

Influence of Formal Institutions on Solid Waste Disposal in Newly Created Town Councils in Uganda: A Case Study of Bukedea Town Council.

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Abstract

The study analyzed the influence of formal institutions on solid waste disposal in Bukedea Town Council. The conceptual framework was based on formal institutions and solid waste disposal. The study used a cross sectional survey research design. Purposive and random sampling techniques were used. The study used questionnaire, interview, focus group discussions and review of documents methods for collection of data. The respondents filled 286 questionnaires representing a return rate of 86.1 % and these results were supplemented with interviews from 22 key informants. The data collected was sorted, cleaned, coded and analyzed both qualitatively and quantitatively. The quantitative data were analyzed by aid of statistical package for social scientists (SPSS). The research findings were contently analyzed and presented in the form of tables, figures and graphs. The study established that formal institutions; legislation, policies and regulations didn't influence solid waste disposal. This was because of irrelevance, inadequacy, lack of enforcement and general ineffectiveness of the formal institutions in Bukedea Town Council. The study therefore recommends the review of formal institutions, formulation of appropriate laws, policies and regulations, sensitization of residents, recruitment of staff, and effective enforcement of formal institutions.

Keywords: Formal Institutions & Solid Waste Disposal.

1.1 Background to the Study

Different theories have been advanced by various researchers and academicians to explain formal institutions. Bjork, (2004) asserts that institutional theory attends to deeper and more resilient aspects of social structure. It considers the process by which structures, including schemas; rules, norms, and routines, become established as authoritative regulations for social behaviour. DiMaggio (1998) asserts that formal institutions emphasize the way in which the rules of the game including laws, policies, regulations and inherited organizational forms authoritatively govern the behaviour in an organization. The rational theorists highly attribute formal institutions such as legislation, policy, and regulations as the major contributors to regulation of behaviour in organizations. The laws, policies and regulations in organizations are designed to regulate the behaviour of individuals and therefore influencing the behaviour of the people within the organization. Wholey, (1998) asserts that "inadequate legislation in some countries such as Indonesia has proved to be a contributory factor to the problem of solid waste disposal". Mugenyi (2007) also observed that lack of deliberate policy and framework for solid waste disposal at the community and institutional level, is a major cause of solid waste disposal problems in Uganda. Bukedea Town Council was created in July, 2006 by an act of parliament together with Bukedea District. It is found in Eastern Uganda, covering a total area of 25 sq. Km. According to the 2000 National Housing and Population census, Bukedea Town Council has a total population of 5,842 and 1,160 households (Bukedea Town Council, 2007). Bukedea Town Council is a major business centre and route in the Eastern region, especially because of the cattle market that attracts people from as far as Southern Sudan, Kenya, Tanzania and all the neighbouring Districts, hence generating a lot of garbage. Records from Bukedea Town Council indicate that the quantity of solid waste generated is 200 cubic meters every market day (Bukedea Town council, 2008).

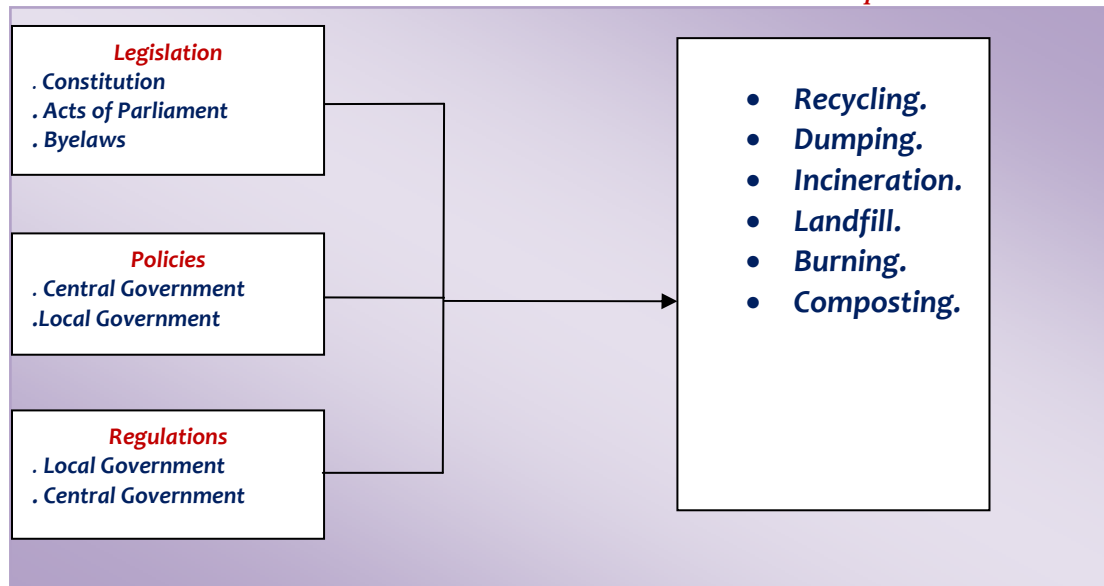
1.2 Purpose of study.

