



The Institutional and Legal Arrangements for Stakeholder Participation in Urban Waste Management in Iran-Tehran case

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Abstract

Developing integrated solid waste management (ISWM) necessitates addressing legal and institutional aspect as underpinning drivers. It becomes more complex and challenging, however, when stakeholder participation in management institutions is considered. *ISWM* differs from the conventional approach towards waste management by seeking stakeholder *participation*. Participation improvement of the solid waste management system needs to review existing legal and institutional arrangements for establishing new policies, regulations and possible restructuring of management and administration to enhance the involvement of all stakeholders in planning, implementing, and monitoring of waste management system. This paper reviews legal and institutional frameworks for solid waste management and focuses on the existing provision for stakeholder participation in legal and institutional arrangements at national and local level within the case study i.e. Iran, Tehran. Based on the findings of reviewing ISWM assessment indicators/criteria and choosing appropriate indicators also a review of policy documentation as well as secondary and stakeholder survey data, recommendations were made to improve participation among stakeholders within the case study area. The recommendations include possible opportunities at the national and local level but mainly focus on creating real spaces for participation and engagement of all related stakeholders.

Key words: sustainable waste management, stakeholders participation, Iran, institutional, legal

1. Introduction

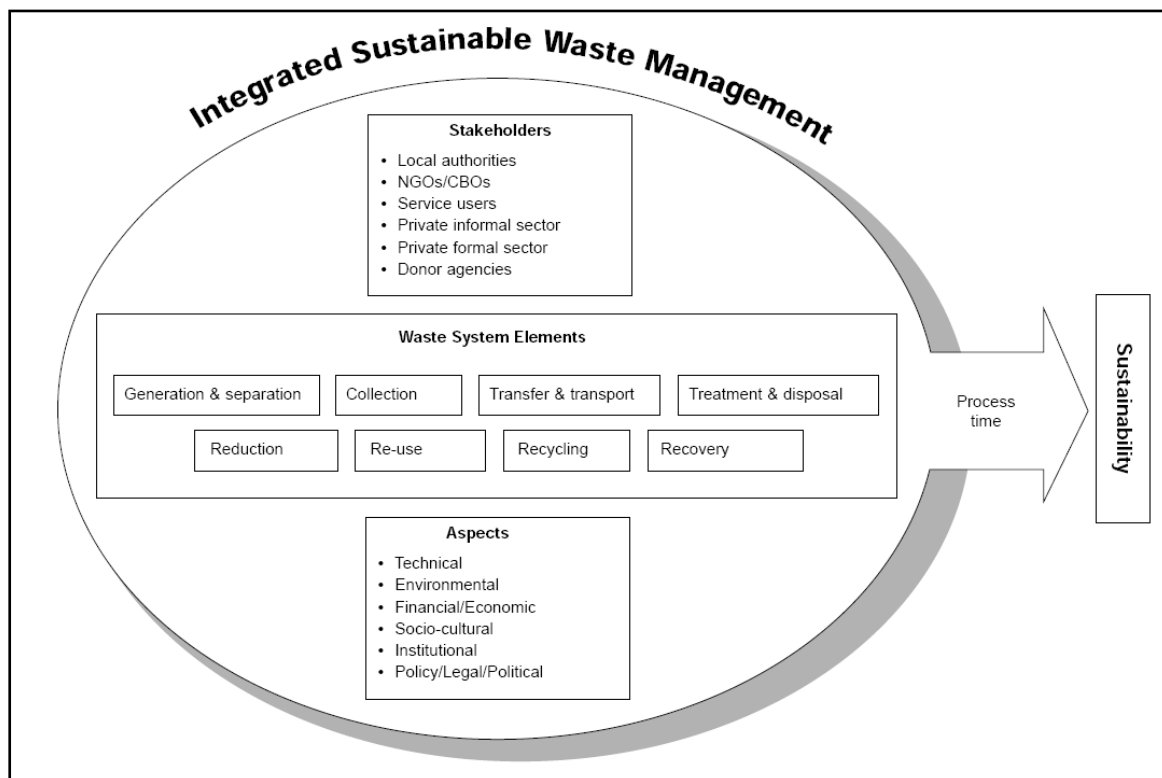
The World Summit on Sustainable Development in Johannesburg in 2002 stated that sustainable development should continue to be a part of any development initiative. In addition, the concept of sustainable development has been strengthened and broadened to incorporate aspects of poverty alleviation, production and consumption, and the efficient use of natural resources. (APO 2007), including waste management. The reasons for managing waste are to minimize impacts on public health, to minimize pollution of the environment, and to reduce resource consumption in a rapidly warming world. These goals should be achieved in a way that minimizes risks to the actors involved and is financially sustainable, in other words that can be afforded by the community in the long term. (ISSOWAMA 2010)

