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**THE GOVERNANCE APPROACHES AND THEIR IMPACT ON SOLID WASTE
COLLECTION PERFORMANCE IN SELECTED LOCAL GOVERNMENT
AUTHORITIES IN TANZANIA**

Tp. Dr. Hussein Mohamed Omar,

E-mails: husein.omar@vpo.go.tz/huseinfety@gmail.com,

Abstract:

The study assesses the impact of governance approaches on the effectiveness of solid waste management service provision in selected Government authorities (LGAs) in Tanzania. This motivated by the fact that some scholars have linked the effectiveness waste management service provision with the quality of waste management governance. The study was conducted in selected local Government Authorities in Tanzania. It was guided by Actors' involvement; Adoption of new tools and techniques; Citizens' active involvement and Power distribution.

The research methodology involved a purposefully selection of 5 local Government authorities. Questionnaires, observations, interviews and documentary review used for data collection. Descriptive analysis was used for analyzing the variables. The findings show decentralization and citizens involvement has contributed to the waste collection rate of 90% in Moshi municipality. Adoption of new tools and technologies contributed to the improving waste management data base and increasing the RCCs collection rate by 50% in Ilala Municipality.

To this end the study recommends; Decentralization of waste management governance to the Ward level; Adoption of new tools and technology such as electronic customer registration

systems and electronic payment systems; and promoting citizens involvement through civil society engagement and government incentives.

Keywords: Solid Waste; Solid Waste Governance; Governance: Waste Management: and Tanzania

INTRODUCTION

Urbanization has become the common phenomenon all over the World. Currently, 55% of the world's population lives in urban areas, a proportion that is expected to increase to 68% by 2050 (UN DESA, 2018). Projections show that the gradual shift in residence of the human population from rural to urban areas, combined with the overall growth of the world's population could add another 2.5 billion people to urban areas by 2050, with close to 90% of this increase taking place in Asia and Africa, (ibid).

Rapid urbanization in developing countries including Tanzania has increased pressure on urban infrastructure and henceforth resulting into poor urban service delivery including waste collection services. For example, in 1992 Sustainable City Project was launched in response to 9 identifies environmental issues in Dar es Salaam, city (URT, 2019). Inadequate waste management service was among the identified environmental issues. As of now in many developing countries including Tanzania only less than 50 per cent of the generated waste collected and disposed (Omar, 2018 and Omar 2019).

Several factors have been associated with ineffective waste management service in the country. Omar (2019) has identified supportive legal framework, responsive market, convenient waste collection schedule, technological flexibility, and effective cost recovery for the offered services as among the factors affecting waste collection services. However, effective implementation of these factors linked with quality of waste management governance at authorities responsible for managing solid waste.

According to the Local Government (Urban Authority) Act of 1982 section 55(g) in Tanzania, the role of waste management is vested to the local government authorities. Therefore, it is the

interest of this study to assess the waste management governance and their impact on the overall performance of waste collection services in Moshi, Arusha, Ilala, Kinondoni and Dodoma.

OBJECTIVE

The Study aimed at assessing the impact of the existing waste management governance on waste collection performance in selected local Government Authorities in Tanzania.

LITERATURE REVIEW

Governance Concept

In *Governance, Politics and the State* J. Pierre and B. Guy Peters (2000, p.14) discuss different views on governance and how it is best understood. For both authors the concept of governance is 'notoriously slippery' and it is often used by scientists and practitioners without a common definition shared by all. For example, Katsamunsk, (2016) defined Governance as the institutional capacity of public organizations to provide public and other goods demanded by a country's citizens or the representatives thereof in an effective, transparent, impartial, and accountable manner, subject to resource constraints.

According to Kjar (2004, p.10-11), governance defined as the capacity of government to make and implement policy. Again, Landell-Mills and Serageldin (1991, p. 14) defined governance as the use of political power to manage a nation's affairs. . . . It encompasses the state's institutional and structural arrangements, decision-making processes, and implementation capacity, and the relationship between government officials and the public. In another development Chazan, 1992:122 defined Governance as the capacity to establish and sustain workable relations between individual actors in order to promote collective goals (Chazan, 1992:122). It was further defined by Galadima (1998:117) as;

a process of organizing and managing legitimate power structures, entrusted by the people, to provide law and order, protect fundamental human rights, ensure rule of law and due process of law, provide for the basic needs and welfare of the people and the pursuit of their happiness.