The purpose of this study was to examine the influence of formal institutions on solid waste disposal in Bukedea Town Council.

Conceptual Framework.

Formal Institutions

Solid Waste Disposal



Constructed to suit the study

2.0 Literature Review

a) Legislation: PPPUE, (1997) argues that national governments can provide guidance for the best solid waste disposal practices and have a role in catalyzing state and local action through legislation. This was also supported by Gombya and Mukunya (2004) who assert that current and intended legislation and the extent to which it is enforced can influence solid waste disposal. In addition Schübeler, Wehrle & Jürg, (1996) suggest that the instrumental basis for implementing the strategic plan comprises a legal framework which is elaborated in the form of laws, ordinances and byelaws concerning solid waste disposal, and includes corresponding inspection and enforcement responsibilities and procedures at national, state, and local levels. Wholey, (1998) in his research argues that inadequate legislation in some countries such as Indonesia has proved to be a contributory factor to the problem of solid waste disposal. The research seeks to verify this assertion in the newly created urban local government. This is supported by, NEMA (1995) in the action plan that asserted that most of the existing laws in Uganda on solid waste are too narrow in scope and content and do not address the many cross sectoral issues and problems. This was further supported by; Gombya & Mukunya (2004) in his research of Kawempe Division in Kampala that found out that the residents of Kawempe were not involved in the formulation of the Kampala solid waste Ordinance that was meant to help in the disposal of solid waste. On the contrary, Mushabe (2002) contends that, enactment of bye-laws may not ensure improved solid waste disposal. In his research on Mbarara Municipality, he established that whereas the bye-law had been enacted in the maintenance of premises, road verges and trees) to ensure solid waste reduction, but instead the bye law was potentially dangerous to the municipality. This was because the bye-law had provided for the burial of solid waste by giving necessary guidelines to regulate the burial of toxic substances that could affect the environment. NEMA (1995) observed that despite the inadequacy of these laws, poor implementation and involvement of the local people in policy formulation had resulted in poor solid waste disposal. It was further observed that inadequate logistical support and financial resources was the cause of poor solid waste disposal practices.

b) Policy: PPPUE, (2001) concluded that a sound decentralization policy is a pre-condition for successful public-private partnerships at the local level. This is in agreement with Gombya & Mukunya (2004) who argue that formulation of policy that embodies reasonable balance of feasible, cost effective, sustainable, environmental, beneficial and socially sensitive solutions to solid waste problems will improve solid waste disposal. This argument is further supported by Mugenyi (2007), who also concluded that lack of a deliberate policy and framework for solid waste management at the community and institutional levels had influenced solid waste disposal negatively in Uganda. In addition Tumwesigye, (2003) said that the problem of garbage accumulation cannot change overnight, but a viable policy on refuse management can be achieved if individual refuse management is heightened. On the contrary Mushabe, (2002) contends that despite the existence of government policy as far as solid waste is concerned; the people still disposed solid waste in a way that was not acceptable.