Solid waste has been a problem since mankind decided to live in communities. Urban settlements all over the world face the dilemma of how to dispose their waste. A lack of policies or strategies for integrated waste management, institutional weaknesses, and insufficient infrastructure and knowledge among different stakeholders involved with these issues, contribute to deficiency in solid waste collection, transport and disposal services in developing countries. (APO 2007) In Iran, during recent years, even though some progress in legal and institutional arrangements for waste management has been achieved, but there is still much work to do. Movement towards an integrated approach is required; one which considers social, economic, institutional, legal, technical and environmental issues.

In this article, based on the findings and the analysis by reviewing ISWM assessment indicators/criteria and choosing appropriate indicators, also review of policy documentation as well as secondary and stakeholder survey data, recommendations were made to improve participation among stakeholders within the case study area.

1.1 A Look at Integrated Sustainable Waste Management (ISWM)

Integrated sustainable waste management (ISWM), as shown in Figure1 , is a framework that was first developed during the mid 1980s by WASTE, a Dutch non-governmental organization (NGO), and WASTE's South partner organizations; and further developed by the Collaborative Working Group on Solid Waste Management in Low- and Middle-Income Countries (CWG) in the mid 1990s. Since then it has become the 'norm' UN-Habitat (2010).



Source: UN HABITAT, 2010

Figure 1: The ISWM framework

ISWM promotes technically appropriate, economically viable and socially acceptable solutions to waste management problems which take into account particular conditions in the respective countries or cities. ISWM has three major dimensions: the stakeholders involved in waste management; the technical elements of a waste system from waste generation to collection, treatment and disposal; and the enabling environment that should be taken into account when assessing, planning, operating and maintaining a waste management system. All waste management activities will impact on the environment, society and economy - the three pillars of sustainability - which in return will influence the local conditions.

The concept of ISWM seems to have emerged from the realization that technical solutions alone do not adequately address the complex issue of waste management and that there is the need to employ a more holistic approach to waste management. As argued by Rhyner et al. (1995:17), "a single choice of methods for waste management is frequently unsatisfactory, inadequate, and non economical". Use of an integrated approach to manage solid waste has therefore evolved in response to the need for a more holistic approach to the waste problem. In this approach, all stakeholders participating in and affected by the waste management regime are brought on board to participate in waste management. Furthermore, issues such as social, cultural, economic and environmental factors are considered in the design of an ISWM project (Tchobanoglous et al., 1993; Rhyner et al., 1995; Schubeller et al., 1996).

The ISWM concept recognizes that success in solid waste management depends on engaging a range of stakeholders, capitalizing on their strengths to build an effective team with clear distribution of roles and responsibilities for all team members. This involves attitudes and behavior of service providers as well as service users, thus including citizens and institutions generating waste, municipal waste management staff, employees of private enterprises and informal waste pickers and recyclers, as well as waste dealers. Problems may be aggravated not only by technical or financial factors, but also due to managerial incapacities, a weak institutional framework, a challenging environment, or socio-cultural conflict situations. In such cases, it is not finance or equipment that provides better solutions, but rather a change of social, institutional, legal or political condition. Legal & institutional frameworks are critical for a successful participatory urban planning and management and the waste sector is not excluded from this dilemma. (ISSOWAMA 2010)

1.2 ISWM as an Assessment Tool

WASTE (2001) has been developing ISWM for multiple purposes: (1) as an analytic framework for understanding waste management systems; (2) as an assessment methodology for predicting feasibility and sustainability; and (3) as a description of an urban development process. However the original purpose of ISWM was to help decision makers select an optimum waste management system to meet specific waste management objectives (Tchobanoglous et al., 1993). (*Baud, et al. 2001*).from the beginning the ISWM model was created as a planning and assessment tool and there was not much work done in using this model as an assessment tool.although van de Klundert (2000) called for addressing ISWM concept as an assessment tool, this issue is still under development. ISWM can be viewed as a system, so changes in the system can occur in each of the three dimensions, which can influence the other areas, and also affect the ultimate performance of the services.

