

Status of Waste Governance System in Iran - An Overview

¹MehriAhmadi, ¹Halimaton Saadiah Hashima, ¹Ahmad Fariz Mohameda,
²Naser Moharamnejadand ²Elmira Shamshiria

¹Institute for Environment and Development (LESTARI),
Universiti Kebangsaan Malaysia (UKM), BANGI, Selangor, Malaysia
²Department of Environmental Management, Science and Research Branch,
Islamic Azad University, Tehran, Iran

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Abstract: This study examines the status of waste governance structure and relations, role and responsibilities of stakeholders, and regulatory framework in Iran. The focus is on Tehran as a case example. The study employed a qualitative research approach in the collection and analysis of data. Data for the study were gathered through semi structure interviews from key informant among individual and organisations, which are stakeholders of MSW management. In addition to the interviews, some of the relevant official reports, articles, policies, and legal documents relating to solid waste management reviewed. The study recommends a stronger institutional and administration reform and coordination between the relevant institutions and improve community participation for effective waste governance system.

Key words: Governance • Waste. Institutional framework • Legal • Iran • Tehran

INTRODUCTION

Waste management is one of the most visible of urban services. These services are a major employer and consume a large proportion of the operational revenue of a city or municipality. As such, effective and sustainable waste management goes hand-in-hand with good local governance and sound municipal management [1].

The importance of waste management in a governance perspective derives from the fact that due to the high population and economic activity concentration in urban areas, the waste generated cannot be disposed of effectively on an individual basis [2].

The topic of governance is broad, multi-faceted, and of great complexity [3]. Poor governance is a major reason why cities' solid waste and other urban systems fail [4].

The success of the authorities in managing waste (as is the case with other publicly provided services) hinges on the availability of resources, and on good governance; it creates legitimacy for the state in the eyes of the public. Failure creates hostility, and distances the public from the state, and this has important connotations for resource generation, democracy, transparency and accountability [5].

It is somewhat difficult to grasp the concept of governance and even more so to define environmental governance. Governance can be defined as a complex set of values, norms, processes, and institutions by which society manages its development and resolve conflict, formally or informally. However, it is based on a relatively short history and relies upon still emerging scientific disciplines [6].

This is in view of the fact that effective solid waste management depends upon an appropriate distribution of functions, responsibilities, authority and revenues between national, provincial and local governments, as well as intra-urban entities such as communities [7].

Environmental governance comprises complex governance elements dealing with various environmental compartments in an integrated manner through involvement of a wide range of actors and stakeholders. Environmental governance is also applied at a range of scales, from local to national to global. Overall, it is the key to achieving balance between consumption, human welfare, and environmental consequences.

Governance is ultimately concerned with creating the conditions for ordered rule and collective action [8].



Fig. 1: map of Iran

Yet while there is growing attention to environmental governance, the analysis of these processes and practices have been dominated by a small number of issues that have been the subject of intense global consideration, such as climate change. There has been less attention given to waste governance and particularly the governance of household waste, although there is less available research specifically related to the waste governance field in Asia [9].

In recent years, studies on waste management in Iran have focused on the review of the MSW trend of generation and composition, as well as MSW management including waste collection, in Iran, e.g., Rasht city [10], KhoramAbad city [11], Sarab county [12], Kurdistan province [13] with little consideration of the governance aspect of waste management.

In order to be able to understand how the governance processes operates within solid waste management in a given context, a critical approach to the governance processes is required.

Achieving sustainable waste management would require the establishment of a waste governance structure that emphasizes on the sufficient policy and legislative framework as well as the organizational and institutional framework.

In this article under the national context, the focus is on the policy and legislative framework, nature of waste governance structure, stakeholders' role and responsibilities and the relations between them in different tiers of government.

Iran-Case Study Area: Iran is located in the southern part of the north moderate zone between 25°03' and 39°47' of northern latitude and 44°14' and 63°20' of eastern longitude. Iran is the eighteenth largest country in the world with an area of 1,648,195sq.km. The country has a population of over 70 million [14].

Today, more than 69 percent of Iran's population lives in urban areas. There are various stages of transitions from a traditional state to modernity in Iran. Many cities are currently the fossil-fuel consumers, land-devourers, and waste producers. Urban pollution at the outset of the third millennium relentlessly threatens humanity's very existence. Consequently, fighting the deleterious effects of economic and industrial actions on the environment and seeking ways to compensate for these damages comprise an important part of Iran's governmental dialogue [15].

Metropolitan of Tehran has experienced unsustainable urban expansion in the past 5 decades. The population of the city has grown up from about 700,000 in 1941 to about 7,797,520 in 2006. In terms of area, over the same period, Tehran has expanded from 80 km² to 730 km². (Statistical Centre of Iran, 2006)[16].

