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**National Environmental Management Policy
Implementation Mechanisms and Solid Waste Management in
Urban Centres in Eastern Uganda**



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National Environmental Management Policy Implementation Mechanisms and Solid Waste Management in Urban Centres in Eastern Uganda

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Abstract

Purpose: This paper analyzed the role played by the implementation of environmental management policies on Solid Waste Management practices in urban centres of Eastern Uganda.

Methodology: A mixed method cross-sectional design was used to collect qualitative and quantitative data from 326 employees of urban centres and 16 key informants. Data was collected using a structured questionnaire and interview guide and analyzed by means of descriptive statistics, Pearson correlation, regression and content analysis.

Findings: It was revealed that policy management and coordination positively predicted ($\beta = .24$, $p < .05$) SWM management. Urban centres had insufficient policy enforcement, monitoring and financing, which decreased the effectiveness of SWM. Subsequently communities perceived urban authorities as not being responsive to the needs of the people and pursuing their own agenda.

Unique Contribution to theory, practice and policy: For the National Environmental Management Policy to contribute to better Solid Waste Management, Urban authorities should promote active participation of residents in policy formulation, enforcement and operations. They should allow a high degree of organized representation, accessibility and openness for all categories of stakeholders in SWM.

Key words: *Implementation Mechanisms , National Environmental Policy , Solid Waste Management, Policy Performance*

1. Introduction

This paper examines the role played by the National Environmental Management Policy Implementation Mechanisms on the effectiveness of Solid Waste Management (SWM) in Urban Centres of Eastern Uganda. Solid waste management is a key Environment management and health services performance indicator for urban authorities in developing countries (Munzhedzi, 2019). SWM being an indicator of international city performance standards, it has motivated urban authorities in Africa to make improvements in the serenity and quality of life of Urban centres (Tassie & Wedgie, 2018). Thus, to be transparent and accountable, urban authorities have to implement procedures and practices that enable them to meet stakeholder expectations on SWM (Bryson, et al, 2019).

It is estimated that solid waste in urban areas of Africa will increase from 760,000 tonnes/day to 1.8 million tonnes/day by 2025 and it will cost from US\$ 25 billion to US\$ 47 billion, accounting for close to 65% of their total budgets (Dunn, 2019). Currently over 90% of solid waste created in the urban centres of Africa is disposed in unregulated dumps or openly burned (Maserumule, 2019). In the Urban areas of East Africa, poor SWM has created serious health, safety, and environmental consequences. The Poorly managed waste serves as a breeding ground for disease vectors, and urban violence (World Bank, 2018). Currently, the majority of the urban authorities in East Africa, are unable to effectively do SWM due to operational and technical constraints (Tassie Wedgie, 2018).

The National Environmental Management Policy Implementation Mechanisms have been perceived as a perncea to effective SWM in urban centres, in most parts of the world (Munzhedzi, 2019). Uganda has had centralised SWM since the 1930s (Kinobe et al, 2017). In 1995, the National Environment Act and the NEMA were made to further solidify SWM at the national level. After decentralization, the Local Government Act (1997) and the Local Government Strategic Framework for Reform were made to provide guidance to urban authorities on effective SWM (Lwasa, 2017). Then the National Environment (Waste Management) Regulations (1999) were made to ensure sustainable SWM in urban centres and support Uganda's overall strategy for achieving a safe and clean environment (World Bank, 2019). Twenty years later, the National Urban Solid Waste Management (NUSWM) Policy of 2017 was published to provide uniform guidelines for urban centres on SWM (Lwasa, 2017). Uganda being a natural resource-based economy, sustainable SWM supports key sectors of the economy such as agriculture and tourism. Hence, the National Environmental Management Policy for Uganda is expected to be key instrument in enabling the country and urban centres have sustainable environment and natural resources management. Its effective implementation would result into better SWM and improved environment protection and quality of lives in urban centres in Uganda (Lwasa & Owens, 2018). It would be an all time solution for maintaining a safe and clean environment, with minimal adverse effects in all urban centres of Uganda (Bryson, et al, 2019).