Notwithstanding the above, this article uses ISWM as a tool to assess an existing participation of stakeholders, so the first dimension of ISWM is the point of departure for the assessment, by using combination of two aspects of the ISWM concept as lenses which can look at stakeholder participation within the ISWM framework in order to analyses the participation of stakeholders and the conditions under which the types of participation take place, which have to be considered carefully.

1.3 Policy and Legal Arrangements

Legal arrangements include the boundary conditions in which the waste management system exists: setting goals and priorities; determination of roles and jurisdiction; the existing or planned legal and regulatory framework; and the basic decision making processes. In the best case, government goals and priorities for waste management and environmental protection are clearly expressed through policies, laws, codes of conduct, regulations and standards and any action in solid waste management will need to adhere to these legislative specifications.

Influencing the policy, legal and political domain to strengthen an “enabling” environment is not an easy task. Entry points are through close governmental collaborations or by social mobilization and public support for a specific cause which then may induce a change of policy and legislation. Another promising approach is to demonstrate in practice that improvement is possible. (ISSOWAMA, 2010)

1.4 Institutional aspects

Institutional aspects relate to the political and social structures which control and implement waste management: the distribution of functions and responsibilities; the organisational structures, procedures and methods implicated; the available institutional capacities; and the actors such as the private sector who could become involved. Planning is often considered the principal activity in relation to institutional and organisational aspects. (Klundert et al 2001)

Municipal authorities, the key stakeholders of solid waste management, play a pivotal role. A clear distribution of roles and responsibilities for solid waste management within various authorities and different departments need to be clearly defined and accepted by all concerned. Institutional fragmentation and poor coordination within and outside the government is detrimental to effective solid waste management. Clarification on tasks and roles is also needed regarding the private formal and informal sector, as well as with civil society stakeholders. Furthermore, certain solid waste tasks may require actions across administrative boundaries, thus necessitating inter-municipal cooperation.

An enabling institutional environment acknowledges existing and potential contribution of the private formal and informal sector. Private sector involvement implies a shift in the role of government institutions from service provision to ascertaining public interests and therefore focuses on supervision, contract management and regulation. Fulfilling this role depends on their capacity to do so. Skilled and competent human resources employed in functions where one can make the most of their strengths provide a foundation for progress and improvement and are important not only in the public sector but also in the private sector. Based on roles, functions and responsibilities, steps can be taken to devise suitable capacity development strategies, training and education. Human resource development should not only be targeted to the present workforce but also towards requirements in the future by incorporating relevant topics concerning solid waste management into the curricula of formal education and providing tertiary education programs. (ISSOWAMA, 2010)

2. Research Methodology

This article reviewed ISWM assessment indicators/criteria for evaluating stakeholder participation in the existing legal and institutional frameworks, and recommending for enhancing participation. The method includes four steps:

Step1: Review of ISWM assessment indicators/criteria for evaluating stakeholder participation in waste related legal/policies and institutional arrangement.

Including:

- Concept of Integrated Sustainable Waste Management (Van de Klundert and Anschutz,2001);
- Strategic Planning Guide for Municipal Solid Waste Management (World Bank, 2001);
- Solid Waste Management in the World's Cities, Water and Sanitation in The World's Cities, (UN Habitat 2010);
- ISSOWAMA (Integrated Sustainable Solid Waste Management in Asia); and;
- METAP (Solid waste management strategy for METAP Mashreq and Magreb countries) (World Bank, 2004);

Step2: Review of available legal and policy documentations as well as secondary and stakeholder survey data to assess waste related legal/policies and institutions influencing stakeholder participation.

Step3: Evaluation of participation of stakeholders in existing SWM system by using criteria indicators in order to describe their performances. The indicators selection was based on literature review and interview with key stakeholders.

Step4: Recommendations based on the findings from the previous steps, in order to potentially enhance participation in SWM in Iran.

