A MODEL FOR DEVELOPING PUBLIC POLICY FOR THE WASTEWATER MANAGEMENT SECTOR IN JAMAICA

AN ACTION RESEARCH INQUIRY

Thesis submitted in accordance with the requirements of the University of Liverpool for the degree of Doctor of Business Administration

by

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Abstract

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Title: A Model for Developing Public Policy for the Wastewater Management Sector in Jamaica.

For many years in the global public policy arena, the issue of wastewater management remained on the 'back burner.' However, by the beginning of the 21st century, there was an acknowledgement that the world faces a water quality crisis due in part to poor water use practices and wastewater management strategies.

Jamaica is one of the largest countries in the English-speaking Caribbean with arguably one of the more advanced environmental management programmes in the region. The Government of Jamaica (GoJ) has many regulations, policies, and plans that govern the management of wastewater, which are meant to provide a public policy platform that enhances wastewater management in the country. Despite these efforts, there is still an absence of a wide-ranging public policy for the wastewater sector.

The literature revealed that there is a dearth of research regarding the development and implementation of public policy models for wastewater management.

This research project has been carried out using an action research philosophy and explores and builds on the experiences of professionals working in public administration, academia, and nongovernmental organisations in the field of public policy to develop a model for the management of the wastewater sector in Jamaica.

The study uses a qualitative research strategy and explores the issues preventing the development of a public policy model within the wastewater sector in Jamaica and recommends a change model for shaping and developing public policy in the wastewater sector building on existing research drawn from public policy and management research literature.
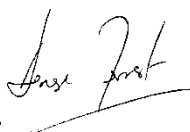
The findings explore the context within which public policy has been developed in the country through an examination of the historical development of public administration in Jamaica and probe how retentions from the colonial past have influenced the present-day public policy development process. Further, the study links how the historical practice of public administration and the current socio-political reality in the country create a complex 'task environment,' within which to develop public policy. Considering this problem the study examines the current issues, processes, and practices, and the use of participatory methods in developing public policy for the management of the wastewater sector. Informed by contributions from the literature, the study findings, and new insights a policy development change model is proposed. The change model provides actionable knowledge for a consulting firm.

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Abbreviations and Acronyms

AL	Action Learning
AR	Action Research
BPOA	Barbados Programme of Action
CCBs	Collaborative Capacity Builders
CEP	Caribbean Environment Programme
DP	Doctoral Practitioner
GDP	Gross Domestic Product
GoJ	Government of Jamaica
GPA	Global Plan of Action
IDB	Inter-American Development Bank
MDG	Millennium Development Goals
NEPA	National Environment and Planning Agency
NGO	Non-Governmental Organisation
NRCA	Natural Resources Conservation Authority
NWC	National Water Commission
OECD	Organisation for Economic Co-operation and Development
PSOJ	Private Sector Organisation of Jamaica
SDG	Sustainable Development Goals
SIDS	Sustainable Development of Small Island Developing States
UN	United Nations
UNBD	United Nations Convention on Biological Diversity
UNCED	United Nations Conference on Environment and Development
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
WCR	Wider Caribbean Region

1.0 Introduction

1.1 Background

I am the Managing Director of Forrest and Partners Limited (formerly Forrest & Associates) a firm of environmental consultants and project managers. The firm has been in operation for 18 years and the goal of the business is to provide our clients with the best available professional technical expertise in the areas of pollution prevention, waste management, environmental management systems, resource and energy conservation, and strategic planning.

The firm is focused on providing sustainable business solutions that integrate sound environmental management, and efficient project management into the strategic decision-making processes of business operations.

I am a scientist, engineer, project manager, and trained facilitator. The focus of my professional practice is in the areas of waste management and strategic planning. As the company's Managing Director and Principal Consultant, I am responsible for guiding the company's business development and ensuring the business is on a growth path by creating innovative and sustainable solutions for our clients, who are drawn mainly from multilateral organisations, and public and private sector organisations.

 A substantial part of the firm's business is finding waste management solutions. This involves working in the areas of solid waste and wastewater management to identify and develop appropriate technical solutions. The firm also works with governments in Jamaica and the Wider Caribbean Region (WCR) to develop policy measures for the waste management sector.

Opportunities in wastewater management sector are available to grow the business as there is much to be done, and given my experience and expertise, the firm has a competitive advantage in the sector. Despite that assessment over the past 18 years, there has been little growth in this part of the firm's business. I have found that our public or private sector clients often do not move beyond the design phase to full-scale implementation and this tendency stymies the prospects for business growth. It occurs with such frequency that I have dubbed the trend implementation inertia.

Further, the business challenge is compounded by the absence of pressure from the public and non-governmental organisations (NGOs) for improvements in the performance of the wastewater sector. This may be because despite its importance to public health and environmental quality it remains an invisible problem.

The inertia, coupled with the lack of public agitation, has negative implications for the firm's growth prospects and the sustainability of wastewater management as one of our core business areas. Failure to grow the wastewater segment of the business will adversely affect the firm's profitability, capacity

building, professional achievements, and reputation. Further, there is a professional risk of being associated, even tangentially, with failure to apply appropriate solutions.

In analysing this trend, I have concluded that a major factor contributing to this lack of business growth has been the absence of an effective public policy development model for the wastewater management sector.

The importance of a functional public policy development model for fuelling business growth within the environmental sector has been demonstrated in Jamaica. For example, in 1992, following the Earth Summit, the Government of Jamaica (GoJ) joined other nations in committing to *Our Common Future* and the principles of sustainable development. The government's commitment to the global declaration led to local action through the passage of several pieces of legislation, which led to the 1991 establishment of the environmental agency - the Natural Resources Conversation Authority - supported by several policies, which catalysed and accelerated the development of the environmental management sector in Jamaica. As a result, businesses such as environmental consultancy, engineering, laboratories, and waste management services emerged to support the regulatory framework.

Considering how the environmental management sector developed, could a similar approach create and or strengthen business demand in the wastewater management sector? How could I promote the growth of the wastewater sector? In my mind, the answer lies in developing a workable public policy model for the wastewater sector. Policies in general are designed to achieve defined goals and introduce solutions to societal problems. More specifically, public policy refers to a long series of actions carried out to solve societal problems. For this study, a policy model outlines the policymaking process. Throughout the report, the words model and framework are used interchangeably.

Even while I acknowledged the importance of effective policy instruments for the expansion of the wastewater sector and the development of business within Forrest & Partners, I also recognise that there were challenges in developing policy in the environmental and related sectors in Jamaica and the WCR. I acquired first-hand knowledge of the difficulties experienced in policy development within the environment and wastewater sectors based on the work I was involved in within my professional practice. I have worked for multilateral agencies and various GoJ entities either as a technical expert or facilitator in the development of public policy measures to address pollution generated by untreated wastewater.

Despite these constraints, the DBA is focused on the generation of actionable knowledge through action research (AR). In my view, the development of a model to create public policy in the wastewater management sector would not only contribute to national development but also give the firm a strategic advantage as the foremost expert in the area. To execute this business growth, however, would require an evaluation of the development of public policy in Jamaica in general and specifically concerning the wastewater management sector. The following section examines this issue in further detail.

1.2 Public Policy Development in Jamaica

In Jamaica, the public policy development process is directed by government guidelines that are overseen by the responsible Ministry. The process is monitored and evaluated by the Cabinet Office before submission of the policy document to the Parliament of Jamaica for final approval (Figure 1).

Figure 1 Major Steps in Policy Development Process in Jamaica.

The GoJ does not have a specific public policy development model for any sector. Instead, the government provides a model accompanied by guidelines for the development of public policy. The GoJ's policy development process was published in 2015 and is outlined in Figure 2.

To support the public policy development process in 2005, the Government developed a Consultation Code of Practice for the public sector, which requires government bodies to meaningfully engage with stakeholders. As outlined in the guideline the consultations are intended to:

- gather and disseminate information
- identify needs
- initiate and explore the evidence
- narrow the range of options available
- evaluate and review policies and programmes, and
- decide on future strategies to achieve policy objectives

The consultation code of practice emerged from new governance orders as part of a process of public service reform intended to place the Jamaican people at the centre of the policy-making process, moving from positive observers to active participants. In the words of the then Prime Minister the Honourable P. J. Patterson, ON, PC, QC, MP extracted from the 2005 document:

> The Consultation Code demonstrates the commitment of the Government to good governance, development, and participatory democracy. It is a strategic tool that will push the public service away from the tradition of top-down solutions and more towards creating a community of participation and a new culture of governance. (p. i)

Development of Concept Paper (initial research or consultation)

| The proposed Project Steering Committee | Identification of stakeholders and methods to facilitate their participation in developing and reviewing the policy document |

Policy Preparation and Analysis (draft policy prepared)

| Prepared by responsible ministry | Reviewed by responsible cabinet committee |

Public Consultation (Green Paper)

Document will be used as the basis for meeting with stakeholder groups, inside and outside the Ministry, to garner feedback

Point of Readiness (White Paper)

| Submitted to the responsible Cabinet Committee for consideration | Recommendations for changes that arise from consultative process may be included in the final document |

Tabling in Parliament for Approval

Figure 2 Steps in GoJ Policy Development Model.

While well-intended there is a distinct mismatch between the objectives of the government as outlined in the code of consultation and the steps on the public policy development model, which is by and large a top-down process as public administrators and technocrats control the entire process. Public consultation occurs only when a draft policy is developed and may or may not result in any substantiative change to the Green Paper.

A review of the development of public policy from 1995 to 2017 within the environmental sector (see Table 1) shows that the average time taken to promulgate public policy ranges from 2 to 20 years. In many cases, the policies remain in draft and have not been implemented. This track record suggests that the current public policy development model may be failing or at the very least may need rethinking. The public policy development model as practised within the environmental sector has not seen any significant accomplishments over the past twenty-five years.

Table 1 List of Environmental Policies Developed from 1995 to 2017.

Name of Policy and Date of Commencement of Development	Status and or Date of Finalization
1. National System of Protected Areas (1997)	Policy finalised in 2016; an overarching Protected Areas. Policy has been drafted under the GoJ/GEF NPAS Project; Draft Policy to be sent to Cabinet for approval as Green Paper in the 2018/19 FY.
2. Beach Access and Management Policy (2017) [Replaced the Draft Beach Policy of 1997]	Draft; Awaiting comments from the Attorney General Chambers and the Ministry of Tourism in 2017. Thereafter, the draft will be sent to the Cabinet for approval as a Green Paper.
3. Watershed Policy (1999)	Draft prepared remains a work in progress.
4. Ocean and Coastal Zone Management Policy for Jamaica (2002)	Policy finalised in 2015.
5. Orchid Conservation Policy (1994)	Policy finalised in 2003.
6. Dolphin Policy (2009)	Remains a work in progress. White Paper to be submitted to Cabinet by 3rd quarter of the 2017/18 FY.
7. National Biosafety Policy for Jamaica (2005)	The draft remains a work in progress.
8. Wildlife Trade Policy for Jamaica (1994)	Draft is currently being revised.
9. Policy and Strategy for the Environmental Management Systems (2001)	Work in progress. Draft Policy to be sent to Cabinet as Green Paper by the 3rd quarter of the 2017/18.
10. Policy and Strategy for the Environmentally Sound Management of Hazardous Waste (2004)	Draft Policy to be sent to Cabinet for approval as Green Paper by November 2017.
11. National Solid Waste Management Policy (1995)	Policy finalised in 2000.
12. Climate Change Policy Framework for Jamaica (2013)	Policy finalised in 2015.
13. Cays Management Policy for Jamaica (2008)	Draft: Awaiting comments from the Attorney General Chambers, and Municipal Corporations. Thereafter draft text to be sent to Cabinet for approval as Green Paper before the end of the 2017/18.
14. Emissions Policy Framework for Jamaica (2017)	Draft text to be sent to Cabinet by November 2017 for approval as Green Paper.
15. Forest Policy (2014)	Policy finalised 2017.
16. Protected Areas System Master Plan (2005)	Plan finalised in 2016.

For the wastewater management sector, a National Baseline Assessment Study on Wastewater Management in Jamaica (Silva, 2015) suggested the need for an integrated policy platform. The study analysed the status of wastewater management by evaluating the level of adequacy for twenty-seven issues, which were viewed as vital to effective wastewater management. Figure 3 provides a graphical representation of the results.

Silva (2015) found several factors contributed to these results. Chief among these was a weak intersectoral approach to wastewater management and a lack of cooperation and coordination among entities responsible for wastewater management.
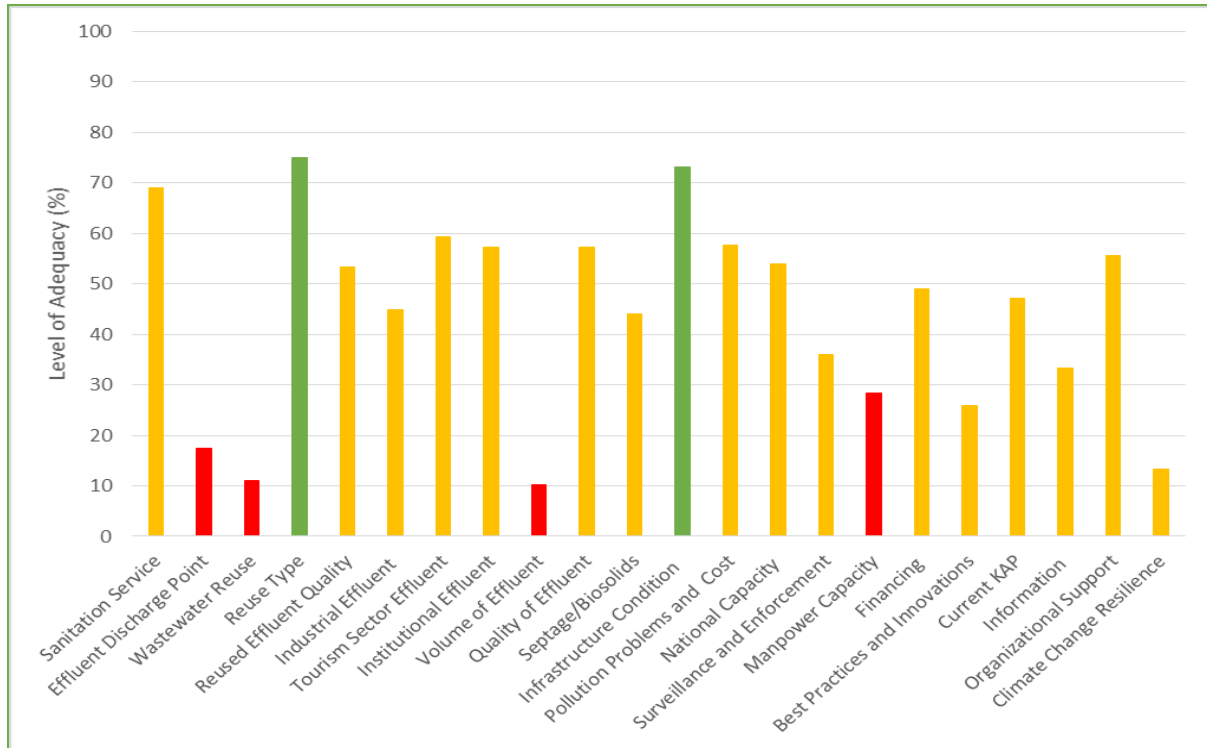
Figure 3 Level of Adequacy of 27 Issues within the Wastewater Sector.

This conclusion is supported by the proliferation of many regulations, policies, and plans that govern the management of wastewater/sewage by several organisations. The most important statutes are the Natural Resources Conservation Authority (NRCA) Act (1991), and the NRCA Wastewater and Sludge Regulations, which regulate effluent discharges. Other supporting legislation is the Public Health Act (1974), the National Water Commission (NWC) Act (1963) amended in 1965, 1973, and 1980, and the Water Resources Act (1995).

These laws are meant to enhance wastewater management and are supported by several policies the Jamaica Water Sector Policy (1999), the revised draft Water Sector Policy, Strategy, and Action Plan (2004), and the Draft Jamaica National Sanitation Policy (2005) and the Squatter Management Policy. Yet, despite the abundance of regulations and policies, the practices within the sector show that these policy interventions have not solved the problems. The data shows that the main source of water pollution is because of poor wastewater management. That is inadequate sewage disposal and agricultural and industrial discharges. The reasons for this apparent failure in public policy are varied ranging from the tendency to use a "silo" approach in policy development, the cross-cutting nature, and the complexity of the issues related to managing wastewater and an inability to complete and implement policy.

In my view, policy failures are directly affecting both business growth in the wastewater sector of my business as well as my development as a professional practitioner working in the sector. As a result, addressing this issue and generating actionable knowledge on the development of a public policy for wastewater management is the focus of the research project. The nature of the problem is examined in the following section of the report.

1.3 Development of Public Policy for the Wastewater Sector

1.3.1 Global and Caribbean Experience

There is a dearth of academic research regarding the development of public policy for the wastewater sector in Jamaica and the WCR. Despite the Region's commitment to a few multilateral agreements, there has been little by way of policy to guide and develop the sector. Thomas-Hope (2013) noted that twenty-five years after the Rio Earth Summit the WCR's progress towards improving environmental management has been found wanting. There continues to be the absence of a definitive environmental management policy and the resultant absence of a comprehensive integrated public policy for the wastewater sector.

Globally there has been much dialogue and an acknowledgement of the centrality and critical importance of addressing environmental concerns to achieve human progress. However, researchers - Haas (2004), Juntti, Russel, and Turnpenny (2009), Lafferty and Hovden (2003), and Miller (2001) found the mainstreaming of environmental management policy, and by extension wastewater management into global policy discourse has been given relatively little treatment by academia and policy makers. In the Caribbean and Latin America, the situation is not dissimilar to the global experience.

Lopez-Marrero and Heartsill Scalley (2012) commented on the threats and opportunities that existed in the environmental condition in the Caribbean with increasing urbanisation. They observed that one consequence was the provision of freshwater resources dependent on the management and treatment of used waters. They recommended the need for forward-thinking around wastewater management and the importance to bridge the gap between academic research and practical policy.

Cashman (2014), and Martin-Hurtado and Nolasco (2016) found little in the way of policy to address the issue of water security and the management of wastewater even when regional governments placed the matter on their agendas through the United Nations Environment Programme (UNEP) and Caribbean Environment Programme (CEP). The CEP is aimed at advancing economic prosperity and environmental health within the region through the management of wastewater, which was identified as a major source of land-based pollution from the domestic, municipal, industrial, and agricultural sectors. Untreated wastewater poses a significant threat to marine resources, which are key contributors to economic wellbeing in the Caribbean. A study performed by the Caribbean Sea Ecosystem Assessment (CARSEA) in 2012 and highlighted in the Caribbean Region Fund for Wastewater Management Inception Report (Project Coordination Group, 2012) found that "sewage pollution … has been the most pervasive form of contamination of the coastal environment"(p. 1) and consequently adversely impacts the region's

economic prosperity. Despite the work of the CEP and commitments to the United Nations Conference on Environment and Development to incorporate consideration of environmental management into their sustainable development strategies, the development of an environmental management policy for the wastewater sector remains in limbo for most regional governments including Jamaica.

Given these findings, a review of the development of public policy in Jamaica and the Caribbean was undertaken.

1.3.2 Development of Public Policy in the Caribbean

Marshall (2015) reporting on an investigation of public policy theory in eight Caribbean countries, mainly; Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, Trinidad and Tobago, and St Lucia acknowledged the absence of a tradition of public policy scholarship in the region. Pondering the factors that make policy development so difficult to theorise, Marshall identified the "challenges various scholars have in representing the policy-making process in a coherent way" (2015, p. 40).

The author observed that the unexceptional and unreliable policy performance across the region had resulted in the need to rethink administrative practices and governance modalities. He bemoaned the fact that despite the pioneering scholarship of Gladston E. Mills "no clear canon of work on Caribbean public administration has emerged given the dearth of public policy specialists" (Marshall, 2015, p. 43).

In his study of the practices in public policy development in the eight countries, Marshall (2015) sought to identify the policy development process from initiation through to formulation, determine the extent of participation and discussion on public policy, and pinpoint the challenges of implementation. In summarising the findings of the study Marshall concluded:

> …what became clear is that elites as well as government officials engage in the creation of the 'policy problem' presuming to 'know' what the issues are to which a policy refers… However, a legitimacy deficit prevails, founded not so much on the presumption that social inclusion is treated as a perfunctory governance exercise, but on the foreclosure of how representation of the problem came about; whether it could have been thought through differently; and what an alternate conception may offer. In short, policymaking in the Commonwealth Caribbean is flawed by its deeply deferential Westminster inheritance and the policy practitioner posture as distiller of the problem. (2015, p. 52)

In summary, there is no reliable model of public policy development in the Caribbean. Other scholars concurred with this assessment.

In a scholarly review of public policy in the Caribbean, Thomas (2016) provided some answers to the question of the state of public policy development. He examined the systemic factors influenced by historical events as well as conjunctural and scientific-technological influences on public policy development. Thomas noted that "over time, in pursuit of these public goals the regional bureaucracies became `institutionalised', a process which in turn generated its own internal dynamics and increasingly led to the public sector becoming bogged down in a plethora of rules and regulations, which guided and

governed its activities" (2016, p. 185). He further contended that often disputes arose over the lines of authority in policy making and public accountability that was further complicated by a crisis in implementation capacity within the public sector. Thomas (2016) found that change is needed and posited that change "requires systematic and deliberate efforts to secure the widest possible participation of people, communities, and groups in this process. In the WCR, our traditions in this regard are not very strong. Yet, I personally remain sanguine" (p. 198).

Literature was absent about public policy development in Jamaica and the WCR and the challenges faced in the public policy practice. Consequently, I looked beyond the region to global public policy scholars. The following section outlines further findings from the literature.

1.3.3 Global Public Policy Scholars

Several researchers contributed to the understanding of the development of environmental management policy (Adams & Hess, 2001; Booher & Innes, 2002; Buchanan & Badham, 1999; Burgess, Clark, & Harrison, 2000; Hardy, 1996; Haas, 2004; Juntti et al., 2009; Miller, 2001; Parsons, 2001; Raelin, 2012; Reinicke, 2000; Tsoukas & Chia, 2002).

Earlier researchers investigated the development of environmental policy (Hardy, 1996; Miller, 2001). Most suggest that reliance on the opinion and advice of experts such as scientists to develop policy has been insufficient to mobilise action for the public good. They opined that in shaping environmental policy, the role of stakeholders is vital to achieving credibility, legitimacy, and authority among the diverse public. In this regard, Juntti et al. (2009) observed that participatory modalities were the preferred approach as this facilitates wider public participation in decision making. They noted that "interpretation of evidence or a framing of environmental sustainability becomes powerful only when it is adopted or enacted by a host of relevant decision-makers and stakeholders" (2009, p. 211).

The literature outlined several models of participatory approaches. Arnstein (1969) submitted that public participation was the cornerstone of democracy and outlined the power dynamic created in the ladder of participation. Roberts (1997) posited that public deliberation while challenging was a suitable method for addressing complex policy questions and required changes in management approaches by public administrators. Innes and Booher (2004) proposed collaborative participation as a new paradigm – and as a multi-dimensional model where communication and learning were linked in the development of public policy.

Despite areas of general agreement, the literature also revealed significant gaps between theory and practice of public participation in policy development. In summary, public policy scholars agreed giving voice to stakeholders was essential for developing public policy. However, the literature did not identify a specific policy development model for the environmental sector in general or wastewater management.

1.3.4 Summary of the Literature

The literature on the Caribbean highlights a need to address the issues of wastewater management including in Jamaica. Heartsill Scalley (2012) and Thomas-Hope (2013) highlighted the need for a public policy model to address the issue. However, Marshall (2015) and Thomas (2016) noted policymaking in the Caribbean was flawed and suggested the need for change that incorporates the widest possible participation of people, communities, and other stakeholder groups.

The view of Caribbean scholars aligns with other public policy researchers who suggest the importance of environmental management, the interest of multi-stakeholders, institutional complexities, and gaps in knowledge. The complexity of policy development in the environmental sector requires collaborative strategies. While the authors supported the need for public participation and collaboration, they did not propose a model for the development of public policy that could be used for the wastewater sector.

Interestingly, both scholars ascribe to the importance of public participation and collaboration as key pillars of the policy development process.

1.4 The Problem

1.4.1 Relevance of Problem Resolution to Business and Professional Development

In my view, as an environmental consultant and practitioner over and above my business considerations, a wastewater management policy is a vital development tool because of its importance to the social, environmental, and economic wellbeing of the population. Its absence created many challenges related to pollution, achieving future water security, and building climate change resilience. Therefore, it can be argued that there is a need for research on the factors, which retard and can contribute to the development and implementation of a management policy for the wastewater sector.

In addition to the national development considerations, the absence of an integrated wastewater management policy in Jamaica poses significant challenges for Forrest & Partners as it is a significant part of the firm's business. Growth of the sector is important to the business's financial sustainability and the expansion of our services. However, the growth of this pillar of the business is dependent on getting current and future clients to move beyond preliminary work to more in-depth solutions. Achieving that business objective could potentially enhance the firm's profitability, and increase its capacity and professional reputation.

Interestingly, the absence of a wastewater management policy took on significance and importance when I commenced this research. At that time, I was seconded from the firm to work as the Project Coordinator for the Caribbean Regional Fund for Wastewater Management (CREW), a project intended to improve the management of wastewater in the WCR. For over thirty years the region had failed to effectively treat wastewater and the project brief had identified financing as the major barrier to solving the problem.

However, during the project's execution, I realised that often money was unspent or underutilised. I realised the solution to the wastewater management issue was more complex than simply "throwing money at the problem." Given that experience, I was convinced that the issue of wastewater management for Jamaica and the Caribbean needed a wide-ranging public policy to appropriately frame the issues in addition to a tactical approach.

On my return to the firm, I recognised that the absence of a wastewater management policy was also impacting the business's ability to grow despite my significant work, experience, and professional network in the sector. The growth of the demand for professional services still required an integrated wastewater management policy as the silo approach of the GoJ as recommended by Silva (2015).

The problem then was to devise a way to contribute to the development of this policy to ensure the growth and sustainability of my firm and do this as an 'outsider'. As a technocrat and facilitator, I work with governments on policy development and while I have not designed a policy development process, I have been involved in policy execution for several years. Further, I have been involved in efforts by policymakers to develop environmental policies for the wastewater management sector.

I decided to pursue a DBA with an AR focus rather than the traditional doctoral studies (PhD) because I believed it would equip me to be a better practitioner with an increased capacity to solve issues that to a large degree have remained unsolved throughout the years of my professional practice. I reflected on how I could contribute to the solution to my business problem. What would be my role? I learned a lot about myself and my limitations during my DBA journey. During this period of introspection, I recalled well the learning from my first Doctoral Practitioner (DP) module that brought into sharp focus "we don't know that we don't know." This experience was humbling and left me with an enduring lesson that is, despite my training, professional competence, and experience I know relatively little. So mindful of those lessons I sought to define my role as a practitioner and researcher in search of a solution and I pondered the following questions.

- How have I as a practitioner contributed to solving the problem?
- Is my approach to solving the business problem part of the problem?
- Am I failing to identify underlying issues that have led to the problem in my business?
- Do other practitioners see the absence of wastewater management policy as a problem?
- Who benefits from finding a solution?
- What does each stakeholder really want?

My reflections on these questions coupled with the insights gained from the literature review, and discussions with stakeholders led me to conclude that I needed to find a solution to the absence of an integrated policy for the wastewater sector. The results provide a policy model to drive the demand for professional services in the sector, and as the researcher, I would gain a significant competitive advantage as a foremost expert in the field and market the solution as a product by the firm.

Further, developing a policy model for wastewater management against the background of the current weakness in public policy practice would contribute significantly to my growth as a professional practitioner. The research project would also develop my management capabilities through the insights gained from the research and allow me an opportunity to contribute to the development of other professionals because of the cooperative AR approach used to collect the research findings.

Considering these issues, the DBA focus on AR allowed me a chance to address a business problem and develop professionally. Revans (1981), a noted scholar in the field posits "action learning is a means of development, intellectual, emotional or physical that requires its subject through responsible involvement in some real, complex and stressful problem, to achieve intended change sufficient to improve his observable behaviour" (p. 9) became a reality in my life.

The study intends to examine the issues, which have contributed to the absence of a public policy model in Jamaica with specific reference to wastewater management. The objective is to provide new insights and a change model that contributes to actionable knowledge.

1.4.2 The Research Question

Arnstein's (1969) work on citizen participation provided some insights into the challenges of public participation in the policy development process. He drew from experiences within federal programmes in the United States focusing on the areas of modern cities, urban renewal, and anti-poverty and developed an eight-step ladder of participation. This typology evaluated citizen participation based on the degree to which it provided a platform that enables citizens to be included in the political and economic process and adopted an ascending order from non-participation to degrees of citizen power.

Jamaica's public policy development process aligns with the typology. The GoJ's emphasis is on information sharing and public consultation which are metaphorically located from rungs three to four on Arnstein's ladder of participation. Steps three and four are described as tokenism because at that level participants may have been given a voice but there is no assurance that their views will be heeded by the decision-makers or result in actionable change. This assessment aligns with GoJ's practice in the development of public policy as outlined in its policy model.

Caribbean scholars Marshall (2015), Thomas (2016), and Powell, Bourne, and Waller (2007) highlighted the weakness in public policy development and the need to strengthen the practice and approach to public participation. Global public policy scholars also emphasised the importance of collaboration and giving voice to stakeholders in the policy development process. While most of these works clearly identified the challenges and issues to be tackled, none, if any, have provided the pathway to achieving these changes.

A review of public policy development in Jamaica shows a poor track record in finalising and implementing public policy for the environmental and wastewater sectors. The government provided a model for the

development of public policy drawn from the historical retentions of the development of public administration (Girvan, 2015; Jones, 1982) and the professional development model (Parsons, 2001). The current situation calls for change and this conclusion is supported by the literature and data from public policy practice in Jamaica.

Barring considerations of how the present status quo affects Forrest & Partners operations, Jamaica is one of the largest countries in the English-speaking Caribbean with arguably one of the more advanced environmental management programmes. As an island state whose economic development is linked to its natural resources base and management of the coastal zone, efficient wastewater management is critical to national development. Further, Jamaica is one of the countries projected to experience early climate change departure, and as a result, management of the country's water resources is an urgent imperative and key to the nation's wellbeing.

In light of these issues and the vacuum that exists in Jamaica for an integrated policy for wastewater management, a proliferation of regulations and policy interventions is a significant obstacle to the business development of Forrest & Partners whose sustainability is tied to this issue. The research questions have been framed to highlight the importance of these issues to Forrest & Partners' business expansion.

The central research question is: How can Forrest & Partners develop a model for public policy development that would strengthen the coalition and collaboration on policy development within the wastewater management sector in Jamaica to develop its business operations? The subsidiary questions are: What are the issues preventing the development of a management policy within the wastewater management sector in Jamaica? What are the challenges in developing public policy in the wastewater management sector? What changes are required for the improvement of the policy development process in the wastewater management sector?

The answers to these questions were obtained using a combination of an AR modality, literature review, and evaluations of research results. This approach led to the emergence of insights, and new learning that produced actionable knowledge.

The approach to the research project was influenced by my professional experience and worldview. The following section of the report seeks to describe my philosophical stance.

1.4.3 My Worldview and Philosophical Approach to the Problem

I regard my education as blended. While there is no doubt that so-called technical and scientific subjects have been dominant mainly the sciences and engineering, I also have a great interest in history, economics, and politics. Studies in these areas are part of my educational background and have shaped my worldview. My upbringing, education, and interests have influenced my desire to do well. Working to achieve change that results in the betterment of society is a passion.

In my professional practice, I have often produced technical solutions, which are rational and practical and yet are not always implemented. As I have grown in experience as a practitioner, I recognised that getting something done is not only due to technical appropriateness, but there are also barriers such as organisational politics and other issues that must be addressed. My understanding of this issue led to my interest in the social sciences and management disciplines and no doubt is the reason for pursuing a DBA rather than the traditional PhD.

Further, my approach to the study has benefited from a preunderstanding of my worldview which developed during my DBA journey. Although I resist being placed in a "box" I fully appreciate that the reader can better understand my thinking and approach to the study based on an understanding of my ontological and epistemological stance. Arguably, I am still evolving so perhaps I am best described as a social constructionist (Easterby-Smith, Thorpe, & Jackson, 2012). That is, I agree that for the most part "human action arises from the sense that people make of different situations" (Easterby-Smith et al., 2012 p. 24). I tend to question "taken for granted" social constructs – not for the sake of it nor to dismantle them but, instead to examine and explore them to bring about positive change which contributes to the common good and betterment of society.

It is against the background of my new learning as a practitioner centring on the premise that "we don't know that we don't know" and with it a heightened consciousness of my own limitations that I embraced the AR philosophy in my approach to the research project. The AR philosophy is "a set of self-consciously collaborative and democratic strategies for generating knowledge" (Greenwood & Levin, 2007, p. 1) intended to improve a situation in and through the participation of practitioners and stakeholders.

In researching the question of how the current approach to public policy is affecting the development and implementation of policy for the wastewater management sector in Jamaica? The intent of and through the research project is to produce actionable knowledge (Abdel-Fattah, 2015; Avison, Davison, & Malaurent, 2018; Huxham, 2003; Susman & Evered, 1978) by drawing from insights that emerge from inquiry into the current practice of public policy development in Jamaica with a focus on the wastewater sector.

Action research philosophy sits comfortably with my worldview of inclusiveness and interest in inquiry that addresses social issues. As a scholarly practitioner committed to a life of inquiry that is, "living continually in process, adjusting, seeing what emerges, bringing things into question" (Marshall, 1998, p. 156); one of the objectives of the research project is to make an incremental contribution to the *praxis*. In this regard, I was greatly influenced by the writings of Schon (1992) who challenged professionals to develop attitudes of inquiry. Schon noted that traditional professional competencies were not enough to provide the solutions for social change and argued that professionals needed to become reflexive practitioners. In my DBA journey:

> … the experience has been a process of 'becoming' during which I would like to think that I have been transformed into a 'budding' scholarly practitioner… as I have assimilated the teaching, grappled with new concepts and emerged with new insights – I have also achieved a most invaluable 'state of being' - that of

a greater understanding of myself; the way I think, what is of interest and importance to me and why I want to make a contribution to the *praxis* … and I have a deep desire to make a contribution to knowledge creation within the management practice, which hopefully will begin with but can continue beyond my thesis. (Forrest, 2014)

Considering these matters, I saw my role in the research project as unlocking new learning that could contribute to solving the problem and changing the approach to public policy development in the wastewater sector. As a practitioner, I was not sitting on the sidelines "watching the game." Instead, I used my own experience and the insights which emerged from evaluating the research findings to provide understandings and findings that could provide a solution and produce actionable knowledge.

The research project was executed in real-time using an AR philosophy and a collaborative approach working "with" rather than "for" stakeholders (Greenwood & Levin, 2007) to find solutions to a societal problem and improve practice.

Action research promotes participation intended to achieve change and is not at odds with formal research methods and epistemological issues. The following section of the report provides a brief description of the research method.

1.5 Research Method

The project was executed through the lens of a social constructionist interested in examining social constructs to bring about meaningful change for the betterment of society. The research project used qualitative techniques and applied participatory AR methods to explore the experiences of the participants drawn from public administration, academia, and NGOs who are impacted by and involved in the development and implementation of public policy in Jamaica. In this way through inquiry that is, "living continually in process, adjusting, seeing what emerges, bringing things into question" (Marshall, 1998, p. 156); insights, new thinking, concepts, and themes emerged.

The research process was an iterative one, moving between the literature, research findings, and my own scholarly reflections and insights. The research findings uncovered the importance of the context within which public policy was being developed in Jamaica in answering the research question. Understanding this issue was of critical significance to making sense of the findings. As a result, it became necessary to investigate the socio-political context; namely, the task environment within which public policy is developed in Jamaica. These investigations provided another window through which to analyse the problem in a way that had not been dealt with in any significant way in the public policy literature. Consequently, they contributed to shaping the actionable knowledge that outlined the proposed change model.

Action research is considered a participatory process grounded on democratic principles that focuses on facilitating the development of practical know-how that contributes to worthwhile human endeavour.

The approach brings stakeholders together in a process of action and reflection, theory and practice, to find workable solutions (Brydon-Miller, Greenwood, & Maguire, 2003). As a result, it was an appropriate method to address the problem identified earlier in the chapter.

The research project involved three core activities of planning, taking action, and evaluation in a series of repetitive actions. The project produced not only solutions but a few learning outcomes that could contribute to knowledge generation (Coghlan & Brannick, 2010).

In carrying out the research project I used a mixed approach involving participatory AR and action learning. This approach was influenced by the Revan philosophy (Coghlan & Brannick, 2010) that posits learning does not take place without action in the same way sober and deliberate action cannot place without action. Using the AR approach, the intent was to draw from the experiences of professionals in government, academia, and NGOs, and extract learning from the practice touched on artistry, an innate and intuitive "kind of knowing," which professionals often exhibit in "on the spot inquiry" or reflection in action (Schon, 1992, p. 57).

Data gathering followed a qualitative research approach and was appropriate for an action research methodology (Cunliffe, 2011; Morgan & Smircich, 1980; Starkey & Tempest, 2009; Van Maanen, 1995) for enriching organisational life. The approach was executed using semi-structured interviews, with some findings leading to supplemental interviews. However, before commencing the interviews, an interview protocol was developed, and two pilot interviews were conducted to refine the questions. Consent forms were signed by all the participants from whom permission was sought and granted to audiotape each interview. The interviews were evaluated in real-time by taking notes during each session and recording key ideas and personal reflections. Each interview was transcribed, reviewed, and analysed on several occasions highlighting key ideas, and additional notes were made. Through a coding process, this information was reduced to meaningful groupings and concepts. Thematic areas were derived, and these themes were further analysed and illustrated in thematic maps.

The research objective was the development of a public policy for the wastewater sector. Participants were selected based on their hands-on experience in the architecture of public policy development in Jamaica, decision-makers that informed the process, and people involved in policy analysis. The data aim to capture value-free empirically verified answers to policy-making-related questions. As a result, participants were drawn from three categories of stakeholders: senior public servants, academics, and experienced leaders in NGOs.

Against this background, this research project involved the investigation of issues that impeded the development and implementation of public policy for the management wastewater sector in Jamaica. The project takes place at a time when there is global and local consensus on the importance of good wastewater management to achieve sustainable development goals. It is also of great importance to the development of the business offerings of Forrest & Partners. The research findings provide insights and learning that lead to the emergence of a change model for developing a wastewater management policy.

The plausibility of the research findings was tested in a focus group session where the key research findings and the proposed model were shared with the participants to obtain feedback. This was an important part of the AR cycle as feedback was vital in evaluating the reasonableness and acceptability of the proposed model, its potential benefits to the firm, and public policy practice in the wastewater sector.

1.6 Achievements and Limitations of the Research Project

1.6.1 The Achievements

The study has resulted in a few achievements mainly; (i) the improvement of my capacity to address this problem within my professional practice, (ii) the development of a public policy model that can be used by the firm to improve business operation and position the firm as foremost experts in the area of the development of public policy for the wastewater sector, (iii) the development of the wider professional practice by stimulating a change in mindset beyond an intuitive approach to one of systematic analysis (Schon, 1992), of public policy issues, and (iv) the provision of actionable knowledge for the development of a public policy model for the wastewater sector in Jamaica.

1.6.2 Limitations of the Study

The study was conducted using the AR participatory approach and as a result, benefited from the experience and expertise of the participants. Additionally, it was developed with a focus on improving the business offerings of Forrest & Partners in this area of business. There are of course limitations to the research project. Traditionally, the executors and drivers of public policy development in the country are the ministries or responsible agencies. The research project, while involving public administrators and heads of agencies, was conducted outside the organisations with responsibility for the wastewater sector. It would have been useful if one of these organisations was used to pilot the model. However, time did not permit this activity and there was some reluctance to have an outsider involved in the operations of the ministries. Now that the model has been developed attempts will be made to have it pilot tested, which could lead to further refinement of the model.