But, experts (International Solid Waste Association, 2015; Lwasa & Owens, 2018) indicate that appropriate policy implementation, focused on stakeholder participation and a conducive policy environment could lead to better SWM policy outcomes in East Africa. Policy implementation mechanisms refer to means of implementing a policy or project to achieve identified results, through legally binding relationship established between executing agencies and implementing entity (UN-Habitat 2010). In SWM, Policy implementation is the process of carrying out government environmental management decisions on solid waste (Wilts et al, 2016). The implementation process involves action on the part of urban authorities and citizens so as to achieve policy outcomes. Analysts (World Bank, 2017; Kabera et al, 2019) have also alluded to coordination, financing, and review mechanisms as being important in having sustainable environmental management practices.

1.1 Problem statement

Despite the Legal and institutional frame works, there is still persistent challenges in the implementation of policies on SWM in Uganda in general and Eastern region in particular (Tenywa et al., 2017). Harmful SWM practices have Persisted (Kabera, et al, 2019). Ineffective SW storage, collection, transportation and disposal is reported in most urban centres in Eastern Uganda (Tukahirwa et al, 2019). Solid waste is decomposing in markets, waterways and office premises. In most urban centres, recreational grounds, gazetted areas and homes of residents have become sources of serious communicable diseases (Liyala, 2017). Considering this situation, information on what contributes to better National Environmental Management Policy performance and , Solid Waste Managemnt practices in Urban Centres was needed, taking Eastern Uganda, as a case study.

1.2 Purpose

This paper examines the status of Policy Implementation Mechanisms ,how it has affected Solid Waste Managemnt in Urban Centres in Eastern Uganda and strategies for fruitful SWM Policy Implementation in Urban Centres.

2.0 LITERATURE REVIEW

2.1 Theoretical review

The performance of NEMP in urban centres is based on the Neoliberal Good Governance theory (NGGT) of Olssen and Peters (2005). The NGGT argues that Neo-liberalism principles of liberalization and regulation can enable urban centres to have positive outcomes from National environment policies (Maserumule, 2019). Policy implementation should place emphasis on service delivery rather than only on productivity and efficiency (Verhoest & Sys, 2016). The role of the state in providing public services is reduced to allow decentralization and encourage more stakeholder and private participation in the provision of better SWM services (Ojha, 2015). Urban centres would thus adopt a customer orientation and come up with new innovations (policy implementation strategy and technology) which would subsequently lead to more

efficient SWM. Though the NGGT may lead to SWM services being guided by profit taking, when this problem is controlled, it results into better policy performance and effective service delivery (Peters, 2016).

2.2 Empirical review

Studies (Munzhedzi, 2016; Tummers & Bekkers, 2019) show that successful implementation of NEMP requires deliberate sharing of policy Enforcement, monitoring, coordination and financing with all stake holders. Paudel (2019) argues that policy enforcement should start with the provision of policy information to the public. Access to policy information is a fundamental human right and therefore, governments are supposed to provide policy information through any media regardless of frontiers (Madumo, 2019). Waste management being their mandate, Urban authorities, carry the burden of doing solid waste management awareness campaigns to enable the public understand and effectively do their role in waste management (Khan & Khandaker, 2016). Enforcement of SWM practices becomes easier after awareness. Kinobe (2015) argues that urban Centres in Africa, have good SWM mechanisms and structures, but poor policy dissemination often contributes to enforcement of solid waste management practices.

The issue of policy financing is sometime overlooked by some countries in Africa. Often urban authorities prioritized establishment of proper waste management systems but allocate meagre resources for its management (Bryson, et al, 2019). Sound Environmental protection and solid waste management policy implementation require sustainable financing mechanisms (DeGroff & Cargo, 2019). Countries world over have adopted and are implementing various financing mechanisms to finance implementation of solid waste management policy activities and programs (Brynard, 2019). For example, some urban centres get revenue from taxes such as the Hazardous Substance, Solid Waste Collection, Litter Tax. Public-private partnerships (PPP) have also emerged as an alternative to improve municipal solid waste service performance at lower costs (Maserumule, 2019). However, lack of specific financial monitoring and analysis of data is still a major barrier the effectiveness of SWM system (Parthan et al., 2012).