The Study Area

Tehran, the capital of Iran, with the population of 8.2 million people, occupies 730 km² land expanse, which is 4% of the total area of the country. Tehran generated 2,788,912 ton (7,641 ton/day) of waste in the year 2008. Hospital waste generation rate in Tehran reaches 83 ton/day. Almost 87% of the total waste was disposed off in a landfill located in the Kahrizak region. This large amount of waste causes a significant challenge for the city. (Abduli et al 2010)

4. Results and Analysis

4.1. Laws and Regulations for Solid Waste Management

During the past three decades a number environmental and environment related pieces of legislation have been enacted. However there have not been any specific regulations enacted for solid-waste management until the ratification of waste management law, 2004 (APO, 2007)

4.1.1. Waste Management Law, 2004

The new law was developed over several years, in a collaborative process between government agencies. In June 2002, the former Environment Protection Organization (now named Department of Environment) and the Ministry of Interior presented to the Sub-Commission of Infrastructure Affairs, Industry and Environment, separate independent bills for the management of residues and urban wastes in Iran. Upon recommendations of the Sub-Commission, a single law entitled The Government Law on Management of Residues was prepared by both agencies, presented to the Commission and subsequently approved in October of 2002. The objective of the Law is the implementation of the 50th Principle of the Constitutional Law for the IRI, for matters related to waste. The Law was approved by Parliament on May 9, 2004, confirmed by the Guardian Council on May 29, 2004, and was finally signed by the leader of the Islamic Parliament on June 6, 2004 (Khordad 17th 1383 under the Iranian calendar).

4.1.2. Relevant International Commitments and Obligations

Two conventions are particularly relevant:

- The BASEL Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal approved in Iran parliament in 1980.
- The Stockholm Convention on Persistent Organic Pollutants (POPs)

4.1.3. Relevant environmental and environment-related legislation concerned with waste management

Environmental protection in the Islamic Republic of Iran is laid down by the 50th principle of the constitution. This principle restricts irreversible environmental pollution, as well as all activities that may cause adverse effects on the environment. This general principle provides a framework for the development of environmental laws. There are many related laws and legislations including:

- Article 50 of the Constitution of the IRI approved in December 1979;
- Clean Air Act 1995;
- The Amendment of Water Pollution Prevention Guideline 1994;Islamic Penal Code of Iran,1996;
- The Environmental Protection and Enhancement Act (EPEA) in 1974 and modified in 1992);
- Environmental Impact Assessment Guidelines and Framework in 1995
- Municipality law concerning air pollution, solid waste disposal and reduction of industrial pollution in 1955;
- Article 44 of the Constitution has provided the most important path for privatization. It emphasizes the needs to develop public, private and cooperative sectors in a harmonised and coordinated fashion;
- Waste Management law;2004
- Fourth Five-Year National Economic, Social, and Cultural Development Plan (FYNDP); (2005-2009), Article 66 and 61;

- Fifth Five-year National Economic, Social, and Cultural Development Plan (FYNDP); (2010-2014), Article 193; and
- Document of Iran's 1404 Vision; name of document

4.1.4. Regulations:

- Article 66 of Fourth Five-Year National Plan Executive Guideline;
- Waste Management Act Executive Guidelines; and
- National Integrated Waste Management Plan (2011-2014)

4.1.5. Local plan approved by Tehran Islamic City Council

- Tehran's Integrated Waste Management Plan Approved By Islamic City Council
- Guidelines for Calculating urban Waste Management Fees

4.1.6. Analysis of Legal framework for stakeholder's participation in municipal waste management

After an analysis of the legal framework and by-laws from the point of view of the provision for stakeholder participation and other effective legislation had been done, Table gives an overview of Application of the indicators on existing participation in legal framework in the case study of Tehran, Iran. , the following conclusions were drawn:

- Waste management issues are essentially regulated by one legal law and executive guideline. This makes it easier to understand the planning process, rights of its participants and possibilities for participation.
- The law and regulations define the rights and responsibilities of the planning process participants, mandatory procedures for project consideration, deadlines and responsibilities but existing legislation is not adequate to address all stakeholders of waste management and there are gaps; and
- The law and regulations have no obligation to represent the public in the planning process and considered as only the formal side of the participation of stakeholders such as national waste management committee and provincial waste management work group. In both of them, there is no opportunity for representatives of citizens, NGO members or CBO members.