1.7 Structure of the Report

The report has five chapters. Chapter 1 provides an overview. Chapter 2 examines the literature on public policy, public participation, and the task environment which impacts public policy development. It also includes issues of knowledge integration and the role of capacity builders in developing public policy. Chapter 3 outlines the epistemology, research strategies, and methods. Chapter 4 describes the research findings; Chapter 5 summarises the conclusions and describes the proposed change model.

2.0 Literature Review

2.1 Introduction

The literature reviewed the development of public policy globally, regionally, and within Jamaica. The review explored the approaches to policy development including an examination of participatory processes.

The review explored the importance of wastewater management followed by a discussion on the status of public policy within the wastewater sector. Various models of policy development were reviewed along with an in-depth review of the development of public policy in the Caribbean and its implications for the current practice. The importance of the participation of stakeholders and how their participation was achieved were reviewed. The case of Jamaica was explored; the history of policy development, the nature of the task environment its consequences, and contribution to the policy development process were fully discussed. The complex nature of public policy development was considered and the importance of building collaborative capacity in the policy development process was discovered.

2.2 Description of the Literature Review Process

The literature reviewed (Figure 4) was an iterative process that commenced with an examination of the significance and importance of wastewater management to development at the global and regional levels, and in Jamaica. The first cycle of the review led to a narrowing of the investigation of the policy development process, in general, to focus more specifically on literature dealing with the development of policy in the Water Sector with a particular focus on wastewater management. While there was a significant amount of literature on instruments to control water pollution there was a dearth of literature on the development of public policy.

The literature search was then narrowed to review the work of scholars in public policy, public administration, management, and environmental governance with a particular focus on the development of public policy. The review sought papers on theoretical and empirical research that would help to shape and sharpen the research question as well as inform the research findings.

When field work began in response to research findings, the literature review was expanded to review writings that would tell about Jamaica's history in public administration and the practices regarding policy development. This information was important to understand the context or "task environment" within which public policy was being developed in Jamaica and to understand its influence if any, on the development of public policy within the wastewater management sector.
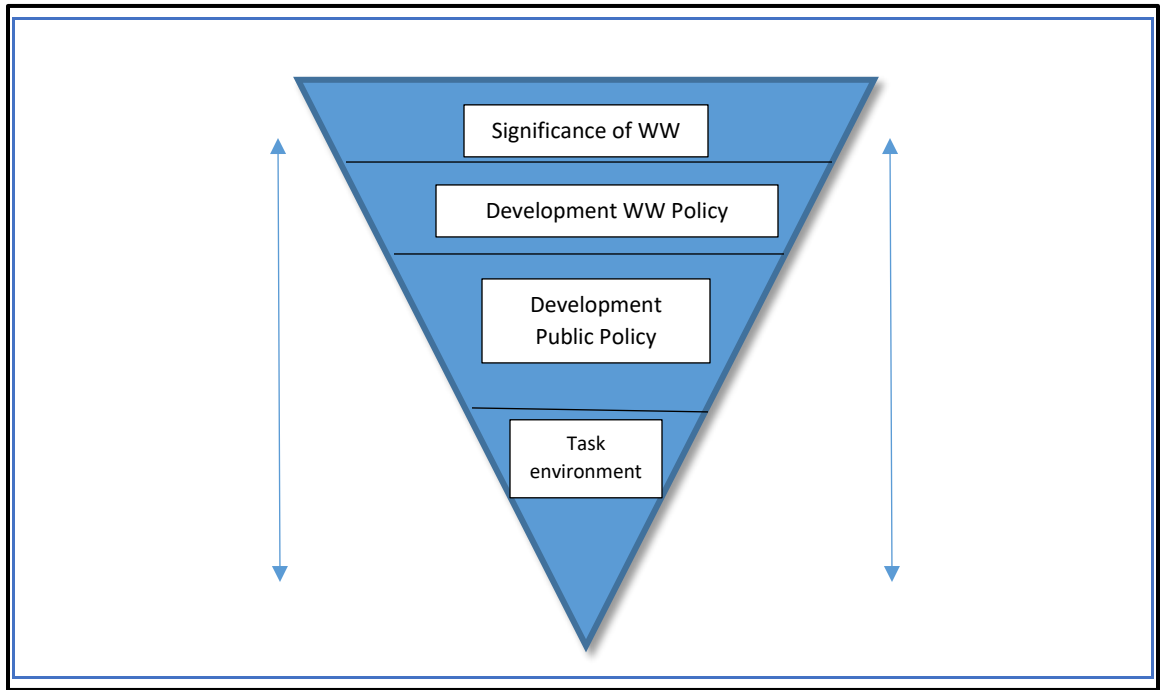
Figure 4 Illustration of Iterative Literature Review Process.

The following section of the report outlines the findings from the literature review.

2.3 Wastewater Management Its Significance

2.3.1 The Global Stance

Globally, the issue of wastewater management remained on the "back burner." The matter was given little emphasis in the global water policy arena (UN-Water, 2015) because over several decades and certainly since the 1992 Rio Conference policy makers focused on drinking-water and sanitation issues without paying due attention to wastewater which was the product of the providing water. Priority was given to water supply because it is a finite and irreplaceable resource and water deficiency poses a serious threat to sustainable development.

Today, the world is facing a water supply crisis. More than 1.7 billion people live in river basins where the current water extraction rates exceed natural recharge. The continuation of this trend will result in two-thirds of the world's population living in water-stressed countries by 2025 (UN-Water, 2015).

Since the beginning of the 21st century, there has been an increasing acknowledgement that the world faces a water quality crisis because of continuous population growth, urbanisation, land-use changes,

industrialization, food production practices, increased living standards, and poor water use practices and ineffective wastewater management strategies.

Given the looming water crisis, global policy makers have recognised that the management of water in all its forms was of critical importance to addressing the water crisis. Further, there was the realisation that efforts to secure access to safe drinking water, basic sanitation, and well-being, as outlined in the Millennium Development Goals (MDGs) have been hindered by poor wastewater management. Wastewater management has cross-linkages with a range of other water- and non-water issues, not least being the water, energy, and food nexus, the role of water in adaptation to climate change, and the crucial link between the climate system, human society, and the environment.

Against this background, globally it was recognised that a change in mindset was required in water politics. Wastewater needed to be considered in a new light as a resource whose effective management is essential for future water security. Considering these issues, in March 2012, the World Water Forum took concrete steps to bring wastewater to the fore in world water politics. Policy makers realised that there was a need to refocus and rebalance the global water policy agenda to include the significance of wastewater management in achieving future water security in a world where water stress was increasing. (OECD, 2012). By September 2015 at the UN Conference, a global policy consensus emerged that declared a water goal in the post-2015 Development Agenda, which explicitly includes recognition of the importance of good wastewater management and its contribution to protecting water quality. The resulting policy instrument was the inclusion of Sustainable Development Goal (SDG) 6: Ensure access to water and sanitation for all (www.un.org/sustainabledevelopment/sustainable-development-goal) thus placing wastewater management on the agenda of global policy makers in the Water Sector.

Despite these global discussions the centrality and critical importance of addressing environmental needs across sectors to achieve human progress researchers are acknowledged (Haas, 2004; Juntti et al., 2009; Lafferty & Hovden, 2003; Miller, 2001). The mainstreaming of environmental management policy into the international policy discourse has been given relatively little treatment by academia and policy makers. Hence, the relevance of this study and its potential importance for an incremental contribution to knowledge on this issue.

2.3.2 The Caribbean Experience

The management of wastewater has been discussed over several decades in the English-speaking Caribbean and is not dissimilar to the global scenario (Cashman, 2014; Martin-Hurtado & Nolasco, 2016; Project Coordination Group, 2012).

As early as 1976, the UNEP launched the CEP aimed at advancing economic prosperity and environmental health within the region (Project Coordination Group, 2012). The CEP placed the management of wastewater as regional governments had identified land-based sources of pollution from domestic, municipal, industrial, and agricultural sectors as a significant threat to marine resources, and as a result

to economic wellbeing in the Caribbean. Despite this concern, by 2001 the United Nations Environment Programme/ Global Programme of Action and the Global Wastewater Initiative (UNEP/GPA) produced a study that estimated that approximately 85% of wastewater entering the Caribbean Sea was currently untreated (http://www.unep.org/dewa/ assessments).

A more recent study performed by the Caribbean Sea Ecosystem Assessment (CARSEA) and referenced in the Caribbean Region Fund for Wastewater Management Inception Report (Project Coordination Group, 2012) found that pollution from sewage pollution was the most widespread form of contamination of the coastal environment. This poses a substantial threat to the region's economic prosperity.

Despite the state of play and significance of wastewater management to the region's economic development, regional governments have yet to meaningfully address a clear environmental management policy and decision-making framework for the wastewater sector (Thomas-Hope, 2013). The Jamaican situation is similar to that found in the WCR and is described in the following section of the study report.

2.3.3 The Jamaican Scenario

Jamaica has one of the more developed environmental management sectors in the English-speaking Caribbean. Nevertheless, Jamaica has also not yet succeeded in developing a cohesive policy for wastewater management.

Two reports by the National Environment and Planning Agency (NEPA) the *State of the Environment Report*, 2010 and the *National Baseline Assessment Study on Wastewater Management for Jamaica* first published in December 2013 and revised in January 2015 found that the main sources of water pollution in Jamaica are: inadequate sewage treatment and disposal, soil erosion and agricultural and industrial wastewater discharges. In the report, the NEPA inferred that the deterioration of the environment due to poor wastewater management practices has significant economic consequences on public health, the loss of opportunities in tourism, in fisheries due to polluted rivers, streams, mangroves, and beaches as well as significant destruction of coral reefs and seagrass beds.

Further, the National Baseline Assessment Study on Wastewater Management for Jamaica (Silva, 2015) found a lack of policy cohesion. The writer recommended that an intersectoral approach was required for the wastewater management sector because, despite the GoJ's regulations, policies, and plans that govern the management of wastewater these interventions have not solved the problems of poor wastewater management in the country. The reasons for these shortcomings in public policy range from a failure to complete and implement policy, to the tendency to use a silo approach to policy development.

2.3.4 Conclusions

Considering the issues regarding wastewater management at the global, regional, and local level Oxford dictionary) requires a robust and comprehensive public policy. The extent to which such policies exist and would be relevant and transferable to the Jamaican situation is examined in the following section of the report.

2.4 The Water Sector – Policy Models for the Wastewater Sector

Biswas (2001), writing on the topic of water policies in the developing world, observed the importance of water to human existence and the difficulty posed by resource management in a rational manner given it is constantly in motion and passes from one state to the next. Further, Biswas noted that the problems facing the water sector globally are neither homogenous nor consistent. As a result, finding solutions to the problems facing the sector is not only based on availability but on other factors ranging from the processes through which the resource is managed to the techno-economic capabilities and environmental conditions prevalent in any given country. Considering these factors, he declared that it was evident that water problems in any country are far too complex and interconnected and can no longer be solved by one institution or one group of professionals regardless of their competence. Biswas posits that all major water issues should be tackled within a societal and development context given its centrality to issues such as poverty alleviation, equitable development, and environmental conservation. Despite the clear importance of water, Biswas (2001) observed that at the level of rational policy development and execution there had been much talk and little action. He stated

> Unless there are significant changes in the foreseeable future, policy issues are likely to continue receiving inadequate attention over the near to medium term. Based on an analysis of past and present experiences, it is evident that the water profession has basically failed to formulate, implement, and update national or subnational water policies regularly in most countries of the world. A few countries have formulated water policies, but they are for the most part somewhat vague and broad to be of much operational use in terms of efficient management. (Biswas, 2001, p. 490)

In critiquing extant policies, he pointed out gaps in the policy formulation process. Policies were too traditional, too conservative; too uni-sectoral; too engineering-oriented; too focused on water quantity; too hierarchical and top-down; too politically correct; placed too much emphasis on past experiences; gave too little consideration to future trends and developments; and failed to consider the linkages with energy, health, and industrial policies.

Noting that historically, water policy development was the purview of the public sector without consultation with stakeholders, Biswas (2001) argued that in the 21st century there was a need for a change in thinking. This was more evident as the traditional players have lost the power, resources, authority, and reputation needed to formulate implementable policy. In this regard, the voices of the private sector are increasingly important along with national NGOs. He further pointed out that the diversity of the new actors presented its own share of problems given the differing objectives and

worldviews. Against this background, Biswas noted that public participation was a major issue in any change process as

> … we simply do not have the techniques and methodologies to ensure that the public at large can participate meaningfully in water policy formulation and implementation processes. In the vast majority of cases, the general public has no, or very little, interest in water policies, and they are often conspicuous by their absence. Those who often claim to speak for the public, either individuals or NGOs, mostly have no mandate to speak on behalf of them. Thus, public participation has often been reduced to consultations with the most vocal and articulate individuals and NGOs, who have sometimes attempted to manipulate the process to serve their own ends, interests, and beliefs. (Biswas, 2001, p. 494)

To this end, Biswas (2001) suggested the need for urgent research on the approaches to the formulation of water policy in consultation with multi-stakeholders. He also noted that water quality issues and treatment of wastewater were matters that must be addressed in future water policy as business-as-usual policies were unlikely to address the issues of equitable development of the sector.

In the Caribbean, the policy focus has also tended to be on the water sector and issues of water security and services. Cashman (2014) noted that efficient management of water resources was a concern among the small islands of the Caribbean. In this regard, the dialogue has concentrated on the adequacy of water resources and the implications of economic development, demographics, climate change, and water security. While there is some discussion on the issues of wastewater services, there is also an acknowledgement that wastewater infrastructure lags behind that of potable water. Wastewater management policy remains at the margins and water policy dominates as borne out by the observation by the writer that "forward planning has been largely neglected and is symptomatic of a lack of appreciation of the need for national water policies. In this respect, Jamaica's development of a national water plan serves as an example of what can be done" (Cashman, 2014, p. 1199). These observations confirm Biswas' (2001) observation that the treatment of wastewater was a matter that must be addressed in future water policy. More than 19 years after Biswas' recommendation the development of wastewater management policy remains a matter of low priority in Jamaica.

Attempts have been made to address the issues of wastewater management through the prism of pollution control focusing on environmental protection. Blackman (2009), Kathuria (2006), and Peters and Joseph (2015) concurred that the matter of water pollution control and pollution policies was of concern for developing countries. They focused on the specific question of finding policy instruments to control wastewater effluent discharges. That is, "end of the pipe" solutions that centre on water pollution permit control of what enters the environment rather than a holistic approach that would address issues of both point and non-point sources of wastewater pollution, waste minimisation, recovery and reuse, and fitness for use considerations.

Kathuria (2006) conducted case studies in Malaysia, Poland, and Columbia, and examined their methods of controlling water pollution. The case studies focused on the use of the market-based instrument to control wastewater pollution as a way of solving environmental problems and not on the policy

development process for wastewater management. The studies revealed that these countries had achieved a reduction in water pollution levels using licence fees, standards, charges, and active enforcement.

Peters and Joseph (2015) examined water pollution permits and rules instituted by the Government of Trinidad and Tobago through its Environmental Management Agency (EMA) and concluded these policy instruments failed to achieve the success expected in reducing pollution. The authors observed a need to address several related issues including finding ways to increase public pressure through awareness-raising, increasing institutional capacity within the EMA, and greater networking among agencies involved in water resource management given its interrelatedness with wastewater pollution. They concluded the need for additional studies to improve the effectiveness of the current policy.

The literature review revealed that there are significant gaps in the policy formulation process for the water sector in general and wastewater management in particular. While deficiencies in the development of policy were identified in the literature no theory was advanced concerning the development of public policy for water or wastewater sectors. Considering these findings, I turned to public policy scholars to determine the approaches to policy development. The findings are discussed in the following sections of the report.

2.5 Public Policy Development Models

There is ample literature regarding the development of public policy at the global and local levels. The contribution of Public Policy scholars to the topic will now be examined.

2.5.1 Global Policy Development

Several researchers (Haas, 2004; Juntti et al., 2009; Reinicke, 2000) wrote on the development of public policy as it relates to sustainable development and the environment. Reinicke (2000) drew from experiences of global public policy networks and described the developing global public policy as a change process starting from the bottom up. He claimed that because of their broad and diverse membership, global policy networks provided a more comprehensive picture of policy issues and encouraged learning and collaboration.

Juntti et al. (2009) found that within the European Union and OECD countries there were significant efforts to develop an evidence-based environmental policy, albeit there was little to show in terms of enacting policy. The authors suggested that the manner of evidence production had little reliance on societal input and contribute to this failing because "interpretation of evidence or a framing of environmental sustainability becomes powerful only when it is adopted or enacted by a host of relevant decision-makers and stakeholders" (2009, p. 211). The authors argued that knowledge has a social context; thus, knowledge produced without regard for society's views has limited usefulness in environmental policymaking. They observed that local knowledge was "rapidly gaining ground as a means of legitimizing

policy and improving accountability and transparency" (2009, p. 209) and that participatory modalities were the preferred approach to facilitate wider public involvement in decision making. In this regard, they cited the work of Booher and Innes (2002) who introduced the notion of "authentic dialogue" that is defined as accurate sincere communication aimed at sharing full information with all parties to find environmental solutions for the public good.

Hardy (1996) and Miller (2001) reviewed the development of the Climate Change Policy and the related area of environmental management policy at the global level. Both supported the arguments of Juntti et al. (2009) who noted that the opinion of expert scientists and technocrats had not been enough to mobilise action for the public good.

Haas (2004) published on the policy process and argued from a constructivist epistemological standpoint. Haas noted that change was required that resulted in "a reorientation of collective understanding …to focus on key intersecting and interacting elements of complex problems" (2004, p. 570). In this regard, he posits that local knowledge was an important subset that was needed in usable knowledge.

2.5.2 National Public Policy Development Models

Global scholars have found that the development process is enhanced through collaboration, networks, and dialogue. There are some parallels at the national level as shown in models used in Australia and Britain.

Communitarianism - Adams and Hess's (2001) research on experiences in Australia observed that ideas such as partnerships, trust, community building, inclusiveness, and building social capital are finding a place back in the discourse on public policy. This is in part due to the waning influence that markets and public choice have had on public sector management policy, and corporate governance, due to their ineffectiveness in the social policy arena. The authors noted that the decline of market-focused policy making has seen the emergence and merging of neo-liberalism and communitarian thinking; namely, the rise of the importance of community in the public policy processes because markets and the state have lost their legitimacy.

Against this background, the authors described the community as "groups of people, who create relations based on trust and mutuality, within the idea of shared responsibility for wellbeing" (Adams & Hess, 2001, p. 14). The authors described how the Australian Government of the late 1990s promoted a partnership between government, business, NGOs, and community groups in the development of social public policy. They attributed this change in the Government's approach to the coming together of the theoretical underpinning of social capital literature, which revealed an understanding of the importance of networks to the policy process. Here communities are seen to be important on two counts; first, because community volunteerism fills the gap of diminishing government budgets, and second, communities offer "a qualitatively better source of policy ideas and processes" (2001, p. 15).

The authors viewed the community as an important and valuable policy development instrument because the concept of reciprocity and shared values found in communities, generate trust, a shared identity, and empathy which fuels concern for others; namely, the common good. Interestingly, the authors noted the absence in the western political philosophy of systematic research on the usage of community-based approaches to steer policy development. However, they argue that communitarianism (although controversial) is the philosophical framework that is best suited to guide policy development because it encompasses cooperative inquiry, mutual responsibility, and citizen participation.

Professional Policy-Making Model - at the turn of the century the British Government adopted the professional policy-making model. Parsons (2001) critiqued the model and argued that it was inappropriate for complex situations where there is ignorance, unpredictability, and uncertainty. Parsons noted that the promoters of the new model abandoned the traditional cyclical model of policy development and adopted the contextual model. This promoted policy-making strategies that focused on problem forecasting, achieving goals and setting objectives and targets.

According to Parsons (2001), the professional model outlined what ought to be rather than what is and, in this respect, is prescriptive. Additionally, the thesis that the professional model will improve the policy-making effectiveness was unproven as there was no evidence that this approach produced better outcomes than what its promoters refer to as "unprofessional policy-making" noting that "good process does not necessarily lead to `effective' outcomes" (2001, p. 98). Parsons also noted that the case studies used to support the professional model approach were mainly related project management methods and that the relative temporary nature of projects was an inappropriate lens through which to approach the development of public policy. This was because, unlike projects, policy development has no defined beginning or end.

In further evaluating the shortcomings of the professional model, Parsons (2001) suggested that the professional model saw communication with stakeholders as a function of project management and effective presentation of information and as such failed to consider the issue of dialogue as part of effective communication that would facilitate a more intentional exchange of ideas. Concerning fostering creativity and innovation, the author pointed out that in the public policy process the checklist approach seemed to stymie creativity.

2.5.3 The Development of Public Policy in the Caribbean

Thomas and Schoburgh (2004) deconstructed policy making and implementation issues in the Caribbean. The authors observed that welfare in the metropole of the 1950s and 1960s created a push to develop a public governance system based on knowledge. Achieving this involved the use of sophisticated scientific methods through the creation of policy institutes, think tanks, and research projects. In developing countries including the Caribbean however, these approaches to policy development were not fully integrated into governance structures and in explaining this practice the authors submitted that "a fundamental requirement of policy analysis in developing countries, therefore, is an acknowledgement of

the reality of the pervasiveness of the state and its vulnerability to domestic and international economic and political forces" (2004, p. 36).

The international policy transfer process from the developed to the developing world focused on efficiency as a primary policy goal. The scholars observed that international sponsors of transplanted policies relied on models and frequently recommended the stages/policy cycle mode which was linear and emphasised rationality. The cycle involved the following steps: 1. definition and diagnosis of a public problem, 2. search for alternatives to solve the problem, and 3. implementation and review activities. However, Thomas and Schoburgh (2004) argued that nowhere does the policy process proceed linearly as there are often gaps, rapidly changing environments, the complication in the solution-finding process, and failures in implementation. Further, the authors observed that "prevailing policy styles and approaches that are underlined by 'top-down' and bottom-up impulses also portend the coexistence of tensions, ambivalence, and ambiguity as ongoing features in the policy sphere" (2004, p. 52). Even while there is an acknowledgement of increasing stakeholder participation in policy discourse.

In concluding, Thomas and Schoburgh acknowledged the complexity of policy problems and noted that given the gaps in institutional transfer and implementation, a greater degree of equilibrium was needed in the Caribbean policy system to create the space for better policy results. The authors offer some recommendations. These are (i) reorientating dominant aspects of the current policy style to engender more open and transparent approaches, which they believe would identify groups who need to be part of the dialogue as well as broaden the scope for "policy-oriented learning," (ii) renewed efforts at developing to reduce the chaos in the policy arena, and (iii) the development of an improved capacity for policy management and coordination.

Marshall (2015) published a study on public policy theory based on fieldwork in eight Caribbean counties mainly: Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, Trinidad and Tobago, and St Lucia. He recognises the absence of a tradition of public policy scholarship in the region and posits that policymaking is difficult to theorise, in the Caribbean because of the "challenges various scholars have in representing the policy-making process in a coherent way" (2015, p. 40). The author declared that the unexceptional and unreliable policy performance across the region has led to the need to rethink administrative practices and governance modalities. He noted that despite the pioneering scholarship of Gladston E. Mills "no clear canon of work on Caribbean public administration has emerged given the dearth of public policy specialists" (2015, p. 43).

Marshall's (2015) study of the practices in public policy development in the eight countries sought to determine the policy development process from initiation through to formulation, the extent of participation as well as to discuss the challenges of implementation. Marshall found that in the Caribbean countries involved in the study, the approach to the policy development process was based on rationality and problem solving and a bureaucratic routine that contributed to working in silos, the infrequency of inter-ministerial policy coordination, and policy dialogue. The author noted that the much-needed joined-up thinking across ministries was acutely missing. Marshall noted that where stakeholder consultations were required for formulation and implementation of policy "efficiency in timescales turns on the quality

of social relationships and familiarity of the professionals involved" (2015, p. 71). If this was not the case, then the process tends to get bogged down in bureaucracy resulting in inordinately long timelines for developing public policy. Marshall concluded on the unreliable model of public policy development in the Caribbean stating:

> What became clear is that elites, as well as government officials, engage in the creation of the 'policy problem' presuming to 'know' what the issues are to which a policy refers... However, a legitimacy deficit prevails founded not so much on the presumption that social inclusion is treated as a perfunctory governance exercise, but on the foreclosure of how representation of the problem came about; whether it could have been thought through differently; and what an alternate conception may offer. In short, policymaking in the Commonwealth Caribbean is flawed by its deeply deferential Westminster inheritance and the policy practitioner posture as distiller of the problem. (Marshall, 2015, p. 52)

A scholarly review of public policy in the Caribbean entitled "A State of Disarray: Public Policy in the Caribbean" examined the systemic factors driven by historical, conjunctural, and scientific-technological that have influenced public policy development in the Caribbean (Thomas, 2016). Thomas found that "over time, in pursuit of these public goals the regional bureaucracies became `institutionalised', a process which in turn generated its own internal dynamics and increasingly led to the public sector becoming bogged down in a plethora of rules and regulations, which guided and governed its activities" (2016, p. 185). Further, he observed that often disputes arose over the lines of authority in policymaking and public accountability frequently accompanied by a crisis in implementation capacity within the public sector. Against this background, Thomas (2016) suggested that change was needed in the public policy arena that "requires systematic and deliberate efforts to secure the widest possible participation of people, communities and groups in this process. In the Region, our traditions in this regard are not very strong. Yet, I personally remain sanguine" (2016, p. 198).

To conclude, policy solutions can be complex. The literature review revealed that the development of public policy in the Caribbean was built on a policy transfer from developed countries based on a rational stages/policy cycle that commenced with problem identification through to implementation. The scholars agreed that public policy theory and practice within the region was driven by the public sector, was top-down, bureaucratic, experienced long timelines, had a far from optimal public participation process, and a relatively poor track record of implementation. There was undisputed agreement that public policy practice within the Caribbean needed change and rethinking with a focus on greater transparency, greater stakeholder participation, greater dialogue, improved capacity, and increased capacity for policy-oriented learning.

A key takeaway from the review of the public policy literature was the need for greater public participation. The following section of the report delves into the scholarly literature on participatory approaches in public policy.

2.5.4 Participatory Approaches in the Public Policy Arena

2.5.4.1 Its Genesis

Balme (2009) described democracy as "government of the people" that is, power is not exercised for the interest of a few, instead democratic principles are marked by the interaction between the rulers and the ruled, inclusiveness, and interactivity. However, Balme pointed out that in modern representative democracies a government fully under the control of the elected representatives could fall short of fully meeting the needs and social expectations of its people. As a result, there has been the gradual evolution of participatory democracy practiced mainly in North America and Northern Europe that goes beyond the election of representatives to other forms of democracy such as public debates, participatory budgeting, deliberative meetings, and deliberative polls, which provide mechanisms for the active participation of citizens in public decision making.

The genesis of this participatory practice came from a decline in electoral politics borne out by declining numbers of voters participating in elections, a disenchantment and growing distrust of political leaders, and the growing influence of NGOs. According to Balme (2009), this disengagement from the election process is due to two main reasons; the first being a widely held view that governments were not effectively addressing the problems faced by their citizens, and the second being the emergence of a more affluent, educated, and informed populous who were critical of public policy.

The author posits that the development of participatory democracy challenged and transformed technocracy, that is, government by experts and the bureaucracy conducted behind "closed doors." It was no longer acceptable to deal with issues of public concern without public deliberation. The emergence of new policy concepts and new rights such as the right to live in a safe environment, and to public health and sustainable development produced the conditions which transformed the public policy arena - making the public policy less the sole domain of elected representatives and government bureaucrats. Balme (2009) argued that "beyond political inputs… and social and economic outcomes, public participation promotes citizen engagement at the core of the policy process" (p. 11).

The issue of public participation in policy development is also a concern in the Caribbean. Thomas and Schoburgh (2004) observed that the Caribbean had corrupting influences on public policy processes. The policy arena was a low trust environment and capacity challenges existed within civil society to conduct the research and rigorous analysis to engage in the policy dialogue in meaningful ways. Thomas and Schoburgh suggested that the solution to this problem would require "reorienting some dominant aspects of prevailing policy styles to engender more open and transparent approaches… This approach would lead to an identification of policymaking 'gaps' as well as the identification of social groups whose welfare is not being addressed. Importantly too, openness and transparency would broaden the scope for policy-oriented learning among stakeholders, including increased knowledge of the state about problem parameters" (2004, p. 57). In short, there was a need for strategies and practices in the policy development process that would work to reduce mistrust, build social capital, and improve policy outcomes.

The practice of stakeholder engagement in the development of public policy has been open to many investigations by scholars. The work of Reinicke (2000), Burgess et al. (2000), Booher and Innes (2002), Haas (2004), and Juntti et al. (2009) shows that even where there are variations in the practice the importance and the value of stakeholder participation in the development of environmental public policy is recognised. However, the practice of stakeholder participation is not without its challenges. Smith and McDonough (2001) and Irvin and Stansbury (2004) argued that the process was difficult and costly, and diverting funds from the executing organisations to hold public forums was unfair as outcomes were predetermined, and participating stakeholders were not representative of the community and often have vested interest. Rydin and Pennington (2000) had similar findings and noted that public participation in the development of planning and environmental policy was usually applauded. They provided evidence that special interest groups and bureaucracy often overtook the process. These observations have brought into question the benefit of public involvement in improving the outcomes of public policy.

Rydin and Pennington (2000) also examined the expansion of public participation as a way of progressing public policy and observed that the calls for public participation in environmental planning were widespread and almost universally agreed between practitioners, NGOs, and academia. They observed that there were varying rationales for this overwhelming support- ranging from a democratic right to be involved and the need to remove the barriers, which hindered that right – thereby legitimising the public policy process; to an emphasis on public participation contributing to some better policy outcomes within a given social context. The public in the view of the authors was a key resource "of knowledge that policy actors need to achieve policy goals" (Rydin & Pennington, 2000, p. 155).

 Roberts (2004) noted that while in the latter part of the 20th-century citizen participation had become a cornerstone of the democratic process, there remained a significant degree of ambivalence regarding the direct participation of citizens in government. Writing about the experiments and experiences in direct citizen participation within the discipline of administrative theory and practice, Roberts (2004) argued that the "social experiment" of direct citizen was still evolving. Roberts acknowledged that there were divided camps on the issue. On the one hand, supporters of citizen participation believed that citizens had the knowledge, ability, and capacity to help shape the decisions which impact their lives. While on the other hand, sceptics believed that representative democracy protected citizens from uninformed public opinion and complex post-industrial societies required technical, political, and administrative expertise to function effectively.

Considering these divergent views, Roberts (2004) sought to explore the standing of direct citizen participation in American administrative practice to provide better guidance to the development of future iterations and to build on existing administrative theory. The Roberts began by defining direct citizen participation. For some citizens, participation is a legal concept while for others it represents an ethical and sociological principle that guides the government's moral purpose. In referencing Arnstein's (1969) treatment of power in the ladder of participation, Roberts (2004) agreed that direct public participation

required power-sharing between citizens and public officials. Combining the expanded concept of the view of the citizen with issues of shared power in decision making and the writer defined citizen participation as "the process by which members of the society (those not holding office or administrative positions in government) share power with public officials in making substantive decisions and in taking actions related to the community" (2004, p. 320).

The author observed that the proponents of direct citizen participation view participation as (i) developmental – developing human capacities, (ii) educative – greater participation develops the attitude and skills for citizenship, (iii) therapeutic and integrative – alienation can only be cured through participation, (iv) legitimating – citizen consent legitimate decisions and results in stability (v) protective of freedom – enabling citizens to get real control over their lives, (vi) instrumental – a mechanism to allow the powerless challenge the powerful and produce change, and (vii) realistic – in a modern complex society governing requires the consent of citizens. Opponents however see direct citizen participation as implausible because they believe that people are too self-centred to be directly involved in or to be trusted with the task. They see the practice as politically naïve because governance is the purview of the elite and direct citizen participation cannot stop powerful interests from directing policy.

Against this background, Roberts questioned the role of direct citizen participation in democratic administrative theory and re-examined seven models related to public administration theory and practice. She found that it was only the social learning model that placed administrators and citizens on the same level as co-learners and partners directly involved in decision making and solving society's problems. In the social learning model, all stakeholders are involved in a collaborative process, nurtured by dialogue in which competing perspectives are heard, and trade-offs are negotiated before decisions are made. In this process, public administrators are facilitators of the learning process, encourage the restructuring of political institutions to build supportive cultures, smaller and flatter decentralised government, which encourages greater involvement and develop new methods for problem-solving and decision making to "develop citizen identity, increase civic virtue, build learning communities, and harness the energy and talent of all members of a democratic society" (Roberts, 2004, p. 330).

Experts have the skills, training, and time to focus on the development of public policy. While citizens may lack the know-how needed to address more complex policy problems, the real power to effect change rests with the professional administrators and other experts (Arnstein, 1969; Roberts, 2004) resulting in a decrease in citizen participation. Considering this, Roberts (2004) suggested that given the growing call for direct citizen participation more innovative ways should be found to organise group level and large group participation to facilitate dialogue and deliberation over public policy. She concluded that while the idea of direct citizen participation captivated our imagination it remained an ideal theory that was not well developed perhaps because of its complexity. Arnstein (1969) made an incremental contribution to the body of work, however, Roberts (2004) conceded more is required to obtain the status of developed theory.

Despite the challenges and limitations, there are models of public participation some of which will now be discussed.

Ladder of Participation - Arnstein (1969) reflected on the practice of public participation and drew from her experiences working in community development and participation in the United States. She submitted that public participation was a cherished ideal and cornerstone of the democratic process. However, she observed that its practice was influenced by the power wheeled by the "haves versus the have nots." In addressing the question regarding citizen participation and its obligations in moulding the social fabric of the society, Arnstein (1969) confined the definition to "a categorical term for citizen power" that enabled disenfranchised citizens living at the margins of society's political and economic processes to be included in information sharing, goals and policy setting, and resource allocation. The author linked impactful citizen participation with the "acquisition of power" needed to achieve significant social reform and likened the process of public participation to a ladder. On the bottom two rungs of the ladder were actions attributed to non-participation; namely, manipulation and therapy. Rungs three, four, and five related to informing, consultation, and placation, and the author described these actions as degrees of tokenism. The final three rungs of the ladder were partnership, delegated power, and citizen control which were regarded as degrees of citizen power. She acknowledged that there were limitations to this description of participation which juxtapositioned the powerless against the powerful because of the diversity which made up both groups. Nonetheless, the ladder provided a basis for understanding the mechanisms involved in public participation and the role of power in achieving societal change.

Public Deliberation - Other researchers saw the practice of public participation as going beyond issues of power. Roberts (1997) reflected on public administration and noted that the general manager faced two basic issues in managing public agencies - efficiency and effectiveness. On the one hand, efficiency required a focus on precision and maintaining internal controls. On the other hand, effectiveness required the manager to be focused on doing the right thing. Both required a delicate balance and were somewhat counterintuitive because effectiveness demanded experimentation and efficiency tended to want to eliminate the same. Roberts (1997) observed general management in the public sector depended on whether the goal was efficiency or effectiveness based on four possible approaches: the directive approach, the reactive approach, the generative approach, and the adaptive approach.

Roberts observed that the generative approach had been the least studied and took a closer look at the use of the generative approach because she believed, as did other scholars, that the process of social learning about public problems and possibilities was part of civic discourse. Social learning was made possible in a setting that facilitates people learning from each other through a public iterative exercise that defined the problem and contemplated the range of solutions and responsible actors. Thus, deliberation required professional technocrats to uncover more than what people needed for themselves and their communities and implemented the solutions but to provide alternative visions of the possible and encourage a discussion that re-examined the premises and value structures opening the door to a range of responses which allowed society to better understand itself. Because of this approach, "policymaking should be more than and different from the discovery of what people want; it should entail the creation of a context in which the public can critically evaluate and revise what it believes" (Roberts, 1997, p.126).

Considering these issues, the Roberts explored the use of the generative approach in two cases based in Minnesota looking at different problems in the education system and identified from these case studies the following tenets/pillars of the deliberative process: (i) begins with a strategic question, which failed to resolve would have serious consequences, (ii) requires stakeholder collaboration, (iii) featured generative learning rather than adaptive learning, and (iv) is geared towards the executive following through on the recommendations with concrete action.

According to Roberts (1997), shaping policy through the deliberative process required a change in the approach taken by professional public administrators. It necessitated a reorientation of the participants' approach from that of debate or executing power, or winning the day towards a process of pooling the skills, experience, and information from the participants to address a complex issue - messy problem by learning from each other arriving at value judgements and making trade-offs. Nevertheless, she concluded that the success of deliberation will not be based on technology but will draw on the belief that "the public has a right to participate more fully in the decisions that affect it" (Roberts, 1997, p. 131).

Collaborative Participation - In retracing the development and methods used in public participation in the United States, Innes and Booher (2004) acknowledged that the legal instruments of public hearings, review, and comment have not worked in providing opportunities for genuine public participation in planning or other decisions. They argued that the methods neither improved the decisions made by public agencies. Instead, they suggested that the approach generated battles that made contenders of those with opposing views, similar to a boxing match with each opponent remaining in their corner. The result is a polarised public and uncertainty among planners and public officials regarding the value of involving the public in decision-making. The authors observed that even though polarization is the dominant outcome – these approaches to public participation appear to be held in reverence and seem untouchable.

In reviewing the literature on public participation, Innes and Booher (2004) argued about the existence of a spilt in the various camps regarding the value of public participation. In the US planning literature, Arnstein (1969) posits that citizens were not given enough power on the ladder of citizen participation, while Davidoff (1965) supported a role for advocacy in planning. Roberts (1997) seemed to support direct citizen participation through deliberative democracy arguing that public deliberation was of value to the democratic process but wondered about its functionality within the present institutions.

Given the uncertainty and paradoxes that dominate the practice, theory, and discussions on public participation, Innes and Booher (2004) sought to reframe the discussion based on emerging practices around the world. The researchers argued that the current dualist viewpoint of seeing public participation through the lens of citizens versus and or government was limited, simplistic, encouraged polarization, and ignored the pluralist system as special interests used power, access, and money to influence the public officials. Noting that both the dualist and pluralist models of participation coexisted worldwide, the authors proposed a novel approach emerging worldwide built on collaboration. This system incorporated not only citizens, but organised interests, NGOs, planners, and public administrators in a framework where "all are interacting and influencing one another" (Innes & Booher, 2004, p. 422) in a multi-dimensional

model where communication learning and action were linked, and government, citizens and other interests evolved collectively. The central planks of this approach were based on participatory methods that were inclusive and forward-thinking defining future actions through interaction, dialogue, and collaboration.

Innes and Booher (2004) argued that except for meeting legal requirements, all purposes can be met through collaboration. They posit that the success of collaborative participation was based on three issues. One was the "transformative power of dialogue" (Innes & Booher, 2004, p. 428), which is achieved among informed "equals" working on a task in which they have shared interests but differing agendas who listen, and are heard respectively, learn new things, acknowledge the legitimacy of each viewpoint and work through issues through newly learned heuristics to take joint actions. The second was building new professional and personal relationships or networks, and the third was building institutional capacity based on social, intellectual, and political capital. In light of this thinking, Innes and Booher (2004) proposed a new paradigm that moved public participation from the polarising duality of government and citizens' interaction towards a systems perspective that supports and builds on interactions across all spheres. These make up the complex modern society through a process of authentic dialogue that facilitates learning, builds trust and social capital, and lends itself to the emergence of innovative approaches to "seemingly intractable problems" (2002, p. 429).

2.5.4.3 Empirical Studies of Participatory Policy Making

Reddel and Woolcock (2004) wrote on the changing nature of public policy and the greater attention being paid to engaging citizens in the process of decision making. They noted the re-emergence (from the shadow of New Public Management) in academia and by policy makers of the value of community and social capital as a basis for political action and policy development. The researchers explored this resurgence through an examination of participatory governance initiatives in Queensland State carried out within the Beattie Government. In reflecting on what precipitated the change to a participatory approach the authors posit that in one sense, it could be regarded as a political response to the growing influence of the One Nation who were gaining influence because of public alienation and disillusionment with the traditional political process.