Similarly, Schübeler et al, (1996) asserts that participation in the public processes of policy making and the role of party politics in local government administration which all affect the character of disposal, governance and the type of municipal solid waste management system which is possible and appropriate. Whereas Gombya & Mukunya, (2004) is in agreement, but the emphasis is more on private sector participation. He actually asserts that government policy regarding the private sector participation needs to be taken into account as it directly influences solid waste disposal.

c) Regulation: Schübeler, Wehrle & Jürg, (1996) argue that the instrumental basis for implementing the strategic plan on solid waste is comprised of regulatory framework. Gombya & Mukunya, (2004) observed that standards and restrictions may limit the technology options that can be considered thus influence solid waste disposal. PPPUE, (2001) recognized the need for local governments, psychologically to be prepared for the fact that they are no longer the only supplier of public services, it is also essential that they fully assume their new role as regulator. Paterson, (1996) argues that laws and regulations that imposed fines against indiscriminate dumping acted as a good remedy for solid waste management. This is confirmed by Casey, (1990) in his research that reveals that in 1987 when land fill space run out, most Danish municipalities quickly adopted high waste tax and this led to a reduction of waste being accumulated. However Bamukwesa, (1998) in her research was pessimistic about implementation of fines in Uganda

3.0. Research Methodology

3.1 Research design

The study was carried out using a cross sectional survey design in which formal institutions influencing solid waste disposal in newly created Town Councils were analyzed and described. The study used both quantitative and qualitative approaches. Probability and non-probability sampling techniques were used. Qualitative data provided information about the phenomenon being studied and therefore enabled me to establish the patterns, trends and relationships among the variables.

3.2 Study Population

A total of 821 respondents were considered for the study population. This included 713 residents, 55 business operators, and 27 political leaders, 15 heads of organizations, 5 heads of departments.

3.3 Sample Size and Selection

A sample is the subset of the accessible population. It was carefully selected so as to be representative of the whole population with relevant characteristics. The sample was calculated by use of the formula $n_f = n / (1 + n/N)$.

Where n_f = Sample of variables less than 10,000.

n = the desired sample size when the population was more than 10,000.

N = the estimate of the population size.

A sample size of 340 out of 821 was selected. These included 234 residents, 48 business operators, 39 political leaders, 14 heads of organizations, 5 heads of department from Bukedea Town Council. Random sampling was used to select the respondents for questionnaires and purposive sampling was used to interview respondents.

3.4 Data Collection Methods

a) Questionnaires: A structured questionnaire covering 12 questions was developed and administered to the respondents to extract information on their opinions on the influence of formal institutions on solid waste disposal. The sub-variables of formal institutions; laws, policies, and regulations relationships with solid waste disposal were used for development of solid the questionnaire. Closed ended questions were asked for obtaining opinions of respondents with alternatives that is yes, not sure and no.

b) Personal Interviews: were used to collect data from key informants like the Assistant Health Inspector, selected head teachers, selected political leaders, garbage collectors, opinion leaders. This was conducted to specialist persons with information on solid waste disposal. This method was preferred as it gave an opportunity to probe the respondents on the institutions influencing solid waste disposal.

c) Focus Group Discussion: was carried out with the opinion leaders in Bukedea town Council. During the discussion the opinion leaders were divided into two groups to discuss both formal and informal institutions. The discussions were conducted in both English and Ateso (the local language). It was translated into either language for better understanding by the members. The group members then presented the group discussions into the major plenary.

d) Documentary Review: Existing literature; publications of other researchers, text books, journals, news papers, other correspondences, Bukedea Town Council minutes, budgets, reports, development plans and papers presented in seminars were reviewed to back up primary findings.

3.5 Piloting research instruments.

A pilot study was done to test the research instruments by distributing a few copies of questionnaires, together with the objectives of the study to study 12 people that were considered knowledgeable about the research topic. There was also a simple interview with a total of 10 opinion leaders to pre-test the interview guide. Further 15 residents that came to seek for services in Bukedea Town Council were administered with the questionnaire.

3.6 Measurement of Variables

Variables for quantitative data were measured in form of numbers using Likert scale. The numbers in a Likert scale are ordered such that they indicate the presence or absence of the characteristic being measured (Mugenda & Mugenda, 1999). While under qualitative data codes or labels was assigned to emerging themes.

3.7 Procedure for Data Collection

The researcher obtained permission from the Town Clerk Bukedea together with the local authorities to undertake the study. He proceeded to select five research assistants that were trained for two days on the back ground of the study, purpose and objectives, geographical area location of the respondents and methodology of data collection. The research assistants were then drilled on the use of the research instruments. Items identified as sensitive, confusing or biased in any way were modified or omitted. The instruments were pre-tested and revised; during data collection, the research assistants ensured that the instruments were properly completed before dispatching them for coding and analysis.