Legal Criteria	Yes	No
Law at national or local level that encourages participation of non-governmental actors		X

Law at national or local level that encourages participation of community-based organization (CBO) participation		X
Laws at national or local level in place that encourage public-private partnerships (PPPs)		X
Law at national or local level that encourages participation of private sector	X	
Supports decentralisation of tasks, authority and finance	X	
Evidence of protection of informal-sector rights to operate in waste management		X
Laws at national or local level that require consultation and participation with stakeholders outside the bureaucratic structures		X

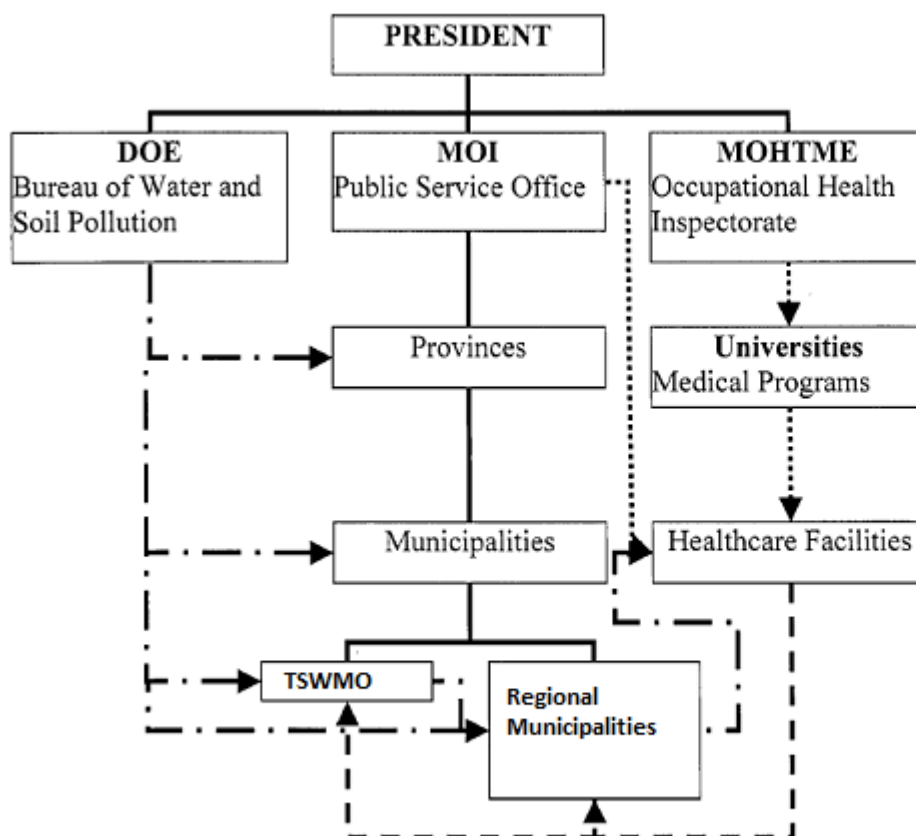
Table 1, analysis of legal arrangement for stakeholder participation in waste management in Iran (Author)

4.2. Institutions for Solid Waste Management

4.2.1. Institutional arrangement for stakeholder Participation in waste management at the national and provincial level

4.2.1.1. Institutions in waste management in Iran - national level

The current Government structure for the management of waste in medium-to-large cities in the IRI is schematically shown in Figure 2. Based on the 24 articles of waste management laws which centralize the implementation of national waste management issues in the MOI (Ministry of Interior), through its municipalities, and most enforcement responsibilities fall under the DOE. The MOHTME (Ministry of Health, Treatment and Medical Education) provides technical advice and support in dealing with matters related to healthcare waste and occupational health; these three major central government stakeholders have the main responsibilities in urban waste management at the national level. The Ministry of Agricultural Jihad and the Ministry of Mines and Industries contribute to regulations dealing with other hazardous wastes.