The authors observed that traditionally prescriptive and descriptive policy approaches, which proceeded without critical intervention were a mismatch and inappropriate for unlocking innovation through public engagement. Further, a process of citizen participation cannot be isolated from the political realities and hierarchical nature of government institutional structures, which tend to reduce public participation to an activity of "going through the motions" rather than a process for change. The authors argued that the tensions that existed between traditional governance and citizen engagement in the process should be addressed if the distance between the theoretical construct and policy practice was to be bridged.

Edelenbos (2005) researched interactive governance which was defined as the way government involved its citizens and other stakeholders in the development of public policy. Edelenbos drew these conclusions based on five case studies in the Netherlands. The Government in the Netherland chose to adopt this

interactive approach in reaction to apparent citizen disenchantment as evidenced by the low voter turnout of the 1990s that resulted in a growing legitimacy gap between politicians and the voting public. This concern was coupled with a growing resentment that Government was transferring its policy preferences onto the community rather than considering citizens' wishes and a networked society within which the government's reliance on other actors was diminishing its power and making the need for negotiation and deliberation increasingly necessary.

The study explored the implications and impact of the participatory process and its temporary institutional structures on existing organisations. According to Edelenbos (2005), two possible outcomes were possible if interactive governance was allowed, either institutional rigidity or institutional change. The participatory process involved eight (8) steps characterised by different approaches and involving to varying degrees different stakeholders. A consultative group was formed to facilitate discussions with and between stakeholders. There was also a Financial Working Group. The main participants were Council Members, Civil Servants, Citizens and Social Interest Groups, and Municipal executives. The role of each was clearly defined.

The Consultative Group met every month for one year, there was also the Civil Servant Project Group. In the initial stages, the civil servant group supported the consultative group as was the intention. However, as the process continued there was a role reversal, and the civil servant group became the leaders and the consultative group the followers. The consultative group became a 'sounding board' for the project team; their ideas were evaluated and accepted, rejected, or modified by the civil servants. At the decision-making stage of the process, the civil servant undertook the preparation of the proposal in consultation with the Municipal Executives and with no input from the Consultative Group. The result was that the Consultative Group refused to accept the output, which was tabled as a report of the civil servants rather than an outcome of the interactive process.

The Civil Servant Group was not an official part of the interactive governance process, the two were operating on parallel tracks and there was no "meeting of the minds." The civil servants also questioned the authority of the consultative group and as a result, could not participate effectively in the collaborative decision-making process. The result was that "institutional disassociation takes place between the interactive process and the existing administrative structures and procedures" (Edelenbos, 2005, p. 123). The existing procedures and practices "won the day" and had a decisive impact on the eventual outcome.

There was no institutional change. The findings of this study are like several other international studies. The author attributed the lack of success to the disparity between the informal and formal administrative arenas and the existing power structures.

2.5.5 A Comparison of the Policy Models

Considering the review of various policy models Table 2 provides a comparison of the policy models that have been discussed in the previous sections of the report.

Table 2 Comparison of Policy Models.

Global Models	National Models - Communitarianism	National Model – Professional Policy model	Caribbean – International transfer	Jamaica
-global public policy networks -bottom-up approach -evidence-based policy development	-based on community partnerships, trust, inclusiveness, building social capital -community important to the policy development process for the common good, reciprocity, trust, mutual responsibility	- the contextual model which promoted policy-making strategies that focused on problem forecasting, achieving goals, and setting objectives and targets -linear process	-transplanted policy model --emphasis on rationality and problem solving -linear process involving diagnosis, search for solutions, implementation, and review - top-down process	-transplanted but modified policy model -linear process - top-down process - emphasis on problem-solving -opportunities for stakeholder comment
Flaws -not enough attention to social context and societal views -absence of authentic dialogue -expert opinion not sufficient to mobilise action for the public good	Flaws -philosophical model with little practical implementation	Flaws -inappropriate for complex situations -fails to consider the issue of dialogue as part of effective communication -stymies creativity and innovation with a checklist approach	Flaws -disputes over the lines of authority in policymaking and public accountability frequently -tendency to work in silos -limited application for dealing with complex problems -little opportunity for feedback -low track record of implementation -limited public participation	Flaws -stakeholders not directly involved in policy development -stakeholder involvement limited -poor track record of implementation -limitation in dealing with complex problems

2.6 Conclusions on Literature Review

There was little to be found in the literature on the development of policy for the wastewater sector. At the multi-lateral level, there has been a belated recognition of the importance of wastewater. This has mainly been because of the focus at the international level on drinking water and sanitation issues. More recently, the water crisis and consideration of the factors of importance to water security has led to a recognition by global policymakers that all sources of water need to be managed including wastewater for which there has been relatively little consideration in the management and policy level. The global post-2015 Development Agenda has recognised the importance of wastewater and established as a Sustainable Development Goal (SDG) a reference to wastewater management. In my view, this action will undoubtedly signal the need at the local level for policy instruments to be developed for the wastewater

management sector. Within the Caribbean and Jamaica, despite this signal, there has been little in terms of the development of a coherent policy framework for the wastewater sector.

Biswas (2001) observed that there was little to show for rational policy for the Water Sector. The author warned that change was needed and lamented that professionals in the sector had failed to develop, implement, and update suitable policies for the water sector. In this regard, there was a need for change and the accommodation of all voices at the table in the policy development process.

A review of public policy scholars in the Caribbean did not unearth any specific policy frameworks for the wastewater sector. However, Thomas and Schoburgh (2004), Cashman (2014), Marshall (2015), and Thomas (2016) all pointed to the weakness in the public policy frameworks in the Caribbean. Thomas and Schoburgh (2004) deconstructed policy making and implementation issues in the Caribbean and found that the public policy practice had been established through a transfer of the international practice. The policy cycle was a linear model with three fundamental steps: problem definition, options for solutions, and implementation and review. Against this background, Marshall (2015) and Thomas (2016) found there was a dearth of public policy specialists in the region as well as no dependable public policy development models. Current practice lacked social inclusion and was flawed. It was clear from these literature findings that there was a need for change and that the current model in the Caribbean, and by extension Jamaica, needed rethinking.

Turning further afield to global public policy scholars, at the global level, the development of public environmental policy has been a change process from the bottom up. Although arguably it is not a simple process, Haas (2004) argued what is needed is a reorientation of collective understanding (change in mindset) through an inclusive, participatory, and transparent process that facilitates new insights and knowledge to solve problems. This viewpoint was shared by Weber and Khademian (2008) who posit that there needs to be a new mindset in public administrators that transform their role into collaborative capacity builders.

Generally, at the global level, public policy literature is in accord with the complexity of the task of developing environment policy at the global and local levels. In this regard, the researchers suggest networks as an effective mechanism for policy development for two main reasons; (i) expert scientific knowledge has not on its own been sufficient to gain political buy-in and produce legitimate policy and there is a need for other voices, and (ii) the acknowledgement that public policy produced without considering the society's views and without the contribution of local knowledge is unlikely to be legitimate and implementable. The researcher posits that the utilisation of participatory modalities supported by authentic dialogue was a preferred approach to shaping environmental solutions for the public good and improving accountability and transparency in the policy process.

At the national level, the literature pointed to the rise of communitarianism in the public policy arena and the professional model. Communitarianism encouraged the building of social capital to develop public policy through partnerships built on trust, equity and shared responsibility. Researchers perceived that given the complexity of the public policy process, the adoption of communitarianism should be done

incrementally through an examination of norms and the lessons learned. The professional model which is practiced in part by Jamaica stemmed from links with British practice and was found to stifle creativity. It failed to create a process of meaningful dialogue with stakeholders and had no proven record of accomplishment when compared to traditional approaches.

Regarding participatory approaches, researchers plotting the development of participatory democracy in the United States from the 1960s noted that it came to prominence because of a decline in voter participation in the electoral process. To a significant degree, this brought the "legitimacy" of the government of the day into question. The decline in voting was ascribed by the researchers to be due to the disengagement of the public because of the inability of elected governments to deal with the problems faced by its citizens. Additionally, a growing educated, and the affluent population was increasingly critical of public policy, particularly in the areas of urban planning, infrastructural development, and environmental protection. The rise of participatory democracy and the growing organisation of NGOs challenged government bureaucrats and experts that made decisions behind closed doors transforming the public policy process from solely the domain of politicians, public administrators, and experts.

Despite the ascendency of citizen participation in the public policy arena, researchers observed that this came with some resistance. On the one hand, supporters celebrated the role of the public in public policy, while conversely, sceptics felt that elected officials protected the citizenry from uninformed public opinion.

Notwithstanding the existence of some theoretical frameworks, the practice of public participation still faced unanswered questions concerning its practice. Issues such as time, costs, size, exclusion of oppressed groups, the dominance of special interest groups, and the recognition that public participation does not guarantee the achievement of public good still "dog" the process.

There were a few participatory models the ladder of participation, public deliberation, and collaborative participation. However, despite the growing theoretical framework because of the complexity of the issues that surround execution in practice, there was still tension between the experts and the general public. The real power to change that situation rested with the public administrators and experts. The findings of the literature review showed that genuine public participation remained an ideal.

Given this gap in both the theoretical frameworks to support direct public participation as well as the deficiencies in its practical implementation, further development was required. Innovative methods of group organisation to facilitate dialogue need development, suitable management systems are needed to facilitate participatory approaches, and a deeper understanding of the epistemologies of participation is required.

The findings of the literature review supported the need for more research on public policy and the use of participatory approaches to develop a legitimate policy framework. Further, a dearth of literature on the development of a wastewater policy framework existed despite the drivers at the global and local levels, which support the need for such a policy.

Considering these findings, the research questions are: How can Forrest & Partners develop a framework that would strengthen the coalition and collaboration on developing policy within the wastewater sector in Jamaica to develop its business operations? What are the issues preventing the development of a management policy within the wastewater management sector in Jamaica? What are the challenges in developing public policy in the wastewater management sector? What changes are required for the improvement of the policy development process in the wastewater management sector?

Figure 5 illustrates the contributions to answering the research questions and identification of the gaps.
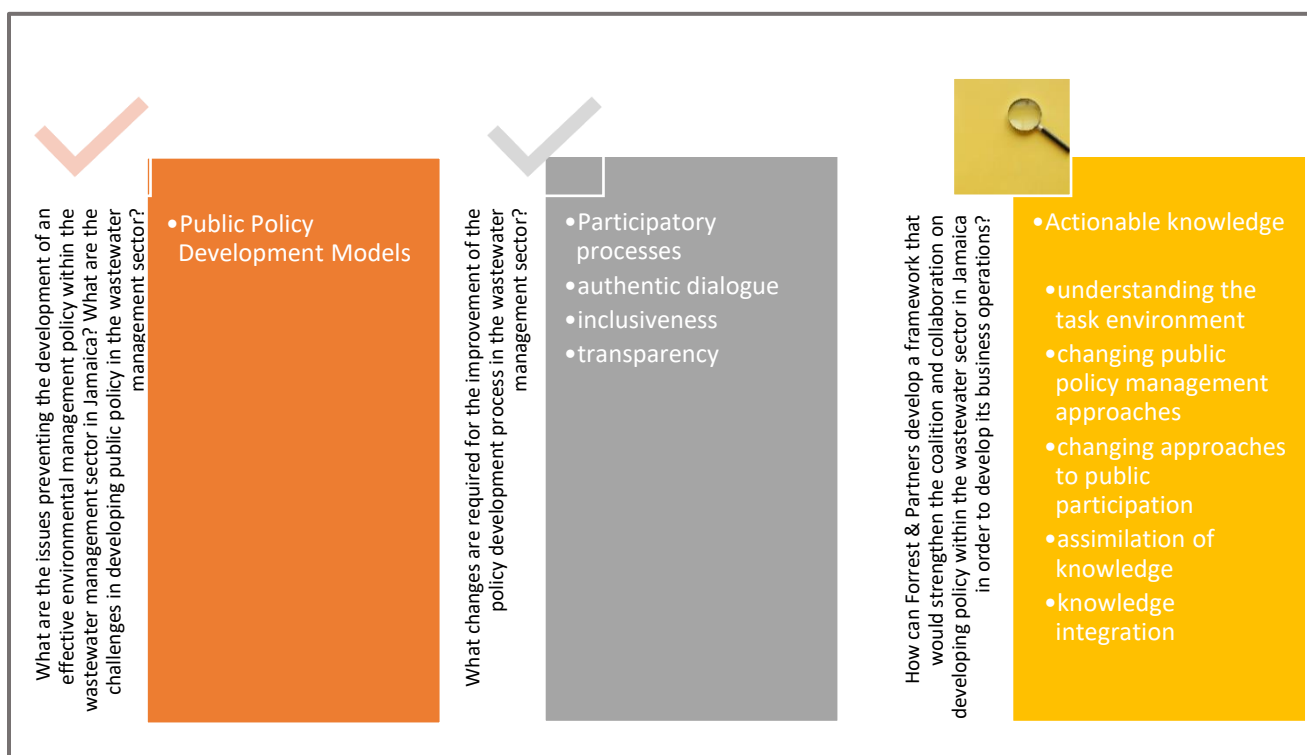
Figure 5 Public Policy Literature Answers to Research Questions and Gaps.

2.7 Additional Literature Findings Based on Research Findings

The findings from the research led to the emergence of two key issues about which I felt that obtaining a perspective from the literature was important. The first had to do with the degree of "maturity" of the public policy practice in Jamaica and how this contributed to the approach to public policy development and the task environment. The second is related to reviewing the approaches used to integrate the experiences of key stakeholders in the policy development process to ensure knowledge integration. The findings of the literature review are as follows.

2.7.1 The Context-Task Environment

The current practice of public policy development in Jamaica has historical precedents. I found as I analysed the research findings and the insights which were emerging it became evident that if a change of the current system of the public policy development process for the wastewater sector was to be undertaken an understanding of the building blocks and the platform on which public policy established was critically important. The literature review, therefore, focused on examining the historical development of public administration and public policy in the country. I felt that only through probing how Jamaica's colonial past and the socio-political culture in the country have influenced present-day public policy practice could any significant recommendations for change be proffered.

The public policy literature reviewed and discussed in the previous section of the report was silent on the issue of the importance of understanding the task environment within which, public policy is being developed. Based on my research finding this omission is a significant gap in understanding and shaping public policy in Jamaica. Considering these issues, the need for a deeper understanding and appreciation of the context and task environment is key research finding that in my view is an essential prerequisite to answering the research question: What are the issues preventing the development of a management policy within the wastewater management sector in Jamaica?

Several Caribbean scholars Jones (1992), Powell et al. (2007), and Girvan (2015) have contributed to an understanding of these issues and their writings on the topic are summarised below. The following section choreographs the history of public administration and policy development in Jamaica.

2.7.1.1 Jamaica's History of Developing Public Policy

Jamaica is an island situated in the western part of the Caribbean Sea approximately 145 km south of Cuba and 161 km west of Haiti. Its earliest inhabitants were the Tainos, who were now extinct mainly due to diseases. In 1494, Christopher Columbus a Spanish explorer captured the island, which remained under Spanish rule until 1655 when it was captured by the British.

The British colonial period was dominated by the sugar industry, the labour for which, was provided by African slaves. In 1962, the people of Jamaica were granted independence by Britain after over 300 years of colonial rule, by which time many governance practices were entrenched. As a result, many of the country's governance, institutional and education systems retain practices and attitudes from our colonial past and are of importance in establishing the historical context within which the country's public policy development practice has been established.

Jamaica inherited an administrative model. The modern Jamaican State had its beginnings in its colonial past. The hallmarks of colonial rule were the use of strategies of manipulation, accommodation, co-optation, and force which were portrayed in all socio-political institutions and relationships. Management

of the colonial political system's power resided in the metropole and was characterised by state power flowing downwards from the centre.

During the colonial times, the catalyst for state formation was the complex and contradictory relationship that evolved between the major actors; namely, the planter class, traders, and public administrators from the local and Colonial Office. The local state developed out of "the need for organising authority to perform certain common functions in local society and the need to have "on-the-spot" public coercive power to guarantee the primacy of certain interests (Jones, 1992, p. 2). According to Jones (1992), this requirement shaped the nature of state bureaucracy in three significant ways. Firstly, the colonial state's development was not exclusively nor independently the result of internal developments or the imposition of colonial power. Secondly, the emergence of the colonial state-required legal and administrative mechanisms, which dominated all other centres of public power; and thirdly, in the absence of formal political parties the state's bureaucracy was used by colonists and the planter class to promote and secure their own interests. The writer argues that the third reality became an entrenched way of carrying out public affairs with no chance of changing this practice without a change in the character and purpose of the state.

Over time the writer noted the state bureaucracy adapted to changes in the direction of the colonial policy. Arguably one of the most influential of those policies that shaped public administration was the Crown Colonial system of government where an extremely limited franchise was used in the establishment of legislative and executive bodies. A key characteristic of which was the overwhelming concentration of power in the executive branch and the extremely powerful governor resulting in giving primacy to those in control. Thus, as described by Jones (1992) the colonial state saw a convergence of class and state power which was concentrated in the hands of a few and centred-on elitism.

As the state expanded thoughts emerged regarding political democracy and with it the advancement of orderly constitutional transitioning to a Westminster model of governance through which independence from the metropole could be secured.

Jamaica's pre-independence colonial state was highly bureaucratic. Political and administrative functions were fused, resulting in a decidedly political bureaucracy with a high degree of dependence on the "Westminster–export" administrative ideology. Policy direction and fiscal support were dominated by powerful local interest groups. The writer concludes that the state bureaucracy which emerged was relatively autonomous and externally guided in its policy development agenda. This coupled with the self-interest of the bureaucrats themselves resulted in an emphasis on personalised administration, which detracted from any tendency towards institutionalisation. Thus, instead of a home-grown governance model, the country looked to the Westminster-Whitehall model for the development of institutions and the culture of public administration.

These characteristics of the early development of the state and its institutions have retentions in the development of post-independent Jamaica. This has shaped the character of government and influenced the approach to the development of public policy.

Jones (1992) observed that Jamaica in preparation for Independence by and large adopted the Westminster ethos along with its philosophy that economic ownership should not be state-controlled except in exceptional circumstances. Additionally, he also posited that the Westminster-style bureaucracy linked with the elite – has meant that Jamaica's system of governance functioned based on elitism and evolved on traditions of centralised decision making with a class-based administrative ethos. Hence, the writer outlines that institutional centres, boards, and other types of public entities and structures were developed to facilitate collegial interaction through, which class consciousness developed. As did the practice of seeking advice, not from the centres where technical knowledge and professional expertise resided; instead, there was a dependence "on sources not to disturb the status quo and often ignorant of the Jamaican context. Little or no reliance was placed on policy inputs from among the masses. Thus, in this elitist theory of advice, popular participation was resented or repressed since it felt that it would de-mystify public administration" (Jones, 1992, p. 7). He further argued that this manifestation denied public administration critical sources of inspiration and information.

Jones (1992) observed that while there had been a changing of the guard since Independence, a class of public managers had emerged who had assumed the Westminster model of governance. Their managerial approach and actions have maintained significant features of the model.

Further, Jones acknowledged that early in its independence as a developing nation, Jamaica found itself with three patterns of public organisation; the colonial orientation, an innovative outlook focused on problem-solving, and a hybrid of the previously named patterns. Against this background, he posited:

> The bureaucratic ideology of the Jamaican state, as well as that of the public institution building process, has been broadly planned, been influenced by internal and external factors, and in the main represents a search for problem solving frameworks. However, the search has been conducted within a context of tensions, arising mainly from the demands of competitive politics and from contradictory commitments to norms of 'acceptance-retention' of the inherited Westminster-Whitehall model on the one hand, and those of adaptation-rejection' on the other. (Jones, 1992, p. 20)

Twenty-three years after Jones's (1992) submission, very little has changed in the task environment. Girvan (2015) assessed that the impact of the Westminster model to a large degree mirrored the observations of Jones (1992) then and now. The author noted that while the politics of colonialism was a politics of exclusion, that of Independence was one of participation, this is "the population would be mobilised for the tasks of nation-building and the creation of a just society" (Girvan, 2015, p. 95). He observed, however, that the British Caribbean Independence Pact was essentially not about independence but instead about maintaining the status quo. An essential element of this was the maintenance of British laws and institutions and as a result the retention of governance practices of the colonial state. Nowhere was this more evident than in the development of Jamaica's constitution, which was a template that Girvan recollected, lacked serious public consultation; "my distinct recollection is that these sessions were attended by a mere handful of individuals; and that no one believed that they were meant to be taken seriously" (2015, p. 96).

In summary Girvan (2015) found that the impact of Westminster after over 50 years of Independence still loomed large. He posited that a few concerns remained. These were (i) corruption – the plunder of state resources by politicians and their cronies, (ii) crafty and largely invisible influence of money in politics and the determination of state policy with the resultant lack of transparency and accountability, (iii) unchecked executive power, (iv) weakening of the legislative branch, and (v) anaemic non-existence avenues for citizen participation in governance. Generally, participation is reduced to voting every five years and fragility in local government. One of the solutions he offers is the need for change in the policy arena and the development of structures of people and community empowerment. In Girvan's view:

> We need forms of political participation that privilege informed citizen engagement with the urgent issues of survival and with the kind of society that we wish to create. Forms that promote the building of social consensus across the cleavages of class, colour, ethnicity, gender, and political tribe. (2015, p.105)

2.7.1.3 Independent Jamaica -Emergence of Public Policy Approaches

It is within this context of the development of public institutions that the evolution of the field of public administration was adopted in Jamaica. The writings of Jones (1992) and Girvan (2015) regarding the historical development of public administration and its predilection to external control, government centeredness, elitist decision making, undue influence by a power class, and minimal acknowledgement of the wider public views lingers on in Jamaica's public institutions has clarified and bolstered the research findings and explained the task environment. Therefore, any attempt to establish collaborative frameworks in the development of public policy must have an appreciation of these factors. This is particularly so for the water sector, which has traditionally been dominated by government control.

2.7.2 The Context - Jamaica's Socio-political Orientation

2.7.2.1 Democratic Values and Norms

Jamaica's public policy practice has also been influenced by its socio-political culture, which undoubtedly has influenced the development of public administration in Jamaica. Powell et al.'s (2007) survey of a sample of the Jamaican population asked a series of questions that delved into Jamaica's socio-political posture and ascertained citizens' views on the key issue of democratic leadership and governance.

Powell et al. believed a society's ability to nurture and sustain a democratic political culture was frequently overlooked by policymakers and policy analysts who tend to be preoccupied with shorter-term issues like the organisational, financial, and legal aspects of governance. They posited that eventually a healthy democracy is "rooted in widespread consensus on democratic values" (Powell et al., 2007, p. 7) that are representative of a political culture of a nation, its beliefs, customs, and preconceptions. Democratic values gave meaning to the political process and provided a framework for political behaviour and the advancement of public policy.

Considering these issues, Powell et al. polled 1,338 participants in an attempt to get a deeper understanding of the issues. In response to a question to determine the strength of the country's democratic norms when compared to authoritarian rule, 45.7% of the respondents were not very satisfied, 30.1 % were fairly satisfied, and 18.5% were not at all satisfied. Powell et al. (2007) concluded that while Jamaicans were committed to democratic norms related to issues of social justice, freedom, and equality, their opinion on democratic and authoritarian governments were ambivalent although democracy prevailed. They concluded citizens gave latent support for authoritarian governance in extraordinary circumstances.

In response to the question of whether every citizen should have an equal chance to influence government policy. The results revealed that 44.9 % strongly agreed, 41.3% agreed, and 8.9% disagreed. These findings seem to support the view that citizens should influence government policy.

Regarding issues of trust and confidence, the authors argued that the issue of trust in other citizens, political leaders, government, and institutions was a major concern in any democratic society. In their view, trust united society and was critical in enhancing civic engagement and political attitudes. The survey results revealed that in Jamaica in response to the question "would you say that most people can be trusted to keep their promises, or that you can never be too careful when dealing with other people?" The majority (1,117 or 83.4%) felt that people could never be too careful. Further, in response to the question related to trust in government which asked "would you say most people in government can be trusted to keep their promises, or that you can never be too careful in dealing with people in government? A total of 1, 233 respondents (84.8%) felt one could never be too careful. In general, the survey revealed that Jamaica was a low trust society and there was a relatively large degree of suspicion concerning government and its programmes. The survey findings also showed that most of the respondents (55.2%) felt that the country was headed in the wrong direction and less than 10% of the respondents placed trust in government institutions, political parties, or the parliament.

With regard to priority issues, the results showed that respondents opined crime and violence (44%), unemployment and lack of jobs (30.8%), and school and education (5.8 %) were the most pressing problems faced by Jamaicans and ranked the highest. The question of protecting the environment recorded less than 0.1% and ranked 21 out of 24 issues that were important for the government to solve.

Powell et al. (2007) reported that on the matter of democratic participation and civic engagement within a system of democracy (where citizens exerted a high degree of control over their political leaders), the survey found that public participation was practiced as follows: attending a political meeting (32.4%); interacting with a local or central government official on a community problem (55.9%), and participating in a peaceful demonstration (20.1%). There appeared to be a low degree of participation in matters related to the development of public policy.

2.7.3 The Context – Complex Problem

A dominant subject that emerged from the research findings was the matter of how Jamaica's stage of development and socio-political culture influenced the country's approach to the development of public policy. The writings of Jones (1992), Powell et al. (2007), and Girvan (2015) established that in Jamaica today public administrative practice had been influenced by the Westminster model and the resulting colonial retentions led to top-down public management set by elitist consensus. These factors coupled with a low trust environment within the society and the public's preoccupation with "bread and butter" issues meant that the task environment within which public policy was being developed was complex. Further policy development took place in an environment subject to policy ambiguity and incoherence, a degree of technical under capacity, and low levels of public participation. These findings led to an examination of complex problems as they related to the development of public policy. The work of scholars Churchman (1967), Head and Alford (2015), Rittel and Webber (1973), Roberts (2000), van Bueren, Kijn, and Koppenjan (2003), Webber (1978), and Weber and Khademian (2008) were reviewed.

This section of the literature review delves into how complex problems produce an interesting intersection between public policy and management researchers regarding the need for collaborative strategies in tackling complex public policy issues.

2.7.3.1 Solving Complex Problems

In the management literature, research on complex problems began in earnest when Churchman (1967) defined complex problems as difficult issues affecting society. The difficulties arose from the challenge of properly defining the problem particularly given the diversity of opinions from various stakeholders. The varying perspectives of stakeholders often resulted in poor problem identification, which often resulted in the development of inappropriate solutions that created more harm than good. Many of these types of problems are located within the public policy arena.

In considering approaches to tackling complex problems researchers Head and Alford (2015), Roberts (2000), van Bueren et al. (2003), and Webber (1978) agree that within governments, decision-makers appeared to have difficulty dealing with non-routine or nonstandard problems. These problems were particularly, "complex, unpredictable, open-ended and intractable" (Head & Alford, 2015, p. 712). The researchers argued that complex problems, which are generally unique should be analysed by "stripping down" the issues into the different layers that make up the complex multiple dimensional wholes. It would then be possible to formulate incremental solutions and courses of action to address complex problems.

In an analysis of how complex problems were managed in the 1970s as it relates to public policy, Head and Alford (2015) found that there was significant dissatisfaction with the existing approach to policymaking and implementation. This time focused almost entirely on rational technical solutions (van Bueren et al., 2003). Critics of that approach felt the assumption that policy achievement was the result of adequate information and thoughtfully established goals and objectives, and methods were unsound.

In this respect, the authors referenced new schools of thought that have since emerged with regard to tackling complex problems, which go well beyond considering only technical solutions.

In exploring these positions, Head and Alford (2015) examined the work of the system theorists who argued that social and economic problems could not be analysed and responded to in isolation. Instead, these issues are interrelated and make up a system of problems referred to as a "mess" which requires a multi-prong approach to finding appropriate solutions.

Still, other researchers working in social policy education suggested that in the modern era a purely technical or scientific approach to solving social issues was inadequate. Head and Alford (2015) suggested that the rich experiential knowledge of professionals was vital to finding solutions to social issues. Planning and design professionals Churchman (1967), Rittel and Webber (1973), and Webber (1978) also weighed in on the discussion. They regarded the nature of complex problems and suitable approaches to find solutions and argued that in a pluralistic society with diverse values, worldviews, and ambitions, the resolution of major problems only through the lens of technical engineering solutions was outdated and irrelevant. Instead, they contended that major public policy problems were resistant to clearly defined solutions and often relied on political judgement.

Considering the work of these researchers, Head and Alford (2015) concluded that what was needed was the experiential awareness, knowledge, and understanding of professionals working in the area. In short, scientific and technical data and expertise alone cannot resolve complex policy questions in today's world.

Roberts (2000) and van Bueren et al. (2003) also observed that issues characterised by a deep division about the nature and the importance of the problems. For example, as observed in the areas of environmental protection, poverty, crime, and immigration, lend themselves to diverse policy perspectives. As a result, there was no root cause for the complexity and no single or simple approach to a solution was appropriate. Case studies on complex problems across several disciplines ranging from public management and governance to climate change have found that efforts to address complex problems have generally failed or have poor outcomes perhaps because of multi-interest of stakeholders, institutional complexities, and gaps in knowledge (van Bueren et al., 2003).

Despite the negative outlook, Head and Alford (2015) viewed these findings with a degree of optimism and contended that the fact solutions offered were open to questioning was not necessarily a bad thing because "important learning and evaluation processes emerge from the adaptive management experience of working at multiple levels with a range of policy instruments" (2015, p. 716). In light of this premise, the authors proposed that tackling complex problems - given the diversity and complexity of the issues that need to be addressed would require categorising these problems. Head and Alford used Heifetz's typology and work on leadership to rank and categorise problems in ascending order of difficulty. In Heifetz's hierarchy Type 1 situations are those in which problem identification and solution are clear and require technical work to devise solutions. Type 2 situations occur where the problem definition; namely, the reasons underlying the cause and effect are not readily apparent. Finding a solution requires authentic dialogue that generates learning for all the stakeholders involved. Roberts (1997) thought that

for the Type 3 situation both the problem and definition are indeterminate and more in-depth learning and deliberative dialogue are needed by all the parties involved. Roberts (1997) and Head and Alford (2015) agree that Type 1 situations are aligned to tame problems, and Type 3 and some Type 2 are complex problems.

Given these observations, researchers van Bueren et al. (2003) and Head and Alford (2015) suggested that addressing more complex and controversial problems is best approached through adaptive management and networked governance because of the high degree of stakeholder dissonance and uncertainty. They note that policy research has revealed that the definition of a problem and solution is influenced to a large degree by the stakeholders' worldview. Observing that "in a world of constrained or "bounded rationality, lack of consensus reflects differences in values and experience; and appeals to scientific expertise will seldom generate acceptable solutions" (Head & Alford, 2015, p. 717). The management scholars concur that good science is not enough to deal with the challenge of complex problems and that issues such as communication, politics, and institutional barriers also need to be overcome thus enabling the development of a shared understanding.

2.7.3.2 Responding to Complex Problems – New Thinking

Considering the more complex and diverse the situation, the more complex the problem, Head and Alford (2015) suggested that the different types of complex problems require different types of responses. Therefore, addressing these problems necessitates more than using a process of collaboration as the "default" action, which is often the approach of government policymakers. Instead, the authors suggest a more pragmatic approach, in which the nature of the solution is "tailored to the type of wickedness" (2015, p. 718) exhibited by the problem. Additionally, the approach used should not be to solve the problem but to work with stakeholders to develop a common understanding of the problem and potential solutions that lead to coherent action but not necessarily to final solutions. Given these findings, Roberts (2003) and Head and Alford (2015) suggest that there is likely to be a challenge for public managers and decision-makers to establish the conditions that can facilitate the discussions on provisional solutions which lead to decisions. Noting that traditional hierarchical public administrative structures often fail to address complex problems because the systems of control, compliance processes, budgetary appropriations, and departmental silos all limit the opportunities to "think outside of the box." Therefore, this type of government bureaucracy as well as interest groups taking on positions of 'turf' are barriers that result in complex problems not being addressed in meaningful and effective ways.

Weber and Khademian (2008) and Head and Alford (2015) conclude that in general solving complex problems requires public administrators to change their thinking and approach to leading, managing, and organising within and outside of their organisations. The authors acknowledged that while public policy research examined the challenges of complex problems to develop effective public policy, emphasis has been placed on collaborative and networked management. However, they argued against its sufficiency and selection as the first or best options.

2.7.3.3 Collaborative Methods

Against this background, the research of Roberts (2000), Adams and Hess (2001), Haas (2004), Roberts (2004), and Head and Alford (2015) show the increasing use of cooperative methods as the central instrument in dealing with complex problems. The form of collaboration and partnering is highly variable depending on whether one's perspective is based on the resource dependency theory; the policy network theory; the exchange theory or collaboration as a management issue. Head and Alford (2015) acknowledged the existence of conceptual differences between each of these approaches and defined collaboration as some degree of shared understanding, agreed on purposes, mutual trust, and usually an element of interdependence. Given this framework, the authors were not so concerned with how collaboration was achieved but more about its impact on complex problems. They agree with Huxham and Vangen (2005) that collaboration provided a "collaborative advantage" in addressing complex problems as this was likely to enhance understanding among groups with differences in knowledge and value.

When addressing complex problems in collaboration against this background, help is provided in three ways: Firstly, the presence of functional collaborative networks increases the probability of a shared understanding, insights, and purposes about the problem and its underlying causes. Secondly, collaboration is likely to produce agreed-upon interim solutions because of the greater degree of cooperation and the pooling of knowledge and experiences. Thirdly, collaboration is crucial for effective execution of the solutions because often there is a need for coordinated action, shared resources, and mutual organisational adjustments which are needed to implement the solution. Cooperative arrangements enable these three benefits to be realised through the inclusive praxis of managers that allows communities of participation to evolve and take root and function effectively.

Regarding the collaborative advantage, Head and Alford (2015) warn that while collaboration is a route to solving complex problems the process is highly demanding because it engages many diverse actors. Therefore, achievement is difficult within a public sector dominated by turmoil and constrained by strict accountability rules.

2.7.4 Summary of Issues Affecting the Task Environment

A brief historical review of the development of post-independent Jamaica's political culture and the task environment in which public policy is developed revealed an approach to public administration with significant implications for the policy development process. This is particularly in cases where the creation of public policy is linked to participatory models.

Jones (1992), Powell et al. (2007), and Girvan (2015) suggested that the current task environment had several characteristics, which are often at odds with each other and contributed to the complexity of the situation. On the one hand, while Jamaica is an independent state with over 50 years of experience in self-government the development of its public administration has to a significant degree retained the characteristic of its colonial past. Namely, a home-grown model of self-government has not really become

dominant. Instead, characteristics of the Westminster Model remained with the following tendencies: (i) elitism and a top-down approach to public engagement, (ii) seeking advice from sources other than Jamaican experts, sources that often had no experience of the local conditions, (iii) lack of reliance on and consideration of inputs from the people, (iv) privatisation of issues – particularly those thought to be divisive, and (v) departmentalism which often creates institutional silos. There also remains significant external influence regarding prioritisation of the public policy development agenda. This is currently being played out in the undue influence that bilateral and multilateral agencies such as the IMF, World Bank seem to wield over the affairs of the country.

Further in terms of the socio-cultural and political factors, Powell et al. (2007) found a certain ambivalence in the views of the Jamaican populous who are committed to democratic norms and yet seem to want to have strong "firm" leadership. However, there are low levels of trust within the society both for citizens and governments, which has serious implications for the development of networks and collaboration on issues of importance to the public.

Regarding the priority given to issues of the environment by the public, this ranked very low in terms of priority for the Jamaican people in general, who were by and large preoccupied with issues of crime, unemployment, and education. Perhaps, however, this result is understandable in a country that has experienced over 25 years of negative economic growth and where crime statistics are alarming. These socio-political considerations add to the difficulties of developing public policy in general and more specifically in the environmental sector, which in addition has a low ranking in terms of national priorities.

Further, on the issue of public participation Powell et al. (2007) found there was a relatively low degree of interest in participating in matters related to public policy. However, there was a gap in the literature and the reasons for this apparent apathy have not been investigated. This issue forms part of the research questions of this study, more specifically – *how effective is public participation in the policy development process?*

Finally, despite the Government of Jamaica's stated commitment to integrating environmental management into the development agenda using a sustainable development platform; the issue of a policy to improve environmental management for the wastewater sector is not regarded as a high priority. The issue often competes with decisions related to economic growth and job creation and in a political culture where the popular perception is an emphasis on "things" the environment stymies economic growth. Environmental management is most often seen to be incompatible with economic growth.

Thus, within the context of the Jamaican society, and against the background of the historical development of its public institutions, and public policy; the development of a management policy for the wastewater sector is a complex and "messy" issue.

In conclusion, a review of the task environment, that is, the context within which the policy development process takes place in Jamaica has helped to inform and frame the issues raised in the research questions.

The model of public administration practiced in the country has its historical grounding in the Westminster Model and has resulted in an elitist leadership approach to public policy development, which to a significant degree is influenced by external factors and appears to be deficient in innovative problem-solving. Additionally, the socio-cultural and socioeconomic issues, of low trust in government, preoccupation with survival issues, relatively low priority given to the environment as an issue of national priority, and an apparently relatively low degree of public participation regarding the development of public policy, has provided answers to the subsidiary questions which are as follows.

What are the challenges in developing public policy in the wastewater management sector? What changes are required for the improvement of the policy development process in the wastewater management sector? How can these changes help to address the business challenges faced by Forrest & Partners?

2.8 Knowledge Integration – Role of Collaborative Capacity Builder

The importance of an understanding of the task environment emerged from the research findings. The challenge of collaboration that integrated the contribution of diverse stakeholders was a significant issue. Public policy literature while dealing with the need for public participation and collaboration was relatively silent on this issue, and I turned to management scholars to learn more about the theory supporting knowledge integration. In this regard, the work of management scholars Weber and Khademian (2008) was most useful in supporting any change model for the development of public policy for the wastewater sector.

Weber and Khademian (2008) writing on the knowledge challenges and collaborative capacity builders within networks observed that scholars have positioned networks in a place of great worth. These were the best means to achieve collective goals in the public and private sectors.

Some scholars conceded that some management challenges were unstructured, cross-cutting, and relentless (Churchman, 1967; Head & Alford, 2015; Roberts, 2000). This explained why such problems were often unstructured because of their complexity, resulting in little consensus on potential solutions because of the lack of agreement on the cause and effects. Also, these problems were cross-cutting because of the involvement of voices from several levels of government, political forces, and numerous interested parties in finding a solution. Finally, scholars noted that some problems were relentless; namely, no one approach finally solves the problem because the solutions often have consequences on other policy areas.

Against this background, Weber and Khademian (2008) observed that researchers into this type of problem recommended that effective management of such problems required an amalgamation of multiple specialised functions drawn from traditional bureaucracies, different policy arenas, concerned public, experts, politicians, and diverse resources. Such an amalgamation is supported by an environment of collaboration that promotes, encourages, and facilitates "effective transfer, receipt and integration of knowledge across participants in the network" (p. 337).

Considering these issues, Weber and Khademian (2008) posit that the challenge of effectively sharing knowledge among a diverse group of stakeholders required what they have the collaborative capacity to find solutions and improve policy performance and accountability. Thus, the importance of a collaborative capacity builder; that is, someone with an outlook that facilitates the exchange of knowledge and its integration into building a collaborative capacity that solves problems is critical and should not be overlooked.

Given these conclusions, the researchers investigated practices within networks focusing on knowledge sharing and unearth some practical lessons regarding the building of collaborative capacity. They defined knowledge as socially mediated information developed through methods of social discourse and dialogue that give meaning to information and generate knowledge. Participants bring their experience to the "table" and coupled with the discourse within their communities contribute to knowledge generation. Paradoxically, Weber and Khademian (2008) observed that these diverse experiences and viewpoints not only contributed knowledge but also often presented significant barriers to solving problems. The challenge then is the sharing, acceptance, and integration of this knowledge to solve problems.

Against this background, building on the work of previous researchers, the authors linked the challenges of integrating knowledge to the competence of the manager as a collaborative capacity builder and also to the importance of a mental attitude (mindset). That becomes very critical to successful collaborative problem solving (Head & Alford, 2015; Roberts, 2000, 2004).