3.8 Data Management and Analysis

Editing was done at the end of each working day after gathering data from the respondents. The interview guides were analysed for accuracy, consistency and completeness of the information.

The closed ended questions, pre-coded answers from the semi structured questions were coded. The open-ended questions of frames of the sub-themes were developed. This was done by looking through each question and answers to particular variables.

- a) **Quantitative Data:** was entered in the Statistical Package for Social Scientists (SPSS); data was presented in a form of tables, frequencies, percentages and graphs for comparison purpose. After all the data has been presented and analysed, the researcher interpreted them on the basis of themes. This phenomenon was interpreted from the tables, frequencies, percentages and graphs for explanation the influence of formal institutions on solid waste disposal.
- b) **Qualitative Data:** was analysed by organizing it into themes to establish trends and relationships from the information being studied. Direct quotes were used to strengthen the interpretation, where necessary.

4.0 Study findings

The study focused in establishing the influence of formal institutions on solid waste disposal in Bukedea Town Council; legislation, policies, and regulations. The study mainly looked at the adequacy, enforcement and effectiveness of formal institutions.

4.1.0 Legislation and solid waste disposal.

4.1.1 Adequacy of legislation on solid waste disposal: On administration of questionnaires, the study established that 30% of the respondents agreed, 62% disagreed and 8% were not sure about the adequacy of the laws in solid waste disposal. This implies that a majority of the respondents disagree that the laws are inadequate in solid waste disposal. The Health assistant of Bukedea Town Council, during the interview said that the laws that are used for example the Public Health Act 1964 was out dated. He explained that the Act still insists that a person caught disposing solid waste any how should to be fined 100 shillings. This can not deter residents from irresponsible disposal of solid waste. This notion further is supported by in Wholey, (1998) inadequate legislation in some countries such as Indonesia has proven to be contributory factor to the problem of Solid Waste disposal.

4.1.2 Enforcement of legislation on solid waste disposal: the study highlighted significant differences in perception on enforcement of laws in Bukedea Town Council; 58.2% of the respondents said no, 14.6% were not sure, 26.8% said yes and 0.4% had no opinion as regards the enforcement of laws. This implies that despite the existence of laws, they were not enforced in Bukedea Town Council. One of the members of the Ward Development Committee Mr. Ichomit during the interview noted that there was laxity in the enforcement of legislation by the administrators in Bukedea Town Council. This fact was also acknowledged by the Mayor, Bukedea Town Council, Mr. Igune Alfred who said that "*delayed recruitment*

of technical officers by Bukedea Town Council had greatly affected enforcement of laws in Bukedea town Council thus leading to poor solid waste disposal”.

4.1.3 Effectiveness of legislation on solid waste disposal: on administration of questionnaires the study established that 34% said yes, 10% were not sure and 56% of the respondents said no i.e. that the laws were not effective in solid waste disposal in Bukedea Town Council. This implies that a majority of the respondents did not agree that the laws were effective in solid waste disposal. The Health Assistant explained that laws like the public Health Act (CAP 269) are no longer very effective because the penalties that have been stipulated are no longer deterrent to the offenders examples of such include the penalty requiring an offender to pay only 100 shillings for which can not deter the offender because the penalty is small. They noted that non enforcement of laws was the major cause of the ineffectiveness of laws.

4.2.0 Influence of policies on solid waste disposal

4.2.1 Adequacy of policies on solid waste disposal: On administration of questionnaires the study established that 34% of the respondents agreed, 50% disagreed and 15% were not sure and 1% had no opinion about the adequacy of the policies on solid waste disposal. This implies that a majority of respondents agree that policies are not adequate in solid waste disposal. The opinion leaders during the focus group discussions also agreed that the policies are not effective because most of them are formulated in Kampala without taking into consideration of the opinions of local communities, like the ban on polythene paper bags.

4.2.2 Enforcement of policies on solid waste disposal: In administration of questionnaires there were significant differences in perception of enforcement of laws in Bukedea Town Council. 56.1% of the respondents said no, 15.8% were not sure, 27.8% said yes and 0.2% had no opinion as regards the enforcement of policies. The Mayor Bukedea Town Council agreed to the assertion that the policies were not being enforced in his council, because of lack of technical officers to implement Government policies. He further attributed this anomaly to delays in the recruitment of staff for Bukedea Town Council. The acting Town Health Inspector also agreed that solid waste disposal had become a problem because of lack of law enforcement officers.