World Bank 2005

Figure 2: Current Government structure for urban waste management Iran

4.2.1. 2. Cooperative platform - National and provincial Solid Waste Management Committee

Under the waste law two committees, at the national and provincial levels have been defined for the implementation of the law through committees. The National Waste Management Committee, which has already been established, is headed by a representative of the MOI and includes members from DOE, MOHTME, Ministries of Mines and Industry, Agricultural Jihad, and from other relevant agencies whose participation will be dictated by each specific meeting agenda.

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.

The priorities of the National Committee are to develop a National Strategy for the Management of Waste, which will include issues related to municipal, healthcare and hazardous waste. Other priorities of the Committee are to launch training and public dissemination campaign and increase private sector participation, implementation of the law, monitoring progress of members to achieve the goals and other related issues to waste management.

Committees have been established to facilitate interagency communications but agency representatives typically have little decision-making power. Given that the management of waste-related issues involves different agencies, policies and priority actions are discussed in interagency committees. Several of these committees have been established at the local and the national level. Although 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.

Both committees are attended by representatives from the different offices within the same organizations which include, among others, the DOE-Tehran, MOHTME, Tehran municipality. Similar committee structures are set up in other provinces.

4.2.1. Institutional arrangement for waste management at the local level

4.2.1.1. Tehran city as a case study

There are various stakeholders involved in the waste management of Tehran city. Tehran Municipality is considered a public institution and falls under the administrative system of the city council which is a democratically elected body (Imani Jajarmi and Azkia, 2009). The Tehran's Mayor is appointed by this council and is therefore considered indirectly elected. While this role carries a powerful executive authority within a limited jurisdiction of Tehran's metropolitan region, the government does on occasions exert influence on planning and policy making when conflicting political positioning occur (Barakpour et al, 2006).

Currently the Municipality of Tehran has a fully functional system for waste management (SWM) that handles all types of solid wastes (household, commercial, demolition, hospital, industrial, etc.) generated within the municipal boundaries. This system is briefly described in the following section.

Tehran's MSW operates under the jurisdiction of the Deputy of Urban Services of Tehran Municipality, which is responsible for the main task of identification of urban needs of Tehran in terms of urban services, preparing the procedure, strategies and policies of Tehran Municipality in mentioned domain in accordance with the principle of decentralization, economical advantage of municipality, environmental protection and principle of sustainable development. The overall solid waste management system is operated by several administrative units within the municipality, including, Tehran Solid Waste Management Organization (TSWMO) previously named OWRC (Organization of Waste Recycling and Composting) and the regional municipality which is working closely with area offices.

The Municipality of Tehran is in transition to form a clearer structure of the management of solid waste. During recent years, consolidating and centralizing many of the solid waste operational, quality control and research & development functions fall within Tehran Solid Waste Management Organization (TSWMO). The Municipality is currently adopting a broader range of SWM responsibilities for this institutional strengthening to have a central SWM agency that follows closely the strategic actions in SWM as recommended in a comprehensive master plan study prepared by BC-Berlin in 1997, supported by a Japan PHRD Grant (1994-1997). The second strategic change is reinforcing the private sector development (PSD) of the many different types of privatized SWM services within the municipality (collection, recycling, transfer stations, transfer transportation, landfill operations, etc). The Municipality of Tehran is committed to an integrated waste

management strategy, and wishes to emphasize an accelerated program to reach the objectives of reducing-reusing-recycling (referred to as the 3Rs).

Regional municipality waste administration

There are 22 regional municipalities in Tehran city. Each regional municipality is responsible for the collection and transportation of waste it has generated (Abduli, 1995). Current administrative structure for MSWM in waste management within regional municipalities consists of two offices responsible for MSWM; Urban Services Office and the Recycling Office.

Waste collection and transportation system

Collection services are presently provided by the private sector under contracts administered by regional municipalities in Tehran. Waste is transferred to recycling stations to be processed. Then Semi-trailers would transport them to be landfilled or processed in the 22 hectare, multi-million dollar complex, Aradkouh, situated in the southern outskirts of the city. Most of the waste deposited in Aradkouh is wet and organic.

Recycled material collection

Throughout the city's 22 districts, 240 recycling kiosks and 30 recycling stations have been set up to collect and administer recyclables. Recycling kiosks serve as accessible collection points operated through an incentive scheme. These, along with recyclables collected at curb sides, and collections by vans (bearing signage and a distinguishable 'melody') are different methods for recycle materials collection.