Collaborative Capacity Builders (CCBs) are described as leaders who establish rules of engagement that foster a network culture, which in turn supports turning knowledge into useful information and facilitates the integration of existing knowledge with new knowledge to solve problems. In this regard, Weber and Khademian (2008) identified six commitments that are a necessary part of the collaborative capacity-building mindset. These commitments go beyond traditional methods of managing network interaction and represent the softer side of management needed to facilitate the integration of knowledge: (i) governance with government, (ii) governing with rules but thinking creatively, (iii) working as networks with mutual aid partners to society, (iv) the acceptance that a CCB can be someone without an official designation, (v) understanding that performance and accountability are inseparable requirements in addressing complex problems, and (vi) an enduring commitment to the collaborative process, which the authors posit invaluable in situations where there is hostility, special interests, and uncertainty as well as other complexities that affect networks.

Further, the authors argue that CCB in addition to the other skills and experience that may be required must feel passionate about the value and worth of the collaborative process. The process can be fractious given the diversity of people and organisations and the CCB must have the energy to overcome dissent and move towards knowledge, sharing knowledge, and integrating new knowledge through constructive dialogue. Weber and Khademian (2008) conclude solving difficult problems collaboratively is best facilitated by a collaborative capacity builder with a mindset that facilitates the management of network relationships.

2.9 Contribution of Research Findings and Answers to the Research Questions

The importance of context mainly, understanding the task environment and socio-political environment is an important research finding. The literature review has provided answers to the historical underpinning of the development of public administration in Jamaica and understanding this issue is a significant finding concerning the development of public policy in Jamaica. The importance of context to the development of public policy has not been discussed in the public policy literature. Indeed, the literature is relatively silent on the issue of how context influences or impacts the public policy development process.

The research finding raises an additional and critical consideration; namely, how does one implement/achieve participatory strategies within governance and public administrative practice that retains a traditional Westminster hierarchical organisational structure. The Westminster public administrative practice is dominated by an elitist approach to the development of public policy. Further, how are citizens engaged in the policy development process within a socio-political environment where there is a deficit in trust, a low priority placed on environmental protection, and low levels of public participation? Finally, what are the strategies to be employed to assimilate and integrate the knowledge which emerges from the diverse voices and viewpoints that arise during public deliberation? Figure 6 illustrates the emerging issues to be explored in the AR process.
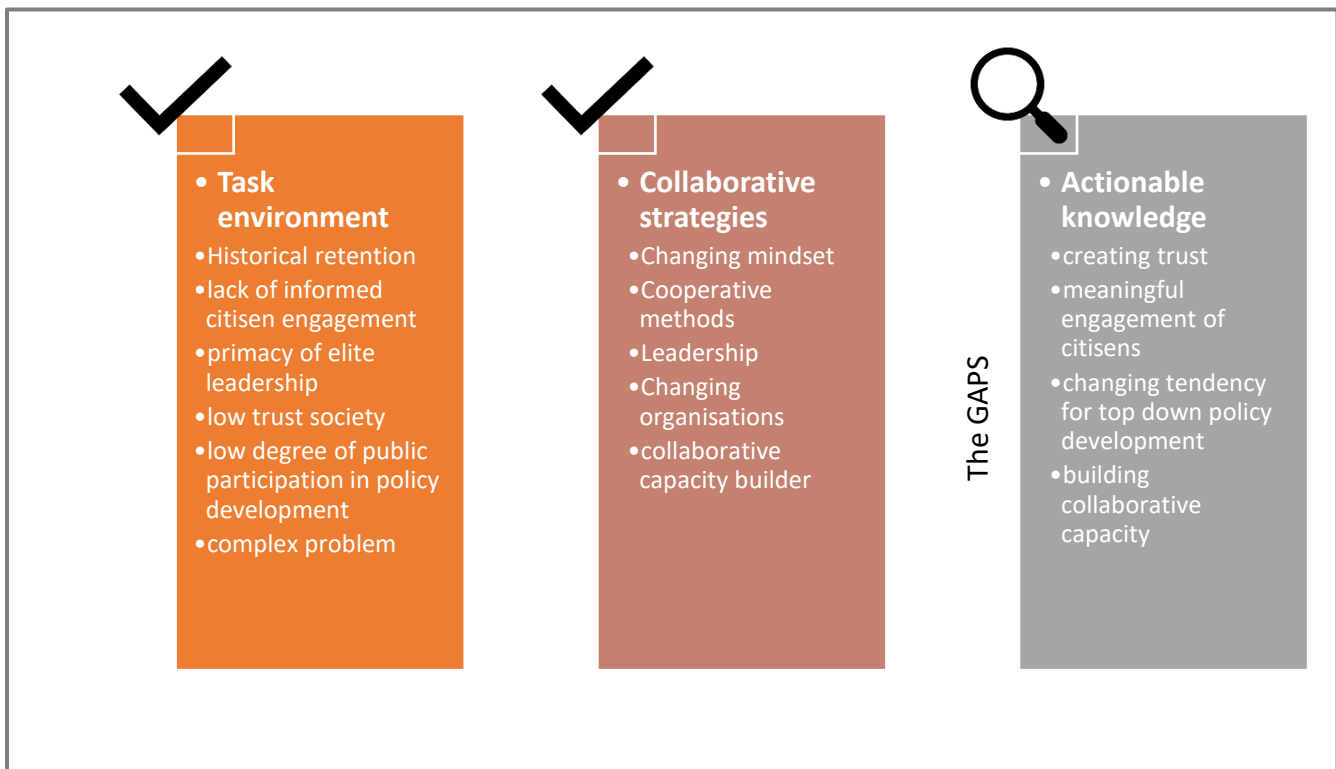
Figure 6 Summary of Issues to be explored in the Action Research Cycles.

The following chapters of this report provide the basis around which the research questions are answered. The topics of the epistemology and research methodology are described in Chapter 3 and the literature findings, coupled with the research findings, are detailed in Chapter 4.

3.0   Epistemology and Methodology

This chapter outlines how the research was performed. The chapter to a significant degree has been organised based on an overview of the research process found in Creswell (2011).

The research process (see Figure 7) is described in five phases. In Phase 1 the researcher is a multicultural subject; namely, the phase involves understanding the concept of self, history, research tradition, ethics, and politics of research. Phase 2 relates to the theoretical paradigms; namely, the researcher undertakes the study based on certain paradigms; for example, positivist, post-positivist, feminist, or a combination of perspectives. Phase 3 is the determination of the research strategies. Phase 4 is the determination of the method of data collection, and Phase 5 is the evaluation and interpretation of the data.
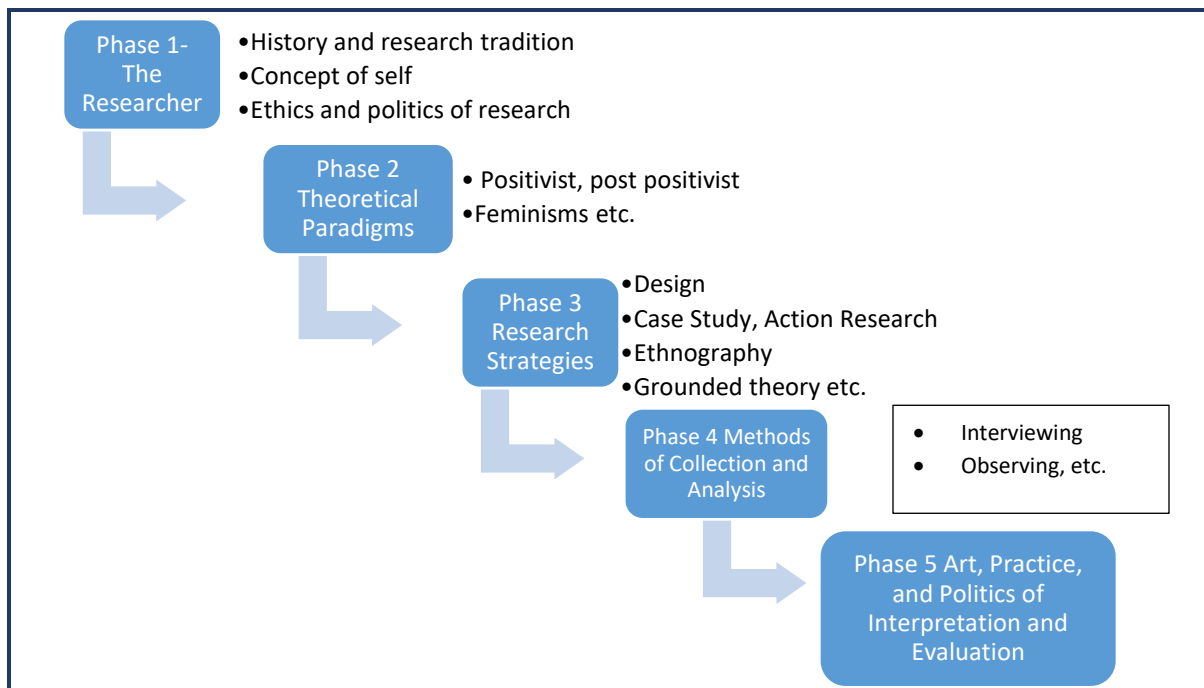
Figure 7 Process of Research (Source: Creswell, 2013, p. 17).

Against this background, the chapter commences with a discussion on epistemology and its importance to research and contributing to knowledge creation. Johnson and Duberley (2000) observed that:

> The possibility of coming to a foundational set of epistemological standards whose insights allow us to appraise all other disciplines, the management or otherwise, must remain a forlorn hope …However, what we can say is that there are a variety of epistemological positions that legitimise their own distinctive ways of engaging with management and doing management research. (Johnson & Duberley, 2000, p. 177)

The next section deals with a description of my own self-understanding that has evolved over a lifetime but, about which I have become increasingly conscious as I have developed as a scholarly practitioner. This pre-understanding has influenced my approach to inquiry. The third section addresses issues of philosophical assumptions, which greatly influenced my formulation of the problem and the interpretative frameworks that help form the theoretical basis of the study. The issue of explaining one's epistemological philosophy is of vital importance to the reader of the study and legitimises the research findings. The final sections of the chapter outline the research strategy, data collection methods, and the approach to evaluating the data.

3.1 Phase 1 – The Researcher

3.1.1 What is Epistemology

Epistemology is the study of criteria by which we can know what does or does not constitute justifiable knowledge. It then facilitates or sets the context to enable the evaluation of knowledge by specifying what is deemed permissible. Johnson and Duberley (2000) reported that epistemology emerged in the 17th century as the discipline that enables the judgement of all other disciplines and tries to locate foundations and frameworks which cannot be gainsaid. However, the authors point out that this thinking is circular, which is inescapable; namely, any theory of knowledge presupposes knowledge of the conditions in which warranted knowledge takes place.

How then does one ground the legitimacy of science? The earlier authors observed that given that we depend on our epistemological commitments in our search for knowledge and that one cannot view these commitments objectively; there is no incontestable foundation from which one contemplates the knowledge of knowledge; instead, there are competing philosophical assumptions that lead us to approach management in a particular way. Against this background, Johnson and Duberley (2000) posit that the best way of considering epistemology is by being reflexive. That is, attempting self-comprehension through systematic and critical analysis of one's preunderstandings to assess how it shapes our engagement in the world. Thus, a set of epistemological commitments provides the theoretical framework by which we judge reliable or unreliable knowledge. Without these, the authors argue we cannot make legitimate claims about what we think we know or have experienced. So, despite the challenges with circularity; there are a variety of legitimate epistemological positions for engaging in and doing management research.

Given these considerations, Johnson and Duberley (2000) argued that "how we come to ask particular questions, how we assess the relevance and value of certain research methodologies so that we can investigate those questions, how we evaluate the outputs of research, all express and vary according to our underlying epistemological commitments" (2000, p. 1).

Thus, the research philosophy and the philosophical assumption that underpins research are of utmost importance particularly as it relates to understanding where it fits into the process and explaining it in the write-up. Additionally, philosophical assumptions guide the researcher's choices.

3.1.2 Positioning Myself

> How then can I develop a useful action plan? In fact, all of my actions require more learning and insight. This realization from the perspective of an 'expert' would be regarded as incompetence. However, looking through my 'new transformed lens' as a Scholarly Practitioner interested in pursuing AR (what we don't know we don't know) and contributing to new knowledge this ignorance is perhaps an opportunity. Nevertheless, it is not a comfortable position. While paradoxically at the same time there is some excitement and eagerness to explore the unknown. (Forrest, 2014)

3.1.2.1 Growing in Preunderstanding

I wrote those words at the commencement of my doctoral studies as I stood on the cusp of greater self-understanding. Creswell (2011) noted that often the scholar is not fully aware of the factors which influence their thinking and posits that the challenge is to gain awareness of these beliefs and to understand how if at all, these are incorporated into the study.

I am a scientist and engineer who has worked extensively in environmental management with a special focus on waste management for much of my professional career. During the DBA I learned that despite my qualification and years of experience, there was much I had not accomplished and despite my professional competence, there were still things I did not know. Considering this revelation and the issue of self-concept several areas of new learning have "revealed myself to me," reinforced my worldview, and influenced my research approach. One key area is a recognition of something I learned in the first module entitled Doctoral Practitioner (DP) and that is, "what we don't know that we don't know" as it led to an acknowledgement that despite my training, professional competence and experience I know relatively little. This was a humbling yet stimulating revelation as I accepted "my 'ignorance' with a tremendous sense of excitement because I am now better prepared to grasp the new opportunities for learning and for contributing to learning" (cited in Forrest, 2014, p. 2). It also led to a commitment to a life of inquiry (Marshall, 1998) and an earnest desire to contribute to knowledge creation within my professional practice.

Another key revelation concerned an increasing recognition and deepening understanding of the need to find new ways to develop a professional practice that can unravel the more complex social challenges. I found in reviewing Schon's (1992) writings that these "new ways" go beyond professional education and

knowledge. According to Schon (1992), there is an increasing awareness within the praxis that complex issues that involved uncertainty could not be resolved only by using traditional competencies but required "artistry." Artistry the writer argues requires reflection in action given that real-world problems did not come in "tidy" packages; but instead, were messy and often ill-defined. The writer challenged management professionals suggesting that one could approach *praxis* in two ways stating "…shall he remain on the high ground where he can solve relatively unimportant problems according to his standard rigour, or shall he descend to the swamp of important problems and non-rigorous inquiry?" (Schon, 1992, p. 54). My worldwide compels me to descend into the swamp and this has influenced my interest in AR.

Considering these issues, I came to understand that I am driven by a desire to contribute to meaningful societal change and that this would require delving "into the swampy lowland, messy, confusing problems" (Schon, 1997 cited in Bell, 1998, p. 182). Against that background, Caldwell (2003) proposed rationalist, contextualist, dispersalist, and constructionist as the dominant theories of organisational change. Considering these schools of thought, I am positioned as a constructionist that is, I recognise that change is incremental and transitional and requires teamwork through leadership and managerial agency. Additionally, my view is that change is achieved through processes of dialogue that engender sensemaking and sense giving as tools for managing strategic change (Gioia & Chittipeddi, 1991). According to the authors "to develop a meaningful framework for understanding the nature of the intended strategic change …towards a preferred redefinition of organisational reality" (1991, p. 442). These writings and my own reflections no doubt influence my research interests, evaluation, interpretation, and writings on the research results.

3.1.2.2 My Philosophical Stance

Based on increasing self-awareness, I reflected on my philosophical stance based on the writings of several scholars - Creswell (2013), Cunliffe (2011), Easterby-Smith et al. (2012), Johnson and Duberley (2003), Morgan and Smirich (1980), Starkey and Tempest (2009), and Van Maanen (1995), and my takeaway on this issue is outlined below.

All phases of the research process to greater and lesser degrees are influenced by the philosophical stance of the researcher. There are four main pillars or broadly conceived methodologies that shape one's philosophical assumptions (Creswell, 2013). These are:
- Ontology -the nature of reality
- Epistemology (what counts as knowledge and how is it justified)
- Axiology – the role of values in research
- Methodology – The process of research

Ontology acknowledges that there are multiple realities and that different views on reality bring out different perspectives as themes are developed throughout the research process.

In terms of epistemology for qualitative studies evidence is garnered through people's participation regardless of the research strategy. As a result, subjective evidence is influenced by the participant's experience. Studies are conducted in the field; the participants' arena and through which, the researcher knows what they know from garnering information from the participant. Even, so the investigators bring values and viewpoints to the interpretation of the data which should be known by the audience/reader.

In the case of axiology, the researcher purposely shares their values and biases as well as value-loaded information where relevant.

Regarding methodology, qualitative research is typified by inductive logic, and emerging ideas and influenced by the researcher's experience in collecting and analysing data. As such, there is a certain degree of fluidity throughout the research as questions may change to better reflect the types of questions that need to be asked to better understand the research problem.

3.2 Phase 2 Theoretical Paradigms

There are a few theoretical paradigms. A brief description of each is given below to provide some background on my own philosophical stance.

Positivism

Positivism is a product of the Enlightenment approach to science that evolved out of a desire to understand the world in and through human reasoning thereby defeating ignorance and superstition. The early thinkers thought that one understood by – thinking or observing. The rationalist – Descrates (1637) thought "that valid knowledge could be accumulated through individual's sceptical contemplation of an external reality" (Johnson & Duberley, 2000, p. 14). While the empiricists (Locke, 1690) view was that knowledge could only be established through observation that is the world was assessed through our senses. The development of positivism in a sense has not been homogenous from Comtean to logical positivist and with this development has come varying degrees of debate. Nevertheless, positivism epistemic commitments are buttressed by the commitment to neutral observational language and a correspondence theory of truth, and most published social science research remains rooted in positivist epistemology.

Post Positivism

On the other hand, post positivists do not strictly believe in cause and effect. Instead, post-positivism has elements of reductionist, logical, empirical cause and effect based on general principles or theories. Thus, the field of post-positivist regards research as a series of logically related steps, believing in multiple participants' perspectives against a single perspective, and support rigorous methods of qualitative data collection and analysis for example the use of computer programme.

Social Constructivism

This theoretical paradigm is embraced by persons trying to understand the world in which they live and work and in so doing develop subjective meanings of their experience; which are often many and varied and result in the researcher looking for complexity of views rather than a narrow meaning (Creswell, 2013; Easterby-Smith et al., 2012). In conducting this research, the investigator relies to a significant degree on the participants' viewpoints often derived from a historical and social context formed through interaction with others. Unlike the post-positivist social constructionists do not start with a theory; instead, researchers generate inductively a theory or position (Crotty, 1998; Creswell, 2013; Lincoln & Guba, 2000). As a result, questions tend to be framed in broad and general terms to allow expression by the participants who construct meaning based on their own experience.

Postmodernism

The postmodernist age is characterised by rapid change marked by increasing consumption, globalization, increasing disorder, uncertainty, and unpredictability in how the world controls its affairs. It grew out of disillusionment with the positivism science-based mantra. Postmodernism can be considered as a family of theories whose basic tenet is that knowledge claims must be set within the world that considers the multidimensional perspectives of class, race gender, and other group associations. It is perhaps the area of language that the postmodernist differs most from modernist because they augur that there is no meaning beyond language and that the social bond is linguistic. So, for the postmodernist, there is not one observable language, but many forms of expression, and incommensurability are unavoidable.

Critical Theory and Management

Critical theory is concerned with justice and rights and examines the link between politics, values, and knowledge focusing on issues of exploitation, power relations, and distorted communication. However, its parts company with postmodernism regarding relativism. Habermas, arguably the father of critical theory, criticises the positivist in his argument positing that they are a "correspondence theory of truth obfuscates the relationship between 'knowledge' and 'interest' by presupposing the possibility of a theory-neutral observational language" (Johnson & Duberley, 2000, p. 117).

Given who I am as a person and a practitioner as outlined in Section 3.1.2 which dealt with my preunderstanding and considering the theoretical paradigms, I am best described as a social constructionist because I am interested in examining social constructs and if and where needed bringing about meaningful change for the betterment of society. The following section describes the alignment of my philosophical stance with an appropriate research strategy.

3.2.1 Interpretive frameworks

Given my tendency to question taken for granted social constructs – not for the sake of it but to bring about a change that contributes to the common good and betterment of society I fall into the social

constructionist viewpoint (Easterby-Smith et al., 2012) which is built on the premise that "human action arises from the sense that people make of different situations" (2012, p. 24). I sought to find the research strategy most appropriate for that worldview through the writings of many scholars.

In that regard, I am guided by the thinking of Starkey and Tempest (2009) regarding the debate on the validity of quantitative research over qualitative research. I support their position on the need to "re-imagine relevance as a necessary condition for rigour" (2009, p. 556); and as such, I have leaned towards qualitative research approaches (Cunliffe, 2011; Morgan & Smircich, 1980; Starkey & Tempest, 1995; Van Maanen, 1995). Additionally, Van Maanen (1995) in support of qualitative research states "…there are examples—Karl Weick being one—of arranging and explicating theory in what comes close to a conversational and open fashion. It is a way of doing theory that is I think sensitive to the speaking-hearing process and, when brought into the writing-reading process, represents an inviting brand of theorising" (1995, p. 140).

Cunliffe (2011) wrote on what constitutes "good knowledge" of valid methods and theories, and argued that management researchers should not be limited by a preoccupation with methods but instead should focus on craftwork positing that:

> Craftwork is construed as the more exploratory expressions of embedded and aesthetic forms of knowledge typical of subjectivist (some) and intersubjectivist problematics:
> > Craft is a starting place, a set of possibilities.
> > It avoids absolutes, certainties, over-robust definitions, solace.
> > It offers places, interstices, where objects and people meet.
> > It is unstable, contingent.
> > It is about experience. It is about desire.
> > It can be beautiful. (de Waal, p. 6 cited in Cunliffe, 2011, p. 667)

In conclusion, for the researcher using a qualitative approach, various philosophical assumptions are influential and linked to theoretical and interpretive frameworks (Creswell, 2011). Denzin and Lincoln (2011) argued that these assumptions are embodied within interpretive frameworks used in the conduct of qualitative research and are important in explaining to the reader the lens through which the problem is formulated, the research is designed, executed and the results evaluated.

3.3 Phase 3 Research Strategy

3.3.1 Action Research

Action research has been defined as "a participatory, democratic process concerned with developing practical knowing in the pursuit of worthwhile human purposes … It seeks to bring together action and reflection, theory, and practice, in participation with others, in the pursuit of practical solutions to issues" (Reason & Bradbury, 2001 cited in Brydon-Miller et al., 2003, p. 10). Further, Greenwood and Levin (2007) posit that AR can, using multiple research techniques aimed at enhancing change, bring about collaborative knowledge development solutions to address the issues.

There is a rich tradition of AR much of which is described in Coghlan and Brannick (2010). The authors outline several methods as well as a multiplicity of approaches in carrying out AR; but, most importantly they observe that the worldview of researchers engaged in AR and who is concerned about changing everyday life in and through "planned engagement and collective reflection on experience can expand and even create knowledge while at the same time serving to improve practice" (Raelin, 2009, p. 17). Given that thesis, my philosophical stance is compatible with an AR approach that, was used in the study.

Abdel-Fattah (2015) noted that AR had the following characteristics; (i) subjective, that is, based on subjective epistemology, which regards reality as social construction, (ii) formative, that is aimed at improving an ongoing system (iii) qualitative operates in a verbal rather than the numerical frame, (iv) interpretative investigates issues that cannot be measured easily in an empirical manner (v) collaborative - empowering all individuals with the intent to improve practice and where stakeholders are regarded as a full participant, (vi) responsive adapts to emerging findings, (vii) reflective advances through each cycle of starting with a reflection on action and proceeding to new action, (viii) experimental model of inquiry all individuals in the study are known and contributing, (ix) cyclical, that is cannot be conducted on a one-off basis but is a continuous emergent process, (x) theory developer generates ideas and perceptions to be validated on more than one cycle and results in theory, (xii) open-ended research starts with concept or perception rather than a hypothesis, (xiii) informal there is no correct way, and (xiv) form of self-evaluation- that is, a developmental process. Essentially, AR seeks to produce practical solutions to real-life societal problems, and in so doing there is the opportunity for theory to emerge. The solutions emerge in a series of AR cycles illustrated in Figure 8.
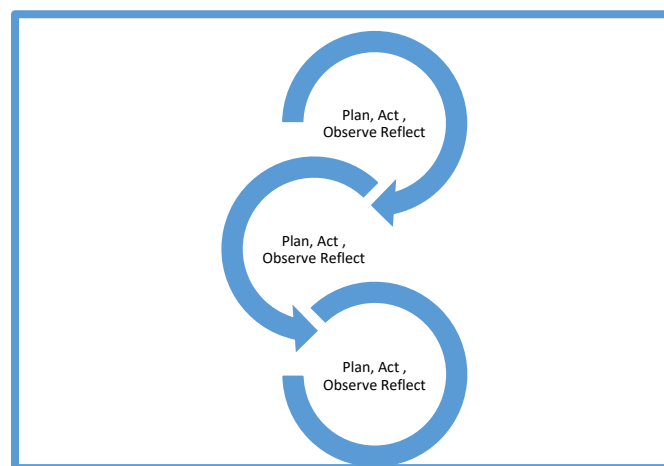
Figure 8 Depicting Action Research Cycles.

3.3.1.1 Is Action Research Scientific?

> Action research constitutes a kind of science with a different epistemology that produces a different kind of knowledge, a knowledge which is contingent on the particular situation, and which develops the capacity of members of the organization to solve their own problems. (Susman & Evered, 1978, p. 601)

Within the world of social science and management research, it could be argued that there is a positivist bias that has given pre-eminence to sophisticated research methods and techniques, which produce results of little value or relevance to managers and practitioners operating in the 'real' world (Susman & Evered, 1978). Yet could be said that researchers with a positivist epistemology are 'holding sway with the more prestigious publications (Grey, 2010). This may be because of the debate of rigour versus relevance.

Regarding the debate, Avison et al. (2018) writing on debunking the myths and overcoming the barriers to AR observed that of 8839 articles in Information System Journals from 1982 to 2016 only 1.38% were of the published articles used AR approach. Participants in the writer survey explained this occurrence by explaining that if AR is more difficult to publish than other research, then this is a real problem in the publish or perish academic culture. The authors observed that in their research sample some participants felt that the perception that AR is less scientific than other research approaches is due to three things (i) the perception that AR is less rigorous than other methods, (ii) the difficulty to make theoretical contributions from AR-based investigations, and (ii) the assumption that AR is very similar to consulting. Avison et al. (2018) suggest that AR when compared to more conventional approaches is not inferior.

Other scholars weighing in on the debate of rigour versus relevance of AR observe that conventional research "rarely produces results whose validity can be tested in action" (Greenwood & Levin, 2007, p. 77). They argue that if AR continues to be relegated to "second place" because it is considered unscientific then society will be deprived of knowledge, theory, and action which contribute to bringing about change in the human condition. Huxham (2003) observed that a variety of AR has been used as a methodology to carry out research into management and organisations. While Susman and Evered (1978) posit "that AR can be legitimated as science by locating its foundation in philosophical viewpoints which differ from those used to legitimate positivist science" (1978, p. 594). These philosophical viewpoints include the concept of praxis, hermeneutics, existentialism, pragmatism, phenomenology, explanation versus understanding, etc. The authors explained that AR contributes to the growth of knowledge in a different way than the positivist through organisational learning and the development of the inquirer and participants.

Amidst the debate, I have taken the position that AR is scientific, rigorous, and appropriate to be used to address my research question.

3.3.1.2 Action Research Modalities

There are many forms of AR. These range from classical AR, learning history, appreciative inquiry, clinical inquiry, reflective practice, and evaluative inquiry. In the case of classical research which is founded on the work of Lewin the 'father' of AR; the method focuses on solving problems in a client's professional research context. The clinical inquiry or learning history approaches both of which require external trained consultants and appreciative inquiry aims to learn from what has worked rather than to solve an existing

problem. Finally, the evaluative inquiry is focused on reviewing the outcomes of projects in ways, which stimulate organisation learning.

The choice of the appropriate modality of AR to use in the study was influenced by my worldview which is a desire to: (i) create new knowledge for the professional practice, (ii) contribute to new learning of the participants through 'reflection-on-action,' (iii) emphasise meta-competence, and (iv) learning by doing (Raelin, 2009). These objectives can be achieved through many AR modalities; however, there is a very close link between participatory AR, cooperative inquiry, and collaborative management research because in all these modalities participants contribute to solving a problem that can involve first and second-person inquiry. In evaluating the appropriateness of the three approaches one finds that cooperative inquiry involves an element of 'here and beyond' learning that extends from the present into the future (Raelin, 2009), which is not possible in the current timeframe for this study. In the case of collaborative management research, while the external researcher would allow third-person inquiry practically introducing an external researcher would be politically difficult and cumbersome given the multi-institutional scope of the study.

Considering these issues, I decided to use a mixed-mode approach involving participatory AR and action learning, which I hope will contribute to the inquiry. My thinking is influenced by the principles espoused by Revans posits that "there is no learning without action and no sober and deliberate action without learning" (Revans, 1998 as cited in Coghlan & Brannick, 2010, p. 45). The intent is to draw out and from the experiences of professionals in government, academia, and the "private sector" learning from the field of practice, going beyond theory, and touching on artistry an innate and intuitive a 'kind of knowing', which often professionals exhibit in "on the spot inquiry" or reflection in action (Schon, 1992, p. 57). This approach should produce "actionable knowledge" (Antonacopoulou, UOL Residency 2 March 2014) and contribute incrementally to the development of theory.

3.5 Phase 4 Methods Data Collection and Analysis

3.5.1 Overview of the Research Process

3.5.1.1 Research Design

The research proposal was developed based on findings from the literature review accompanied by learning from my lived experience as a professional practitioner. The proposal was submitted and approved by the Ethics Committee.

The research was conducted over several months commencing in November 2015. Interviews commenced on November 11, 2015, and were concluded on September 26, 2016. The approach to the research is illustrated in Figure 9. The process (Figure 9) was in the main iterative and while the steps were followed the path was not always linear. That is, while there was an initial plan for the research, it was

not cast in concrete, and these were changes and shifts at various stages. Once data collection started insights gleaned and research findings led to some minor changes, which are described in Figure 9.
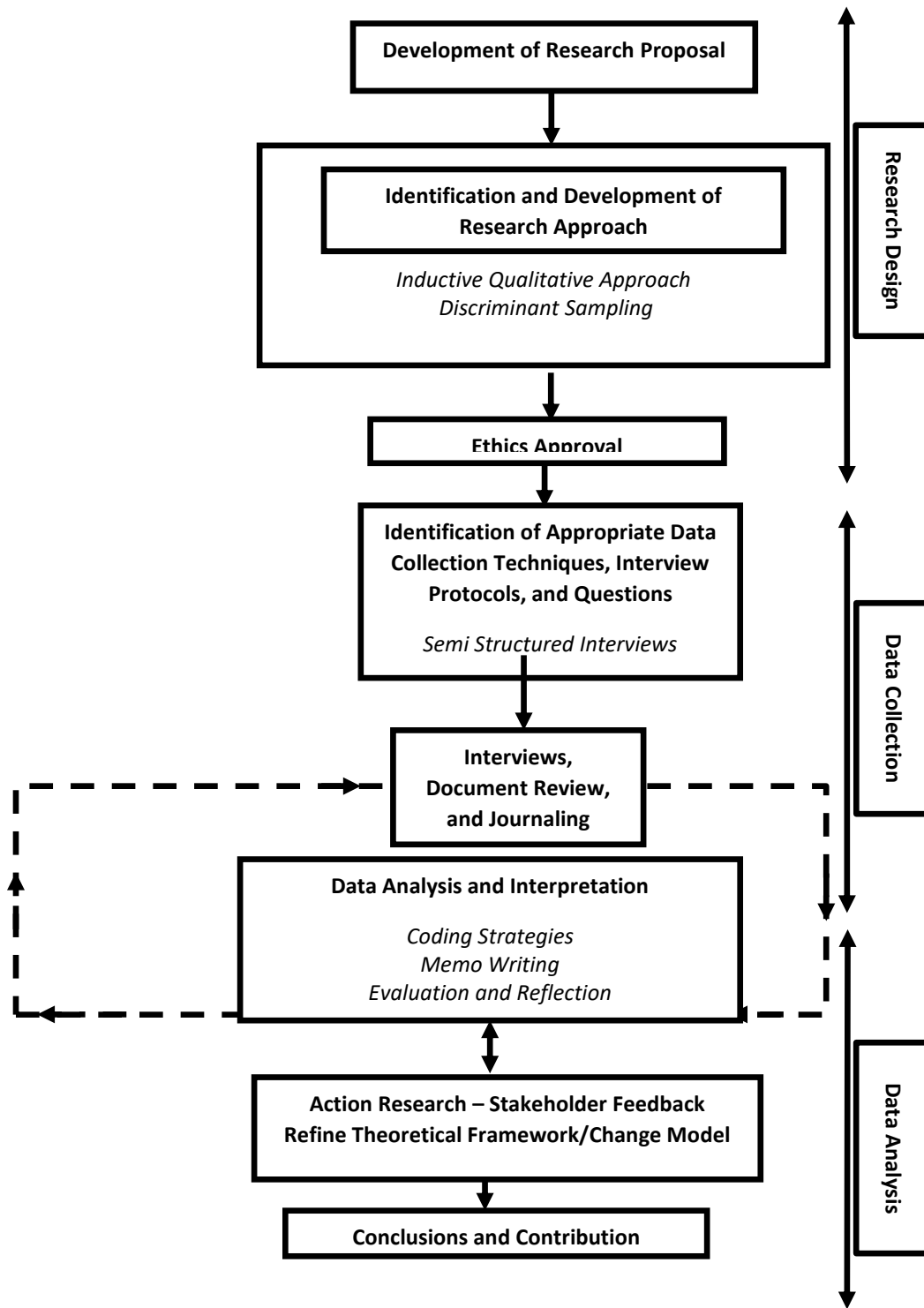
Figure 9 The Research Process.

During the research design phase, the main participants were selected. A purposeful approach was used to select participants because in Jamaica there is a dearth of persons working in public policy development, water resources, and environmental management sectors. Before the selection of participants, inquiries were made regarding stakeholder categories linked to public policy formulation and implementation in the water resources sector. These persons were found in the public sector as public administrators or academia either as contributors to the research activities that inform public policy development, consultants, or as researchers in the area or closely related areas. With regards to the public administrators, the participants were heads of agencies and senior directors with over 10 years of experience in public administration. All but one of the academics were all at the professorial level and the other was a Head of Department.

In terms of identifying participants from NGOs, this was challenging. As reported by Powell et al. (2007) in Jamaica there is not a strong culture of public participation in public policy development. Further, with regards to areas of importance or interest for the public environment ranks as low as 0.1%. Against this background, careful thought was given to finding participants from NGOs and civil society. As a result of these issues, participants from NGOs were chosen based on their involvement in society and engagement in advocacy for issues of importance to society in general and the wastewater sector. The participants were drawn from civil organisations and had been involved in public consultations and were knowledgeable about the issues related to wastewater management in Jamaica.

The basis of the selection can be summarised using the following criteria.
- Knowledge and work in the water resources and environmental management sectors within which the matter of wastewater management is categorised in Jamaica.
- Experts in public administration and experience in the development of public policy.
- Researchers contributing to public policy formulation and implementation.
- Advocate (voices) in the public concerned with societal issues including wastewater.

A total of 15 participants were drawn from the public sector, academia, and NGOs. Care was taken to ensure that the three categories were represented. The non-governmental group was the lowest in terms of numbers however, the participants were well suited to give voice to this category based on their association.

The participants were firstly contacted by email and then by follow-up telephone calls and reminders. Participants were assured of their anonymity regarding their participation in the study. They were all willing to participate and freely shared their thoughts and experiences and provided relevant resource materials mainly GoJ documents related to public policy development. I had no personal relationship with any of the participants and in three cases had worked on consultancy projects with participants. In these projects, I had no leadership position and served as a team member. Further, none of the participants worked for or were ever contracted by Forrest and Partners. In none of the interviews were there any concerns related to a power dynamic between the interviewer and interviewees was no hierarchical

relationship between any of the participants and me. In all cases, the discussions were carried out in a collegial manner guided by the principles of participatory AR and cooperative inquiry.

Ethical issues were given due consideration during the execution of the study. The anonymity of the participants is protected in any reference to the research findings. After the initial contact and follow-up telephone calls all participants were provided with an Introductory Letter and Participant Information Sheet and Consent Form (refer to **Appendix 1**). All the participants signed the consent form.

Interviews were conducted in a private setting to create a sense of privacy and trust which allowed for open and honest sharing of experiences and perspectives.

3.5.1.2 Data Collection

Strict data collection procedures were adhered to based on the guidance of several scholars mainly Corbin and Strauss (1990), Draucker et al. (2007), Easterby-Smith et al. (2012), and Creswell (2013).

To maintain rigour, the authors provided certain canons and procedures for the conduct of research which were adhered to during the research project. These include:

1. I executed sampling using a purposeful sampling approach guided by Creswell (2013) and Draucker et al. (2007), based on my knowledge of the issue, and on the knowledge and level of experience of the participants and the organisations to which they were attached. As the research proceeded the issues of the task environment and cultural context within which Jamaica's public policy arose were viewed as critical and so discriminant sampling was used to identify experts on public policy from academia who were also interviewed.

2. Action research cycles (Figure 8) were used. AR is recognised as a continuous process that is conducted cyclically (Abdel-Fattah, 2015; Huxham, 2003) with each cycle yielding more learning, new insights, and or affirmation of emerging issues.

Given that this project was carried out over a relatively short time frame the cyclic nature of AR was captured through the separation of interviews of the various categories of participants.

The first cycle was during the pilot phase where the interview instrument was tested. It involved planning and developing the questionnaire and conducting two pilot interviews. An illustration of the cycle is found in Figure 10.
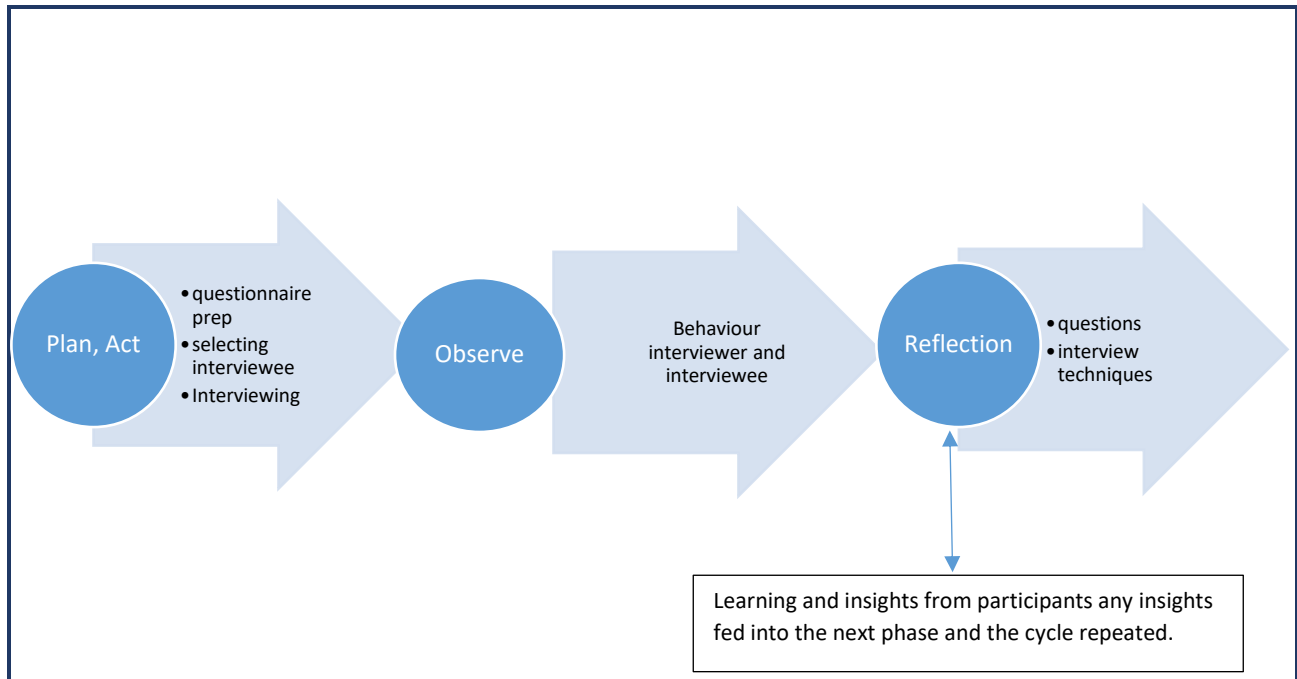
Figure 10 Typical Representation of Action Research Cycles During the Research Project.