Moreover, in another study Stoker (2009) structured governance around five propositions. These include: a set of institutions and actors that are drawn from but also beyond government; identifying the blurring of boundaries and responsibilities for tackling social and economic issues; identifying the power dependence involved in the relationships between institutions involved in collective action; recognizing the autonomous self-governing networks of actors; recognizing the capacity to get things done which does not rest on the power of government to command or use its authority; and seeing the ability of the Government to use new tools and techniques to steer and guide.

Therefore, as explained by J. Pierre and B. Guy Peters (2000, p.14) the Governance definitions from different scholars discussed above exhibit some elements of divergence on areas of emphasis in defining governance. The areas of emphasis include: capacity in implementing policies; the capacity in getting things done which does not rest on the power of government to command or use its authority; ability of the Government to use new tools and techniques to steer and guide structural arrangements; decision-making processes; service provision and actors involvement; role of government in coordinating nation affairs; and fostering human rights.

Based on that, this study applied the elements of these definitions to develop study variables. The variables used as a yardstick in guiding the analysis of the impact of governance approach on the effectiveness of solid waste management service provision.

Conceptual Framework

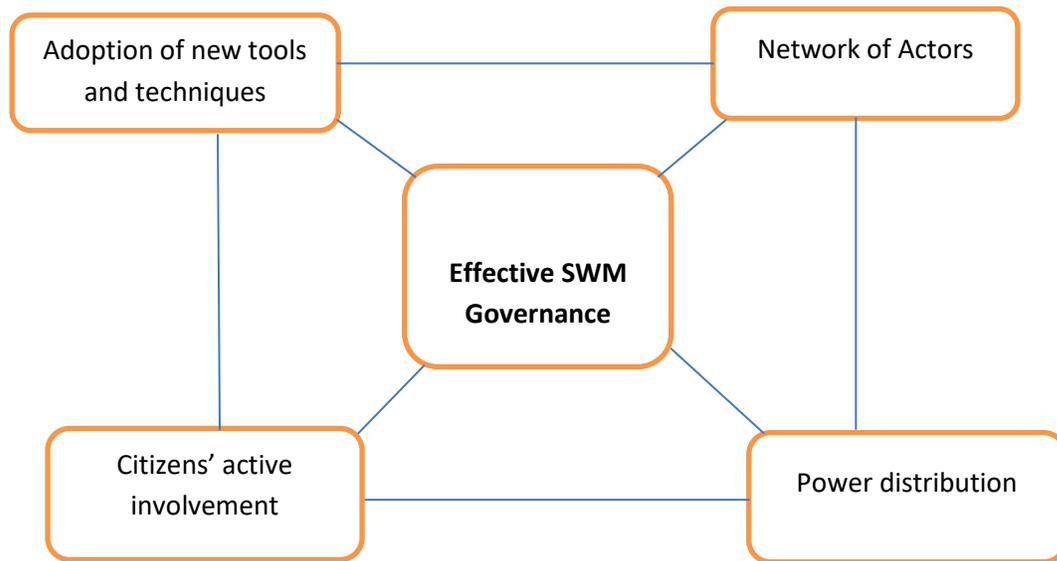


Figure 1: Conceptual framework

Source: *Author, 2020*

Adoption of New Tools and Techniques

Solid waste management (SWM) involved waste collection and transportation, recycling, treatment and disposal. For effective solid waste management governance the authorities should adopt better tools and technology that enhance transparency and effective decision making processes. This may include technologies such as e-payment systems, barcode and tagging systems, GIS systems etc. Such tools and technology will enhance resource mobilization, effective supervision and timely decision making for resource allocation and necessary interventions.

Power Distribution within the Institutions

Generally, power is the ability to cause or prevent an action, make things happen; the discretion to act or not act. Power is not uniformly distributed to all levels in the organization; however, it is confined to certain departments or groups of people depending on the level of responsibility and seniority. The distribution of power within an institution is very vital in effective performance. This may include resource allocations, timely decision making on important issues

etc. Therefore, effective SWM governance requires effective power distribution within the institutions to avoid unnecessary delays which lead to ineffective service delivery.