4.2.2.2. Cooperative platform at the local level, the structures and mechanisms for stakeholder participation in waste management in the Tehran case study

4.2.2.2.1. Tehran Islamic City Council

Although the establishment of city councils in Iran was a real and serious step towards indirect citizen participation, these councils have tried to do complementary activities and to implement some plans and programs in order to realize and deepen direct citizen participation. (*Mohammadi, 2010*)

The establishment of the Islamic city councils, as a popular institution and relative non-governmental ones which act as local parliaments, shows indirect citizen participation in decision-making in urban management and planning. On the other hand, the Islamic city council's law provides one of the twelve duties of the Islamic city councils as planning to involve citizens in social, economical, and physical services and to encourage them to develop cultural, sport, and recreational centers, and to establish social, guide, and relief institutions and assemblies and also establishment of production, distribution and consumption cooperation (*Mohammadi, 2010*)

The existence of Islamic councils in all cities has provided a good opportunity for community-based activities. (Refkin, 2005) Moreover, a number of Islamic city councils in Iran, like the Tehran city councils, have established neighborhoods councils for city wards to deepen citizen participation. (Mohammadi, 2010)

Neighbourhood Councils are groups who are elected for each neighbourhood in the cities, to facilitate communication between people and city Islamic councils. Considering these councils and council assistants as entry points to the communities seems to be a reasonable choice for community-based initiatives. (Refkin, 2005).

However in theory, the scope of issues that local councils and neighbourhood councils have authority over is restricted to supervision and sometimes consultation.

Provision of participation mechanism inside these councils, as the representatives of the Public voice, has not yet been achieved. Although the Tehran city council 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.

4.2.2.2. Institutional arrangement for stakeholder Participation in waste management in the municipality

During recent years and mainly after the Islamic Revolution in Tehran some participatory projects such as The Safe City Project(*Proje-ye Shahr-e Salem*), The Mayor-School Plan(*Tarhe Shahr-dar-Madreseh*), The Comprehensive Plan of Green Space(*Tarh-e Jame ja Pishgaman-e Fazay-e Sabz*), The Safe Neighbourhood Plan(*Tarh-e Mahalle-ye Salem*) etc have been executed.(Mohammadi Makerani 2006) In the domain of waste management, public participation and awareness in municipal recycling has been an important issue in the Tehran municipality. Several types of activities have been undertaken with regard to recycling and increase of citizen participation such as: (Damghani et al 2008):

- Public awareness of benefits of waste reduction and separation;
- Preparation and distribution of more than 700,000 brochures and posters on solid waste recycling - Holding meetings and giving lectures in schools and mosques (the main centers for public gatherings);
- Preparation and installation of more than 90,000 containers for solid waste collection in the city; and
- Establishment of 23 solid waste collection centers in 19 urban areas, resulting in the collection of 98,548 tons of solid waste over 17 months.

But the Tehran municipality has not provided the platform for participation of key stakeholders such as NGOs and the private sector (formal and informal) in waste management. These must be included simultaneously to improve the planning, implementation and evaluation of waste management. However there is a telephone-based communication system for direct communication with the people and informing them of urban services. To monitor the quality and quantity of these services, the Tehran municipality has created a direct communication Terminal. The citizens can contact the municipality authorities by dialing 137 or 1888, and leave their suggestions or complaints. An

examination of the function of the Terminal 137 in 2009 shows that about forty percent of the comments left on the Terminal 137 is related to the waste collection service. (Tehran municipality official website 2012)

4.2.2.2.3. NGOs participation

The most important legal problems NGOs in Iran have to overcome are, first, the absence of comprehensive, accurate, and effective laws on NGOs; and second, the lack of support for NGO activities on the part of the government.

There are a few experiences in the municipality of Tehran about cooperation with NGOs and most of them are in training and cultural issues. (Ghafari et al, 2011) During the past few years, in waste management domain a few cooperation arrangements between municipality and NGOs provided. these activity limited to recycling training also Initiating mountain clean-up that annually held in international mountain day in Tehran.