The interviewing activity was designed using the Rubin and Rubin 7 stage approach (Creswell, 2013) and Easterby-Smith et al. (2012)) and conducted using principles and guidelines described in Witzel (2000) paper on problem-centred interviews. Interviews commenced with opening remarks that set the context referred to as "pre-interpretation" (Witzel, 2000). The questions were formulated to focus the discussion while allowing for an "empty page which is filled out by the interviewee" (Witzel, 2000, p. X). Two pilot interviews were conducted as a test run and adjustments were made as required. During the conduct of the interviews, to encourage more in-depth responses a laddering technique (Easterby-Smith et al., 2012) was used to obtain more descriptive in-depth accounts of the expert's experiences and to gain greater meaning and understanding of the issues. This was a significant learning experience for me and as the investigation proceeded with each interview my interviewing skills improved as did my ability to share enough of my own perspectives and insights to stimulate sharing of knowledge, but this was done in such a way as not to dominate but to encourage greater inquiry, openness and trust, and insightful revelations.

The interviews were recorded and transcribed and were augmented by notes documented in my personal journal based on observations, and thoughts, which surfaced during and after the interviews. Additionally, data collection was supported by documentation from newspapers and public documents along with personal communication all of which were of value to the research effort. In this regard, the participants provided several useful documents, which are itemised as follows.

- ✓ List of Environmental Policies Developed from 1995 to 2017
- ✓ A National Baseline Assessment Study on Wastewater Management in Jamaica Silva (2015)
- ✓ Jamaica Water Sector Policy (1999)

✓ Revised Draft Water Sector Policy, Strategy, and Action Plan (2004)
✓ Draft Jamaica National Sanitation Policy (2005)
✓ Squatter Management Policy
✓ Consultation Code of Practice for the Public Sector (2005)
✓ State of the Environment Report (2010)

The format of the pilot questionnaire is found in Table 3. The questions were developed based on a few considerations. These were the experience of the participants, information obtained from the literature review, and information gathered from GoJ public policy development procedures.

Table 3 Interview Guide and Questions Used in the Pilot.

PILOT QUESTIONNAIRE
Interview Protocol Project Title: Developing a Model for Environmental Management Policy in the Wastewater Sector in Jamaica
Time of Interview:
Date:
Place:
Interviewer:
Interviewee: (coded)
Project Description
Research Questions:
The central research question is: what are the challenges impacting the development of an environmental management policy in the wastewater sector in Jamaica? In addition, there are many subsidiary questions. These are:
(i)   How are the policies for the sector developed?
(ii)   What changes are required for improving the policy development process in the sector?
(iii)   What would be a model of action for the development of an environmental management policy for the sector?
Questions
1.   How would you describe the public policy development process in Jamaica? (Is there a fixed approach? Any overarching principles/philosophy which guide the process?)
2.   What has been your experience with respect to policy implementation? Has it been successful? What have been the barriers/challenges?
3.   What grouping have you found to be most valuable to the policy development process (civil servants, politicians, experts, community, NGOs, interest groups)?
4.   How have technocrats approached securing 'political buy-in'? Does this matter in the policy development process?
5.   Do stakeholders hinder or support the policy-making process? How so?
6.   What have you found to be some of the challenges for stakeholder participation?
7.   What have been some of the benefits of stakeholder participation?

8.	Are there any particular challenges with respect to environmental management policy development in Jamaica?
9.	Are there any particular challenges to its development in the wastewater sector in Jamaica?
10.	Is there a role for networks or communities in developing and implementing environmental management policy?
11.	How can their participation be facilitated?
12.	What would you consider to be the ideal public policy development framework for Jamaica (with respect to environmental management in general and wastewater management specifically)?

During the pilot, I observed in my mind's eye the interviewees and my own behaviour, reflected on the answers given by the respondent as well on my own approach to interviewing. The pilot produced some changes to the questions. The changes were due to a need to use laddering. (Easterby-Smith et al., 2012) that is, revising the questions by framing a central question along with related follow-up questions to get more in-depth responses from the participants. Additionally, there were changes to my interview technique to sharpen my focus, improve my active listening, and hone my interviewing skills as it relates to encouraging the respondent to deepen and broaden their responses while on occasion recording my own thoughts without disrupting the flow of the conversation.

The questionnaire was revised based on the learning that emerged from the pilot. Changes were made to the guidance protocol for the interviews in preparation for repeating the AR cycle during the field study. The revised questionnaire is found in Table 4.

Table 4 Revised Interview Guide and Questions.

RESEARCH QUESTIONNAIRE
Interview Protocol Project Title: Developing a Model for Environmental Management Policy in the Wastewater Sector in Jamaica
Time of Interview:
Date:
Place:
Interviewer:
Interviewee: (coded)
Project Description
Research Questions:
The central research question is: what are the challenges impacting the development of an environmental management policy in the wastewater sector in Jamaica? In addition, there are many subsidiary questions. These are:
(iv)   How are the policies for the sector developed?
(v)   What changes are required for improving the policy development process in the sector?
(vi)   What would be a model of action for the development of an environmental management policy for the sector?
Questions
1.   How would you describe the public policy development process in Jamaica? (Is there a fixed approach? Any overarching principles/philosophy which guide the process?)

2.	With regard to developing public environmental policy, few policies have been completed or effectively implemented. What has been your experience? What contributes to success if it succeeded? What contributed to failure if it failed?
3.	(a)Who should be involved in the policy development process? (b)Why?
	(c) The public consultation process has been described as weak. In general, it has been mainly an occasion for exchanging information and often time results in the discussion dealing with general areas of discontent by participants rather than a dialogue. What has been your experience? How should the involvement be structured? (d) What in your experience have been the challenges for effective participation of the various groups of participants? (e) Do these challenges affect the outcome? How? (f) What do you think public consultation can be done better? How so?
4.	The public consultation has involved mainly professionals – technocrats from various ministries and certain NGOs. Have you found this to be the case? Has this resulted in the marginalisation of important groupings? How has this affected policy development? Can it be changed? What grouping have you found to be most valuable to the policy development process (civil servants, politicians, experts, community, NGOs, interest groups)?
5.	It is felt that politicians are in general unconcerned and disinterested in the policy development process? Has this been your experience? Does it need to change? How would you change it? How have technocrats approached securing 'political buy-in'? Does this matter in the policy development process?
6.	Research (Powell et al., 2007) has found that the man in the street has little interest and little to contribute to policy development in the environment sector in its broadest terms. What has been your experience? (a) Do stakeholders hinder or support the policy-making process? How so? (b)What have you found to be some of the challenges for public participation? (c) Can these challenges be overcome (c) Any suggestions? What have been some of the benefits of stakeholder participation?
7.	Why does Jamaica not have a comprehensive environmental management policy? Does the country need one? Who should lead the process?
8.	Are there any particular challenges to policy development in the wastewater sector in Jamaica? Is there a role for networks or communities in developing and implementing such a policy? How can their participation be facilitated?
9.	What would you consider to be the ideal public policy development framework for Jamaica (with respect to environmental management in general and wastewater management specifically)?

The second AR cycle involved interviews with the public administrators. Data collection involved the use of semi-structured face-to-face interviews using open-ended questions. The AR cycle was like the illustration in Figure 10. Planning involved contacting interviewees and arranging the time and location of each interview and conducting the interviews. Interviews lasted from 60 to 90 minutes. During the interview, observations were made that resulted in more probing follow-up questions around the particular issue at hand to garner further insights. At the end of all the interviews of public administrators, the sessions which were recorded were transcribed and reviewed for a comparative overview, consistency of process, and thematic selection. This process was repeated for all the categories of participants in subsequent interviews.

The third and fourth action cycles involved academics and NGOs, respectively. The steps in the cycle were the same as described in the second AR cycle the main difference being the category of persons being interviewed. After the completion of the third cycle, there was a pause to return to the literature based on the emergence of important research findings. That is, the stage of the country's maturity and the

historical development of public administration were considered of value to understanding how the development of public policy was practiced. The literature review focused research on learning more about the context within which public policy was being developed in Jamaica, that is, the task environment and socio-political culture. The results of this research are detailed in Section 2.6 of the report.

The final action cycle involved bringing together 12 of the 15 participants (3 unavoidable absent) into a group setting to present the findings and to hear from the participants regarding the plausibility of the proposed model. In this cycle, my role was that of a presenter not that of an interviewer. The session was chaired by a facilitator, and I responded to questions from the participants and made notes. The session lasted one hour and as with the other sessions was recorded.

3.5.1.3 Data Analysis

Huxham (2003) discussed the approach used to generate data from AR and makes some important points about which I was mindful as I analysed the data. The writer posits that the process of data gathering and analysis collection can result in the emergence of something new. He advised that in AR, important data often comes when least expected, so the researcher should be continually alert to ensure that they are recorded and integrated into the research findings.

Given this thinking and referring to a case study (Huxham, 2003) on leadership and partnership in which an AR methodology was a useful platform for framing my approach to data analysis. The steps outlined are as follows.

1. Independent review of recorded data.
2. Consideration of inclusion or exclusion of data involving clarification of meaning etc.
3. Gradual clustering of data and interpretations including drawing on concepts taken from the literature.
4. Assigning interpretive concepts to each cluster (coding).
5. Reviewing clusters and links between them with the view of developing a conceptual model.
6. Reviewing data from other research interventions, thus making the emerging model additional. That is, data collected in the previous setting may provide an important context for interpretation.
7. Build coherent clusters and seek stakeholder and practitioner comments regarding further AR intervention.

In the case study, Huxham (2003) referenced five theoretical elements that emerged. These were definitional, conceptual, elaborating, concluding, and practical. While this is not necessarily the case for all context or studies the results from the case study demonstrates a possible theoretical output from AR although notably, the descriptive theory does not always outline action. However, it does allow practitioners to make sense of their situation and provides a platform from which actions can be contemplated and policy direction can be determined.

Huxham's (2003) observations were useful in analysing the data. During the data-gathering phase, each category that served as a different AR cycle provided an opportunity to facilitate the emergence of creative insights. To obtain these insights required alertness on my part and detailed note-taking based on observations or insights that surfaced during the interviews a process illustrated in (Figure 11). These thoughts were later evaluated and refined through a process of coding the data which assisted the emergence of themes.
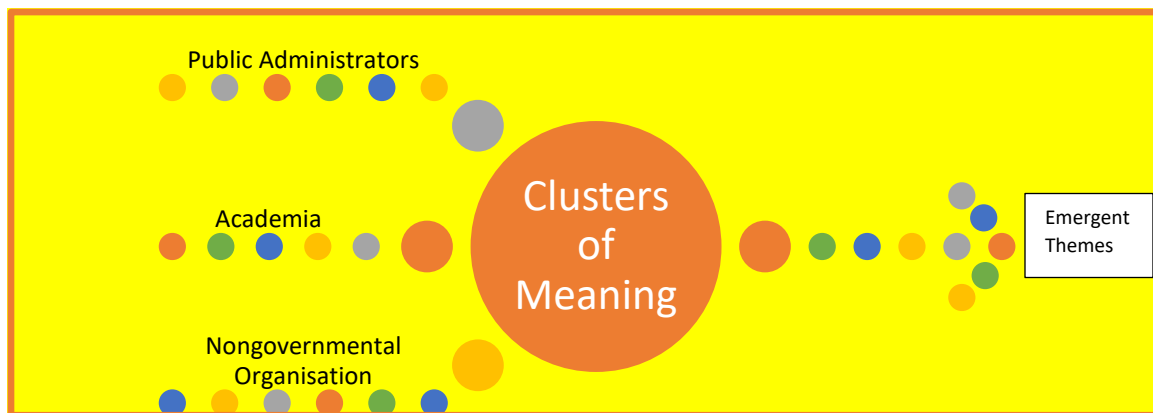
Figure 11 Illustration of AR Cycles to Uncover and Develop Emergent Themes.

The interviews were recorded and listened to again after completion, then transcribed. The transcribed script was read several times. In the first round, it was read through without taking notes. In the second-round notes were made in the margins of the transcript (refer to **Appendix 2**).

Analysis of the data occurred in a continuum. That is, there was a connection between collection and analysis. By that I mean the analysis of the data began almost as soon as it was being collected during the interviews. This required a process of reflexivity involving active listening accompanied by note-taking in my journal and redirecting or deepening the scope of the inquiry during the interview as I reflected on the point of view that each participant brought to the problem. If important issues emerged during an interview these were incorporated in the next interviews not by modifying the original questionnaire which remained unchanged but by asking follow-up questions aimed at further unearthing the participants' views. Not all respondents provided feedback that raised the issue to the level of importance I had given it based on their own viewpoint on the matter. Nevertheless, in this way, the interviews were a rich source of information and learning, and arguably each interview was a "little AR cycle" within the larger cycle. Most importantly, each AR cycle led me to explore more avenues that could lead to new understanding and discovery.

Data analysis was an iterative process consisting of the following steps and illustrated in Figure 12.

Step 1 Raw data assembled and organised in preparation for analysis.
Step 2 Data was read through thoroughly.
Step 3 Data was coded by hand.
Step 4 Concepts were identified.

Step 5 Concept clustered under themes – one word that describes or gives overarching meaning to the concepts.
Step 6 Themes developed for each category of participant (AR cycle) integrated and merged.
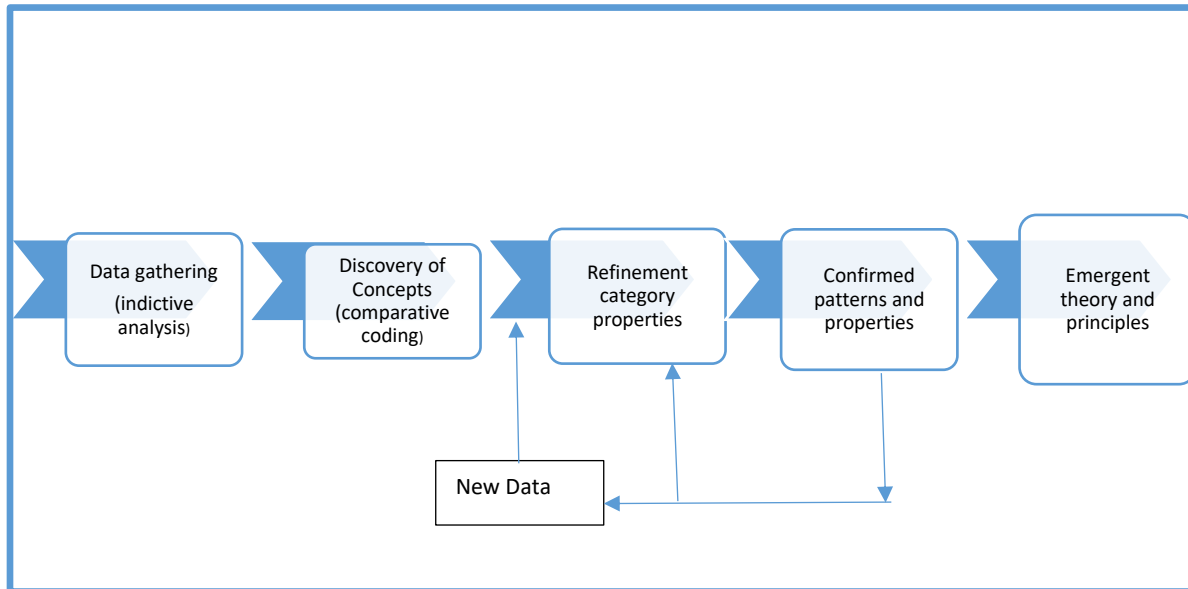
Figure 12 Illustration of Iterative Data Analysis Process.

The coding process was used to extract concepts – that is; from the raw data responses were identified, compared, and analysed resulting in the identification of concepts.

Establishing themes was achieved by analysing the relationships between the concepts. In developing themes, I used guidance provided by several researchers - Hsieh and Shannon (2005), Braun and Clarke (2006), and Draucker et al. (2007) who outlined a systematic guide to thematic analysis, by determining patterns of meaning. Following their guidance, I firstly familiarised myself with the data by transcribing the interviews and repeated listening to the recorded interviews while reading the transcripts. Notes were written in the margins of the transcripts (**Refer to Appendix 2**). This process of repeatedly hearing and reading the data in a focused way established patterns and uncovered nuances and linkages, which were not necessarily picked up during the actual interviews or recorded in my journal.

The next step involved generating the codes that identified features in the data that were of interest. Some of these features were obvious while some were latent and emerged through insights gained from the evaluation of the data. From the list of codes/concepts, sub-themes were developed and linked together using a thematic mapping technique. Sub-themes were generated from an analysis of concepts that were identified. An example of the thematic map is shown in Figure 13.
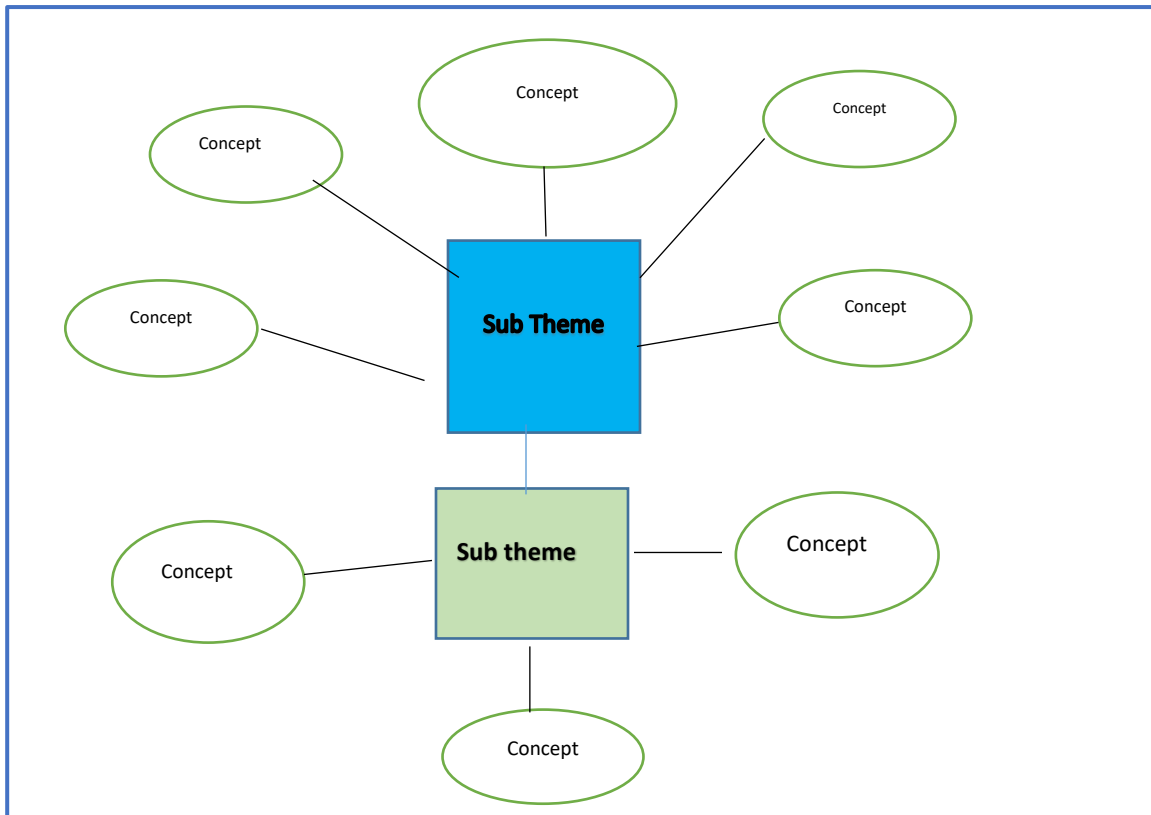
Figure 13 Illustration of Thematic Map.

Once sub-themes were mapped for all the categories of participants. Further analysis was conducted to determine the relationship if any between all the sub-themes from which were generated overarching themes. Based on this analysis the sub-themes were collapsed into three themes. These are complex problems, operational environments, and governance structures. Table 5 is an example of how sub-themes were categorised under themes for public administrators.

Complex Problem	Operational Environment	Governance Culture
• Task environment	• Policy Development Process • Stakeholder Consultation • Policy Implementation	• Policy Initiation • Collaboration

Table 5 illustrates part of the analytical process to identify sub-themes and themes.

Table 5 Illustrating the List of Sub-Themes for each Category of Participants and Related Thematic Area.

Sub Theme	Public Administrators	Academics	Private Sector	Thematic Area
Policy Initiation	×			Governance Culture
Collaboration	×			
Policy Development Process	×	×		Operational Environment
Policy Implementation	×	×		
Stakeholder Consultation	×	×	×	
Collaboration			×	Complex Problem
Social and Cultural Context		×	×	
Leadership		×	×	
Complex Problem	×			

Further evaluation, of these themes and sub-themes, led to further collapsing and integration of the thematic areas due to the similarity and interconnectedness. As a result, two themes and 5 sub-themes emerged as the dominant issues as shown in Figure 14. This serial process of coding, development of subthemes, and the subsequent analytic steps led to the generation of thematic maps which were used to propose a model for public policy development for the wastewater sector in Jamaica. The model was built from the literature review, analysis of research findings, and gaps in the literature and is considered actionable knowledge or specific steps to achieve the development of a public policy in the wastewater sector.
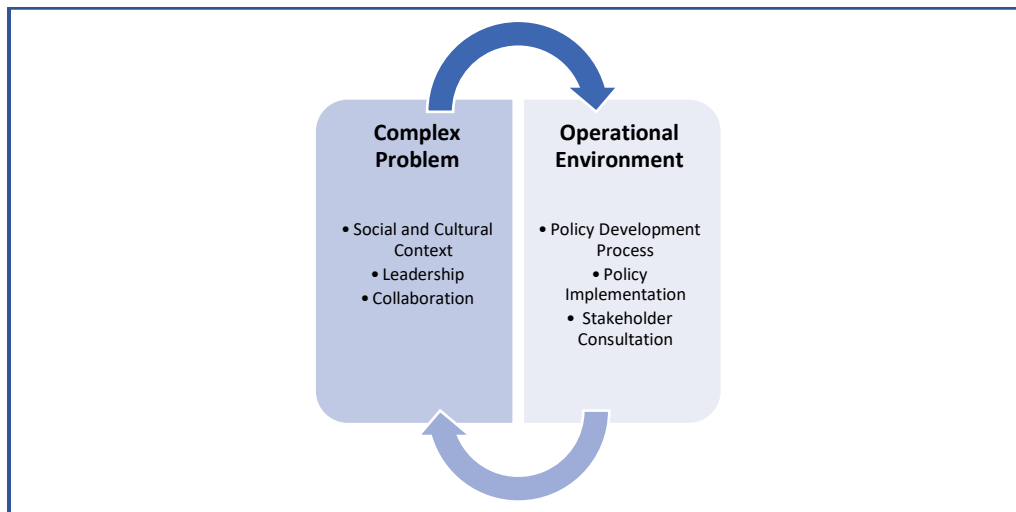
Figure 14 Revised and Integrated Thematic Map.

3.5.1.4 Test for Plausibility

The plausibility of the model was established through a group session in which the participants were invited to hear the research findings and critique the proposed model. The session was recorded. I made the presentation and invited a colleague to facilitate the session which was aimed at providing an open environment that would allow the participants to talk about the presentation, ask questions, and critique the model. After the presentation, I only spoke to answer questions, expand on concepts, or provide clarification. I took notes from the responses of the participants. The group session lasted for approximately one hour. On completion, my recorded notes were reviewed and the comments were evaluated, and specific comments were used to support the answer to the central research question.

Chapter 4 of the report details the research findings.

4.0 Findings

4.1 Introduction

A total of 15 participants were interviewed for the study. All the participants are either directly involved in policy development and implementation as heads of agencies, public administrators, and academics; or indirectly as members of NGOs who have taken part in the process and are impacted by the outcomes of policy directives. All the participants have worked extensively in the environmental sector and a third of them worked within the wastewater sector.

Table 6 provides descriptors for the participants.

Table 6 Descriptors of Participants and Action Research Cycle Interviews.

Descriptor	Category	Interviewed Action Research Cycle (AR)
Participant HA 1	Head of public sector organisation involved in aspects of water resource management and policy development for the sector	AR 2 & AR 5*
Participant HA 2	Head of public sector organisation involved in aspects of water resource management and policy development for the sector	AR 2 & AR 5*
Participant PA 1	Senior Public Administrator with responsibility for policy development in water resources agency	AR 2 & AR 5*
Participant PA 2	Senior Public Administrator with responsibility for policy development in the area of watershed management	AR 2 & AR 5*
Participant PA 3	Head of Section with responsibility for policy development in public sector environmental management organisation and who has had responsibility for the development of numerous policy instruments on related matters	AR 2 & AR 5*
Participant PA 4	Public Administrator who has worked in policy development for both an environmental management organisation and a water resource management organisation.	AR 2 & AR 5*
Participant PA 5	Retired Head of Division of the environmental agency who spearheaded all major policy development activities related to pollution control and management	AR 2 (conducted 2 interviews)
Academic 1	The professor is involved in research in areas of climate change adaptation and mitigation and is used as an expert in the field in Jamaica and internationally.	AR 3 & AR 5*
Academic 2	The professor was involved in research in areas of climate change adaptation and mitigation and used an expert in policy development processes in Jamaica, WCR, and internationally.	AR 3 & AR 5*

Academic 4	Professor in Public Policy and Public Administration	AR 3 (conducted 2 interviews)
Academic 3	The professor involved in research in the area of environmental management and pollution control and management and used as an expert in the policy development process in Jamaica and the Commonwealth.	AR 3 (conducted 2 interviews)
Academic 5	Head of Institute involved in issues of sustainable development often used as an expert in the policy development process	AR 3 & AR 5*
NGO 1	Managing Director Wastewater Management Company	AR 4 & AR 5*
NGO 2	Member of Community Organisation heavily focused on wastewater management	AR 4 & AR 5*
NGO 3	Member of Engineering Association	AR 4 & AR 5*

Note: AR 5* Focus Group Session

Using an AR methodology (Huxham, 2003) the recorded interviews and transcripts were reviewed individually, and the data was interpreted. The analysis of the interviews uncovered concepts. The concepts were gradually coded and clustered into sub-themes which were further coalesced into overarching themes (Braun & Clarke, 2006). These findings have been illustrated in a series of thematic maps.

In the following sections of the report, the findings from the interviews are firstly reported based on the categories from which they were drawn. This approach has been taken to determine whether there are any significant similarities or differences between the groups and to explore if and why any significant differences existed between the groups. Once the analysis of the findings within each professional grouping was determined the themes were further evaluated to determine linkages, interrelatedness, and or overlaps.

4.2 Public Administrators

4.2.1 Generation of Themes

A total of seven public administrators were interviewed with professional experience ranging from 15-40 years in the public service. From the analysis of the interviews, a total of six sub-themes surfaced. These were (i) the policy development process; (ii) stakeholder consultations; (iii) implementation of policy; (iv) policy initiation; (v) task environment; and (vi) collaboration. Each of these sub-themes had several concepts, and together were coded and evaluated, and categorised under three themes as shown in Figure 15.

Complex Problem	Operational Environment	Governance Culture
• Task environment	• Policy Development Process • Stakeholder Consultation • Policy Implementation	• Policy Initiation • Collaboration

Figure 15 The Sub-Themes Generated from the Findings of Interviews with Public Administrators.

There was a significant degree of interrelatedness between the 3 themes; namely, complex problems, operational environment, and governance culture (Figure 16). The complex problem seems to dominate the other themes. This may be because the other themes and the related sub-themes characterised elements that contributed to the complexity of the task environment. However, while the thematic area of the complex problem was significant it did not override the relevance and importance of the other themes nor remove them from consideration. The other two themes, governance culture and operational environment were thought to be significant enough to warrant representation at the thematic level.
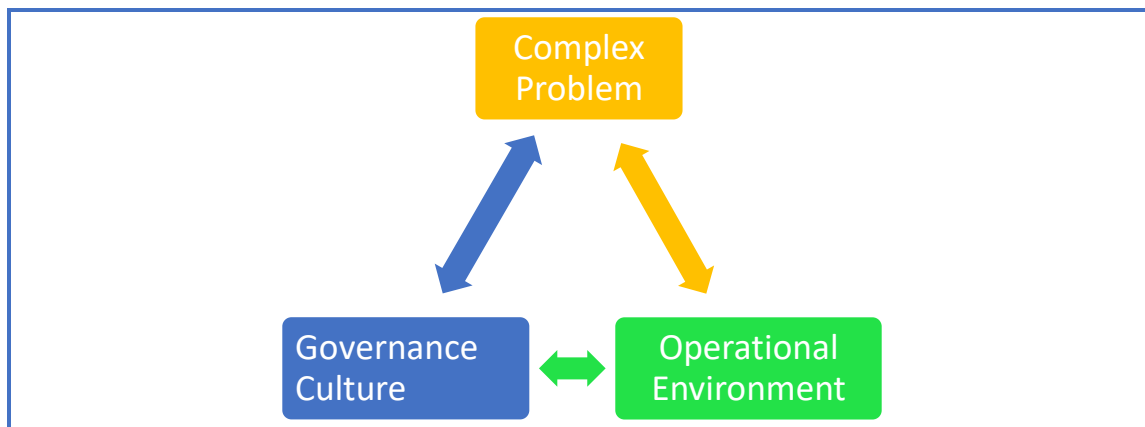
Figure 16 Interrelatedness of Themes Generated from Interviews with Public Administrators.

The thematic maps are illustrated in the following sections of the report; further demonstrating the relationship between the themes and the sub-themes. So, for example, under the theme of the operational environment, the issues of the policy development process, stakeholder consultations, and policy implementation were found to be inextricably linked to the theme and were subsumed within the thematic area of the operational environment. That is, an evaluation of the findings revealed that the policy development process is influenced by the stakeholder consultation, which in turn impacts the effectiveness of policy implementation. Nevertheless, despite this interrelatedness, in all cases, there was sufficient differentiation of the issues within each theme to warrant separate discussion on the findings of each sub-theme. The following section of the report discusses the findings in each of the thematic areas.

4.3 Discussion

4.3.1 Complex Problem

The thematic map (Figure 17) shows the surrounding concepts and themes of the complex problem. Portions of the interviews are shared and linked to the research findings, and insights are developed based on an analysis of the findings.
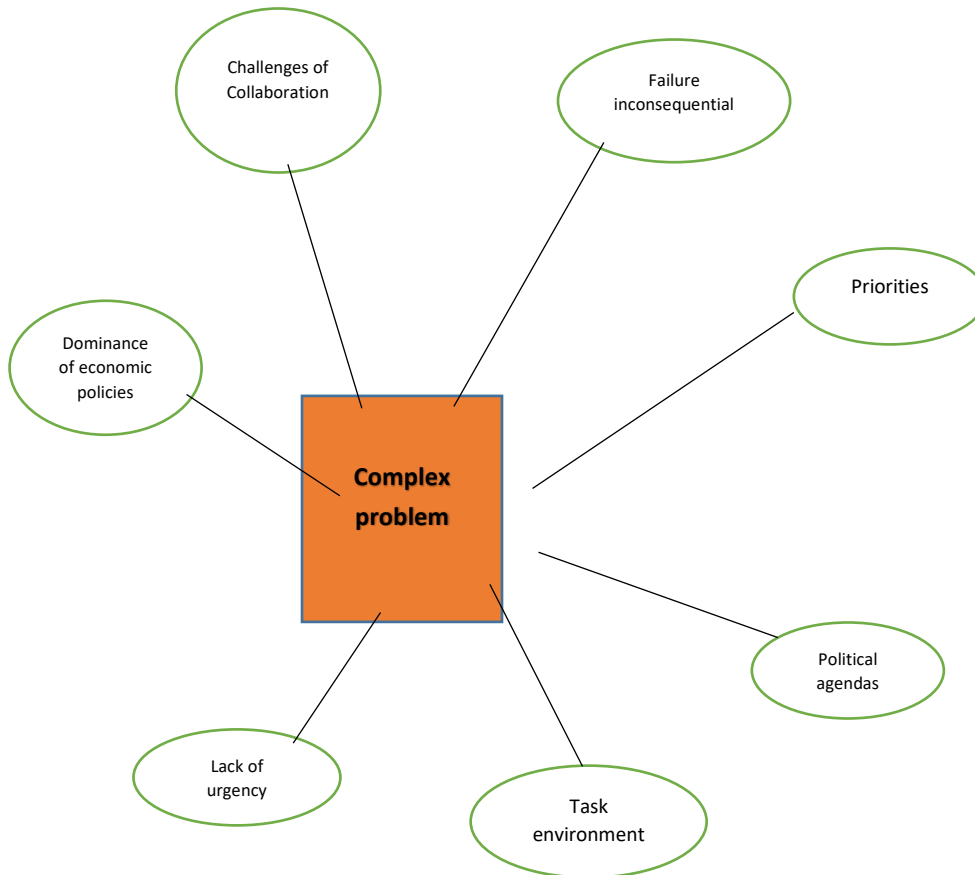
Figure 17 Public Administrators -Thematic Map for Complex Problem and the Related Issues.

The development of environmental policy across the broadest spectrum tends to languish as evidenced by the long period it takes for policies to be developed, and the many environmental-related policies that remain in draft. There were no simple answers to why this occurs. However, the overarching reason seems to revolve around the relatively low priority given to the sector against the backdrop of the ongoing debate regarding the impact of environmental management on economic development. One camp believes that environmental management stymies economic development. Conversely, the other camp perceives sustainable economic growth and development, can and should be supported by sound environmental management underpinned by prudent environmental policy. The literature (Dasgupta,

Laplante, Wang, & Wheeler, 2002; Jordan, 2008) shows that this debate is not unique to the Jamaican experience and that it is particularly of concern to countries of the Global South.

Environmental policy development in Jamaica is usually undertaken and directed by public administrators who have identified the need for policy intervention. Rarely is the process initiated or championed by the political directorate. Further, according to Jones (1992) and Powell et al. (2007) policy development takes place in a task environment that is characterised by low levels of trust in government and its programmes. This includes a general externally driven policy agenda, low priority to the environment and the wastewater sector when compared to other social issues like employment, and a low level of public participation in the decision-making process. Interestingly, although the participants did not use the word "task environment," they discussed the issue of trust and political influence on the decision-making process suggesting that many policy developers may lack the influence and political skills set to see the policy through the governance hierarchy of senior decision-makers who are not always supportive. This is perhaps because there is a perception that "people vote…technocrats get fired" (Participant PA 4).

The issue of gaining political support for the environmental policy was predominant in the discussions. Many public administrators felt that the policy development process in the environment sector requires the policymaker to moderate between conservation and the sustainable use of resources and job creation and economic growth. Participant PA 1 summed up the matter in this way "the country can derive benefits without necessarily ridding itself of all its natural resources … so you need to find the mechanism to strike a balance and that allows your decision-makers to feel comfortable because again they keep going back to their constituents and say, if they are unable to eat, it doesn't matter, because there is a tree there…"

For public administrators whose organisations' primary mandate is to conserve and protect the environment moderation in policy development often poses a dilemma as the balance is often framed as pitching environmental management issues against economic and livelihood issues. Further, they also need to negotiate the hurdle of getting the political "buy-in" needed to facilitate the policy's passage through parliament. For these policymakers, the solutions are often messy and rarely result in a win for both the environment and the economy.

The experience of these public administrators is supported by Churchman (1967), Rittel and Webber (1973), and Head and Alford (2015) who describe these issues as complex problems. The scholars observe that policymakers confronted by these challenges often have difficulty in dealing with non-routine issues. In this regard, the authors identified public policy within the environmental sector as a complex problem, which is characterised by deep division about the nature and importance of the problem (Head & Alford, 2015). The authors also suggest that public administrators working on these types of policies attempt to tame these complex problems by building consensus or subdividing them into more manageable parts. This approach tends to obscure the real issues and fails to tackle persistent problems. They also posit that expert knowledge will be insufficient to solve these problems as factors such as communication, politics, and institutional barriers need to be overcome to develop a shared understanding supported by high-quality management and leadership processes (Conklin, 2006; Feldman & Khademian, 2007; Head & Alford, 2015).

Head and Alford (2015) further suggest that new thinking is required to deal with complex problems, and this will require using collaborative strategies and a more pragmatic approach in which the nature of the solution is "tailored to the type of wickedness" (Head & Alford, 2015, p. 718). Interestingly, the response of one public administrator on what is required to turn the situation around is bold leadership and better decision-making tools. This notion supports this thesis to some extent. On this matter, Participant PA 4 said "…I think courage is a big part of it, we also need different skill sets,… thinking outside the box, I guess. Moreover, particularly for the environment, we need accurate valuations of natural resources. Politicians only see the environment as something that, you know yes, we're supposed to save, but there is no money in the environment." This response was a clear call for change and new thinking to address this complex problem. Notably, the response emphasises technical knowledge to solve the problem. But according to Haas (2004) and Head and Alford (2015), this is insufficient. At the very least, the response shows an incremental change in mindset and the need for new approaches.

Head and Alford (2015) also identified barriers to effecting change in traditional hierarchical public administrative structures like those found in Jamaica. These challenges include systems of control, interest groups taking a position or "guarding their turf," departmental silos, and resource constraints.

4.3.1.1 Scholarly Practitioner Reflections

As I reflect on these findings, I concur that it is a complex issue particularly given the task environment in Jamaica. Arguably, the root cause for this situation is the relatively low priority that is given to environmental policy by both politicians, senior decision-makers, and the general public. This is coupled with the persistence of relatively uninformed thinking that has dominated discussions regarding the nexus of economic development, health, and environmental management. The result is that the development of environmental management policy is paid "lip service." When issues arise, the response tends to be tactical rather than strategic leaving an untamed, persistent problem.

In the policy sphere, the practice at the highest levels of decision-making is most often a repeated failure to effectively integrate environmental policy into national development issues. When this occurs, environmental management tends to be an afterthought or add-on. Perhaps this practice continues because there is an insufficient comprehensive understanding of the topic at the leadership level and no confidence or reliance on expert opinion or community feedback thus "the dots are not being connected" and environmental degradation is increasing. The answer may lie in building collaborative capacity, in a genuine process of bringing diverse groups together to nurture learning, and in so doing creating new knowledge to solve difficult issues (Weber & Khademian, 2008). However, in this regard, there is an acute recognition that the traditional institutional governance arrangements of working in departments have created silos (Jones, 1992) that hinder rather than help collaborative strategies.