National Environmental Management policy monitoring comprises a range of activities describing and analyzing the development and implementation of policies, identifying potential gaps in the process, outlining areas for improvement, and holding policy implementers accountable for their activities (Muwanga 2010). Monitoring policy implementation is an integral component of the policy cycle. Policy monitoring can improve policy information, collaboration among stakeholders, and the use of evaluation techniques to provide feedback to reframe and revise policies (Munzhedzi, 2019).

Policy Coordination refers to managing interdependencies between activities performed to achieve a goal (Munzhedzi, 2016). It involves ensuring that various organizations work together to deliver policy services to the people. Thus, national Environmental Management Policy Coordination involves distribution of resources, tasks and responsibilities as well as knowledge

to enhance the outcome of decision making (Madumo, 2019). The central government of Uganda is responsible for the coordination, supervision, capacity building and monitoring of local governments (Okumu and Njenje 2011). Therefore, strong collaboration among leaders of Urban centres and residents is needed for effective implementing of SWM practices. Through participation in planning and decision-making, stakeholders attain have significant powers in the enforcement and performance of NEMP.

3.0 METHODOLOGY

The study applied a cross-sectional research design. The researcher sought information from different individuals from selected urban centres of Teso, Bugisu and Busoga sub regions at a single point in time. The sample was selected from 2 Cities; Mbale and Soroti, 1 municipality of Iganga and 3 town councils; Kaliro, Sironko and Ngora. The sample consisted of 326 respondents of urban centres and 16 key informants. The informants comprised of 6 community leaders, 8 officers of civil society organizations and 2 private service providers.

A semi- structured questionnaire was used to measure demographic characteristics of urban centre employees, national environmental management policy mechanisms and policy performance. Some of the items were open –ended and other closed ended and they were rated on a 5-point Likert-type scale. Qualitative data was collected using an interview guide and focus group discussion. The design of the interview was the standardised open-ended interview. The standardised open-ended interview guide was a structured instrument in terms of the wording of the questions. Participants were asked identical questions, but the questions were worded so that responses were open-ended. The officers who are in charge of administration at the urban centres and LC1 chairperson at the community level were met to seek for permission to participate in the study and allow employees and other community members to also take part Within this period of collecting data using questionnaires, the researchers continued to explain to respondents the goal and objectives of the study to enlist their cooperation (Creswell, 2014). Constant follow-ups were made physically and through phone calls to ensure that the participants respond correctly to the questionnaire given to them. The respondents were freely allowed to give their interpreted understanding of the interview questions uninterrupted as the researcher noted down important views with respect to the study variables.

Socio-demographic characteristics were analysed using descriptive statistics. Pearson correlation and regression analysis were used to find out the relationship and influence of Policy Implementation Mechanisms on SWM. Interview data was analysed by making interpretation of the findings or results using content analysis. Qualitative data provided explanation to descriptive quantitative data.

However, it should be noted that the cross-sectional data were used in the study because the questionnaire and interviews were only conducted once, it is important to be cautious when drawing conclusions about causality as they may not be definitive. Future studies might use

longitudinal study designs to look into these aspects. In addition, the data's self-report nature raises the possibility of self-report bias. Common technique bias could not be totally eliminated. Future studies may therefore investigate others or more objective methods of measuring the variables employed in this study.

4.0 Findings

The general status of policy implementation mechanisms and the effectiveness of Solid Waste Management was explored using descriptive statistics and the findings are presented in table 1.