4.2.3 Effectiveness of policies on solid waste disposal: On administration of questionnaires there the study established that 55% said no, 32% said yes, 13% of the respondents were not sure about the effectiveness of policies on solid waste disposal in Bukedea Town Council. This implies that most of the respondents do agree that policies are not effective in solid waste disposal. The interview respondents concluded that the policies were not effective because the policies were not enforced and most of the policies were outdated. The focus group discussions also concluded that policies were no longer effective because of corruption by enforcement officers as they do not effectively enforce policies.

4.3.0 Influence of regulations on solid waste disposal

4.3.1 Adequacy of regulations on solid waste disposal: On administration of questionnaires the study established that 32% of the respondents agreed, 53% disagreed 14% were not sure and 1% had no opinion about the adequacy of the regulations on solid waste disposal. One of the Councilors that were interviewed in Bukedea Town Council said that the regulations that were in place were inadequate due to the transition from a trading center to a Town Council. This implies that the established regulations are inadequate to solid waste disposal Bukedea Town Council.

4.3.2 Enforcement of regulations on solid waste disposal: In administration of questionnaires there were significant differences in perception of enforcement of regulations in Bukedea Town Council. The study established that 59.7% of the respondents said no, 17.8% were not sure, 20.8% said yes and 1.7% had no opinion as regards the enforcement of regulations. Most of the respondents said that regulations were not enforced in Bukedea Town Council. This implies that regulations are not actually enforced in the Bukedea Town Council.

4.3.3 Effectiveness of regulations on solid waste disposal: On administration of questionnaires, it was established that 51% of the respondents said no, 29% said yes, 19% were not sure and 1% had no opinion. Thus a majority of the respondents don't agree that regulations are effective in solid waste disposal. One of the students from Bukedea Senior Secondary School said that regulations are not effective due to poor enforcement of the regulations so could not be effective in solid waste disposal.

5.0 Conclusion and recommendation

In conclusion the purpose of the study was to establish the influence of formal institutions on solid waste disposal in newly created towns in Uganda being a study of Bukedea Town Council. The study established that formal institutions; laws, policies and regulations on solid waste disposal existed, were irrelevant, not properly enforced, and were not effective in solid waste disposal. This therefore made the formal institutions that are laws, policies and regulations ineffective in the solid waste disposal.

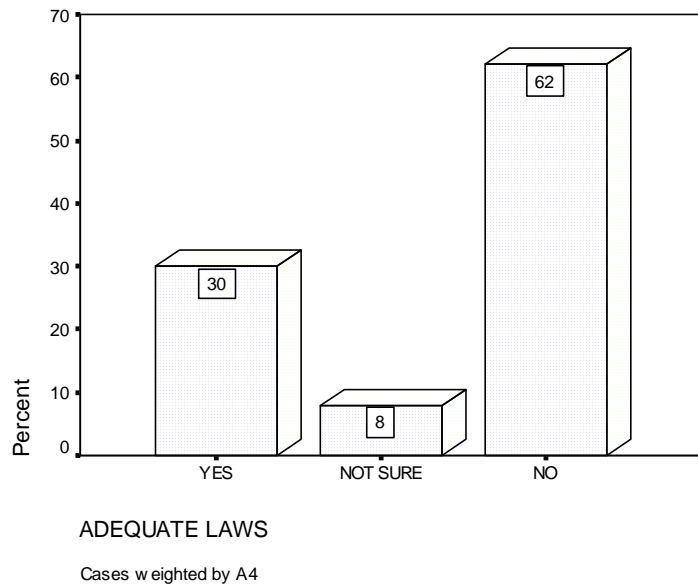
The study recommends evaluation and amendment of formal institutions; legislation, policies, and regulations. There should be deliberate efforts to put in place mechanisms for enforcement of legislation, policies and regulations through recruitment of staff, training of staff, sensitization and financing solid waste activities. This will make formal institutions more effective in the implementation of solid waste disposal in newly created Town Councils.

