26.296	28.845	32.000	34.267
17	5.697	6.408	7.564	8.672	10.085	24.769	27.587	30.191	33.409	35.718
18	6.265	7.015	8.231	9.390	10.865	25.989	28.869	31.526	34.805	37.156
19	6.844	7.633	8.907	10.117	11.651	27.204	30.144	32.852	36.191	38.582
20	7.434	8.260	9.591	10.851	12.443	28.412	31.410	34.170	37.566	39.997
21	8.034	8.897	10.283	11.591	13.240	29.615	32.671	35.479	38.932	41.401
22	8.643	9.542	10.982	12.338	14.041	30.813	33.924	36.781	40.289	42.796
23	9.260	10.196	11.689	13.091	14.848	32.007	35.172	38.076	41.638	44.181
24	9.886	10.856	12.401	13.848	15.659	33.196	36.415	39.364	42.980	45.559
25	10.520	11.524	13.120	14.611	16.473	34.382	37.652	40.646	44.314	46.928
26	11.160	12.198	13.844	15.379	17.292	35.563	38.885	41.923	45.642	48.290
27	11.808	12.879	14.573	16.151	18.114	36.741	40.113	43.195	46.963	49.645
28	12.461	13.565	15.308	16.928	18.939	37.916	41.337	44.461	48.278	50.993
29	13.121	14.256	16.047	17.708	19.768	39.087	42.557	45.722	49.588	52.336
30	13.787	14.953	16.791	18.493	20.599	40.256	43.773	46.979	50.892	53.672
40	20.707	22.164	24.433	26.509	29.051	51.805	55.758	59.342	63.691	66.766
50	27.991	29.707	32.357	34.764	37.689	63.167	67.505	71.420	76.154	79.490
60	35.534	37.485	40.482	43.188	46.459	74.397	79.082	83.298	88.379	91.952
70	43.275	45.442	48.758	51.739	55.329	85.527	90.531	95.023	100.425	104.215
80	51.172	53.540	57.153	60.391	64.278	96.578	101.879	106.629	112.329	116.321
90	59.196	61.754	65.647	69.126	73.291	107.565	113.145	118.136	124.116	128.299
100	67.328	70.065	74.222	77.929	82.358	118.498	124.342	129.561	135.807	140.169

## Appendix T: Ethical clearance – Cape Peninsula University of Technology Research Ethics Committee



P.O. Box 1906 • Bellville 7535 South Africa •Tel: +27 21 953 8677 (Bellville), +27 21 460 4213 (Cape Town)

Ethical clearance certificate

Reference no: 184014042

Office of the Chairperson Research Ethics Committee	Faculty of Applied Sciences
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The Faculty Research Committee, in consultation with the Chair of the Faculty Ethics Committee, hereby approves ethical clearance for research proposal of **Agenbaq Michael (184014042)** for research activities related to a project undertaken for a **PhD in Environmental Health** at the Cape Peninsula University of Technology.

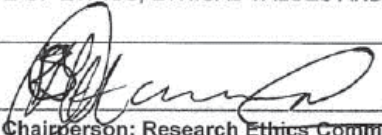
Supervisor(s): Prof I Human/Emeritus Prof D Schutte

<b>Title of dissertation/ thesis:</b>	Effective preventative local government environmental health services: A strategy for South Africa
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As such, this ethical clearance is issued on the basis that due diligence will be taken when involving human/animal subjects. Ethical clearance given was on the basis that, all the required/requested information complied with minimum standards for ethical clearance.

**Comments (Add any further comments deemed necessary, e.g. permission required)**

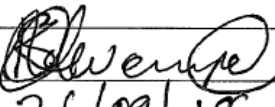
1. Ethical clearance is granted for the duration of the study. An annual progress report is required.
2. Research activities are restricted to those detailed in the research proposal.
3. Data/Sample collection/Participant consent permission is required for this study. The questionnaire must be translated in to two regional languages, or a translator must be made available.
4. The research team must comply with conditions outlined in AppSci/ASFREC/2015/1.1 v1, CODE OF ETHICS, ETHICAL VALUES AND GUIDELINES FOR RESEARCHERS.