Methodology: The study employed qualitative research method in the collection and analysis of data.

Data for the study gathered through semi structure interviews from key informant among individual and organisations, which are stakeholders of MSWM.

In addition to the interviews, some of the relevant official reports, articles and policies and legal documents relating to solid waste management in Iran were reviewed.

The research designed to assess following subheading of the governance structure of MSW management:

- Waste governance structure
- Governance relationship status
- Role and responsibilities of stakeholders and;
- Policy, Legal and Regulatory Framework

RESULTS AND DISCUSSION

Waste Governance Structure in Iran- Tehran Case: Mainly waste governance supposed to be as a municipal issue, but there are more levels and kinds of authorities involved in waste management, such as international, national, regional and local levels. Further, in the



Fig. 2: Tiers and spheres of waste governance

institutional framework there are different departments and sub-departments that have different levels of responsibility.

The strength and transparency of an institutional framework are essential to good governance in solid waste. In order to assess the institutional coherence, in this article, we are looking into the governmental organizations and institutions that are involved in the management of waste management.

In Iran there are three levels of government: national level (ministries and environmental agencies), regional level (governors or provincial) and local level (municipalities, city councils). Based on the current MSW institutional structure of Iran, a distinction is made between the stakeholders in local scale, Local level here means from the city level to neighbourhood scope. Most of the program implementation and actual instructional action are taking place at action (community) level so this level consider as a fourth tier.

Stakeholders of MSWM at national level are responsible for establishing the institutional and legal framework for MSWM and Supervises and coordinate local governments for effective solid waste management.

The current government structure for the management at the national level, consist of: (i) Ministry of Health, Treatment and Medical Education; (ii) Ministry of Interior; and (iii) Department of Environment.

Supervises and coordinates all provincial and municipal public authorities fall under Ministry of Interior (MOI), and DOE have the most enforcement responsibilities. The MOHTME (Ministry of Health, Treatment, and Medical Education) are occupational health inspectorate and provides technical advice and

support related to healthcare waste. The Ministry of Agricultural Jihad and the Ministry of Mines and Industries contribute to regulations dealing with other hazardous wastes.

At provincial level, there is no independent organisation responsible for waste management.

At the local level (city level), the WML states that the responsibility of solid waste management in urban areas rests with the municipalities.

During recent years, municipalities in Iran transited to consolidating and centralizing many of the solid waste operations, quality control and research & development functions by establishing Solid Waste Management Organization.

However, the relationship between Tehran solid waste management organization (TSWMO) and regional municipality (in metropolitan like Tehran) are mainly manipulative, regional municipality executive officials are mandated to provide municipal services to its residents, supervising the activities of the contractors and carrying out street and drain cleansing, but the planning process for SWM is placed in the SWMO.

The current governance structure for the management of waste in Tehran city as an example is schematically shown in Figure 3.

Figure 3: Current government structure for municipal waste management in Iran

Governance Relationship Status: In the following part, official cooperative platform in different Tiers and spheres of waste governance will be discussed.

National and provincial level: Under the waste law, two committees have been established at the local and the national level to facilitate interagency communications for implementation of the law. The management of waste-related issues in interagency committees offer an opportunity for all agencies to meet and discuss common problematic issues; representatives to the committees rarely have sufficient power within their own organizations to take decisions that would have an impact on the issues to be addressed.

Representatives attend both the national and provincial committees from the different offices, which include, MOI, the DOE, MOHTME, Tehran municipality, Ministries of Mines and Industry, Agricultural Jihad, and from other relevant agencies whose participation will be dictated by each specific meeting agenda.