4.3.2 Governance Culture

An important issue is a culture of governance that is how decisions are made and executed and the nature of the collaborative practices. The findings have bearing on how problems are identified and solved within the wastewater sector. Governance culture and its related sub-themes of policy initiation and collaboration are illustrated in the thematic map (Figure 18) along with the accompanying narrative.
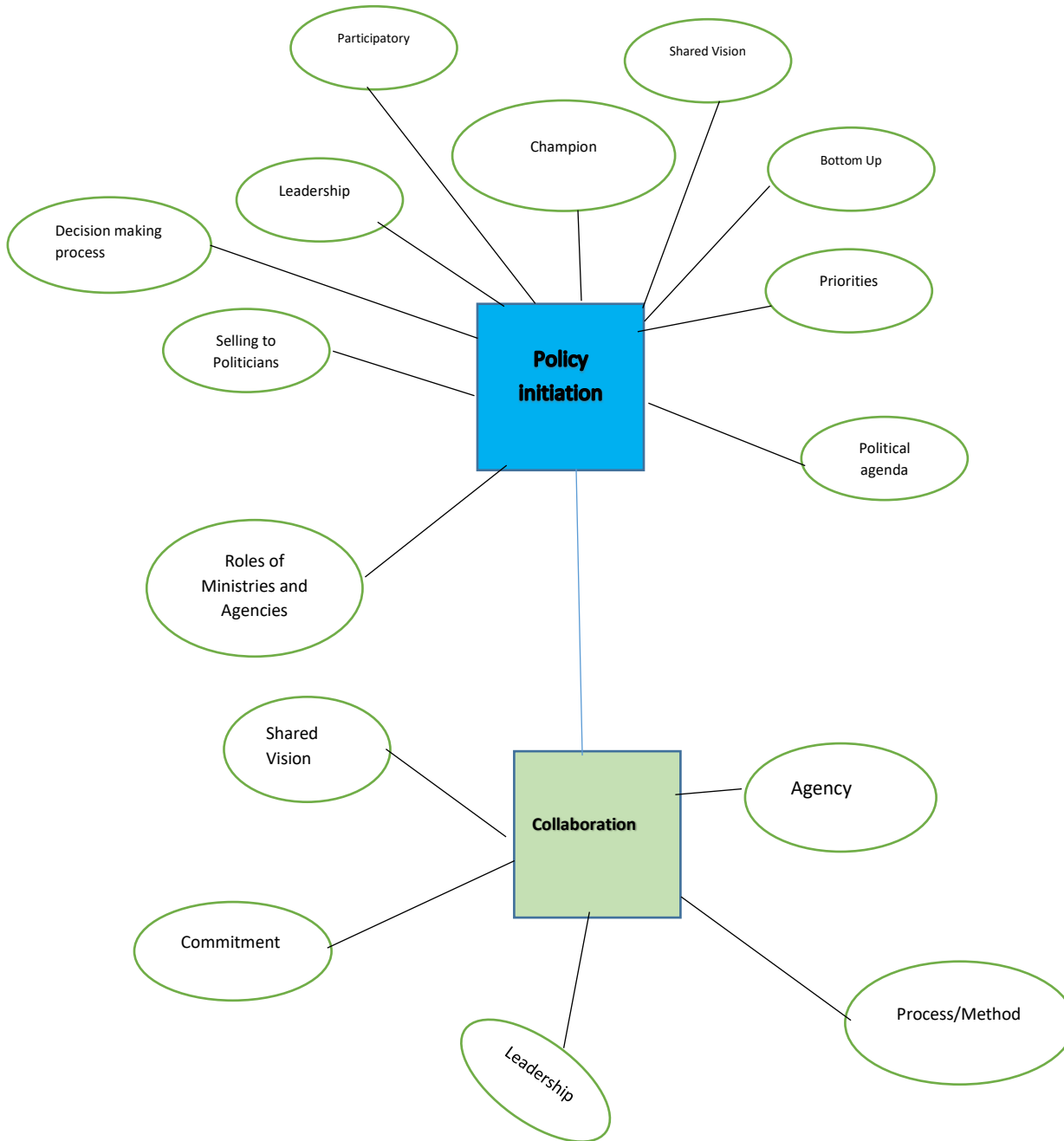
Figure 18 Public Administrators -Thematic Map for Governance Culture and its Sub-themes of Policy Initiation and Collaboration.

Is there too much policy?

Is there too much policy was a question that all participants reflected on and which evolved into an examination of policy initiation in Jamaica. All the participants agreed that policy development and implementation are important to national development. However, some felt that while there was a proliferation of policies within the wider environmental sector, many policy instruments remained in draft formats or as works in progress. Therefore, in too many cases there is no meaningful implementation.

Regarding the production of policy, Participant, HA 1 observed "a lot of the issue is with what is the purpose of the policy because people generally love to say - let us develop a policy for this; and you draft the policy and the policy is approved and sits there because you can now refer to it and say - we have a policy for this, but nobody says ok, we're going to implement this policy, so I find that there is a little grey area in the whole process of developing and implementing." In other words, the participant was questioning what triggered and supported the need for a particular policy. Was it being developed as a "knee jerk" response to solving a problem or were there deeper underlying reasons that required response at the policy level? Management scholars, Head and Alford (2015), observed that deep division often arises in the area of public policy about how to address an issue, and undoubtedly for some writing a policy, may be the answer, for at the very least there is the appearance of doing something, although it is debatable if it is the correct remedy.

The findings from the interviews seem to support this observation as most of the public administrators felt there were too many policies within the environmental sector. This proliferation was not necessarily solving the problems or resulting in the effective management of the sector. Considering this reality, many participants felt that in Jamaica there is a need to rethink the process by which solutions to issues rise to the level of needing a policy response. Participant HA 1, reflecting on the issue said, "it gets a little crowded in the policy sphere…when everything and everybody has a policy because people would just generically say if you don't have a policy for that the world will end…Why do we need all these policies?" was the rhetoric entreaty. On this matter Participant, PA 3 stated "I would be a little more sparing in the making of the formal policies. I wouldn't have ten thousand of them and if I have some of them, they would be short and to the point, I will try to engage people more directly."

The administrators offered some solutions for helping to direct the process by which the need for a policy is established and the policy development process commences. One proposal was to conflate several small policies into one overarching policy with several sub-sections. Another suggested greater collaboration regarding the decision to develop a policy. Hence, it was proposed that there should be policy reform that encompassed many pillars. The first should be on developing a consensus building on what should constitute the need for "big P policy" – what issues should be of high priority; the second should be the greater engagement of affected sectors, that is trying to engage people in more direct ways; the third should be the inclusion of mechanisms that allow for review of a policy during its life to apply if required adaptive strategies and the fourth was to change the format of the policy instrument to better

communicate intentions of the policy. The reflections of the participants imitated "on the spot inquiry" (Schon, 1992, p. 57), and agreed on the need for change in the approach to public policy development in the environmental management wastewater sector. What was not entirely clear was whether the public administrators recognised that this change of thinking not only had to come from them as the initiators of policy development but had to be led by them because of the unique position they hold and the opportunity to become collaborative capacity builders (Weber & Khademian, 2008).

These findings align with the research into public policy development at the global and local levels (Adams & Hess, 2001; Haas, 2004; Juntti et al., 2009; Parsons, 2001; Reinicke, 2000). For example, Head and Alford (2015) contend that the solutions offered by being open to questioning is not necessarily a bad thing and that "important learning and evaluation processes emerge from the adaptive management experience of working at multiple levels with a range of policy instruments" (p. 716). This observation suggests categorisation would be useful given the diversity and complexity of the issues.

4.3.2.2 Collaboration

The public administrators agree collaboration is an important component of policy development and implementation and mainly felt that it should begin early in the process and involve more than inter-governmental cooperation or coordination. The views regarding the composition of the stakeholder groupings varied. The view of Participant HA 2 was that "one of the most critical elements you'll have to have is basically that small group who is going to begin the formulation of putting together the framework, it has to be a very integrated group representing interest across the subject matter of the policy… can't be too large." While Participant PA 4 said, "I think from the initial stage when we're developing the policy directives, we would have to broaden it beyond the technocrats, I think from the initial stage we might need to have involvement and input from the public, when I say public it doesn't have to be a public consultation, but you could probably say President of the Private Sector Organisation of Jamaica (PSOJ), NGO representatives you would get them involved from that stage, I don't know how practical it would be, but you would probably need to get involvement from the decision-makers as well."

Regardless of the variations in the composition of the group, there was consensus that a diverse group of respected, knowledgeable, and influential constituents should be involved in the entire policy development process from conception. Participants felt that such an approach would lead to the development of a shared vision and the emergence of leadership to champion the policy. Further, they felt that these participants could develop the agency in their organisations to influence the decision-makers and political directorate regarding the necessity and value of the policy. However, in Jamaica, this is not the practice as public consultations generally take place when the document is in an advanced stage of preparation. An in-depth examination of the reflections and the issues raised by the participants carries the label of developing collaborative capacity and the emergence of a CCB who provides leadership that enables this to happen. While their responses did not seem to recognise that this exchange of knowledge would potentially meld into the generation of new knowledge (Weber & Khademian, 2008). For many of the participants, this was a possible eureka moment – inquiry producing new insights.

In summary, the literature suggests that success in this area will require more than assembling a group of stakeholders but will need, commitment, trust, a shared action agenda, and new tools for collaboration.

4.3.2.3 Scholarly Practitioner Reflections

The findings which emerged from an evaluation of the interviews were fascinating against the background of my research question, which is examining the issue of policy development. On the surface of it, the findings suggest there may be no need for more policy. But is this true? My reflections on the matter led to Schon's (1992) seminal work in which his work on traditional professional education contributed to private gain rather than solving public problems. In his research, he argued for a change in orientation from problem-solving to problem-finding as professional knowledge alone was insufficient to solve deeper and more complex social challenges. Instead what was required was the use of artistry, that is, "reflection in action given that real-world problems did not come in tidy packages but instead were messy and often ill-defined" (Forrest, 2014). As I pondered the issue, I recognised that perhaps I needed to evaluate the research findings from the perspective of finding the problem rather than solving the problem; namely, I needed to evaluate the research findings through the lens of artistry rather than professional training. I have come to realise that in and through the process of evaluating the result, I have evolved as a scholarly practitioner. New learning has emerged as a process of osmosis, almost without knowing it I was already using artistry - an innate and intuitive, kind of knowing – in evaluating the research findings.

I also recognised that I was not the only one impacted in this way and that the inquiry which resulted from the questions posed in the interviews also affected the participants. I observed my colleagues in the search for answers go beyond the surface to rethink; namely to engage in "on the spot inquiry" (Schon, 1992, p. 57) or reflect in action. In this regard, the research project has contributed even incrementally to action learning within the professional practice.

4.3.3 Operational Environment

The third theme that emerged from the interviews with public administration was that of the operational environment (see Figure 20). This theme had three important sub-themes; the policy development process; stakeholder participation, and policy implementation. These findings are discussed below.

4.3.3.1 Policy Development Process

In Jamaica, the policy development process is directed by guidelines developed by the GoJ that are overseen by the responsible Ministry and monitored and evaluated by the Cabinet Office. This occurs before the submission of the policy document to the Parliament of Jamaica for final approval (Figure 19).

Figure 19 Major Steps in the Policy Development Process in Jamaica.

The views of the public administrators regarding the approach to policy development in the environmental sector in Jamaica varied. However, many of the interviewees acknowledged that policy development and implementation was a significant area of weakness in Jamaica, particularly in the environmental management sector. Table 1 provides an overview of the average time taken to promulgate policy within the environmental sector, which ranges from 2 to 20 years. In some cases, the policies remain in draft.

Some of the interviewees observed that it was often public administrators who determined that a policy was needed given the role of the political directorate in final approval. Accordingly, there is a need to seek their blessing before commencing the process. As Participant PA 2 stated, "the ministers or politicians need someone to actually go sit with them ... like you would have a sales representative and sell the idea to them …. you have to sell it to them." However, they admit this is not the general practice, and politicians are usually not involved until the final stages of the process.

Concerning the matter of trust, the experience of the interviewees seems to mirror my own professional experience. Regarding the public response to the policy development process, one technocrat remarked that in general stakeholders had strong opinions on the matter. Participant PA 4 felt "what generally happens is that the government makes a decision, then makes it public to the public, or they go through the process of having a consultation, takes your comments, but it doesn't change anything, because a decision has already been taken in terms of how the resources would be managed – the decision is usually to the detriment of the environment." The public's perception that in practice there is a culture of secrecy in the decision-making process is supported by the literature (Jones, 1992; Powell et al., 2007). This suggests there is a need to reconsider the current practice if there is to be genuine support for the policy development process and more effective implementation of the policy.

The matter of leadership and accountability also arose in a discussion of the process. It was highlighted that policy development is often externally driven for example to meet an international obligation. However, beyond "ticking the box" and ensuring that a policy response has been developed, there is little leadership in its effective implementation and an apparent absence of accountability.
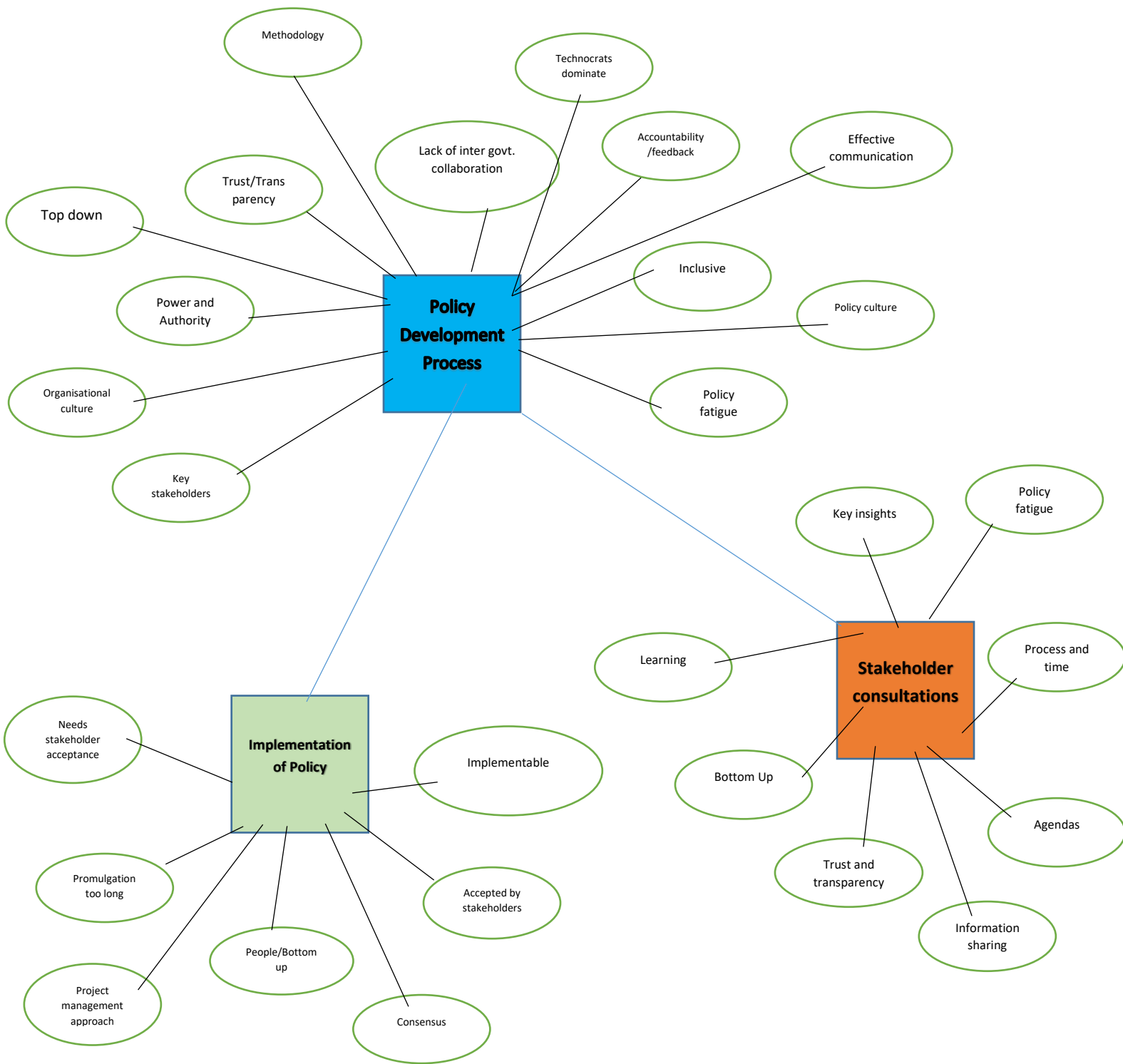
Figure 20 Public Administrators -Thematic Map for Operational Environment and the Related Sub-Themes of the Policy Development Process, Implementation of Policy and Stakeholder Consultations.

Many participants felt that the policy development process needs a champion. These are usually technocrats/public administrators who initiate the policy development process and not the politician who

might be mainly responsible to lead and influence the political directorate and guiding the development and implementation process should come from public administrators.

The lack of support from senior decision-makers can create a barrier as observed by Participant HA 1 who stated, "where a policy direction is not supported at the time by personnel who are at the decision-making level or where it might conflict with some on-going economic and political issue or is perceived to clash with or not support a particular interest group; policy lack the needed support at that to go forward." There appears to be a dilemma that confronts senior decision-makers when facing the power brokers; on this point a vastly experienced Participant PA 5 offered the following reflection.

> I don't think that the technical people who should be giving their advice and … let their voices be heard in respect to what poor environmental management and environmental degradation really means or what effects it can have … I don't think that they are able to... I do not even know if they are doing it enough and I don't think they are able to persuade or influence the political directorate to see the importance … Maybe there are not enough technical people, calling a 'spade a spade' speaking the truth to the people in authority. Some of us I suspect are telling them, those in authority what we feel or think, they want to hear, and I think also that some people, not necessarily the technical people in environmental management maybe some of us to an extent also don't want to change the status quo and don't want to say something about like 20 years down the road … .(Participant PA 5, personal communication)

With regards to the matter of leadership Head and Alford (2015) advocate that in dealing with complex problems such as the development of certain categories of public policy; the role of leadership is of vital importance. However, traditional forms of leadership for example hierarchical are inappropriate and likely to fail in such circumstances. The authors argue that effective leadership is required for coherence. While the literature sources discuss the style of leadership, which is most appropriate from transformational to leading in a shared-power world the need for leadership that is flexible, adaptive, and collaborative is not in question. The interview findings point to the need for a different kind of leadership in the Jamaican scenario – one that extends beyond the traditional leadership skills and incorporates new approaches.

4.3.3.2 Stakeholder Consultation

In addition to concerns regarding the policy development process, the public managers also discussed the issue of the value of public participation, which emerged as a key sub-theme under the thematic area of the operational environment. As with all the findings, there were varying views as to the importance and role of public participation through a process of stakeholder consultation, and the methods used to engage the public. All the participants felt stakeholder consultations were required. However, one is uncertain to what degree this viewpoint may be influenced by the requirement of the GoJ for stakeholder input as outlined in the public consultation code. Nevertheless, despite the unanimous support for public participation, there are significant differences in the nature and seriousness of that support. Some participants observed that many public managers went through the motions of the consultation process, ticking the boxes but had no real conviction of its value or importance to the quality of the policy document.

One senior public administrator, Participant HA 2 with decades of service was strident in supporting the benefits of public participation arguing that if a policy was to stand any chance of implementation it was essential that the public be involved from the very outset observing that; "we tend to develop policy sometimes in isolation; just a few people sit down and say this is the policy and then we try to go and sell the policy to people, but they haven't bought into the policy". Participant HA 2 felt that it was foolish for technocrats to discount the value of community participation stating that one should not "dismiss the man out in the street thinking that they don't understand the issues, I think they do understand the issues, … but I think we tend to dismiss them just because they don't have master's or a PhD in something, but that's not true. People outside can give a significant contribution at different levels but levels that are critical to the success of the policy." Regarding what should happen to change the current practice, Participant HA 2 believed that it was necessary to get broad-based involvement from the public to build consensus and was supportive of the need to rethink the current process. The participant proposed that instead of taking a completed draft policy to the public one should go with a "blank page" gathering comments and input from the stakeholders that would be used by the policy authors.

There was some degree of support for the position outlined in the previous section from other administrators who had several years of hands-on experience in policy development. They agreed that community groups, the private sector, and academia needed to be involved in shaping policy at all stages of its development from inception through to implementation. Participant PA 1 observed that in terms of contributions to a policy document the distribution of input was 20% from the public, 15% from academia, and the remainder from government technocrats. However, they claimed that the most insightful contributions often came from the public, particularly from community interests. PA 1 argued that the reason for this was because public administrators often had to "toe the official line" but, the public was unencumbered and free to think creatively and therefore suggested that "change came from the public because they see things and let us know what they want to see happen; their response we valued. They also took great pains to point out where they thought that the government was not necessarily doing what it should be doing and gave their impression and experiences, and suggestions on how we could bridge, the gaps in relation to these areas."

While in general, the group of public administrators saw value in stakeholder participation, and although the opinions differed on the methods there was one unique view offered by a participant with over 40 years of experience in government. This participant felt strongly that policy is best formulated by the experts and the public had little to contribute to the development of technical policy. In general, regarding the role of the public administrators or experts the experience has been that technocrats tend to want to dominate the public discourse often feeling that theirs was the most valuable opinion, craving the limelight, and exercising power and control. Generally, all the participants felt that this practice harmed the quality of stakeholder consultations and was counterproductive to receiving useful input from the public.

Regarding public education, there was a consensus on the importance of building public awareness about the relevance of environmental public policy and its link to day-to-day living. In the words of Participant HA 4 "we need to get the awareness out there to the public, and we need to reinforce the importance of

the policy, not only from the top down, not just the technocrats or the persons who make the decision but general public. So, the long and short of it is that we need to invest more in awareness of what drives the portfolio, and awareness of the consequences of not meeting these policy imperatives and the outcome of what can happen when we do get these policies through."

In terms of the size or number of participants taking part in the process Participant PA 3 acknowledged that while numbers were emphasised in the public consultation guidelines that perhaps the importance of numbers was overplayed. As a result, Participant PA 3 felt there was a need to rethink the public consultation process arguing that the preoccupation with the number of stakeholders was misplaced because "you may have a room with a small number of people and these are people who can really say well this is my experience, in short, they are living it, and they have their views and can contribute. I think to some extent the large 'thing' where you invite the 'world and his wife' ...it's very structured... but I don't know if that is necessarily always the best way of really getting inputs on an issue." In my view, this intervention is a call for authentic dialogue and more deliberative participation but to bring about that change will require a change in mindset at the decision-making level.

Ansell and Gash (2007) found that a collaborative governance approach characterised by the involvement of non-state actors meeting collectively to deal with complex policy issues is more likely to achieve policy objectives. Further, Roberts' (1997) study of the issues of public deliberation, and Collins and Ison's (2009) exploration of methods of public policy development for adaptation to climate change suggest that learning is made possible in settings that facilitate collective engagement. This can result in a co-creation of knowledge and new insight to address complex policy questions.

Based on the responses of the participants coupled with developments in the literature from the 1960s to the present there seems to be a need for a change in thinking about how public participation is practiced in Jamaica. To achieve this change in practice may require more than a willingness as there may be an underlying issue of the capacity within the organisations responsible for policy development to design and execute stakeholder consultation processes. These may encourage authentic dialogue across various educational and socioeconomic groupings and interest groups.

Barriers to Effective Public Consultation

In addition to the methods used to conduct stakeholder consultations, the interviews revealed other concerns of critical importance to effective public participation. The absence of transparency and the lack of trust in government were regarded by many participants as significant barriers. They observed that in many public fora people had expressed the view that the government often made decisions, which were detrimental to the environment and often were only revealed to the country after deals were struck. Leaving the citizenry with little say in the running of the country's affairs and resulting in a trust deficit regarding the government's management of natural resources. This distrust has adversely affected confidence in the stakeholder consultation process and is of concern as Powell et al. (2007) revealed that 86% of the country feels that its citizens should play a role in shaping public policy. The paradox and hence the complexity of the situation is that the same study showed that few Jamaicans participate in such fora.

While the underlying reason may be issues of trust, ways have to be found to address this in the public policy arena not only for the environmental and wastewater management sectors.

Recently, the GoJ's handling of three very significant proposals related to economic growth opportunities seems to support the wariness of the public. These are the Goat Island incident, plans to mine bauxite in the Cockpit Country, and plans to restart the Alpart Aluminium Plant using coal as the fuel of choice. In the case of Goat Island, an agreement had been signed with a Chinese entity to construct a logistics hub on the Goat Islands. The Chinese investors proposed to spend US$1.5 billion on the project and projected that some 10,000 jobs would be generated. However, Goat Island is part of the Portland Bight Protected Area (PBPA) through legislation passed in 1999 (Sangsters, 2014; Wright, 2014 28). The area is regarded as a national treasure and designated a Biosphere Reserve. The government's decision without public consultation to reverse the protected area status was viewed with great suspicion by the people of the country.

The Cockpit Country is a unique part of Jamaica's cultural and natural heritage because of its special landscape, and unique rich biodiversity. It is of historic importance to the Maroons and contributes to the water supply in the north-western part of the country. The Cockpit Country is also the repository of significant bauxite reserves and the GOJ's proposal to grant mining leases to the Chinese was viewed with great alarm ("Government Moving to Address Coal burning," 2016). The leasing of this important source of water, biodiversity-rich, and historically significant forest reserve created a national outcry. The status of this decision and its rationale remains unclear as the government has remained silent on the issue.

Regarding the decision to reopen and expand the Alpart Alumina Plant through an investment of US$2 billion using a 1,000-megawatt coal-fired power plant was announced without prior consultation with key stakeholders and seems directly opposed to the country's obligation to UNFCCC and its commitment to the Association of Small Island States (AOSIS). The announcement created a great furor and as is often the case, there was a promise to have the issue further evaluated. Since then, the government has remained silent. The tactic of silence in addressing concerns of this type does little to promote public trust and contributes to the cynicism which is often displayed by the public in policy consultation fora.

The issue of absence of trust and lack of transparency in the government decision-making regarding matters of importance to the country is of great consequence because the government's tendency to negotiate in secret leaves the country's citizens with a feeling of powerlessness. Perhaps this should not be surprising. Jones (1992) noted that one of the retentions of the colonial era and the Westminster model was little or no reliance placed on the masses for input into public policy and the tendency for centralised decision-making. Despite this public sentiment, however, researchers such as Powell et al. (2007) found that public outcry can sometimes "stop the government in its tracks" or at the very least slow the decision-making process. This response from the government demonstrates that the Jamaican public may not be as powerless as they seem to think but demonstrated the latent power that is largely untapped in terms of a public agency.

Booher and Innes (2002) developed a theory of network power, which promotes the coming together of diverse groups with a shared agenda to bring about collaborative efforts that produce innovative change. Other researchers (Hardy, 1996; Juntti et al., 2009; Miller, 2001; Orton, 2000; Raelin, 2012; Tsoukas & Chia, 2002; Weick, Sutcliffe, & Obstfled, 2005) supported the individual agency coupling with approaches that facilitate dialogue and public participation. This makes sense of the political and cultural context and is important in achieving change particularly as it relates to environmental public policy. Therefore, I have been led to conclude, that the agency and its potential to influence and impact decision making should be factored in designing the policy development process for the wastewater sector. However, overcoming the trust deficiency represents a significant challenge for both government and civil society.

In general, the participants felt the process needed reform and that the process needed to be streamlined to be more inclusive. There was also an acknowledgement that the public was suffering from policy fatigue and more efficient ways were needed to develop policy within the environmental management sector.

4.3.2.3 Policy Implementation

With regards to policy implementation, there was a general agreement by the interviewees as outlined in previous sections that successful policy implementation requires "buy-in" from the people. The public administrators who were interviewed genuinely wanted the output from the policy development process to be implemented. As stated by Participant PA 1 the policy is "not something that we necessarily put on a shelf, but something that we actually implemented." Despite this commitment, there are significant shortcomings in the implementation of policy in Jamaica. The participant acknowledged that the long time it took to achieve policy approval; from conceptualisation through to the passage through Parliament meant that many policies became irrelevant or had been overtaken by other issues on completion.

Many of the participants agreed with the lack of accountability and the absence of political buy-in probably explained the long duration rather than the absence of resources. In describing the overall policy development process, approval, and implementation process Participant HA 1, emphasised that while by and large the creation of policy often starts within the agencies that report to that ministry this happens because these entities are often seized with the importance of a particular issue within their remit and see its resolution in a policy issue. Despite this, the ultimate responsibility for implementation was the relevant ministry of government. This means the entity tends to lead the development of the document– but it can do so much and no more because the substantive matter of policy review and approval rests within the portfolio ministry.

Also, the participant observed that it is at the stage of handover to the ministry many bottlenecks and significant delays arise. Participant HA 1 in describing the process noted "there's no time limit on how long that should/will take …there is no standard operating procedure for that; that says the document comes into the ministry and by next year is complete. The result reveals an open-endedness in the review process and an apparent lack of accountability. As a result, policies can languish or die on the desk of a ministry official."

In the view of many of the interviewees, there is a thrust to improve accountability. Also, many of the participants felt that policies should include an action plan as a kind of prerequisite to successful implementation. In this regard, Participant PA 1 who was supported by others argued that "without a plan of action, once you tick it off the task you just kind of ignore it unless you are made to be accountable for it and a lot of agencies do fall in that trap due to a lack of resources, lack of interest, they're not following up." On the other hand, Participant PA 5 a very experienced administrator while not dismissing the importance of action plans warned that these were not to be considered a panacea. Instead, Participant PA 3 suggested that more was required to ensure meaningful implementation including such as effective communication involving mechanisms for public reporting and feedback, and timely review of the policy's relevance or usefulness once implemented because policies tend to have a life span for effectiveness. This suggestion seems to be leaning towards an adaptive management approach.

4.3.2.4 Reflection of a Scholarly Practitioner

As a professional practitioner, the discourse during the interviews and particularly the leadership views caused me to pause and reflect again on this complex issue, particularly in the context of Jamaica's task environment (Jones, 1992). In my own view, there is a clear need for change in the policy development process in the environmental management of the wastewater sector in Jamaica. A view that I argue is supported by the research findings which constantly allude to the need for change.

However, this needed change will not be possible without the leadership and dare I say enlightened leadership with the courage and required skills to negotiate the political hurdles needed to achieve change. Given the general ambivalence within the political directorate and some decision-makers about the importance of sound environmental management to economic and sustainable development, this leadership is unlikely to come from the ranks of the political directorate. Further, given the governance structure, it may not come from within the ranks of public administrators and decision-makers.

The exchange of ideas and experiences during the interviews has led me to the view that while the weight of leadership may rest with public administrators, the change that the country needs will not be possible by heaping the responsibility of leadership on one group. Instead, there is a need to build the collaborative capacity through the development of CCBs as leaders of the process (Weber & Khademian, 2008) instead of an elitist approach (Jones, 1992). Further, while there is little doubt that expert contributions are required in policy formulation this does not preclude the equally valuable if different kind of contribution to be gained from public participation.

The current approach is by and large a process of information sharing rather than authentic dialogue, which is perhaps due in part to the mindset of the policy developers who underestimate the value of stakeholder contribution. However, even as one acknowledges these shortcomings; the burden of developing sound environmental policy does not rest with the public sector alone. Civil society has a role and there appears to be a failure to understand the power of networks to achieve change for the common good. In this regard, I think the power of networks (Booher & Innes, 2002; Van Bueren et al., 2003) is not

fully appreciated and is underutilised by the stakeholders in the environmental sector in Jamaica. The potential of networks to influence a change could be stymied in a low trust environment adding another layer of complexity to any programme of change in developing environmental policy and pointing to the importance of understanding the social context as a prerequisite to creating an effective policy development framework. This was a significant research finding and a new insight for me as a scholarly practitioner.

4.4 Academia

Five senior academics participated in the interviews. Two themes and five sub-themes emerged from the analysis of the data. Perhaps not surprisingly, some of the thematic areas identified in the public administrators' subcategories were repeated with the academics. However, there were clear differences and slight nuances, which enriched the research findings. This finding seems to vindicate the importance of diversity, which brings with its different experiences and enhances learning. In this regard, two sub-themes were significantly different from those identified by public administrators.

From the analysis of the interviews, a total of five sub-themes emerged. These were (i) policy implementation; (ii) stakeholder consultations; (iii) collaboration; (iv) social and cultural context; and (v) leadership of which (i) –(iii) and (iv) and (v) were found to be interconnected. These sub-themes were organised into two thematic areas: mainly the operational environment and complex problems (Figure 21).

Complex Problem	Operational Environment
• Social and Cultural Context • Leadership	• Policy Development Process • Stakeholder Consultation • Policy Implementation
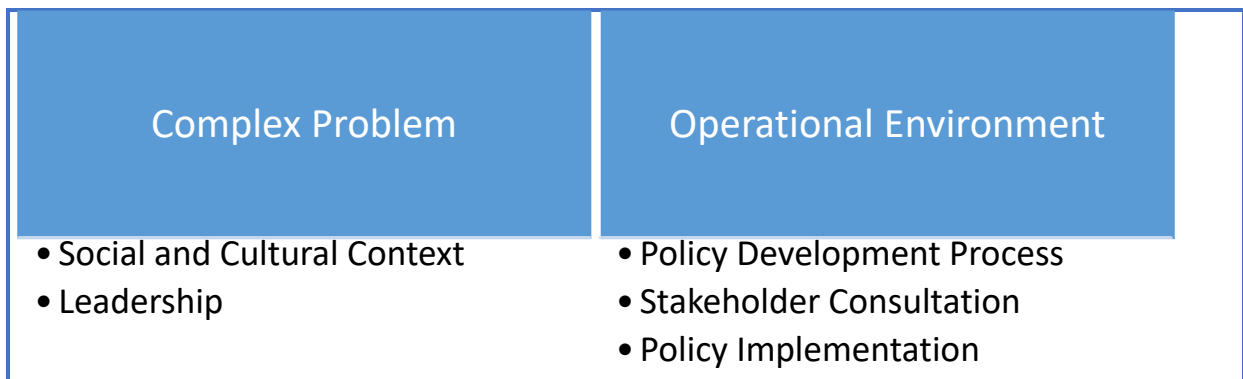
Figure 21 The Sub-Themes Generated from the Findings of Interviews with Academics.

The thematic maps are found in Figures 22 and 23 and a discussion of the findings follows.

4.5 Discussions

4.5.1 Operational Environment

4.5.1.1 Policy Implementation

Both public administrators and academics agreed that in Jamaica there are weaknesses in the implementation of policy in the environmental management and wastewater sector. From the perspective of Academic 1, "we are not developing as we should, we put the right steps in place, the initial steps…., we do a lot of studies, and we collect a lot of data, but somehow…. persons who are assigned to do that; when they are finished…, they don't take it from there, we are not focused enough."

The academics suggested four main reasons for this weak performance in policy implementation (Figure 22). The first was that policy development in the sector was often externally driven by the requirements of multilateral agreements for example various conventions like UNBD, and UNFCCC along with the conditions for environmental compliance from entities such as the IDB and World Bank. In addition, there tends to be a lack of urgency, a lack of transparency, and the lack of political commitment as evidenced by the frequent absence of political leadership and senior decision-makers actively participating in the consultative activities and policy discussions during the policy development process. Academic 2 described their experience:

> very often when a policy is being developed and we reach the point of finalisation the Minister is never present, I'm sorry to say, and even when we have consultations, the Minister comes and gives a greeting … really, you're never very sure whether the Minister himself outside of knowing he has portfolio responsibility buys into the issue and whether he has a reasonable grasp of what the policy is trying to do. So, when it comes to implementation unless he is convicted and convinced or can convince his colleague that this is something worthwhile, perhaps it might not pay off in the long term. (Academic 2, personal communication, March 2016)

So, in general beyond the window dressing; the participants agreed that meaningful political support was absent. This was essential if one wished to achieve effective policy implementation because political support is required to set the national development agenda and for allocating sufficient resources to support effective policy development and implementation.

In respect of how best to approach policy implementation, the academics expressed varying views. Many argued that effective policy implementation required a "bottom-up" approach; namely, the support of the impacted stakeholders. However, there was one dissenting voice -Academic 1 felt very strongly that it was not possible to effectively implement policy without a top-down approach as strong government and governance were needed to achieve this. There is support in the literature for this view, Weber and Khademian (2008) writing about changing mindset and building collaborative capacity identified six commitments needed to achieve this, one of which was a commitment to government and governance – acknowledging the importance of "vertical government responsibility" (2008, p. 341).

It can be argued that both points of view have merit, and this is perhaps one of the challenges that contribute to the complexity of developing policy - both requirements can be achieved and are not mutually exclusive. It does however require a change in mindset in Jamaica that is an acceptance that creating 'good' policy requires public involvement supported by the guidance of public administrators and the experiences all of whom are partners in the process. At the same time, a weak government is unlikely to be able to provide the administrative framework to successfully execute any policy prescription that is devised. So, the essential issue is not whether policy implementation is top-down or bottom-up but whether to work together. Effective convergence and collaboration are vital.

In the literature, many scholars - Ansell and Gash (2007), Head and Alford (2015), Roberts (2004), and Weber and Khademian (2008) supported the need for collaboration to find solutions to complex public policy issues in the environment sector. The researchers posit that this will require a change in the praxis of managers to allow the development of diverse coordinated networks, which increases the probability of creating "win-win" solutions. Therefore, building collaborative capacity if not a prerequisite should take place in tandem with developing effective public policy in complex situations.

4.5.1.2 Stakeholder Consultations

With regards to stakeholder consultations, the academics expressed the view that the utilisation of their expertise in these activities tended to be limited to data gathering and analysis but rarely was they fully engaged in the actual development of the policy. Academic 2 in recounting the experience of a team of scientists said, "I don't know if we were directly involved in the development of the policy document, I think our primary involvement comes in the shaping of the baseline and for that reason, we participated in as many of the consultation processes." Even while recognising the value of their contribution, the academics were mindful that they had to tread a careful line between advocacy and providing impassionate and unbiased data to support the process. However, achieving this balance was viewed as precluding academics from supporting policy development in more substantial ways. Haas (2004) suggests that to solve the problem it was necessary to mobilise political support by providing "usable knowledge" that is, the knowledge that is credible, legitimate, salient, adequate, and effective.

With respect to the conduct of the stakeholder consultations (see Figure 22) they observed that the process was directed by public administrators who tended to design consultations as a forum to provide information and generally seem to be of the view that sharing information was sufficient to get public buy-in. Commenting on the process of public participation Academic 5 raised a few issues regarding the value of public participation stating:

> It is very important to have public participation it becomes more useful the more educated the public that are participating, and so I think that you have this tension between what people may believe is the right thing to do and what might actually be the right to do. For example I was at one of the big public meeting in …it was interesting for many, many reasons…while they may be able to get the document, they don't necessarily have the technical expertise to be able to critic the document on technical grounds, so somebody else have to do that maybe not necessarily the public, but somebody should do that, and that's not something the public can provide so often the public are left talking about their understanding of the

issue which is important but does it doesn't necessarily give them the platform for addressing technical deficiencies... the technical side of things presented aren't necessarily presented as this is the best scientific information available and particularly in a situation where the government want to go ahead with the project it's the government information that is presented …. there is no counterbalance, there is no technical information that says well, this person has looked through the method and its bad and its wrong and it seem to be a flawed …which I don't think is adequately addressed by public participation, the other thing is as well, people's interest may not necessarily be the same as the interest of the nation, or the community as a whole and it doesn't necessarily mean the people are speaking on those interest (Academic 5, personal communication, May 2016)

The academics did not seriously believe that the public could help in the formulation of policy. The academics argue that the current approach did not permit rigour and in-depth analysis of the issues and as such the approach needed rethinking. Further, the interviewees observed that more often than not consultations involved the same organisations, represented by the same people. This absence of diversity and inclusiveness was of concern to the academics who felt that such an approach limited input, experience, and learning and could result in groupthink. They suggested there was a need to expand the level of participation.

Despite this general call for a more inclusive stakeholder consultation process, there were some reservations. Academic 3 cautioned that while as a people "we are highly sophisticated in so many ways, but I think if you don't have a majority educated public, it's very difficult to create that kind of level of maturity while we still do have high levels of poverty. We were back up to 19.9% poverty levels in 2010 or 2011 … so I think we're not as developed as we appear, but when it comes down to the nitty-gritty of prioritising environment we are not quite there yet." This view is supported by the work of Powell et al. (2007) who found that Jamaicans placed environmental management low on the list of priorities when compared to concerns about crime and violence, unemployment and lack of jobs, and school and education, all in some way or other are linked to issues of poverty.