Citizens' Active Involvement

Citizen participation is expected to ensure the protection of rights, transparency, accountability, equity, self-determination, influencing decision making, effective democratic citizenship and meaningful dialogue for better service provision (Kimutai, 2018). Governments, civil society, and donors have become increasingly interested in the idea that citizens can contribute to improved quality of service delivery by holding policy makers and providers of services accountable. Effective SWM governance requires fully citizens' participation so as to ensure accountability of Government and Service providers for better waste management services.

Network of Actors

Public, Private and Non-profit organizations are increasingly faced with complex problems when making decisions, developing policies or delivering services in the public sector (Klijn et.al, 2016). These activities take place in networks of interdependent actors guided by diverging and sometimes conflicting perceptions and strategies. For effective service provision, monitoring and evaluation of the rendered waste management services there must be a constant interaction and communication among actors.

METHODOLOGY

The methodology involved a purposeful selection of 2 Cities and 3 Municipalities based on their waste generation and collection performance. For example, the selection of Kinondoni and Ilala Municipalities was reinforced by the fact that the two Municipalities have higher waste generation rate in the Country. For the Moshi Municipality, its selection was accredited to the continued accomplishment as the cleanest local municipality in Country. Additionally, being the second-best cleanest city in the country for the year 2019 has influenced the inclusion of Arusha city. For the case of Dodoma, its selection was motivated by fact that the Government Ministries and Departments have moved to the City which resulted into increase of economic activities and population growth.

For the selected local government authorities focus group discussions; direct observations and key informant interviews with waste management officers; head of environment departments;

health officers; and head of procurement units; finance department officers; Ward executive officers; *Mtaa* executive officers; and representatives of waste collection service providers (Companies and CBOs) were conducted. Additionally, documentary reviews were made part of data collection tools. The study used descriptive analysis for the analysis of the collected data.

RESULTS AND DISCUSSION

From the five (5) Municipalities it was found that there are similarities and differences in the manner in which Solid waste management is governed as discussed below.

Adoption of New Tools and Techniques

Ilala municipality

Ilala Municipality found to establish some initiatives on the adoption of new tools and techniques. For example, it was reported by both Municipal waste management Officers and waste collection service provider representative that in 2019 Palladium Group under the I4ID Project worked with Green Waste Pro (local waste collection Company) and Humanitarian Open street map Team (HOT) in collaboration with the Municipality to pilot a system of fixing unique geo-registered tags on every house, apartment, building, and shop in their catchment area. The Tags reported to be registered with a GPS pin in the customer database to be used as digital address. The system has enabled the effective waste management governance by enabling GreenWastePro to manage and track all residents' payments and the service they obliged to be receiving. The system claimed by Green WastePro Company to boost their revenue by 50 per cent and thus waste collection efficiency in the Wards served by Green WastePro.

Moreover, the council found to be using Point of Sale Machines (POS) for effective governance of waste collection charges. However, the system found to be used by formal service providers only. The informal service providers and CBOs were found not to use POS machines. This has denied effective waste management governance which led to poor waste collection services.

Kinondoni municipality

Like Ilala Municipality Kinondoni has also, adopted POS machine technology for effective governance of waste collection charges. Unlike Ilala Municipality Kinondoni found to use POS machines to all service providers irrespective of their registration status. That is all registered companies, CBOs and *Mtaa* offices that provide waste collection services were found to be given

POS machines. Although this found to increase effectiveness in the governance of refuse collection charges but the adopted revenue sharing systems found to affect the capacity of service providers in the provision of waste collection services. The system lack effective mechanism for timely sharing of the collected refuse collection charges among stakeholders and thus impairs waste collection efficiency.

Arusha city

Like Ilala and Kinondoni Municipalities the Arusha City also was found to be using POS machines technology for the collection of Refuse Collection Charges (RCCs). The use of POS machines was found to apply for all service providers including waste collection companies and CBOs. As it was observed in Ilala and Kinondoni the system of revenue sharing from the collected RCCs between council and service providers was found to be ineffective for timely sharing of the collected refuse collection charges among stakeholders. The delays in the disbursement of the RCCs shares to the service providers reported to affect waste collection performance.

Moshi municipality

Similar to Ilala, Kinondoni and Arusha, in Moshi Municipality RCCs was also, observed to be collected through POS machines. According to municipal waste management officer the use of POS machines aimed at enhancing the effective collection of RCCs. The waste management office and municipal treasurer both claimed the use of RCCs has enabled the municipality to trace and oversee refuse collection charges easily and thus enhance waste management performance.