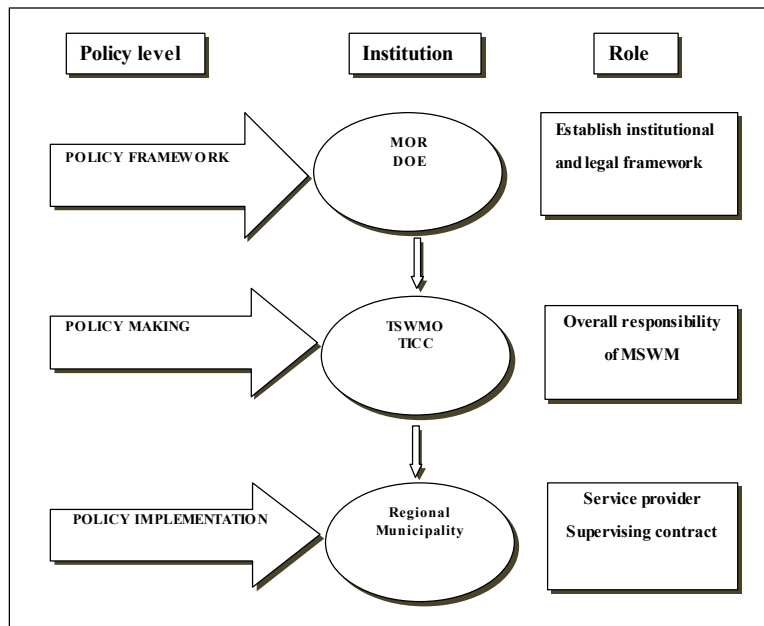


Fig. 3: Governance structure for the management of waste in Tehran city

Routine matters involving provinces will be presented to the committee by permanent members charged with overseeing waste management issues in various provinces. Particular provincial matters will be presented to the committee by representatives from the provinces, who will be invited to specific meetings when appropriate. Provincial committees will be set up in a similar manner, with representatives from local government agencies.

Local Level: Tehran Islamic city council (TICC) established the waste management workgroup under the supervision of the environmental committee with the responsibilities in planning, supervision, coordination, and leading activity regarding waste management in Tehran city, members of this group are representatives from local official authorities and academics.

Community Level: No grounds for participation of stakeholders in MSW at the local level provided therefore community level stakeholders have not space and place in the governance of MSWM.

Role and Responsibility of Identified Stakeholders: The national governance framework and the local level relations shape types of institutions and roles and responsibilities of stakeholders.

In the following, Summary of finding about role and responsibility of different stakeholders in Tehran city as a case example will explain in the Table 1.

Policy and legislative framework for municipal solid waste management (MSWM) in Iran.

National and Local Policies on Solid Waste Management: The regulatory framework related to Solid Waste Management in Iran can be distinguished at International, National, Provincial and Local levels.

There is several important Laws/Acts, Regulations and local plan can be identified in relation to the management of Solid Waste. These have been listed in Table 1.

WML (Waste Management law), 2004: The new WML developed over several years, in a collaborative manner between government agencies. The Law approved by Parliament on May 2004.

Ratification of this law will pave the way for responsible agencies to provide detailed regulations and to execute them effectively [17].

The new WML includes 24 articles, and 3 chapters as below:

- Chapter 1 defines the terminology used,
- Chapter 2 includes the provisions and articles that regulate the categories of waste, and
- Chapter 3 addresses the penalties for violations.

The WML indicates that according to the 50th principal of Iran's constitution (environmental protection law) all the ministries, municipalities, governmental and

Table 1: Stakeholders and their roles regarding MSWM in the city of Tehran.

Institution	Unit/Department/Division	Roles and responsibilities
National level		
Ministry of interior	Municipalities & Rural Municipalities Organisation (MRMO)	Authority over municipalities Policy formulation Legal framework development Information sharing/dissemination Budget allocation
Department of the Environment (DOE)	Office of Water and Soil Pollution Studies	Control over pollution Supervise enforcement/ penalties Preparation of the environmental protection policy and the laws, regulation and directives Advises on waste-management issues Reviews and approves EIAs
Province level		
Governorate		No special role
Tehran Provincial Directorate of Environment Protection		Control over pollution Supervise enforcement/ penalties. Permit to treatment
Local level		
Tehran Islamic city council		Tariffs Setting Ratification of integrated waste management plan Monitor implementation of laws and rules
Tehran Municipality	Urban Services Deputy of Tehran Municipality	Implementation of policies Enactment of ordinances Information sharing/dissemination Budget allocation
TMWO (Tehran Waste Management Organisation)		Responsible for collection and disposal of MSW Planning for SWM Frame guideline and procedures Senior supervision
Community level		
Regional municipality		Implement TWMO program Service supervision Compensation Providing monthly report to TWMO Street Cleaning Waste Collection Recycling Public Awareness
Neighbourhood council		Identify the main problems Supervise Consult
NGOs		Awareness creation Clean-up and launching events
Formal Private Sector		Cleaning, collection, transportation, Disposal and recycling Public training
Informal private sector		Collecting recyclable Collecting reusable materials
Households		Primary collection Proper discharge Paying service fee
Other Stakeholders		
Research centres/Academics		Providing additional Technical support Research and study works
Media		Public awareness raising
International organisation		Consultation

Source: Author

non-governmental organisations, companies and households are supposed to follow the WML. According to this law, there is a classification for different types of waste, which include municipal waste, hospital waste, hazardous waste, agricultural waste and industrial waste. Also the tasks of responsible organisations include, planning, organizing, implementing the whole process including control of waste generation, collection, storing the waste, sorting, transportation, treatment of waste, recycling, disposal and providing the educational programs for people. The WML has this possibility for the solid waste management organization in that they can allocate some parts of their implementation and practical tasks to the private sectors to be more economically efficient.