Table 1: Policy Implementation Mechanisms and Solid Waste Management Among Cities/Municipalities and Town Councils in Eastern Uganda

Variable	Total (<i>M, SD</i>)	Cities/Municipalities (<i>M, SD</i>)	Town Councils (<i>M, SD</i>)	T-test
Policy mechanisms	48.42(8.09)	49.19(7.02)	47.81(8.91)	$t=1.36; p=.17$
Solid waste management policy performance	20.92(6.43)	21.78(6.60)	20.514(6.28)	$t=.79; p=.43$

Key M= mean, SD= standard deviation, Key; $p<.01^{**}$, $p<.05^{*}$

The results in table 1 show that the mean National environmental management Policy implementation was 48.42 ($SD=8.09$). Cities/Municipalities had a higher score than town councils, but the difference was not significant $t(255) = 1.36; p=.17$. This implies Cities/Municipalities and towns did not differ in the way they implemented NEMP policies. The mean value for Solid waste management was 20.92 ($SD=6.43$) and Cities/municipalities reported a higher score than town councils but the difference was also not significant, $t(252) = .79; p=.43$. This finding shows that Solid waste management practices of the urban centers were not adequately followed/implemented.

The relationship among policy implementation mechanisms and Solid waste management was explored using Pearson correlation and regression analysis. The findings are summarised in table 2.

Table 2: Correlation and Regression Parameters of Policy Implementation Mechanisms and Solid Waste Management across Cities/Municipalities and Town Councils

R	R ²	ΔR^2	B	F	SEb	β	P-value
.24**	.057	.054	.224	82.28	.231	.24	.000*

Key; $p < .01^{**}$, $p < .05^{*}$

The findings in table 2 showed that a positive and significant relationship $r(324) = .24$, $P < 0.01$, existed between policy implementation mechanisms and Solid waste management. Mechanism positively predicted solid waste management ($\beta = .24$, $F(1,322) = 82.28$, $p < .05$). This implies that relevant and focused SWM policy formulation, enforcement, monitoring, financing, and review does enhance good SWM.

Participants revealed that cities/municipalities and towns had real challenges in NEMP policy formulation and implementation. The challenges related to community understanding of policies, their ownership and motivation to implement. The community cried for more involvement in the development of NEMP policies, which seemed not forthcoming from the local leaders. In connection to participation of stakeholder, especially the citizens in policy formulation, in a focus group discussion held in Soroti municipality participants intimated,

We are supposed to be the direct beneficiaries of NEMP policies. We would expect that we are consulted on what we want before it is implemented. However, this is not the case. If a policy is for us without us, that policy is not for us, and if you have anything good for me then involve me. But if you can make your own policy and bring to us then that policy will not be owned by the public and hence its failure.

Policy development does not involve those the policy affects; you sit in a conference hall, paper the work and bring to me without involving us the people the policy affects (Health inspector Soroti municipality, FGD Soroti).

Participants gave reasons why they should have a big input in NEMP policies, Land lords from Mbale City who represented this group also confided;

There is lack of public involvement in the NEMP policy implementation processes, so we are not able to support it because we do not know what it entails and our roles in making it work, yet we have jurisdiction over a large group of solid waste producers, the tenants (Mbale landlord Namatala-FGD Mbale).

This means that the urban councils put their own agendas and politics a head of policy implementation and the needs of stakeholders.

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Participants cited one way they had been left out of NEMP policy formulation and implementation. This was related to the language of the policies. On this issue, a key informant from the CSO said that,

All waste management policies are written in English a language that does not reach the common man. Subsequently the lowly people in slums and market areas are not aware that it's their right to live in a clean and healthy environment; there is limited awareness in the public (Executive director public affairs centre).

Therefore, the disposition of the policy implementers, clarity of goals and objectives, policy management dynamics and coordination are important factors in effective policy implementation performance in the area of SWM.

5.0 DISCUSSION

The positive contribution of policy implementation mechanisms on Solid waste management may have resulted from all the six urban centres that were studied having adopted regulations and rules that articulate the roles and responsibilities of the urban councils and other stakeholders on SWM. It is also because the urban councils had made some efforts to manage and implement the SWM policy. However, the contribution of NEMP policy implementation mechanisms to Solid waste management was low ($\beta = .24$) indicating problems in policy formulation, policy information dissemination, enforcement, and stakeholder engagement. Concurring with Kabera, Wilson and Nishimwe (2019) this state of affairs resulted mainly from the Lack of commitment and expert knowledge on effective policy implementation by the local governments. The findings revealed that the human resources involved in waste collection and disposal activities were inadequate and poorly remunerated. They also had insufficient facilities and equipment to perform their roles right. For example, equipment maintenance was not regularly done throughout the study area. As indicated by Lwasa and Owens (2018), this was attributed to the I don't care attitudes of the responsible officers such as town clerks and engineers.