4.2.2.2.4. Private sector participation

The Municipality of Tehran is moving toward privatisation, to deliver all forms of SWM services. The actual scope of services is for the management of the collection, transportation, recycling transfer stations, transfer services, the landfill and the compost plant. At present the support to increase private sector participation and investment in SWM mentioned in both national waste law and Tehran municipality integrated waste management plan as one of the main priorities.

4.2.2.2.5. Informal sector participation

The informal sector has largely been ignored with no recognition in the law and policy framework. There is no law for support or anti scavenging. In recent years, Tehran municipality has in principle prevented informal scavenging, also known to “waste thieves” by introducing partnerships with private contractors (selected through tenders and bidding) who in turn are expected to employ collectors either through casual labour arrangements or contractual agreements based on commissions. Officially, any collector found not engaged in a formal arrangement is considered to be conducting illegal trading and could face disciplinary action. Numerous sources confirmed that low levels of collection at curb-side and street levels has led to recycling stations resorting to accepting collected items from informal scavengers, paying them by weight (Amoli, 2010)

4.2.2.2.6. Analysis of institutional framework for stakeholder participation in municipal waste management

Analysis of the institutional framework for stakeholder participation in municipal waste management in Tehran produced based on chosen criteria/indicator.

Table 2 gives an overview of Application of the indicators on existing participation in institutional arrangement in the case study of Tehran, Iran.

The following results were obtained:

- There is a lack of sufficient coordination among the institutions/authorities responsible for waste management;
- Lack of solid waste management platforms and forums which allow participation of Tehran citizens, NGOs and private sector (formal and informal) in waste management;
- There are no considerations for participation of all stakeholders in the beginning of the planning process, development process and the evaluation process;
- Lack of a powerful management system for implementing and enforcing authorities to do their legal responsibilities; and
- The current structure of participation of the public undertaken by Tehran municipality (centre 1888 and 137) is restricted to one way information exchange so it does not facilitate participation.

Institutional Criteria	Yes	No
Citizens' committees in place that address waste management issues		X
Recognize the role of non-governmental actors and support them		X
Recognize the role of the informal private waste collection and recycling sector and support it		X
Provide mechanisms to involve all stakeholders in planning and implementation		X
Procedures in place/evidence of feedback mechanisms between service provider and service user	X	
Municipality has the authority to contract private sector	X	
organizations or platforms prevalent that represent the private waste sector (formal and informal)	X	

Table 2, analysis of intuitional arrangement stakeholder participation in waste management in Iran (Author)

5. Preliminary Recommendations:

The case study on ISWM in Tehran is still on-going. However, based on analysis of institutional and legal arrangements so far, and based on secondary and primary data analysis, a few preliminary recommendations are made. These will be further subject to further analysis, after which, final recommendations will be made, The Tehran Municipality is recommended to:

1. Provide for the responsibility of organizations representing the community and community interests for timely participation in the planning process;
2. Regularly analyse and improve legal acts, taking into account objectives and obstacles to implementation so that the laws and by-laws are successfully applied during the transitional period;
3. Subject amendments of legal acts to extensive consideration with the public;
4. Provide venues for public participation from all sectors at all phases/stages of waste management program/project;
5. Institutionalize public participation in the development and implementation of national and local integrated waste management programs;
6. Communication pathways should be strengthened (e.g. by institutionalising of communication platforms);
7. City councils can be considered as an appropriate base to promote citizen participation;
8. Formation of non-governmental organizations (NGO) must be encouraged for long term protection of the environment; and
9. Give legal recognition to, and strengthen the informal sector systems of collection and recycling

6. Concluding Remarks

A good assessment provides a sound basis for local stakeholders to develop a vision for future improvements of waste management based on such a comprehensive view of local circumstances and resources. (Scheinberg et al 2001). From the analysis so far, it seems that sound legal and

institutional frameworks are needed to adapt and respond to the main driver for change: participation of all stakeholders. Based on the UN HABITAT (2010) the best-functioning solid waste systems involve all the stakeholders in planning, implementing, and monitoring the changes. (UN Habitat, 2010).

In Iran, during recent years, especially after the ratification of the waste law, even though some progress in legal and institutional arrangements for waste management has been achieved, there is still much work to do to make it more effective and sustainable, particularly where stakeholder participation is concerned. Movements towards an integrated approach are required, which considers social, economic, institutional, legal, technical and environmental issues.

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