Dodoma city

In Dodoma Municipality the use of POS machines technology was also observed. However, the use was limited to only eight (8) Wards at the Central Business District (CBD) where a licensed waste collection company is providing services. For the 13 Wards which considered as periphery Wards which served by CBOs and 20 Wards which considered as rural Wards were reported of not using POS machines. This found to affect the capacity of the City in administering waste management user fees collection. Consequently, the financing of waste collection services observed to be affected.

Power Distribution within the Institutions

Ilala municipality

In Ilala Municipality the power distribution in the management of solid waste was found to be divided into Municipal authority and private service providers. The Municipality has the power to award tender for service providers as well as direct service provision in public places such as beaches, public schools, markets and state house. Also, the municipality involved in servicing municipal trucks. However, the limited power distribution within municipality led to bureaucratic decision making process which claimed by municipal waste management officer to affect the quality of waste collection services. The department responsible for waste management services found to lack adequacy independency in procuring and supervising waste management contracts efficiently. This found to be caused by existence of complicated approval processes beyond the waste management department. For example, it was reported during the interviews that the maintenance of broken trucks will require approval from Municipal director, municipal treasurer, municipal waste management officer, municipal procurement officer and municipal engineer. These processes found to affect the ability of the waste management department to react timely on waste management issues.

Moreover, for the case of private service providers the size of the company was found to determine the power distribution. The companies with more than 10 trucks were found to have a complex power distribution compared to small companies. Decision making in the bigger companies observed to pass through a minimum of 3 chains. This involved directors, line managers and operational officers. Unlike the Municipality, the decision making in the private company reported to take one to three days depending on the nature of decision. However, for the Municipal council the decision claimed to take one to 4 weeks.

Kinondoni municipality

Like Ilala Municipality, Kinondoni also, found to follow the similar pattern of power distribution. Much of the power vested to the municipal director. The decision making in addressing waste management challenges follow bureaucratic process with a chain of more than 7 officials. This include; municipal directors, municipal treasurers, procurement officers, engineering department and waste management officers. This was highlighted during the interview by waste management and health officers to affect the capacity of the waste management department to address the emerging waste management challenges timely. "It may

take up to three weeks just for addressing Tshs50,000 worth mechanical default” highlighted by Mr. Kitururu who is a Municipal environmental Officer.

Arusha city

As it was for Ilala, and Kinondoni Municipalities the Power distribution in Arusha City Council follow the similar pattern. Much of the power is highly centralized to the municipal director. For example, a fixing of the broken tire in a municipal truck has to be approved by Municipal director. This claimed by waste management officers to slow down the pace of reacting to waste management challenges which consequently, affect the quality of waste management services provided. The power distribution to other departments with in the City Council such as municipal treasurer, procurement unit, engineering department, and waste management department was merely limited to the advisory role.

Moshi municipality

Unlike Ilala, Kinondoni and Arusha the power distribution in Moshi municipality is highly decentralized. The day to day waste management service provisions are managed at Ward level. The Ward executive officers found to be given a power over resource use on waste management services. This includes paying labors as well as financing the technical faults on waste management trucks without asking permission to the municipal directors. The Municipality headquarter is involved in managing the tendering processes for the company responsible for refuse collection charges. However, after tendering award the RCCs collection contractors reported to be working directly with ward officers. Such distribution of power has improved the waste management governance and consequently, 90 percent of the generated waste collected. That has made Moshi the Cleanest Local Government Authorities in Tanzania.

Dodoma city

In Dodoma City the power distribution is less centralized compared to Arusha, Ilala and Kinondoni. Although the pattern of addressing waste management challenges such as fixing the Municipal waste management equipment or approval of the payment for the service offered by service providers was observed to be similar to the one observed in other local Government authorities, but the manner in which the city council work with CBOs was different. The Council allows the CBOs to work independently without using Point of Sale Machines or made any submission of the collected revenue to the city authority. The CBOs were only paying

Tshs50,000 for the waste transportation services from collection point to the landfill site. This was observed to enhance the capacity of the CBOs in providing services. During the interview, Mr Mfinanga who is the Environmental officer at the City council has attested that such arrangement has made the CBOs to grow. He claimed that CBOs have formed a union through which they deposit the donations at the specified account in the city council aimed to enable them to buy their own waste collection truck. This was also, indicated by CBOs representative during the interview.