The enforcement of SWM practices was founded on political lines resulting in governing agencies of the urban centres being guided by political thinking instead of a service delivery mission and vision. Concurring with Kabera et al. (2019), this led to reduced accountability among the administrators of urban centres, which significantly diminished their capacity to understand and meet stakeholder needs. The NEMP policy implementing staff of the urban councils, the urban planners, health inspectors, law enforcement officers and cleaners were not empowered to follow through SWM practices implementation and therefore as indicated Tassie Wedgie, (2018), they were unable to effectively do their role of supervision and enforcement. The communities hence continued unabated with their environment degrading behavior.

The urban councils were not inclined to allowing the SWM work by avoiding stakeholder interference and promoting respect for responsibility and accountability among the urban council employees. So, as indicated by Tukahirwa et al. (2019), the community members did not own the NEMP policy for they felt that they did not take part in its formulation and monitoring. This significantly reduced their impetus to support SWM efforts. There was inefficient and ineffective utilization of SWM resources where the urban councils made constant changes in priorities leading to abandonment of innovative SWM projects. In line with Alemayehu (2017), this was perceived by the community loss of focus and direction by urban councils, which negatively affected support for policy implementation. So, urban councils following the advice of Lwasa, and Owens (2018) of enabling all groups concerned, collaborate in a friendly and respective manner yet keeping their needs in focus, while addressing their daily concerns could improve the effectiveness of NEMP policy implementation in the Urban centres in Eastern Uganda.

6.0 CONCLUSION

The top-down approach in national environmental management policy being used by urban centres has left out the majority of community members and made SWM look like just a government program, instead of a community development initiative. Most of the key community members do not own the policy since they feel they did not take part in planning and even monitoring. Thus, implementation of the national environmental management policy has to be re-cast from the current top-down to a hybrid approach. A hybrid approach involving aspects of top-down at enforcement and monitoring and bottom up at formulation, coordination and financing levels could be adopted to lead to successful implementation and performance of NEMP policy, because the very community members who generate and dispose waste wrongly expressed full knowledge of the dangers of their activities cause to the environment, and if empowered and financed to educate and monitor policy implementation the results are to offer a lasting and problem fixing solutions to effective solid waste management.

Adapting a stake-holder model, which brings on board all people concerned in a friendly, attractive and respective manner yet keeping its set objectives in focus, may motivate stakeholders to sit and share meaningful ideas, which can safeguard the environment, yet addressing their daily concerns, in a free non-punitive atmosphere.

7.0 CONTRIBUTION TO KNOWLEDGE

For SWM to reach the intended goals and objectives and to lead wellbeing of communities, the NEMP should be People centric by considering the lived realities of communities, empower community involvement in formulation and enforcement. So as to have ecological and Sustainable SWM services.

8.0 RECOMMENDATIONS

Urban councils must implement organized representation and openness for all categories of stakeholder's groups to ensure they contribute formally or informally to SWM. Policy implementation should be owned by and more linked to the welfare of stakeholders. There is need to have an organizational culture in urban governments that values contribution to the public good through effective SWM enforcement.

9.0 SUGGESTIONS FOR FURTHER RESEARCH

This study only focused on National Environmental Management Policy Implementation Mechanisms and Solid Waste Management. Future studies may examine the role of the informal sector in solid waste management policy formulation and implementation, given the fact that the new SWM for urban centres gives an active role to private SWM initiatives and actors.

10. CONFLICT OF INTEREST

The authors declare no conflict of interest.

11.0 ACKNOWLEDGMENT

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