4.5.1.3 Collaboration

Collaboration (Figure 22) was identified as an important requirement for successful policy implementation by both the public administrators and the academics. Both groups felt that engaging public agency, leadership, and the design of the consultation process were important considerations for effective collaboration. However, while the public administrators recognised the importance of these issues; as initiators and 'owners' of the process (that is, public administrators are usually responsible for the execution of consultations regarding public policy); unlike the academics, they may have been blinded to the shortcomings of the process perhaps because of their close involvement. As a result, public administrators' collaboration was seen in and practiced in a rather restricted way; namely, as being named on a committee and or being invited to meetings. While this approach brings people together in a formal setting, what is often missing is a shared understanding, mutual trust, and agreed purpose.
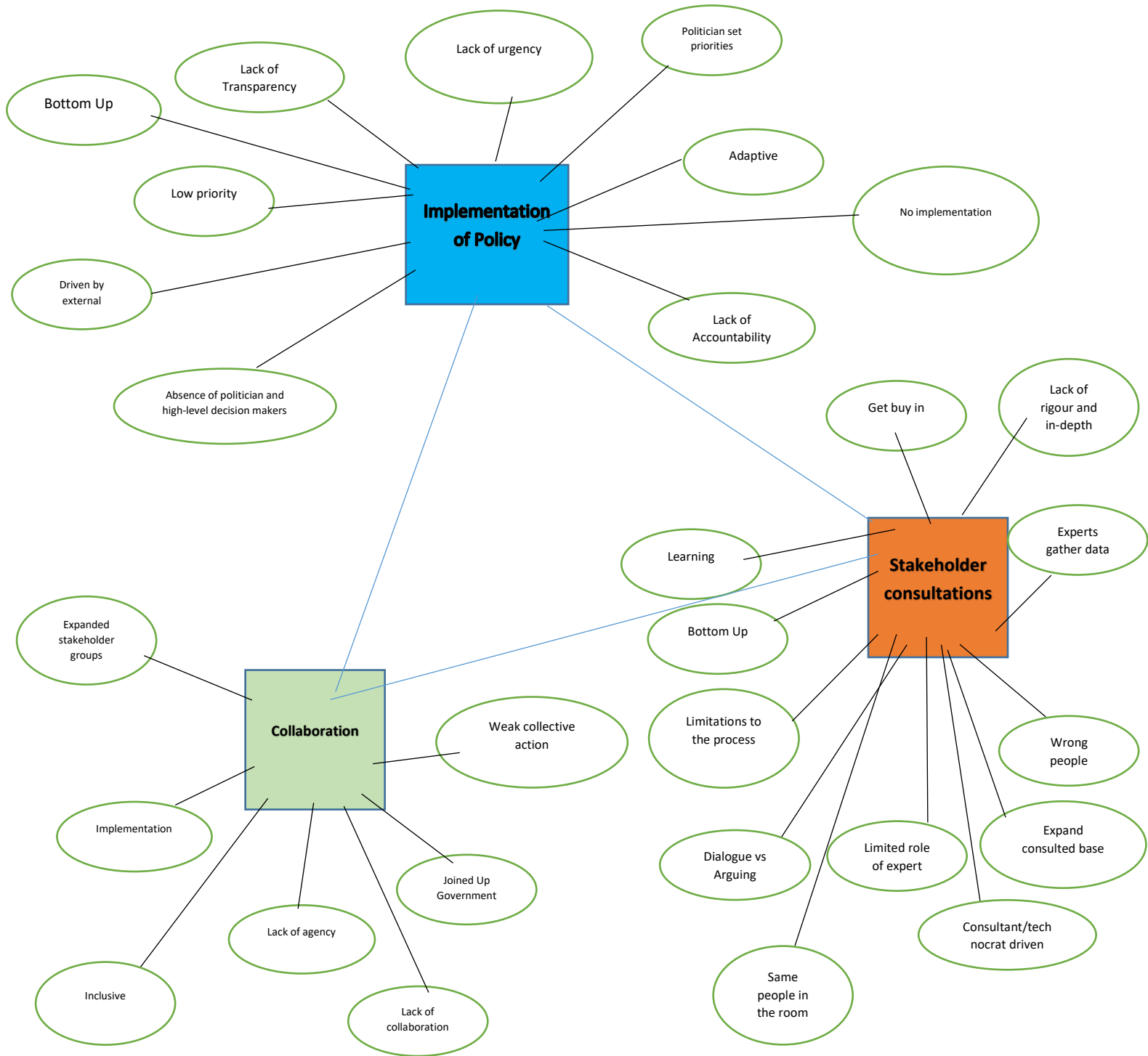
Figure 22 Academics - Thematic Map for Operational Environment Showing the Related Sub-Themes of Policy Implementation, Stakeholder Consultations, and Collaboration.

Hence, the academics noted that the participants in public policy development came from government organisations and key NGOs. The academics were of the view that the lack of diversity limited the possibility of learning. On the other hand, it was noted that within the country there was a weakness in collective and or concerted community action, which did nothing to change the practice of 'elitism' or exclusion (Jones, 1992) and contributed to the weakness in policy implementation.

Regarding the role of community in policy development, Adams and Hess (2001) noted that within the Australian experience community building and inclusiveness were once again becoming a central part of the discourse on public policy. This was because of the growing understanding of the importance of networks and the view that the community was an important and valuable policy development instrument because the concept of reciprocity and shared values found in communities fuels concern for others and working for the common good.

4.5.1.4 Reflections of a Scholarly Practitioner

I have pondered these issues raised by the academics, which confirmed that within the praxis of public policy development in the country many collaborations are simply naming a committee to work on an issue. That is, the current practice is just the "tip of the iceberg." However, as the literature has revealed collaborative governance goes well beyond committee meetings (Ansell & Gash, 2007) and should include initiation by the government, as well as the involvement of state and non-state actors meeting collectively to make decisions by consensus on issues of public concern. It may be that in Jamaica the missing link is not the meeting together, that occurs. The missing link appears to be the involvement of non-state actors in decision-making. Achieving this is not necessarily a straightforward process, but it certainly is possible. However, in my professional experience, there is not any systematic attempt to do this within the environmental management and wastewater sectors and decision-making remains in the realm of the state actors. Arguably, this practice may be rooted in retentions from our colonial legacy where there tends to be little control of the state from the citizenry and primacy is given to top-down management.

Matters related to environmental management in the wastewater sector are often complex and cut across many sectors and, in my view, require genuine collaboration for successful policy implementation. I concur with the academics in agreeing that there needs to be rethinking in this area. There are too many missed opportunities for shared learning, the development of creative solutions, new knowledge, and social learning (Weber & Khademian, 2008).

4.5.2 Complex Problem

An evaluation of the data from interviews with the academics led to the emergence of a complex problem as an overarching theme. The thematic map related to a complex problem and its two sub-themes is found in Figure 23.
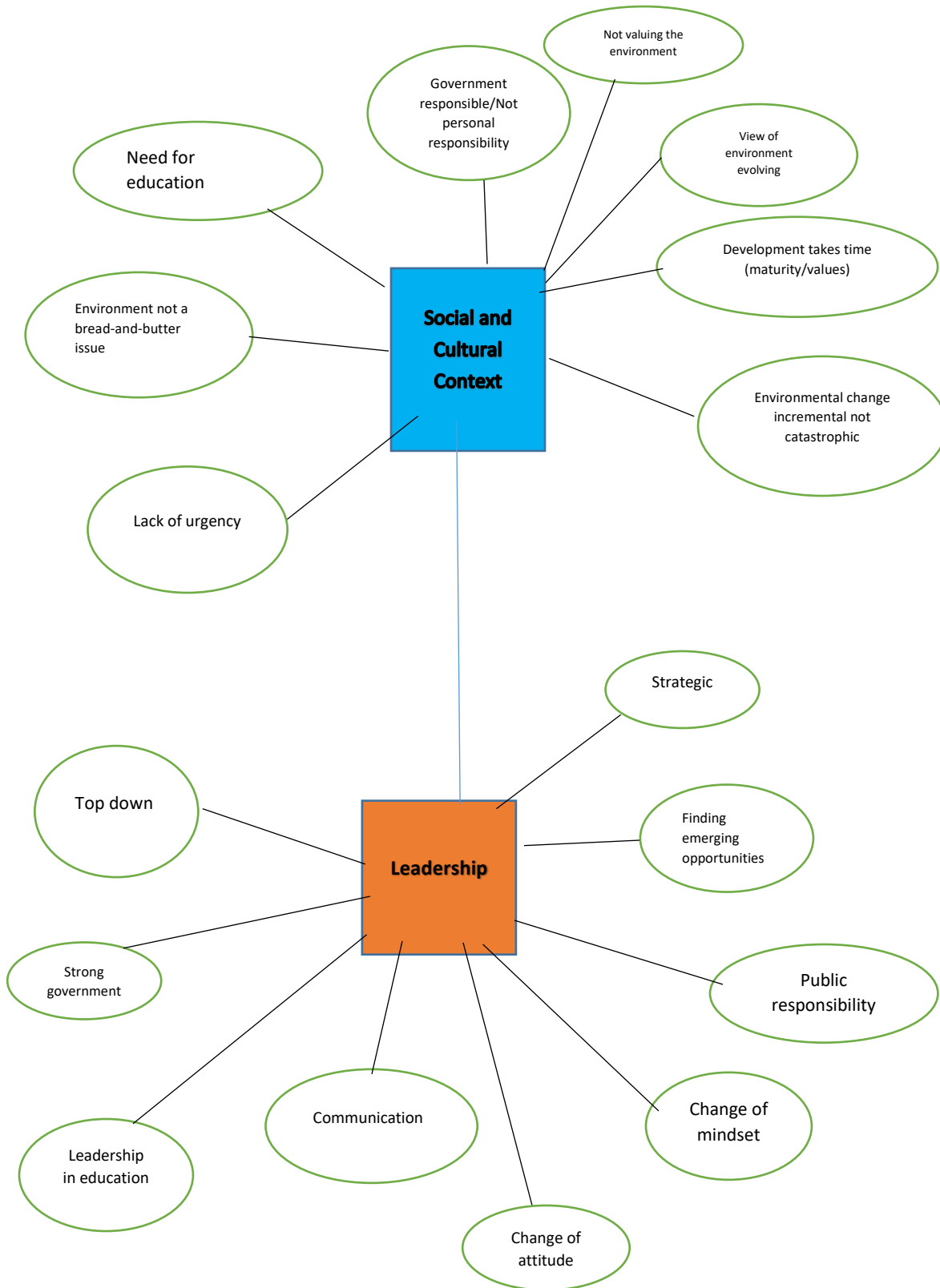
Figure 23 Academics - Thematic Map for Complex Problem and its Related Sub-Themes of Social and Cultural Context and Leadership.

4.5.2.1 Stage of Development - Social and Cultural Context

One of the issues, which did not figure in the interviews with public administrators but surfaced from the discussions with the academics was their view that the country's historical development and the resulting social and cultural context which influence our attitudes and approach to public policy development. Many academics suggested that there was a feeling among many of Jamaica's citizens that is best summarised in the words of Academic 4 who said, "the sense of lack of empowerment of our people … because they will say the government must do it. There is a sense (that whether the trouble was orchestrated or whether we are too recent a nation-state where we haven't reach in terms of public confidence, public education) - a sense that the government must…."

It seems from this analysis that in a real sense the citizens have left certain matters to the government. However, this observation is somewhat paradoxical because earlier findings suggest that citizens want accountability from the government and are unhappy with secrecy and the absence of transparency in decision-making. The writings of Powell et al. (2007) found a degree of apathy in the public participating in the country's development process. Instead, Jamaicans were mainly involved in attending political meetings, interacting with a local or central government official on a community problem, or participating in a peaceful demonstration. The authors felt that this apathy could lead to or has led to a loss of social capital and that a lack of citizen participation results in public disengagement which is unhealthy for a society built around democracy.

4.5.2.2 Leadership

The nature or source of leadership and its importance in policy development are factored in the responses from the academics. In the view of Academic 1, "it comes down to simply…, I think we need a stronger central government … you need to have a stronger central government." There was a clear call for stronger leadership, particularly from the political directorate and government. Even so, there was a recognition that there may be limitations to the effectiveness of this leadership as the current leaders come to the table with a bias and a certain lack of openness. Leaders needed to be more educated about the issues of environmental management and its importance and nexus to sustainable economic development. The academics generally agreed that more education and awareness on the issues could bring about a change in mindset which could positively influence the approach to the development of policy, improve communication, and build public trust.

4.5.2.3 Reflections of a Scholarly Practitioner

Perhaps one of the most impactful findings and areas of new learning for me was the degree of importance, which needs to be placed on understanding the country's socioeconomic and cultural context as an essential part of the process of developing effective public policy. The value placed on the environment or an understanding of the importance of environmental management to development by the country's people cannot be divorced from the country's social and cultural context. As practitioners

engaging citizens on the development of environmental policy the importance of this fact might not have been fully appreciated or may have been relegated to an issue of secondary importance, which arguably is a significant miscalculation.

In analysing the findings, I found it interesting that unlike the public administrators; the academics elevated the issue of leadership beyond the position of a concept to the thematic level. For me one cannot separate leadership from the issue of policy development because in a real sense at its core the creation of policy is about dealing with change; and change requires change agents or leaders. So, in this regard, I am very much in agreement with the academics about the need for effective leadership in the policy development process. I am of the view that what is required is leaderful leadership (Raelin, 2012); which incorporated four C's and involves shifting from serial to concurrent; from individual to collective; from controlling to collaborative; and from dispassionate to compassionate styles of leadership. Perhaps in Jamaica's current cultural context what is needed is leadership that recognises the need for and can apply new and more effective leadership modalities. On this topic, I acknowledge that I am still learning.

4.6 Non-Governmental Organisations

The three participants were drawn from NGOs. An analysis of their interviews identified the same two thematic areas, as was the case for the academics; namely, complex problems and operational environment. However, the four sub-themes were similar but not identical. These were: (i) social and cultural context, (ii) leadership, (iii) collaboration, and (iv) stakeholder consultations (Figure 24).

Complex Problem	Operational Environment
• Social and Cultural Context • Leadership	• Stakeholder Consultations • Collaboration
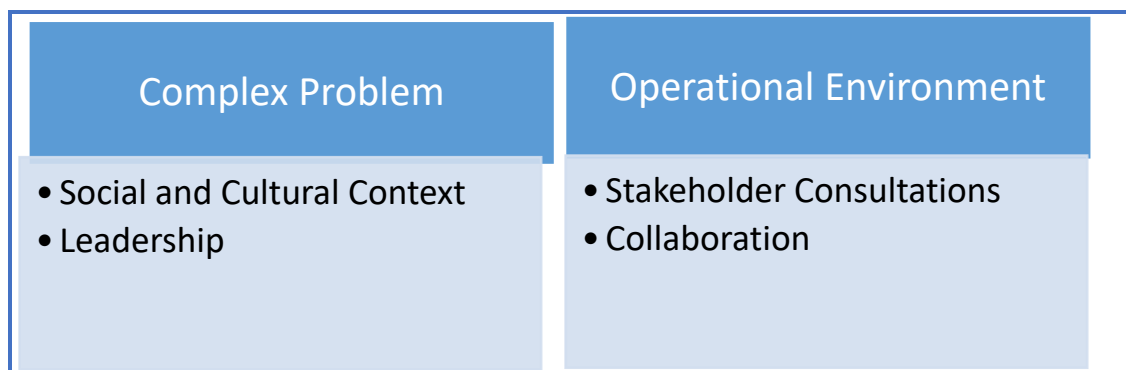
Figure 24 Sub-Themes Generated from the Findings of Interviews with Non-Governmental Organisations.

Despite these similarities, the viewpoints differed in interesting ways, which enriched the research findings. These themes and their interconnectedness are mapped in Figures 25 and 26.

4.7 Discussion

4.7.1 Operational Environment

4.7.1.1 Stakeholder Consultations

The participants agreed that stakeholder consultations (Figure 25) were important to the policy development process. Participant NGO 2 noted that these consultations tended to be dominated by emotions rather than being guided by facts stating that "some persons just jump on any bandwagon without the facts and some persons (which are a large group) simply don't care". In this regard, they also noted the absence of a more 'educated' group that could contribute to the dialogue at these consultations and emphasised the importance of expert knowledge.

The interviewees also felt that the quality and source of information that is presented at public consultations are of significance and should come from a trusted unbiased source without conflicts of interest. They observed that the information presented by government technocrats was often seen as promoting a position rather than providing information to inform a policy direction. That is, the policy direction often appeared to have already been decided and the consultation was to advise on a decision rather than to encourage dialogue which would enhance the decision-making process.

The NGOs said there is always a risk of persons turning up to consultations primarily with social concerns for example poor roads or the lack of jobs on their minds rather than the issue being discussed. The result is that their interventions often create diversions, and this is an unavoidable consequence of engaging the public. The answer however may not be to focus only on inviting the informed but to invite a diverse group and to employ methods of engagement that minimise the possibility of unrelated diversions and instead encourage focused dialogue and create an environment of learning.

Roberts (2004) noted opponents of public participation felt that people were too self-centred to be directly involved. This notion seemed to be real in the Jamaican scenario. However, while Roberts acknowledged the dilemma public participation sometimes creates suggests there needs to be a re-examination of the models related to public administration and practice. Through the study of seven models of public administration, she concluded that citizens' participation is vital and recommended using a societal learning model that places the public and administrators at the same level as co-learners and partners directly involved in solving society's problems. The use of dialogue may be the best approach to consultation. Roberts (2004) therefore concludes that public participation enriches the process of public policy development and should be encouraged through campaigns for smaller, flatter decentralised governments and the development of new methods for problem-solving and decision-making in large groups. Such an approach should "develop citizen identity, increase civic virtue, build learning communities, and harness the energy and talent of all members of a democratic society" (Roberts, 2004, p. 330).

Ansell and Gash (2007), Head and Alford (2015), Roberts (2004), and Weber and Khademian (2008) wrote on the matter of collaboration during the development of policy thought it was a vital feature of the process. However, in general, the scholars felt that given the current practice thought needed to be given to make the activity more effective. The participants felt that the nature of communication was key to achieving this change and that the objective should be to teach and learn as well as to inform. This finding emanating as it did from civil society created new insights and brought to the fore the importance of incorporating collaborative strategies; communication modalities that facilitate the transmission of messages that aid in teaching and learning thereby enriching the policy development process.
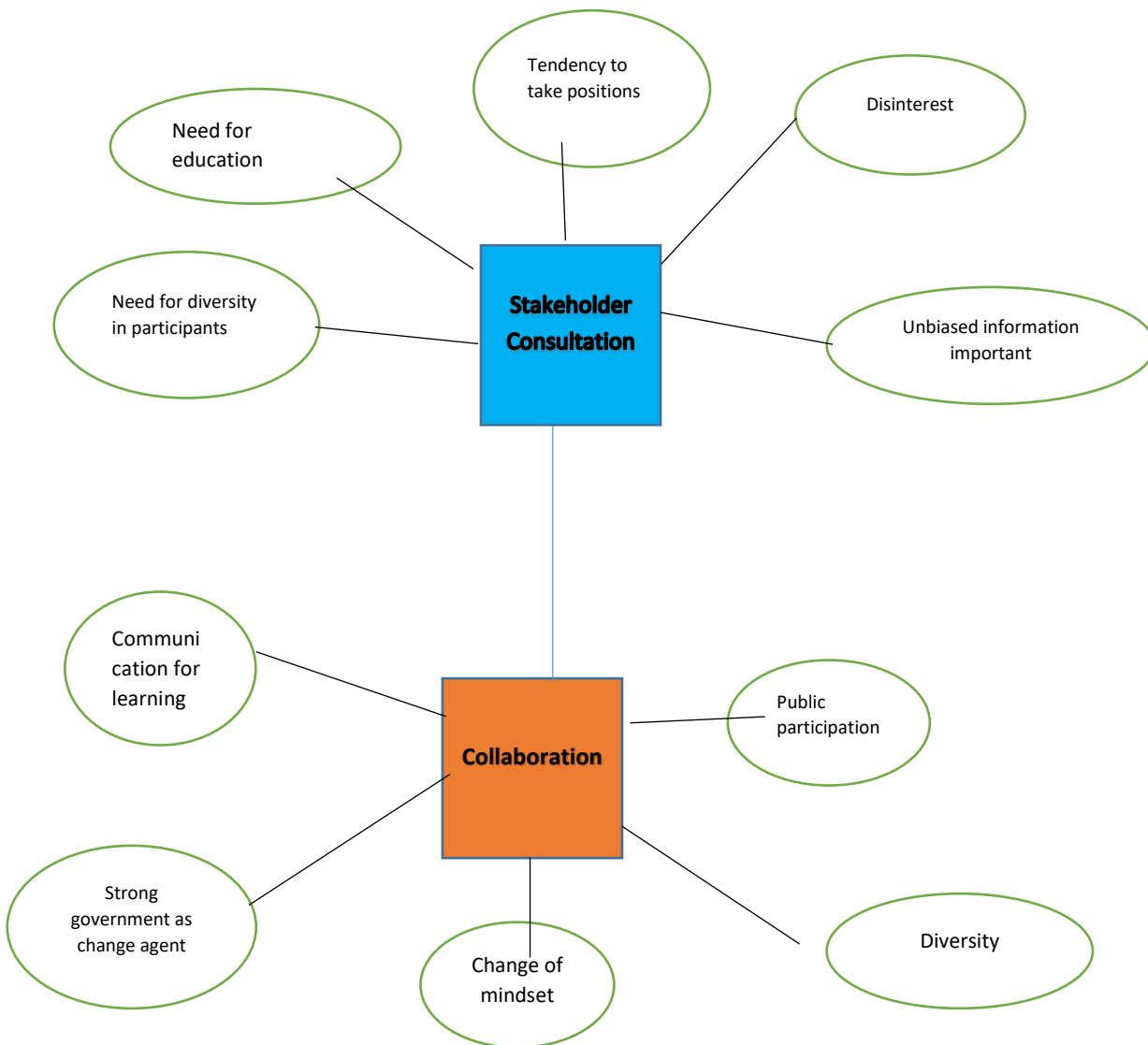
Figure 25 Non-Governmental - Thematic Map for Operational Environment and its Related Sub-Themes of Stakeholder Consultation and Collaboration.

4.7.2 Complex Problem

4.7.2.1 Social and Cultural Context - State of Development

Like the academics, the participants from the private sector also felt that the country's historic development has influenced our approach to policy development (Figure 26). The country's history of slavery and later colonial administration has created a government and governance framework modelled on the Westminster system in which parliament has ultimate power. NGO 3 commenting on the impact of the Westminster system on the country's socio-political culture noted "we have the brand of government and the type of governance; that is, essentially an obstacle because our governance is closely tied between parliament and the ministries that execute; that big political connection means that whenever you have a change of government that there is a change in focus (priorities)." The result of this system the participant reflected was that many initiatives including several environmental policies for example the Watershed Management Policy were stalled.

Additionally, it was observed that the practice over several political administrations has frequently been to move the environment portfolio around often resulting in a lack of focus and continuity. For example, in Jamaica's recent General Election (February 2016) the environment portfolio was moved from the Ministry of Housing Land Water and Climate Change to the Ministry of Economic Growth and Job Creation arguably a signal of its importance in the agenda of the governing political party. While it may be argued that in other countries that have a Westminster system of government the environmental sector may not suffer the same fate as in Jamaica; the participants strongly felt that this is an area that required change.

Further, it was felt that often regardless of ministerial responsibility capacity or direction was absent in dealing with complex issues as noted by NGO 1, "I think people have different priorities and government., when ..., you have to look at how the thing started..., you develop a Ministry of Water at the time, and it was not developed based on directed policy and all that. It was developed just in response to what is happening on the grounds in other words we were trying to solve a problem, but not looking at really the root cause of the problem."

This opinion seems to be linked to the view held by all the participants in this category that there was too much power placed in the hands of a political class who were generally uninformed about the implications of environmental management to sustained economic development. Participant NGO 3 expressed it as follows. The country is not generally led "by patriots; but by people who rule over us not by people who serve us; people who rule over us and take as much of resources they can to route it through their known supporters, so they can get money back from their known supporters as a contribution to perpetuating their existence in power." This response expressed the feeling felt by the populous that for the political class the priority is on retaining power and this goal takes precedence over national priorities.

These observations are in line with the managerial researchers on complex issues. Head and Alford (2015), Roberts (2000), van Bueren et al. (2003), and Webber (1978) found that government decision-makers have difficulty dealing with non-routine or nonstandard problems.
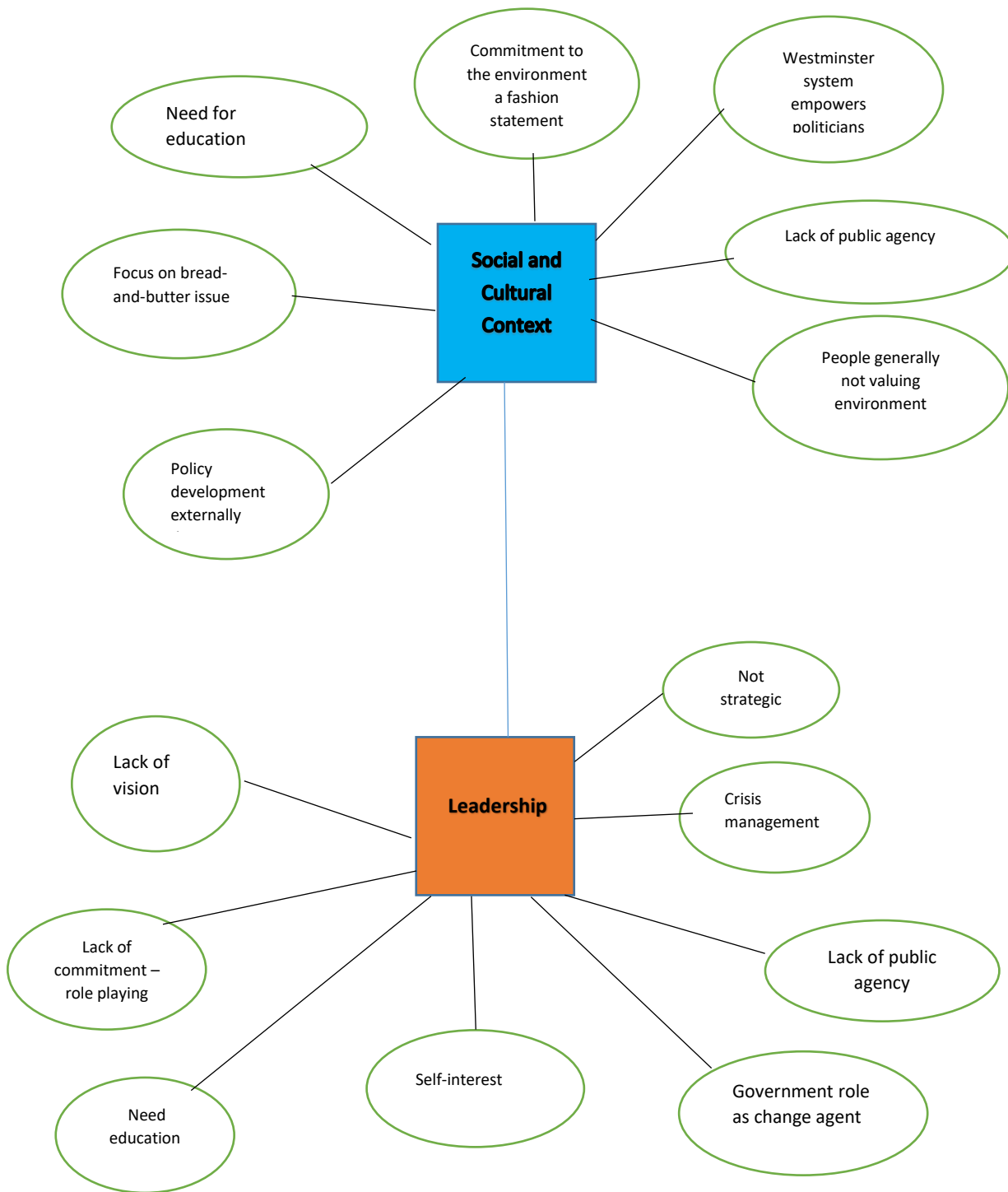
Figure 26 Non-Governmental Thematic Map for Complex Problem and the Relationship between the Sub-Themes Social and Cultural Context and Leadership.

Policymakers had a tendency not to "strip down" the issues into the different multidimensional layers that make it possible to formulate incremental solutions.

Beyond the political influence, the participants felt that in general, the people of the country had failed to exert any significant influence on the political class. They felt that despite the legacy of National Heroes like Marcus Garvey and Paul Bogle who led movements against imperialism and championed significant social change the people were submitting themselves to new "masters" rather than demanding change through the power of the individual as well as network agency.

4.7.2.2 Leadership

The participants were highly critical of the leadership of policy development for the wastewater sector. In response to a question, NGO 1 response was "Well! We can contribute to the development of a policy yes! But who is going to lead it? The challenge that you have is if the operation person is driving the development, it can be a little bit skewed so it's always best, well…, if you…, I pause because government… but I think that is something that needs to be led from government".

The participants generally felt that there was a lack of serious concern for the issue and as a result, the policy response if any could be likened to window dressing; that is, projecting a polite interested response without any serious intent. NGO 2 expressed it like this; "I can tell you that even this environmental thing is in some cases it's like a fashion statement people aren't really interested, but it's the fashionable thing to do at a particular point in time… and I would say these days it is more at the governmental level, the real policymakers' level and decision-makers."

Interestingly, while there was a focus on decision-makers, the participants felt that the lack of leadership was observed at all levels within the society, from politicians to public administrators, the private sector, and the man in the street. They felt that the reason for this was that there was little understanding of the linkage of sound environmental management to sustained economic development (Powell et al., 2007). This conclusion by the participants is supported by the fact that many of Jamaica's environmental policies were externally driven through commitments to bilateral and multilateral environmental agreements. This often resulted in knee-jerk reactions rather than a strategic integrated approach to policy development in the environmental sector guided by local concerns while being mindful and committed to meeting international obligations.

This viewpoint is supported by the experience on the ground. For example, it can be argued that the development of the environmental sector and the growth of the key environmental institutions in the country with the accompanying legislation were driven by the decisions of the United Nations Rio Declaration on Sustainable Development. This agreement was followed by a series of other significant multi-lateral agreements for example the United Nations Framework Convention on Climate Change (UNFCCC), the United Nations Convention on Biodiversity (UNCBD), and the United Nations Convention to Combat Desertification among others. The country's support of these agreements, however, has not by and large resulted in any comprehensive look at the environmental management and wastewater sector. Nor has it resulted in any real sense of ownership or the elevation of these issues into the serious national dialogue. In fact, in many cases, the country is going through the motions and fails to see these issues as contributing to the orderly and sustained development of the country rather than just fulfilling

international obligations. This posture could be viewed as a missed opportunity because of the failure to use the momentum created by the global policy framework to focus on local issues. The question remains - how does the country change opportunity into action.

4.7.2.3 Reflections of a Scholarly Practitioner

From my perspective, the country's stage of development significantly factors in the advancement of public policy particularly. Particularly given the power of the country's parliament and considering the general view held by the political class that environmental management is a barrier to development because it holds back economic growth. In my view, this is a real issue not to be underestimated by policymakers. Further given the complexity of issues related to the environment, and the current preoccupation of Jamaicans with survival issues like employment, crime, health, and education. Given the stage of the country's development and the apparent lack of concern by the people for the environment how consultation takes place requires a rethink. It must be more than giving voice to the public but should be viewed as an opportunity for dialogue, public education, and social learning.

4.8 Merging the Themes

In assimilating the learning from the research findings, I examine again how these findings provide answers to the research questions.

How can Forrest & Partners develop a framework that would strengthen the coalition and collaboration on developing policy within the wastewater sector in Jamaica to develop its business operations?

What are the issues preventing the development of a management policy within the wastewater management sector in Jamaica? What are the challenges in developing public policy in the wastewater management sector? What changes are required for the improvement of the policy development process in the wastewater management sector?

Regarding the question what are the issues preventing the development of a management policy within the wastewater management sector in Jamaica? The literature review reveals that the issues have to do with the task environment, coupled with the complexity of developing environmental policy. The research findings affirm that the development of a management policy for the wastewater sector is complex because of deep divisions that lend themselves to diverse policy perspectives but there are other reasons. These include the unpacking issues such as the elitist approach to policy development and the absence of full appreciation of the relevance and importance of Jamaica's socio-cultural context and historical development in designing and executing public the policy development process. Both findings are key to understanding the barriers which have resulted in the absence of the following: (i) meaningful public engagement, (ii) an ethos/ethic/framework for collaboration, and (iii) a process of knowledge integration from diverse stakeholders and interested parties. All the above have emerged from the research findings and explain its challenges.

Concerning the other research questions, firstly, what are the challenges in developing public policy in the wastewater management sector? What changes are required for the improvement of the policy development process in the wastewater management sector? How can Forrest & Partners develop a framework that would strengthen the coalition and collaboration on developing policy within the wastewater sector in Jamaica to develop its business operations?

The literature review identifies collaborative strategies and participatory processes as the solutions and the challenges, which confront these; but does not provide all the answers there remain gaps in actionable knowledge as shown in Figure 27.

Collaborative Strategies
•Change in Mindset
•Cooperative Methods
•Leadership
•Changing Organisations
•Building Collaborative Capacity

Participary Processes
•Authentic Dialogue
•Stakeholder Networks
•Transparency
•Inclusiveness

Gaps - Actionable Knowledge -building collaborative capacity, changing policy development model, assimilation of lessons learnt, building political support etc.

Figure 27 Illustrations of Research Findings and Gaps in Actionable Knowledge.

Considering the literature while there is a growing theory regarding participatory processes and their role in policy development in practice, there is still tension between experts and the public. Additionally, the search continues for effective methods of engaging citizens and the implementation of meaningful and impactful public participation. Further development is needed including but not necessarily limited to (i) finding innovative methods of organising groups to facilitate dialogue; (ii) developing suitable management systems to facilitate participatory approaches; (iii) deepening the understanding of the epistemologies of participation; and (iv) developing a collaborative governance approach/framework.

The research findings described in the previous sections of the report support much of the literature findings. However, in the context of Jamaica, the research reveals that while public participation is important for policy development, perhaps because of the task environment it is not contributing to the policy development process in a very meaningful and impactful way and the current mode of implementation needs improvement. The research findings conclude that change is required. What should this change look like? The research findings provide some answers that go beyond the literature and are discussed below.

A total of three thematic areas and nine sub-themes were developed from an evaluation of the findings of the interviews of three categories of participants: public administrators, academics, and NGOs (See Table 7).

Table 7 Comparison of the List of the Sub-Themes for each Category of Participants and the Related Thematic Area.

Sub Theme	Public Administrators	Academics	NGOs	Thematic Area
Policy Initiation	×			Governance Culture
Collaboration	×			
Policy Development Process	×	×		Operational Environment
Policy Implementation	×	×		
Stakeholder Consultation	×	×	×	
Collaboration			×	Complex Problem
Social and Cultural Context		×	×	
Leadership		×	×	
Complex Problem	×			

Further evaluation, of these themes and sub-themes, led to a collapsing and integration of the thematic areas due to the similarity and interconnectedness. As a result, two themes and 5 sub-themes emerged as the dominant issues as shown in Figure 28.

Figure 28 Revised and Condensed Thematic Map.

The diagram illustrates that the thematic areas are inextricably linked. In many ways, the research findings identified push and pull factors, which overlap in significant ways. The country's social and cultural context has contributed to its leadership praxis and collaborative practices. These factors in turn create, influence, and impact the operational environment; namely, how an action is taken regarding policy development and implementation and stakeholder consultation. In turn, the action or inaction within the operational environment contributes to the complexity of the situation and so the looping continues. The finding, therefore, points the way to the solution – a change model that encapsulates all those factors in its platform.

I posit that the change model should be built on a fuller understanding of the social and cultural context, leadership that facilitates collaboration within an operational environment, and an administrative and stakeholder consultative process that facilitates the building of collaborative capacity and enhances social learning.

Building on this thesis in the following sections of the report, I summarise the major issues and based on the gaps in literature research findings that support the need for a change in the development of public policy in the wastewater sector provide an answer to the final research question; how can these changes help to address the business challenges faced by Forrest & Partners?

Chapter 5 describes the actionable knowledge derived from existing theory, insights gained from literature, research findings, feedback from the professionals, and my own experience, reflections, and perspectives as a scholarly practitioner that led to the development of a change model for policy development in the wastewater sector.

I shared the research findings and the proposed model with the participants who contributed to the research findings. The following section of the report provides feedback from these participants on the plausibility of the proposed changes.

4.9 Plausibility of the Change Model

After the completion of the research report and the development of the change model, the participants were invited to hear and comment on the findings of the research project. Table 8 provides identifies of participants who were present for the group discussions.

Table 8 Descriptors of Participants Attending the Focus Group Discussion.

Descriptor	Category
Participant HA 1	Head of public sector organisation involved in aspects of water resource management and policy development for the sector
Participant HA 2	Head of public sector organisation involved in aspects of water resource management and policy development for the sector
Participant PA 1	Senior Public Administrator with responsibility for policy development in water resources agency
Participant PA 3	Head of Section with responsibility for policy development in public sector environmental management organisation and who has had responsibility for the development of numerous policy instruments on related matters
Participant PA 4	Public Administrator who has worked in policy development for both an environmental management organisation and a water resource management organisation.
Academic 1	The professor is involved in research in areas of climate change adaptation and mitigation and is used as an expert in the field in Jamaica and internationally.
Academic 2	The professor was involved in research in areas of climate change adaptation and mitigation and used an expert in policy development processes in Jamaica, WCR, and internationally.
Academic 3	The professor was involved in research in the area of environmental management and pollution control and management and was used as an expert in the policy development process in Jamaica and the Commonwealth.
Academic 4	Professor in Public Policy and Public Administration
Academic 5	Head of Institute involved in issues of sustainable development often used as an expert in the policy development process
NGO 1	Managing Director Wastewater Management Company
NGO 2	Member of Community Organisation heavily focused on wastewater management
NGO 3	Member of Engineering Association

All the participants agreed that based on current practice in Jamaica that a change model was required for developing public policy. Regarding the first two steps in the change model (see Figure 29) that proposed the need to understand the task environment and to train leadership using action learning; they were supportive of the need for public administrators responsible for policy development to be trained perhaps using non-traditional methods. Against this background, there were two main comments as it

relates to breaking down the silos and getting agencies to work together and the second was the approach to training.

With regards to working together, PA1 mused "but how do we get all those organisations, because we are not all in the same ministry to work together… it would have to be done at a cabinet-level… you know, the ministers, and the PS for the various ministries through the cabinet office…they have to decide and say ok, we're going to work together for one common good to fix this problem". The participants agreed that the change model should be shared with the cabinet office and had primary responsibility for policy development procedures.

Regarding the matter of training and or re-training of public administrators, all the participants agreed that it was essential. PA 3 commenting on the matter of training as outlined in the model opined.

> I think it would be a good idea …. they had a policy analyst network at one stage in the government sector I'm not sure what happen to that…where various people who were policy analyst, and there was some training at MIND in that regard, I don't know what has happen … but I think that the approach proposed would contribute to training … maybe they could try action learning as the classroom MIND approach seems to have died. (PA 3, personal communication)

In considering the proposed process for collaboration and public participation using cooperative inquiry and setting up a policy development group there were a series of supportive comments. NGO 1 stated "quite frankly a lot of things that need to change and the public needs to play a more integral role" Academic 5 commenting on the issue addressed the matter of the composition of the group saying "it's very important to have public participation - it becomes more useful the more educated the public that is participating, and so I think that you have this tension between what people may believe is the right thing to do and what might actually be the right thing to do… PA1 stated, "I definitely think that it should be a more inclusive process." HA2 said "basically I don't think it's just the technocrats, the whole thing has to come from the bottom and these people are being impacted so they have to be included. I don't see how you can leave them out. They are the ones who are being impacted and they may not have scientific data, but anecdotal information can be linked to the scientific data."

In summary, the group agreed that a smaller diverse representative group should be used to develop policy. They cautioned that in considering such an approach mechanisms need to be in place to facilitate feedback to the wider public. They suggested that the members of the committee could play an important role in ensuring that the thinking and deliberations were shared with the wider stakeholder groupings.

In respect of the leadership of the policy development group, NGO 2 noted "in a very broad way you need to have that change agent, but this is the challenge." Considering the issue, the participants were convinced that the concept of a collaborative capacity builder (CCB) was a sound one. However, they did not have specific recommendations on a selection criterion for a CCB but felt that the leader would emerge from the group based on and that additional training and awareness-raising that is likely to be required for the entire committee.

The conclusions and recommendations generated from the focus group session are summarised as follows.