Network of Actors

Ilala municipality

Effective waste management service requires involvement of various actors. Ilala Municipality was observed to engage various actors in enhancing better waste management service provision. For example, in order to improve the municipal waste management data base the council was observed to work with local and International NGOs. Through FORUM For Climate Change organization on the project “*Accountable Climate Actions and Financial Transparency Initiatives*” the improved waste management data base document was prepared. The prepared document claimed by Municipal environmental officers to assist the council to estimate the expected revenues and cost while preparing the tender document for waste management collection service provision. Also, with Palladium Group on the Project Inclusive for Institutional Development (I4ID) the council has managed to improve the customer data base and thus RCCs collection at the Central Business District.

Kinondoni municipality

In Kinondoni the involvement of actors especially outside the direct waste collection service provision was found to be limited compared to the Ilala municipality. While responding on the presence of partnerships with national or international organizations the Municipal environmental officer has indicated the presence of only one notable partnership in the construction of composting plant which claimed to happen more than 5 years ago. “Of current there is no new partnership formed due to bureaucratic process in our Municipality”. He claimed Mr Kituru. This observed to deny the Municipality the opportunities of getting “technical know-how” as it was observed in their counterpart in Ilala Municipality.

Moreover, for the case of direct waste collection service provision, the study observed active actors involvement through public private partnership arrangements. According to municipal environmental officer there were over 90 active private waste collection service providers including licensed companies and CBOs. However, it was highlighted that nearly 50 service providers had stopped the service provision due to ineffective revenue sharing process. Thus, has indicated by Municipal Waste Management officer to have affected the service provision from 50 percent in 2014 to less than 25 percent in 2019.

Arusha city

In Arusha City like in Kinondoni much of the actors' involvement was found to be restricted around public private partnership specifically on the provision of waste collection services by licensed waste companies and CBOs. There were no wider scope involvements of other stakeholders to enhance effective waste management service provision in areas such as technological transfer on waste collection techniques, disposal methods, waste minimization strategies or enhancement of refuse collection charges

However, the major notable partnership was on the construction of landfill site at Muriet in partnership with World Bank through Sustainable City Programme (SCP).

Moshi municipality

Despite being the cleanest City in the Country, Moshi was found to have limited actors' involvement in the governance of waste management service provision. Much of the waste management activities were limited to Municipal authority. Unlike other local Government authorities waste collection services were not found to be outsourced. While responding on the existence of private sector in the provision of waste collection services the municipal environmental officer has indicated that waste collection services are mainly provided by the municipal council. "There are no contracts for private sector to provide waste collection services in the Municipality". He further added. However, the involvement of private sector was only observed in the collection of refuse collection charges.

Dodoma city

Like Kinondoni and Arusha the involvement of private sector in Dodoma City was much limited in the provision of waste collection services through public private partnership. However, unlike Ilala, Kinondoni and Arusha only one licensed service provider (Green WastePro) was found to be providing waste collection services parallel with Community Based Organizations (CBOs). There were no involvements of private sector beyond waste collection. The areas such as technological application in enhancing revenue collection, waste collection techniques, waste minimization or waste recycling were not observed or reported to exist.

Citizens' Active involvement

Ilala municipality

The involvement of Citizens in holding their leaders accountable for the provision of better waste collection services was not observed in Ilala Municipality. While enquiring waste collection service providers on the pressure obtained from residents in case the service has not been effective; Service providers at the focus group discussion have declared the absence of incidences of direct pressure from the residents. However, they have reported to obtain pressure from *Mtaa* leaders and Municipal officials. Also, while enquiring at the focus group discussion on the involvement of the citizens in demanding better waste collection services; both Ward and *Mtaa* Executive Officers' respondents have indicated that there is no united move for citizens in demanding better waste collection services. "The biggest pressure comes from Municipal Director and District Commissioner". Indicated by Vingunguti Ward Health Officer.

In addition to that, while enquiring on the demand of better services to be featured as agenda during the elections; both Ward and *Mtaa* leaders have indicated that in many parts of the municipality waste management has never been much as agenda during the elections.