 Signed: Chairperson: Research Ethics Committee	26/09/18 Date
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### Statement of Permission

Data/Sample collection permission is required for this study.

<b>Surname &amp; name</b>	Agenbag Michael
<b>Student Number</b>	184014042
<b>Degree</b>	PhD in Environmental Health
<b>Title</b>	Effective preventative local government environmental health services: A strategy for South Africa
<b>Supervisors</b>	Prof I Human Emeritus Prof D Schutte
<b>FRC Signature</b>	
<b>Date</b>	26/09/18

## Appendix U: Letter of support from Western Cape Department of Health



Office of the Head: Health

Reference: 16/4

Enquiries: Dr EH Engelbrecht

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Mr. M.H.A. Agenbag  
 Cape Peninsula University of Technology  
 P.O. Box 3805  
 Somerset West  
 7130

Dear Mr Agenbag

**RE: ENDORCEMENT FOR Ph.D. IN ENVIRONMENTAL HEALTH: "EFFECTIVE PREVENTATIVE LOCAL GOVERNMENT ENVIRONMENTAL HEALTH SERVICES: A STRATEGY FOR SOUTH AFRICA"**

Thank you for your letter dated 16<sup>th</sup> July 2018.

Basic municipal services, i.e. water, sanitation and waste, are key elements affecting sustainable public health, economic development and social cohesion; therefore, it is critical that local policy frameworks and programmes should reflect the integration of interventions across different sectors. Consequently, your study will certainly support this national and international public health concern for solutions to address these critical determinants at local government level, affecting sustainable health outcomes.

Your research, to facilitate effective preventative local government environmental health services in the Western Cape in particular and South Africa in general, will make a valuable contribution to the pool of knowledge to inform preventative primary health care interventions at source. The Western Cape Department of Health hereby provides endorsement for your Ph.D. in Environmental Health.

Wishing you the best in your endeavour for finding new information that will be beneficial for the multidisciplinary solution(s) to complex preventative public health and basic municipal service delivery challenges.

Yours sincerely

A handwritten signature in black ink, appearing to read "Keith Cloete".

Dr Keith Cloete

**Acting Head: Western Cape Department of Health**

Date:

24/07/18

## Appendix V: Letter of support from South African Local Government Association (SALGA)

Enquiries: Sikheto Mavundza  
 Tel: 012 369 8000  
 Fax: 012 369 8001  
 E-mail: smavundza@salga.org.za




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Mr. Mike Agenbag ([agenbagm@cput.ac.za](mailto:agenbagm@cput.ac.za))

Lecturer: Environmental Health  
 Department of Environmental and Occupational Studies  
 Cape Peninsula University of Technology  
 Cape Town  
 8000

14 June 2018

Dear Mr Agenbag

### LETTER OF SUPPORT FOR A DOCTORAL DEGREE IN ENVIRONMENTAL HEALTH

This letter serves to inform you that the SALGA Community Development Directorate has received your letter requesting our support to pursue your studies and conduct research in municipalities. It gives us great pleasure to inform you that the Directorate is in support of your studies towards a doctoral degree in Environmental Health, titled: 'Effective preventative local government environmental health services: a strategy for South Africa'.

We believe that this research, once completed will contribute positively to the role of Local Government on the provision of Municipal Health Services. SALGA herewith request that, upon completion of your study, your report be available and presented to SALGA before it can be distributed to other stakeholders.

You are requested to liaise with Community Development Directorate Programme Managers in SALGA provincial offices for assistance in establishing contact in municipalities. Furthermore, Municipal Managers in the respective municipalities that you will be contacting would still need to give permission to their staff members to participate in the study.

It should however be noted and indicated that the views expressed in the research report are those of the author and do not reflect the official policy or position of SALGA.

Yours sincerely,

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**MANDU MALLANE**  
 ACTING EXECUTIVE DIRECTOR: COMMUNITY DEVELOPMENT