- The model is workable and should first be marketed by Forrest and Partners through the Cabinet Office.
- A trial run of the model could be undertaken to build confidence in the process.
- Forrest & Partners should make a presentation to the Cabinet optimally or to the Minister in charge of wastewater.
- Short articles should be submitted and delivered to a wide spectrum of stakeholders to raise awareness.
- One Head of Agency asked that I present the model to senior managers.

5.0   Conclusions, Actionable Knowledge, and Contribution

5.1 Summary of the Conclusions

The previous chapter detailed the results of the research findings, in which all the participants acknowledged a need for change in the development of a management policy for the wastewater sector. A review of the literature, an analysis of the data, identification of thematic areas coupled with contributions from the participants, and new insights have led to the conclusion that a change model is needed for the public policy development process for the wastewater sector. The model should take into consideration the research findings mainly the importance of the task environment, the need for a change in mindset, the introduction of a more effective process of participation, and the building of collaborative capacity.

One of the clear conclusions of the study is that a prerequisite to successful policy development for the sector requires a full understanding of the social and cultural context within which the change is to take place. This expands on the issue of the task environment with key research findings. To do otherwise increases the risk of failure. The literature and research findings highlighted Jamaica's pre-independence colonial state, which was highly political, bureaucratic, insular, and elitist based on the adoption of the Westminster model of public administration. This system was retained in the country's public administration practice. So, to a large degree, the governance model for the country looked like the Westminster-Whitehall model for the development of institutions and the culture of public administration.

The result of this has been that Jamaica's system of governance is to a large degree based on elitism and traditions of centralised decision making with an ethos of class-based administration. The result often is that advice on policy development tends to be sought from "sources not to disturb the status quo and often ignorant of the Jamaican context. Thus, in this elitist theory of advice, popular participation was resented or repressed since it felt that it would de-mystify public administration" (Jones, 1992, p. 7) instead of centres of technical knowledge and professional expertise (academics and others), citizens, the general public, and critical sources of inspiration and information.

Over several decades, this practice of governance has resulted in low levels of trust in the political directorate and public administration, and an apparent low degree of interest in participation in the development of public policy. In my view, this has been inadvertently fuelled by a governance approach focused on marginalising the input of the man in the street with regard to decision-making. The result has been disengagement, a failure to build strong social networks, and by extension the social capital required for sustained and healthy national development. And yet despite all of this, there is a basis for change (Powell et al., 2007). It is apparent that the general public is committed to democratic norms related to issues of social justice, freedom, and equality and over 86% believe that each citizen should have a right to influence policy within the country.

Management scholars have singled out the development of public policy in the environmental sector as a complex problem because of the deep divisions that arise about nature and its importance. With no clear understanding, these diverse policy perspectives as to the root cause or no single or simple approach to a solution that is appropriate often have failed the policy prescription to address the problem. Further, they have noted that decision-makers within government appear to have difficulty dealing with non-routine or nonstandard problems, particularly, "complex, unpredictable, open-ended and intractable" (Head & Alford, 2015, p. 712) problems.

In this regard, both management and public policy scholars have suggested that collaborative strategies are the best approach to solving such problems. The authors posit that pillars of such strategies are: (i) the presence of functional collaborative networks that increases the probability of a shared understanding of the problem and creates new insights and knowledge, (ii) the development of interim solutions because of the shared experience, and (iii) the effective implementation of the solutions through coordinated action, shared resources and mutual organisational adjustments which are needed for implementation. These pillars need to be underpinned by effective communication, mutual commitment, and trust among the participants. The researcher observed, however, that trust is "very difficult to establish and build, especially in the public sector" (Head & Alford, 2015, p. 728). The research data confirms the difficulty of developing public policy in the environmental sector, locates the issues into the frame of a complex problem, and identifies the low trust environment and the absence of effective communication and collaboration as key issues to be addressed.

Public policy and public administration authors acknowledge that in the post-modern world institutional and political influence has waned and that the power to shape opinion is now in the minds of the people. Therefore, to influence people for change that battle is best conducted in and through network relationships. In this regard, the literature offers up the theory of network power and actor-network theory as ways to support society's involvement in complex public policy questions. The scholars have also posited participatory models as the best avenue to create an environment that supports dialogue and that can develop the collaboration needed to address complex public policy issues. However, despite the growing use and support of participatory models, this has not been without struggles and in many respects, the practice is still evolving. Despite the existence of some theoretical frameworks, unanswered questions remain concerning its practice. Issues such as time, costs, size, exclusion of oppressed groups, and dominance of special interest groups, are some of the questions. Additionally, some authors suggest that the power to achieve change to a large degree rests with the public administrators and genuine effective public participation remains an ideal.

The research findings to a large extent reflect that the practice of public participation and stakeholder consultation in Jamaica is imperfect and evolving. Methods differ and the views on its effectiveness also differ. Nevertheless, in the view of many participants, it is valuable, and they have suggested that change is required in the current practice in several areas including issues of stakeholder diversity, expert participation, size of groupings, and robustness of the process outcomes.

In Jamaica, the current practice of public participation is more closely aligned to the earliest model of participation that is, the Ladder of Participation - Arnstein (1969). While the ladder does provide a basis for understanding the mechanisms involved in public participation; the research results indicated there was a need for change and this change should be a process that fosters learning and supports the creation of new knowledge.

With respect to the public policy development model perhaps borne out of the country's historical development and the influence of the Westminster model on its development of public administration; the model utilised could be best described as the Professional Model. Parsons (2001) argues that this model is inappropriate for complex situations because it tends to focus on problem forecasting, achieving goals, and setting objectives and targets and does not address situations where there is incomplete data, unpredictability, and uncertainty as well.

In summary, the key findings are as follows.

1. The research findings support the need for change in the current model being used in Jamaica for the development of public policy in the environmental sector in general.

2. The task environment and the nature of developing public policy for sectors such as the wastewater sector is a complex problem. In the case of Jamaica developing a management policy for the wastewater, the sector is categorised as Type 3 problem (Head & Alford, 2015; Roberts, 2000). This is because of the diversity of the community of stakeholders with differing worldviews which results in difficulty with both problem identification and finding solutions. The literature posits that policymakers should use collaborative strategies to solve complex problems. These strategies include the use of networks and participatory models

3. The research findings support the need for changes in the conduct of stakeholder consultations used in the development of policy in the environmental sector in Jamaica and suggest the need for greater diversity, more robust outcomes, and more effective use of agency.

4. The literature while guiding on the issues of developing public policy for a complex situation, has not provided all the answers – a gap remains. The change model, which is being proposed in the following section of the report seeks to address the questions that have not been fully answered by developing a change model for improving the development of management policy for the wastewater sector.

5. The change model was developed on a platform that facilitates new learning. The model will contribute to the improvement of the professional practice and knowledge creation even while acknowledging the challenges in introducing the model and implementing the proposed changes.

6. Although the focus of the research has been on the wastewater sector; there are sufficient parallels with respect to developing public policy that suggests that the model would be useful in developing public policy in the wider environmental sector.

5.2 Answer to the Research Questions

The answers to the research questions were vital in providing a solution and producing the actionable knowledge needed for Forrest & Partners to grow their business in the wastewater management sector.

In answer to the question what are the issues preventing the development of management policy within the wastewater management sector in Jamaica? The research findings found revealed that the issues such as the task environment, the inadequacy of collaborative strategies, and ineffective participatory processes were barriers to the development of public policy.

Regarding the question what are the challenges in developing public policy in the wastewater management sector? The study found that there were several challenges as identified below.
- A change in mindset
- Utilisation of cooperative methods
- Leadership
- Changing organisations
- Building collaborative capacity
- Authentic dialogue
- The development of stakeholder networks
- Transparency
- Inclusiveness

Considering the question, what changes are required for the improvement of the policy development process in the wastewater management sector? The study found that there was a need for change in the operational environment and the current approach to public policy development. Further, in answer to the question how can Forrest & Partners develop a framework that would strengthen the coalition and collaboration on developing policy within the wastewater sector in Jamaica to develop its business operations? The study identified an understanding of the task environment, the need for leadership development, early identification of stakeholders, and stakeholder participation that goes beyond tokenism, which uses collaborative strategies and builds collaborative capacity as the key actions required in the policy development model to be undertaken. These findings have been incorporated into the proposed change model in the development of public policy for the wastewater management sector in Jamaica.

5.3 Actionable Knowledge – The Change Model

In reflecting on the title for this final section of the report; I wrestled with its implications. Change itself is difficult and the change model that is proposed and the process of implementing the change that will be required represents significant hurdles. Why so? Because the proposed change model challenges traditional institutional practices; requires a change in mindset and an acceptance of the need to incorporate collaborative capacity building and social learning in the policy development and implementation process, and acknowledges that failure is part of the road to success. In short, implementing the proposed change model will be a complex process.

Nevertheless, the model provides actionable knowledge that is, a platform that allows practitioners to make sense of the situation, to come to a deeper understanding of what is required for effective implementation of public policy, and this provides a platform from which actions can be contemplated and policy direction can be informed and implemented.

Against this background, the proposed change model is based on the following premises. In addition to the research findings, some of the mechanisms proposed in the change model for example action learning are drawn from my reading and experiences gained in my professional practice.

1. Given that the development of policy in the wastewater sector is a complex problem and that any solution affects and requires the participation of the country's citizens; the first step in the development of the policy should be an assessment of the task environment and the social and cultural context. The results of such a study should inform the design of public participation, hone collaborative strategies, and sharpen communication strategies including, avenues for feedback.

2. The change model will require a change of mindset and a leadership model, which can build collaborative capacity. Public administrators play a part in the process and should be agents of change. But, to express this individual and collective agency public administrators too must change and to achieve this new thinking training will be required. The best framework for training is action learning which often uses working on actual problems as an approach to promoting learning. This approach will facilitate the actual development of the policy while simultaneously developing a new generation of leaders. Thus, the actual process of policy development for the wastewater sector will simultaneously serve as the platform for new learning and leadership development.

3. Given the need to develop trust and the importance of developing social capital and partnerships in the development and implementation of public policy in Type 3 situations the principles and philosophy of Communitarianism. This will require designing a process that facilitates and encourages these principles.

4. Given the complexity of the issues in the problem identification stage; rather, than the usual practice of focusing on wastewater treatment and infrastructure; there needs to be a change in the conversation in presenting the need for a policy and analysing the problem. This change should seek to establish the linkages of the wastewater sector to key national development issues. That is, building climate change resilience, water availability, public health, alternative energy the nexus of water energy and food security, and economic competitiveness. Involve the 'policy development group' (see number 5) in that process.

5. The model proposes an innovative approach to public participation that embraces cooperative inquiry as posited by practitioners (Greenwood & Levin, 2007; Reason & Heron, n.d.; Reason & Marshall, 2007). Cooperative inquiry's underlying philosophy is a participatory worldview supported by a framework that facilitates engagement and well-orchestrated interaction in sense-making activities focused on a central question. This approach facilitates authentic dialogue, deliberation, greater collaboration, and social learning. The process should be facilitated through the establishment of a 'policy development group.' The group should be as diverse as possible but limited in size. Key to choosing members, should also consider linkages to networks to facilitate (i) building network capacity, (ii) developing social capital, and (iii) expanding channels for public participation.

6. Facilitate decisions regarding leadership from within the group - not necessarily from public administration. The leader should have the attributes and skills to function as a Collaborative Capacity Builder.

7. Establish communication strategies that support the work of the "policy development group" and share with the wider public key issues and incorporate a feedback mechanism that informs the group as well as a mechanism to support public education.

8. Establish an adaptive management approach to policy development. That is, even in face of a clear strategic direction; develop the policy in phases and use the lessons to strengthen the next steps.

The proposed change model is shown in Figure 29.

The policy development process differs from the current GoJ policy outlined in Figure 1 (p. 12), and the policies identified in Table 2 (p. 46), in that it takes into account social context, encourages the inclusion of diverse voices in the decision making process during policy development (policy development group), facilitate authentic dialogue, eliminates disputes over lines of authority, breaks down silos, builds collaborative strategies, facilitates the emergence and development of leadership, provides for incorporation of new learning and takes and facilitates feedback.
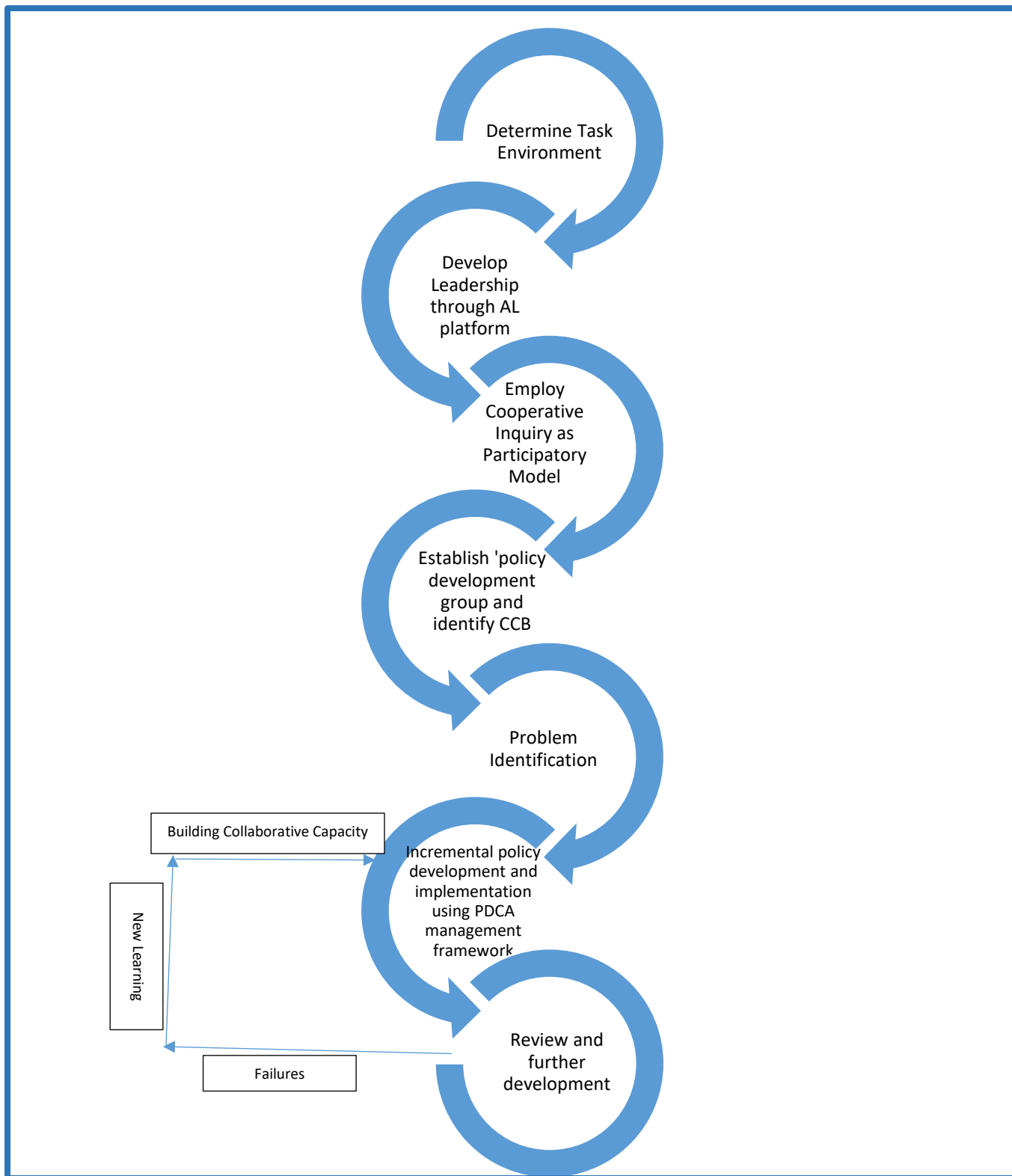
Figure 29 Model for the Development of an Integrated Wastewater Management Policy for Jamaica.

5.4 Development as a Practitioner

My development as a Scholarly Practitioner arguably began from the very first module entitled "Doctoral Practitioner (DP)." In that first module, I was introduced to the words "what we don't know that we don't know." These words profoundly impacted me and have stayed with me guiding my approach to the research project as well as my professional practice. From that time, I acknowledged with humility that despite my experience, training, and professional competence I knew very little. Yet despite that realisation instead of being defeated I accepted this revelation of my relative 'ignorance' "with a tremendous sense of excitement because I recognised that I was now better prepared to grasp the new opportunities for learning and for contributing to learning" (Forrest, 2014).

Thus, my transformational journey began and much of what happened in the years that followed the commencement of the DBA before the start of the thesis helped to shape my thinking, initiated my epistemic reflexivity, deepened my preunderstanding, and as a result influenced my approach to the research project.

During the transformational journey, I have become more committed to a life of inquiry (Marshall, 1998), and "I have a deep desire to make a contribution to knowledge creation within the management practice, which hopefully will begin with but can continue beyond my thesis" (Forrest, 2014).

Further, my approach to the research project and my professional practice have been significantly influenced by Schon's (1992) seminal work in which he challenged traditional professional education positing that it contributed to an approach to professional practice that supported private gain rather than solving public problems. And as a result, often many of the solutions provided by professional practitioners created unintended consequences and made matters worse. Considering this premise, Schon, 1992 encouraged practitioners dealing with complex social challenges and uncertainty to be problem finders arguing that professional knowledge alone was insufficient to solve deeper problems and that what was required was "artistry". And that artistry required reflection in action given that real-world problems did not come in "tidy" packages but instead were messy and often ill-defined. Against this background, Schon (1992) laid out the challenge to practitioners observing that:

> …shall he remain on the high ground where he can solve relatively unimportant problems according to his standard rigour, or shall he descend to the swamp of important problems and non-rigorous inquiry? (Schon, 1992, p. 54)

Consequently, before commencing the research project as I "stood on the balcony" (Heifetz & Laurie, 2001) and looked through the window and into the mirror I saw my self-development. I discovered that in many respects as a professional I have been "turned on my head" (Schon, 1992). The DBA had unlocked a process of "becoming" during which I have been transformed into a "budding" scholarly practitioner through the absorption of teaching, grappling with new concepts, and the development of new insights –

"I have achieved a most invaluable state of being - that of a greater understanding of myself; the way I think, what is of interest and importance to me and why I want to contribute to the *praxis*" (Forrest, 2014)*.

As I conclude the research project and reflect on my DBA journey, I submit that not only has my approach to inquiry developed resulting in uncovering findings but, there has been meta-learning; that is, insights emerged on how to approach complex problems, how to develop evaluate the results and produce actionable knowledge. Further, my leadership skills have also been honed and I am in a better place to act as a reformer supporting in a leaderful manner (Raelin, 2003). In addition, the research project findings have tempered my impatience with some policy postures as I have come to understand how the practice of policy creation was developed in Jamaica. Instead, armed with that understanding I will incorporate this learning into my practice will a depth of understanding that should result in finding better solutions.

The research findings have contributed to providing an actionable solution to a problem that occurs within my own business Forrest & Partners and the company will gain some competitive advantage by providing the policymaker with a change solution.

5.5 Contribution and Limitations

5.5.1 Contribution

The outcomes of the research contribute to actionable knowledge in some significant ways.

Firstly, the study clearly identifies the need to understand the task environment and the social and socio-political context as a prerequisite for effective policy development.

Secondly, it addresses an issue of policy development in Jamaica and the WCR on which there is a little scholarship and provides a framework and actionable knowledge to address the complex issue of policy development for the management of the wastewater sector by positing approaches to collaboration, collaboration capacity building, and stakeholder participation.

Thirdly, given the acknowledgement by academics of the relatively limited body of knowledge regarding developing policy for the wastewater sector and the crisis in the development of public policy in Jamaica and the region the study contributes to the body of knowledge regarding the development of a public policy process.

Fourthly, the research findings should also influence a change in mindset for practitioners engaging in public policy development in the wider environmental management sector.

Fifthly, there is a significant gap between the theory of public participation and its practice – the study should contribute incrementally to closing that gap, even while acknowledging that given the complexity of the issue, the new learning derived from the study may still experience difficulty in its implementation.

Nevertheless, it provides practitioners with a wider understanding of the issues and a platform from which to make well-thought-out choices for action.

Sixthly, while not addressing the issue of complex problems like crime and poverty alleviation directly the change model provides an actionable framework that could serve as a useful template for addressing policy development for complex problems.

Finally, since AR is not only about individual development but is also about working collaboratively with other stakeholders to generate solutions to problems that can contribute to positive societal change; in this regard, the study also contributed incrementally to changing the mindset within the *praxis* as the study provided an opportunity for the participants to be "re-educated" (Schon, 1992) to be more reflexive and inquiring and in so doing facilitate learning in their own practice.

Against this background, the study should be of interest to academics working in public policy, and public administrators and decision-makers, involved in policy development should find the study valuable as it examines the existing practice, identifies the gaps, and suggests some new approaches to policy development. Additionally, while the study focuses on Jamaica, the results should also be useful to practitioners across the Caribbean given the similar social context for the reasons articulated above.

5.5.2 The Limitations

As with all research, there remain unanswered questions because of the limitations of the research project. With regards to limitations traditionally, the executors and drivers of public policy development are insiders within the respective Ministry or responsible agencies. While the research project involved participants who are actively involved in public policy development in Jamaica, these participants were outside the organisations with direct responsibility for the wastewater sector. It would have been useful if a pilot of the model could have been conducted within such organisations. Time did not permit this activity and in addition, there was some reluctance to have an outsider involved in the operations of the Ministries. However, now that the model has been developed there is likely to be greater receptiveness to pilot test the model, which could lead to further refinements of the model.

Further, it relates to the changes within the organisations that will utilise the change model because it breaks with the traditional pre-eminence of the public administrators in the development of public policy to a more inclusive process where leadership could potentially come from external stakeholders. Additionally, where there is a need for the development of collaborative capacity builders the approach to achieving was not explored within the research project. These questions remain unanswered. In many respects, the answers to these questions will likely come only through action learning and will be part of the focus of Forrest & Partners as its markets and implement the model. In this regard, as with all change processes in complex situations, its use should be selective, incremental, and applied where there is a seriousness of purpose and a commitment to learning as part of a process of organisational enrichment.

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Appendices

Appendix 1 – Introductory Letter, Participants Information Sheet, Consent Form

Date

Name

Dear Participant

Re: **Developing a Model for an Environmental Management Policy for the Wastewater Sector in Jamaica Study**

Following on our initial telephone conversation this letter serves to invite you to participate in the above-mentioned research project. I am including in this letter 2 documents; (i) the Participants Information Sheet which is intended to provide you with important information on the study and to answer key questions regarding your participation and (ii) the Consent Form.

The research work will be conducted in Jamaica and the participants will be drawn from key public and private sector organisations, NGOs, and academia. Data will be collected during the course 2015 and will involve interviews supported by documents and audio-visual materials. I will be the only person involve in data collection under the guidance of my Doctoral Supervisor Dr. Natasha Slutskaya.

The interviews will be face-to-face using of semi-structured open-ended questions and the initial interview is expected to last no more than one and half hours. If required there may be a second interview of about an hour duration. For the purpose of capturing the responses accurately permission is being requested to audio-taped the interview. You will not be identified as a participant in the study.

Feel free to address any questions you may have concerning the research project to me at any time prior to or during the execution of the study. Please be assured that you are free to decide not to participate or at any time in the future to withdraw from the study without providing any explanation for your decision.

I will be pleased to share the findings of the study with you on its completion.

Kindest regards

Denise Forrest

DBA Doctoral Student, University of Liverpool

Participant Information Sheet

1. **Title of Study**

    Developing a Model for an Environmental Management Policy for the Wastewater Sector in Jamaica

2. **Invitation Paragraph**

    You are being invited to participate in a research study. Before you decide whether to participate, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and feel free to ask us if you would like more information or if there is anything that you do not understand. Please also feel free to discuss this with any one you may choose. I would like to stress that you do not have to accept this invitation and should only agree to take part if you want to.

    Thank you for reading this.

3. **What is the purpose of the study?**

    In the English-Speaking Caribbean, there are a dearth of existing studies few recent that have examined the issue of the developing environmental management policy and practice within a sustainable development framework. The few existing studies have observed that there is much discourse on the sustainable development framework but little advance in respect of strengthening environmental management in the region (Dryzek, 1997 cited in Thomas-Hope, 2014)[1]. In the Caribbean, SIDS countries are vulnerable to climate change and are experiencing increasing environmental degradation both of which are significant development challenges. Given the importance of the environment to the basic survival of the Region the absence of a coherent and effective environmental policy and practice is a major if not fully appreciated development issue.

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[1] Thomas-Hope, E. (2013). *Environmental management in the Caribbean policy and practice*. Mona, Jamaica: The University of the West Indies Press.

The purpose of the study is to discover the barriers and or constraints that has led to the absence of an effective environmental management policy framework and whether given the tension between the drivers of economic development and environmental management whether sustainable development is the best framework within which to develop such a policy. The central research question is: how has the adaptation of sustainable development strategies as the overarching platform impacted the development of an environmental management policy in the wastewater sector in Jamaica?

In addition, there are a number of subsidiary questions. These are:

(vii)   How are the policies for the sector developed?
(viii)   What changes are required for improving environmental management in the sector?
(ix)   What would be an effective model of action for the development of an effective environmental management policy for the sector?

4. **Why have I been chosen to take part? (3 options)**

You have been invited to take part in the study because of your work in the area of sustainable development and in environmental sector for the Government of Jamaica. As well as your knowledge of the public policy development process and in particular the development of environmental management policy. It is my view that your experiences and perspectives will greatly contribute to the research findings.

OR

You have been invited to take part in the study because of your extensive involvement advocacy for sustainable development and environmental protection in Jamaica over many years. In particular, your involvement and vast experience in the policy development process as a representative of civil society and the NGO Sector will be of significant value.   As too will be your experience in policy implementation and its impact.

OR

You have been invited to take part in the study because of your extensive involvement as a member of the private/public sector and an important stakeholder who have been involved in the development of environmental management policy in general and more specifically for the management of wastewater in Jamaica. In particular, your experience as in the policy development process as a stakeholder who is directly impacted by policy and its implementation will be of significant value.

5. **Do I have to take part?**

You are no obligation to take part in the study. The information which has been provided is only intended to provide you with information regarding the study and to help you to make an informed decision regarding your participation. Please be assured that you are free to decide not to participate or at any time in the future to withdraw from the study without providing any explanation for your decision.

6. What will happen if I take part?

The main research and data collection method will be through the use of semi-structured face to face interviews. I will be the only researcher directly involved in the study. During the interview you will be asked to share your experiences in the area of public policy development and to freely comment and critique on a model which may enhance the process. It is anticipated that there will be initially one interview of a duration not exceeding 1.5 hours. The interview will be conducted in private setting at a convenient venue. With your permission the interview will be taped to ensure proper recollection and to enhance the data collection process. The entire interview including the recording will be strictly confidential and no third party will have access to the recording or my research notes.

Your only responsibility in the entire data gathering phase will be to give of your time, knowledge, and experience. There will be no financial obligation or burden. The entire cost of the study is being borne by the researcher and there are no sponsoring organisations.

The study will also involve the review of relevant documents and it may be necessary after the initial data collection phase that you are invited to take part in a second interview under the same circumstances as outlined above for clarification and further data gathering. The second interview if required should be no longer than one hour.

You will be one of twenty participants drawn from public sector, private sector and civil society who will be taking part in the research using semi structured interviews. The data gathering from the interviews, document review and literature review will be analysed and used to develop a change model or conceptual framework to improve the policy development process for the environmental management and specifically the wastewater sector in Jamaica. It is anticipated that the study will contribute to knowledge creation and should positively impact the professional practice in Jamaica and the Region given the similarities in the governance structures across the English-Speaking Caribbean and the similarity in the challenges, which face the countries in the Region with respect to environmental management.

You will not be named in the study and your identity will be kept in strict confidence. If reference is made to a comment, it will be done in a way not to identify you or your organisation. You will have access to the thesis and from any publications which may result from the study.

In terms of my own participation in the study I am not employed by the Government of Jamaica or any external agency to address this topic and so there are no conflict of interest on my part.

7. Expenses and / or payments

There will be no expense incurred by the participant for any aspect of the study. All expenses if any will be covered by the researcher.

8. **Are there any risks in taking part?**

There are no physical or psychological risks to taking part in this study. The research, however, is conducting the research using an action research paradigm. Action research is designed not only to provide a contribution to knowledge creation but to produce actionable knowledge seeking to improve the participant's and society's situation. Therefore, the intent is through an action research approach to engage other practitioners through a process of inquiry to reflect critically on their own actions, by descending "to the swamp of important problems" (Schon, 1992:54)[2]. In and through this process of inquiry and reflection there is a risk of being 're-educated' of changing the way of thinking and the approach to developing environmental policy in the wastewater sector in Jamaica. This may lead one to question one approaches in the pass and may be uncomfortable as change sometimes can be.

9. **Are there any benefits in taking part?**

This research project involves the study of a real-life societal problem within our professional practice and experience. By linking the research findings to a theoretical model and developing a model for changing the current actions with respect to the development of public policy for environmental management in. It is my intention that the research will develop a change model; that is, a new framework to promulgate/develop effective public policy in environmental management, which will be beneficial to the country, practitioner working in the area and help Jamaica to better manage the environment for the public good.

10. **What if I am unhappy or if there is a problem?**

Please feel free to address any questions you may have concerning the research project to me at any time prior to or during the execution of the study. However, if you are unhappy, or if there is a problem, please feel free to contact either Denise Forrest at 876 88187731 denise.forrest@online.liverpool.ac.uk. Or my Supervisor Dr. Natasha Slutskaya at 44 7913818973 or natalia.slutskaya@my.ohecampus.com and we will try to help. If you remain unhappy or have a complaint which you feel you cannot come to us with then you should contact the Research Governance Officer at ethics@liv.ac.uk. When contacting the Research Governance Officer, please provide details of the name or description of the study (so that it can be identified), the researcher(s) involved, and the details of the complaint you wish to make.

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[2] Schon, D. A. (1992). The crisis of professional knowledge and the pursuit of an epistemology of practice. *Journal of Interprofessional Care*, *6* (1), 49-63.

11. Will my participation be kept confidential?

During the interview you will be asked to share your experiences in the area of public policy development and to freely comment and critique on a model which may enhance the process. It is anticipated that there will be initially one interview of a duration not exceeding 1.5 hours. The interview will be conducted in private setting at a convenient venue. With your permission the interview will be taped to ensure proper recollection and to enhance the data collection process. The entire interview including the recording will be strictly confidential and no third party will have access to the recording or my research notes. Your identity in all the data collection materials will be anonymized.

12. What will happen to the results of the study?

The results of the study will form part of a doctoral thesis dissertation, which will be available through the University of Liverpool Library.

13. What will happen if I want to stop taking part?

If for any reason at any point during the research project you wish to discontinue your participation or are unable to continue you are free to withdraw. The results obtained up to the point of your withdrawal may be used with your approval. Or if you wish prior to anonymization, you can request that all information, be destroyed.

14. Who can I contact if I have further questions?

If you have any additional questions please contact Denise Forrest at 4 Chelsea Avenue, Kingston 10, Jamaica. Or telephone 876 8818731 or email denise.forrest@online.liverpool.ac.uk.

Committee on Research Ethics

PARTICIPANT CONSENT FORM

Title of Research Project:

Developing a Model for an Environmental Management Policy for the Wastewater Sector in Jamaica

Researcher(s): Denise Forrest

1. I confirm that I have read and have understood the information sheet dated October 30, 2015, for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

   BPF

2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my rights being affected. In addition, should I not wish to answer any particular question or questions, I am free to decline.

   BPF

3. I understand that, under the Data Protection Act, I can at any time ask for access to the information I provide and I can also request the destruction of that information if I wish.

   BPF

4. I agree to take part in the above study.

   BPF

| _____ | _____ | _____ |
| Participant Name | Date | Signature |

| _____ | _____ | _____ |
| Name of Person taking consent | Date | Signature |

_____   _____   _____

                        Researcher   Date   Signature

Principal Investigator:	**Student Researcher:**
Name: Denise Forrest	Name
Work Address 4 Chelsea Avenue, Kingston 10	
Jamaica	Work Address
Work Telephone 876 8818731	Work
Work Email denfor@cwjamaica.com	Work Email

[Version 1 June 2015]

Optional Statements

- The information you have submitted will be published as a report; please indicate whether you would like to receive a copy.

  Yes-
  BPF

- I understand that confidentiality and anonymity will be maintained, and it will not be possible to identify me in any publications.

  BPF

- I agree for the data collected from me to be used in future research and understand that any such use of identifiable data would be reviewed and approved by a research ethics committee.

  BPF

- I understand and agree that my participation will be audio recorded and I am aware of and consent to your use of these recordings for the following purposes of data collection.

  BPF

- I agree for the data collected from me to be used in relevant future research.

  BPF

- I understand that my responses will be kept strictly confidential. I give permission for members of the research team to have access to my anonymised responses. I understand that my name will not be linked with the research materials, and I will not be identified or identifiable in the report or reports that result from the research.

  BPF

- I understand and agree that once I submit my data it will become anonymised, and I will therefore no longer be able to withdraw my data.

  BPF

means that such consultation are going to be problematic and yes, if the people are saying, this is my observation, this is what I'm seeing and this doesn't match what you're saying, then it's going to be a problem as well, there is very little room for or as you say teaching and exchange of information and people coming out with a better understanding, actually I use the Negril thing, as an example, I think last year when I was lecturing on sustainable management of natural resources and how to avoid wicked problem, but one of the thing is, that you do need if you're trying to persuade the public of something, one of the idea of the whole thing is that scientific information must be seen to be impartial and must be open and accessible so it can't be that we have the report from government but some other people weren't able to get it, all these reports, all these information must be open, so that's important in terms of the way in which a lot of the consultations are done particularly through the EIAs and so on typically what is done is the consultant gets up, they talk through their report, in alot of jargons and not necessarily in a way that is meant to communicate to the audience if people are oppose to the problem they may get up and say they oppose, but not necessarily in reference to anything, so what is happening, you're providing these platform for people to present contrary reports, but not a platform for trying to resolve any issues that might arise from there…

Interviewer: and I'm saying that my premises ultimately when you look at policies it impacts people and one could argue and be challenged, but if you don't have people understanding policies, you would never have effective policy implementation (**Respondent: it would definitely makes it difficult**), so that people and public is important to the policy development process and I would also argue in our particularly case given our difficulty, that people's agencies is of tremendous importance to the policy development process, so public participation and I would go further, that public participation word appears in every UN project, everything has a stakeholder thing… but it's becoming something where you just check the box ……let's call it public deliberation really trying to get dialogue, learning and some result out that contribute to the process, rather than a tick box so public deliberation, I think very, very important and I would argue that in our own policy development process, there is a weakness, and I think born out of the fact that some people are checking the boxes, born out of the fact that experts really don't feel it makes a difference..don't know nothing and born out of the fact that even when there is willingness methods are not the best and this is part of the thing that as technocrats these are skill sets that we don't have, we have to aware of what we need in order to try to execute these things properly, so I would argue that public, stakeholder participation and deliberation is key to policy development.

Respondent: I would agree that it is, and should be properly managed, but I also think that it's utility that increases with the level of education of the public (*interviewer: agree*), but generally and about the issues being specifically dealt with at the time……

Interviewer: I agree, but let us…I was reading something recently about climate change policy and in truth climate change is talking about changing behaviour, much of our mitigation is going to be related to people's changing behaviour and in fact some of the simpler things, the lower

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...vidual policies, but I don't believe for one minutes that this the case I think it's a highly inefficient process and I suspect that if their jobs depend on getting these through, then policies would not take 10 years.

Interviewer: I agree with you and I would also say that perhaps it is a highly inefficient process made inefficient because of the lack of accountability, made inefficient because of the lack of leadership, because somebody would sit and say, I am reading the political winds and I don't think we should go forward with this at this time and so it sits....

Respondent: That is a factor often wonder about its interesting because, in the case of NEPA I often wonder how political interference was manifested in NEPA, I'm sure that political interference take place, but I always wonder how does it takes place, is it that the Minister one day calls up whoever happens to be running NEPA and says this would not be a good idea or they don't bother with that, they just say to the Chairman of at NEPA that's not a good idea, that may happen, but I also been told by people who sat on NEPA's board or whatever it is now, the Minister would very rarely ever, even if he was oppose to a policy ever have to pick up the phone and swash it, because between the civil servants in NEPA and other rarely ever gets to the point where the board gets to consider it......

Interviewer: and this is why the issue of political will, while it maybe an issue that we cannot ignore oftentimes it's a screen behind which people with responsibility hide and unfortunately the process of accountability is non-existent, so they are able to and and to blame the politicians for easy sell, the politician is like our boss, you have work to do, so you say boss I need to dig the hole, and the boss says, I don't really care what hole, and you say we reach rock, and you go and tell the boss whatever that rock is they create the rock and say, well we can't go any further, there is no consequence, because the politicians is really there is a .....the recipient not a driver of the process, you don't hand it to them, they are not going to ask where it is, unless it's one of those policies that have implications for things that are of significant interest to the politicians and if we have a hundred policies, maybe 20% or less find themselves in that position.

Respondent: as you would expect, alot of policies are simply about the efficient running of routine task for the country.

Interviewer: so this is why I think that our track record on policy implementation, we know that its complex development, it is complex... there are many things to consider alot of its failing rest with people....right now I would say describing the process we have a top down process policy is driven by some recognition of need and we say lets do it in fact our system saggy policy is suppose to be develop by the Ministries but what is really happening is that the Ministry is favoured that the leadership in there is advocating that unless they get a directive from the Minister and it is the agency below them saying, my gosh! we are here trying to do this, they develop it and then have to send it to the Ministry, who really didn't develop it, ok they may

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also part of the problem how we ...how the public is treated, the public really...it doesn't matter, the man who is the head of the agency is in the public space, and he response to the public, he is more concern, rather not concern and so we and survival and...and...

Respondent: which is why our middle civil servants tend to deny the interest of field slaves in favours of their perceived interest of the Minister

Interviewer: they have that...the baggage affecting our *(Respondent: so it's animal farm)*, right, it is, so overlaying in the context in which we are in terms of the concept of developing historical framework also comes into play, now I'm not so sure as I have not done sufficient reading, but for us in our context it is more of an issue than it might be for maybe Europe or somebody else as they seem to do whatever they need to do in terms of policy development, the attitudes are different and so is attitude to service, ok, because for us it's a struggle.....

Respondent: the problem as well is classism and moving from where you are to increase in higher and higher classes is that our Ministers are not cheap servants by any means and so alot of the public purse and the public machinery goes to deifying the Ministers, so in a sense we have already have a Parliament dictatorship because most of our laws are written so the Ministers would have sole discretions can do whatever he wishes to do, but you then in addition to that provide them with the largest possible vehicles every time we have an election or every time we change Minister, so the attracting of Ministers including driving a large Toyota land cruiser and whatever attracting there are, so whether the attracting there are, so whether the attracting are created by the person own efforts or not it's simple the attracting that goes with being a Minister and you must have it. It is not in any way related to whether you're a good Minister or not, or a bad Minister, so alot of the attracting and lifestyle everything else become then a motivation for wanting to be in there, has nothing to do with the job of the Minister, it's all about the attracting and so the pamper and everything else go hand in hand....goes to some extend I would say senior civil servants, the Permanent Secretary, whose job is to be a political and to make sure that the Ministry runs properly and so on and so forth, yes, those people should be properly compensated, and properly motivated, but you don't get the impression that the attracting that they receive and what the Minister receive are tied to performance, so the problem is not the attracting themselves, maintain them regardless how well or how badly you're doing, which is where the problem lies, no accountability, no reward for, so we need the openness we need the accountability we need the transparency, there should not be secret government documents, by and large, the default position for government documents should that they are accessible to the public , they should be posted on the website and everything else, unless there is unless there is a rule of specific reasons for not doing so, as opposed to what we have, which is still very much, all government documents are secret and no the people who pays the taxes cannot see it, unless there's reason...

Interviewer: and access to information becomes really, ok we can delay 30 days and can be another 30 and we can find a reason why you can't....