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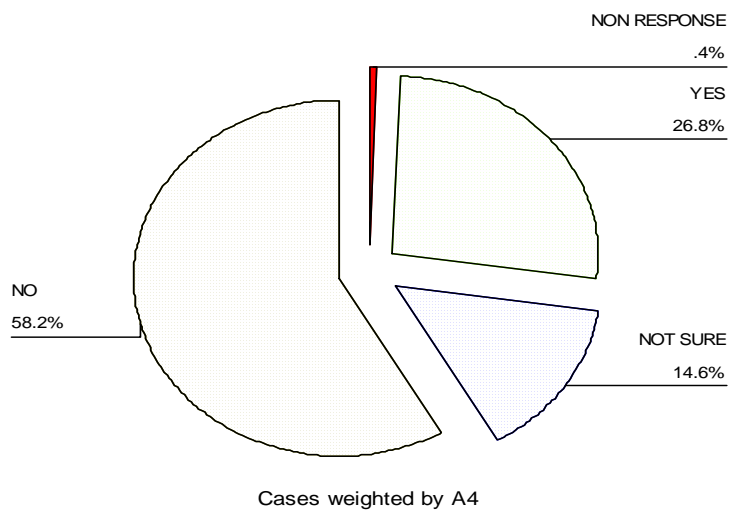
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Figures and Tables for influence of formal institutions on solid waste disposal

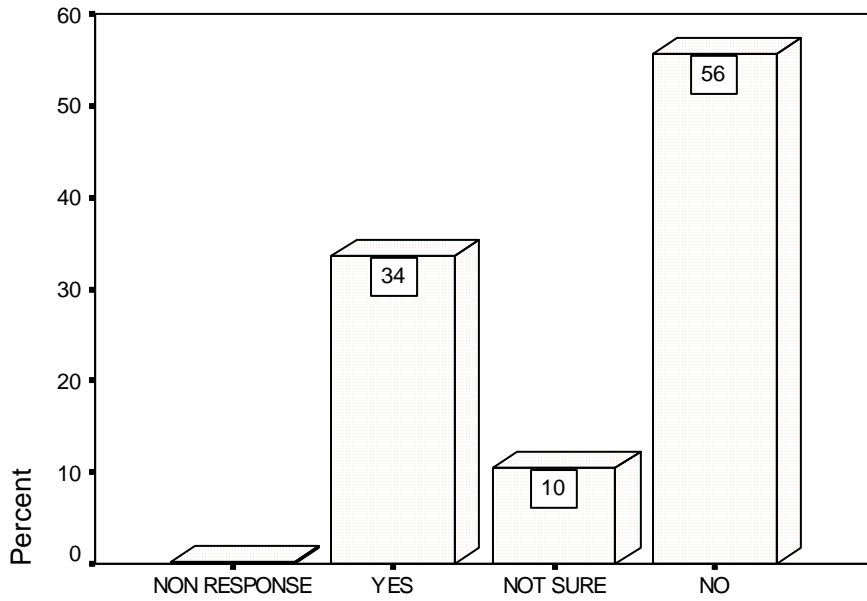
4.1.1 Graph 1. Graph showing the opinions of respondents on the adequacy of laws on solid waste.



4.1.2 Chart 1. Pie Chart showing the opinion of respondents on enforcement of laws in Solid Waste Disposal.



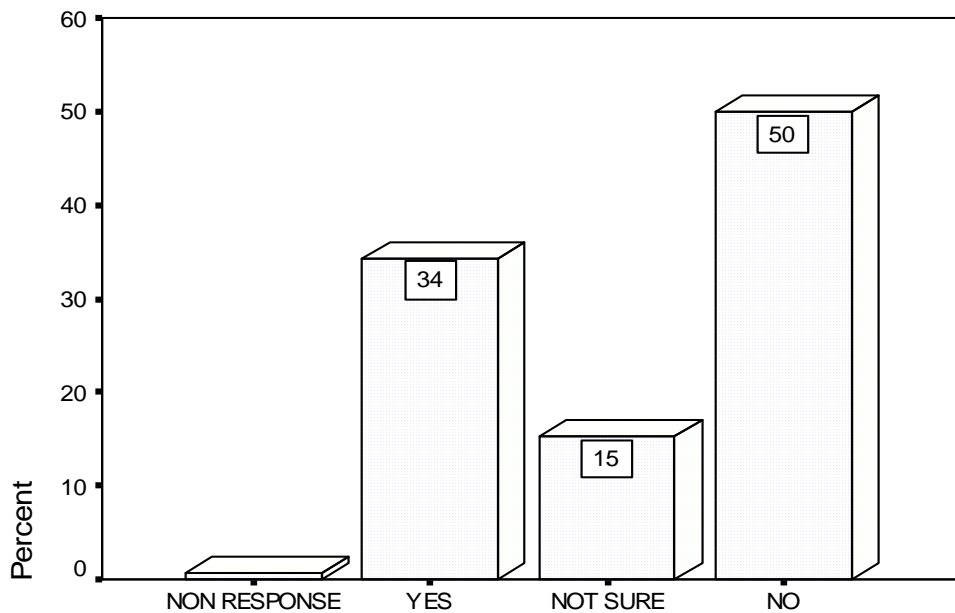
4.1.3 Graph 2. Graph showing the opinion of respondents on the effectiveness of Legislation on SWD.