In addition, the WML stipulates the standards related to waste separation, recycling, and disposal. The Department of the Environment, Ministry of Health, Treatment, and Medical Education and other relevant organisations, as specified by the High Council of Environmental Protection must prepare characteristics of disposal sites. Outside the cities, the responsibility is shared by the counties and governing bodies of the rural districts. The WML also stipulates that the cost of solid-waste management should be paid by the generators of the waste, according to tariffs determined by the Islamic Councils [17].

The WML supplemented by executive bylaws that contain specific provisions for the various types of waste in respect to waste avoidance, reduction, recycling, and disposal as well as collection and transport [17].

Table 2: Overview of existing solid waste management legislation in Iran

Name of legislation	Year	Main emphasis
International Level		
Basel Convention on the Control of Transboundary Movements of Hazardous Waste and Their Disposal	1994	Transboundary movement and management of hazardous and other wastes. Hazardous and other waste Control system
The Stockholm Convention on Persistent Organic Pollutants	2001	Protect human health and the environment from Persistent Organic Pollutants
National level		
Article 50 of the Constitution of the IRI	1979	Preservation of the Environment
Clean Air Act	1995	Air pollution control (Stationary sources)
The Amendment of Water Pollution Prevention Guideline	1994	Prohibits water pollution
Islamic Penal Code of Iran	1996	Punishment for polluting environment
The Environmental Protection and Enhancement Act (EPEA)	1974	Prohibits environmental pollution Impose penalties
Environmental Impact Assessment Guidelines and Framework	1995	Conducting an EIA for solid waste management projects
Municipality law	1955	Solid waste disposal
Article 44 of the Constitution		Privatization
Waste Management law	2004	Legal framework for waste management
FYNDP (2005-2009), Article 61, 64 and 66		Green management program
FYNDP (2010-2014), Article 193		Recycling and compost
Vision 2025		Disposal of hazardous waste Recycling Implementation of WML Revitalization of landfill
Waste Management Act Executive Guidelines		
Article 66 of Fourth Five-Year National Plan Executive Guideline		
National Integrated Waste Management Plan (2011-2014)		
Local level - Approved By Islamic City Council		
Tehran's Integrated Waste Management Plan		
Guidelines for Calculating urban Waste Management Fees		

Source: Author

CONCLUSION

Significant progress has been made regarding to the legal and institutional framework for SWM over the last few years in Iran; the most important of these is the ratification of waste law, creating the necessary structures, establishing the organization responsible for SWM inside municipality, inter-agency collaboration through the creation of committees also, increasing private sector role in service provision. Despite the above achievements, there are remained unsolved issues, which are standing in the way of good governance. There is still much work to do to make it more effective and sustainable.

In overall, even though decentralization imposed in Iran during recent years, the governance structure remained hierarchical, top down planning still employed in urban planning, although an institutional change in waste management is proposed, aimed at establishing a SWM organization and increase the private sector role in waste collection and disposal but still the MSW management system remained top-down.

Also weak institutional arrangements with ineffective horizontal interactions at the local levels have caused the poor implementation of the national waste management strategy.

There were flaws in the decision making process – both in terms of the relationship among stakeholders in national and provincial level, and the central and local level stakeholders.

However, coordination and cooperation among the relevant institutions has been progressed through the establishment of participatory platforms but the process is not truly participatory at the sufficient levels, also there is no overall strong coordinating body to ensure all legal obligations are fulfilled by members or to ensure accountability.

This view is emphasized by the World Bank (2000), which notes that an acceptable level of service for waste management depends critically on well-planned management, operating within an enabling institutional framework [18].

As a first step to transform the top-down approach into a more bottom-up approach, the central government level must review roles, responsibilities and institutional relationships of all related stakeholders of MSWM. Participation between governmental stakeholders need to monitor by coordinating body and strengthened where they exist and putting in place appropriate institutional relationship, if does not exist. For example there is need to recognize, the roles played by civic groups both in planning and service provision.

There is a need for reform at the administration of MSWM in Tehran municipality and arrangement to decentralize solid waste activities to the regional municipal level, also institutionalize community participation in the process of planning, implementation and evaluation of the MSWM is essential for improvement of services.

Authorities should take to encourage public participation in all areas, including adopting a new mentality, setting up organizations and channels so those responsible for waste production should govern the waste and this is our job to make sure that tomorrow's generations inherit a cleaner, healthier world.

In order to do so, require an enabling environment to encourage various stakeholders especially neighborhood councils, NGOs and CBOs do their important role in the MSWM.

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