Kinondoni municipality

The involvement of citizens in demand for better waste collection services was also, reported and observed to be very limited in Kinondoni like their counterpart in Ilala. However, in a focus group discussion it was highlighted the presence of incidence in Tandale Ward where residents take the waste to the Mhalitani *Mtaa* office as a protest of

demanding better waste collection services. This was reported to be caused by the absence of waste collection services for nearly 3 months in the sub-ward. While enquiring on the demand of better services to be featured as agenda during the elections; all members at the focus group discussion have indicated waste management to be less of concern during the election. They further argued that the presence of informal service providers has given residents alternative and hence reduce the pressure.

Arusha city

Similarly to Ilala and Kinondoni, in Arusha City there was no active involvement of residents in holding their leaders accountable for better waste collection services. Municipal officials, *Mtaa* and Ward leaders at the focus group discussion have indicated of not experiencing pressure from residents on demanding better waste collection services. Much of the pressure reported to come from District commissioner's office and Municipal director. The competition for the national awards indicated by Ward and *Mtaa* officials as the driving force of the City council in providing better waste collection services.

Moshi municipality

Dissimilar to Arusha, Ilala, Kinondoni and Dodoma, residents in Moshi Municipality were found to be involved in holding leaders as well as fellow citizens accountable. While responding on the involvement of residents in the governance of waste management service provision; Municipal director as well as Municipal waste Management officers have declared that citizens have shown the tendency of not electing their political leaders who were not performing well in the inter-Ward cleaning competition which held every year within the Municipality. Moreover, Municipal environmental officer added that, "waste management is one of the very fundamental agenda in the election. This has made councilors to be fiercely fought for increasing resources to waste management activities".

Additionally, it was also highlighted during focus group discussion that citizens were actively involved in the enforcement of waste management by-law. This was reported to be happening through taking to the law enforcement agents those littering in exchange of commission from the fine charged. That was claimed by Ward and *Mtaa* executive officers to have increased the motivation of citizens' involvement in waste management governance.

Dodoma city

Alike Ilala, Kinondoni, and Arusha citizens were found and reported to be less involved in holding their leaders accountable. During focus group discussion as well as interviews with Environmental officers, Ward executive officers and Mtaa executive officers it was indicated that there were no observed incidences of citizens' pressurizing for better services. Different Moshi Municipality Waste management was not reported as among the topical agendas during the election. Like it was observed in Ilala, Kinondoni and Arusha the pressure for better services were much originated from regional commissioners or district commissioners' office. This has reduced the accountability level to the municipal authority and leaders in the city.

CONCLUSION

Decentralization of resources and responsibilities and active citizens' involvement in the governance of waste management play a positive role in the performance waste collection service in local government authorities. Moshi municipality has demonstrated a unique decentralization and citizen's involvement in waste management processes and consequently has been the cleanest municipality in the country for several years.

Additionally, the flexibility in widening the scope of involving other actors has proven to be an important tool to supplement the inadequate resources allocated for waste management in local Government authorities and thus, improving waste management performance. Ilala Municipality has managed to enjoy the benefit of partnerships with national and international organizations in enhancing waste management performance. The adoption of new tools and technology through partnership with International Organization has increased the collection of RCCs by 50% at central business district in Ilala Municipality.

RECOMMENDATION

Decentralization of Waste Management Governance to the Ward Level.

The current practices in many local government authorities have shown that Ward and Sub-ward levels are less involved in the management of resources. Therefore, like in Moshi Municipality the RCCs should be collected and deposited at the Ward account. Also, the collected RCCs

should only be spent on waste management activities. The headquarters in local government authorities' role should be limited to the establishment of proper mechanism to control the discipline on the expenditure through "eyes on hands-off" strategy.

Adoption of Tools and Technology

The current practice of manual base system should be reversed. New technologies such as electronic customer registration systems are essential in enhancing waste management governance. Such systems may improve waste management governance by ensuring the local government authorities and waste collection service providers know their customers and hence make it easier for revenue projections, service provisions and enforcement.

Encourage Citizens' Involvement

There must be deliberate initiatives to encourage citizens' involvement in the waste management governance. Both Government and civil society organizations should be play a role in inspiring citizens to participate in demanding better services by holding their leaders accountable for the case of unsatisfactory services. This can be done through continuous awareness creation campaigns on TV and Redio programs, public events, social media, posters, leaflets, and other publications.

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