EFFECTIVENESS OF LAWS IN SWD

Cases weighted by A4

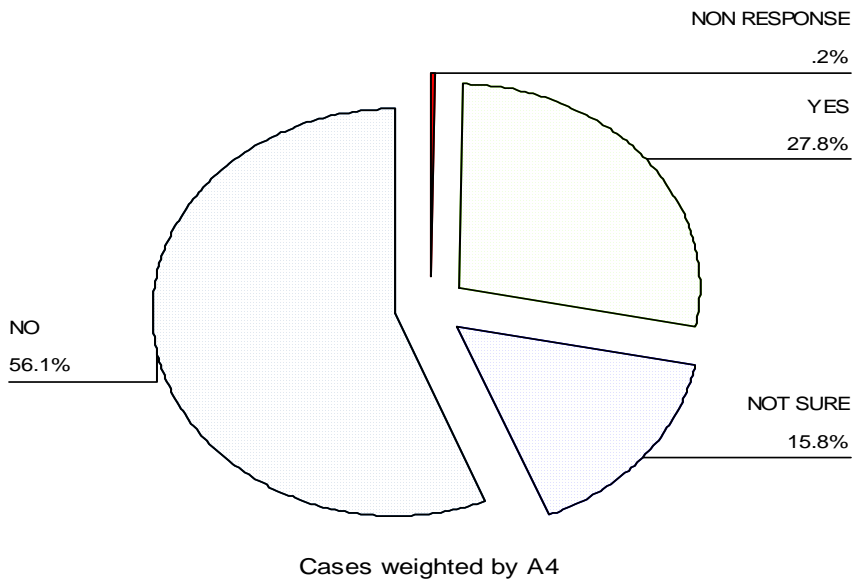
4.2.1 Graph 3. Graph showing the opinion of respondents on the adequacy of policies in Solid Waste Disposal.



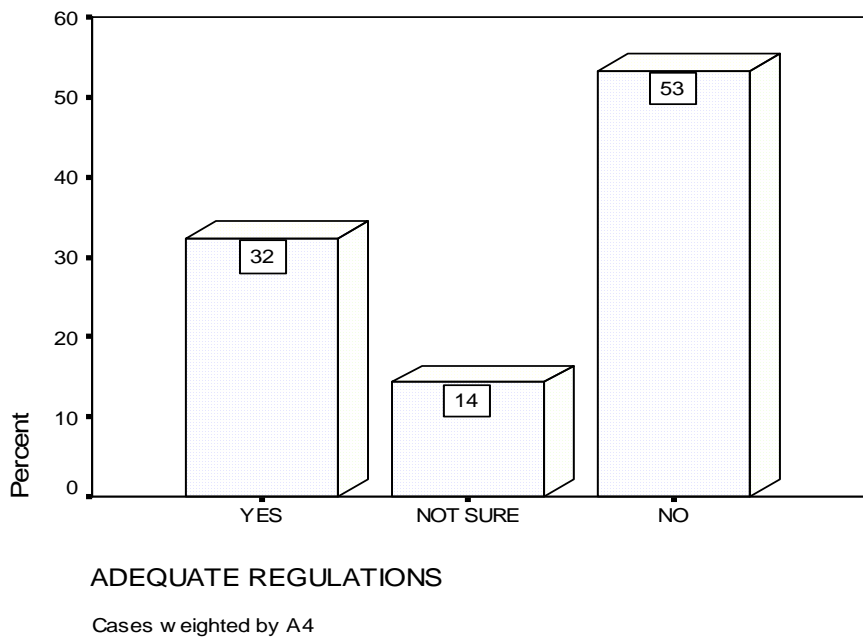
ADEQUATE POLICIES

Cases weighted by A4

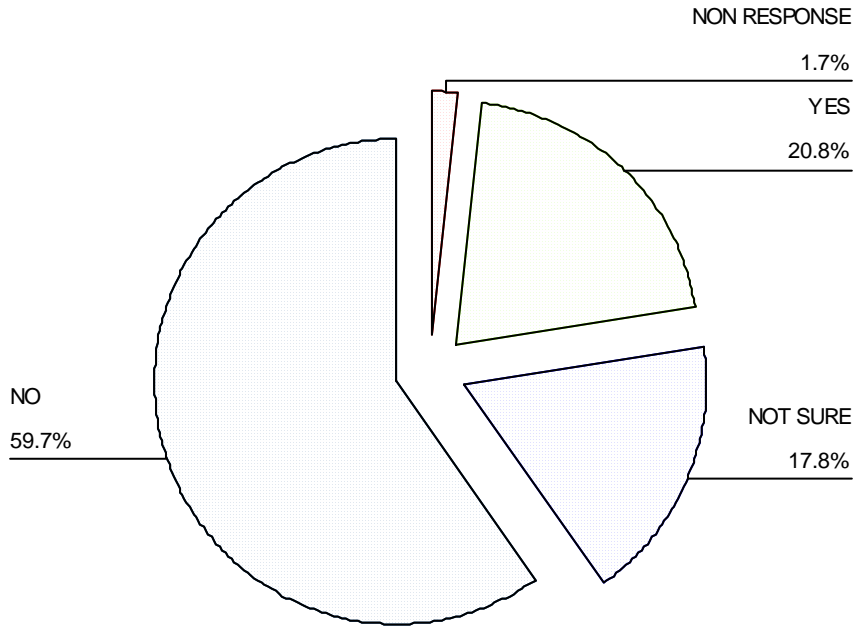
4.2.2 Chart 2. A pie chart showing the opinion of respondents on enforcement of policies in Solid Waste Disposal.



4.2.3 Graph 4. Graph showing the view of respondents on Adequacy of regulations in solid waste disposal.

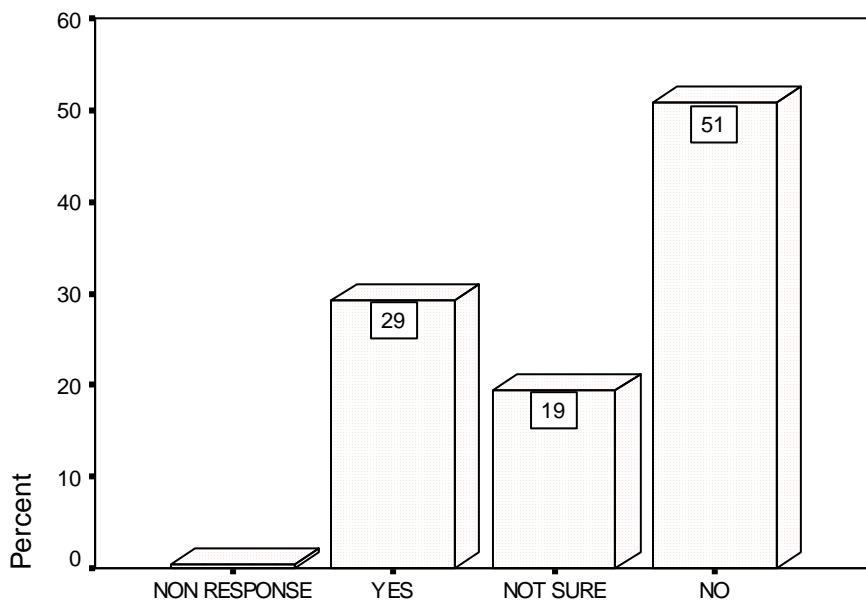


4.3.1. Chart 3. A pie chart showing the opinion of respondents on enforcement of regulations in Solid Waste Disposal.



Cases weighted by A4

4.3.2 Graph 5. Graph showing the opinion of respondents on effectiveness of regulations in solid waste disposal.



EFFECTIVENESS OF REGULATIONS IN SWD

Cases weighted by A4

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