

Inter-municipal Consortia: An Alternative for Urban Solid Waste Management

Luana Marriê de Morais Souza

Leonardo Guerra de Rezende Guedes

ABSTRACT: *With the current requirements of the National Solid Waste Policy, the inter-municipal consortia have been presented as a feasible way for the accomplishment of actions in the sense of adequacy of municipalities, since in this management model it's possible to achieve superior results compared to the execution of individual actions of each county. The implementation of consortium is an admissible option mainly for small municipalities with few financial resources, with the objective of healing issues related to environmental and social aspects. This article proposes a reflection through a bibliographical and documentary review on the potentialities and limitations of urban solid waste management systems, observing the context of political and administrative decentralization.*

KEY WORD: *Inter-municipal Consortium; Environmental management; Public Policies; Urban Solid Waste Management.*

Date of Submission: 08-09-2018

Date of acceptance: 24-09-2018

I. INTRODUCTION

According to Rocha (2007), one of the environmental problems more relevant to modern societies is the correct allocation of solid urban waste, lack of treatment and inadequate disposal causes contamination of soil, air, groundwater and surface water, proliferation of vectors, among other maladies. The author also points out that the lack of limits of the development of society that occurred in a disorderly way, without a proper planning, has generated increasing levels of pollution and environmental degradation. These levels of degradation have begun to cause significant negative impacts due to the quality of life and human health in many cities and transforming several areas into open dumps.

Ferreira (1998) argues that the disharmony between sanitary infrastructure and the growth of cities show that health problems haven't been solved. Contrariwise, they found new sources of propagation in the urban-industrial environment. The environmental problems of modern cities are combined with those of underdevelopment.

Currently the landfill is still an option in five out of ten city halls for urban waste disposal, according to Moreira (2010). The author still explains that this occurs because many municipalities can't obtain financial resources for the implantation of the appropriate residue treatment. In this way, the most efficient way to solve this problem is to establish partnerships with other municipalities for the joint management of their solid waste.

According to the law, municipalities are responsible for the public services of urban cleaning and Urban Solid Waste Management. Silva (2015) notes that in recent years, with the National Solid Waste Policy and other standards, a basic legislation was provided for the Solid Waste Management sector. The imposition of deadlines for the adequacy of municipalities in accordance with Federal Law No. 12,305 / 2010, put pressure on governments at all levels, especially municipal ones, and the greatest difficulty presented is the lack of resources, technical staff and planning for the Management of Urban solid waste. In this context the Inter-municipal Consortium appear as an alternative for the management of Urban Solid Waste.

According to Calderan (2013), the consortium is a form of cooperation between federative entities that makes possible the provision of quality services without the creation of other forms of administration. Public consortium have their own legal personality and financial autonomy, regulated by Federal Law n.11.107 / 05. It is configured as an alliance between federative entities to solve common problems.

Inter-municipal consortium make it possible to assemble efforts to solve a problem that is common to several municipalities. There are several possibilities for the performance of such institutional arrangements as public works, public services, health, tourism and environmental management.

II. CONTEXTUALIZATION

1.1. Inter-municipal consortia

Spink, Teixeira and Clemente (2009) understand that inter-municipal consortia are voluntary arrangements that have grown out of cooperation agreements between municipal governments. In this way, the consortiums happen as strategic instruments of collaboration, since they guarantee their autonomy. Inter-municipal consortia can be formed horizontally, from the same sphere of government, between municipality, or vertical, with different federative entities (BRASIL, 2005). According to Silva (2015) the consortia are determined by the consortium federative entities and are listed in the Memorandum of Understanding.

According to Oliveira (2004), the advantages of intermunicipal consortia are numerous, since the expenses with financial, human, technological and material resources are minimized. In this way, a certain work executed with this arrangement, will result in smaller expenses for the municipality.

Silveira (2008) argues that the consortium represent an economically viable way to provide municipal public services and, in articulating with civil society organizations, can form a network of mutual cooperation, which optimizes the implementation of various plans, not only in the area of environmental management. The potential of these institutional arrangements with the Consortium Law has increased, since they have gained greater legal support with the opening up of partnerships with government agencies of different scales. According to Matos (2011), the consortiums develop a new model of public policy management based on the expansion of services, with more flexibility in the recruitment, technical cooperation and the joint execution of temporary or permanent works, services and activities. That is, it makes possible an expansion of the political capacity of the municipalities linked to them.

For the formation of intermunicipal consortia, some steps are determined by the command and control instruments, which are listed in Table 1.

Table 1 – Steps for the formation of Public Consortia in accordance with the Public Consortia Law

Steps	Description
1) Protocol of intentions	It is the initial document and must be published in the official press. Define the purpose and scope of the Consortium, the organizational structure, the term of office of the legal representative – Head of the Executive Branch, in the case of municipalities, one of the mayors of the consortium municipalities, and the number of votes that each consortium entity will have at the General Meeting. The associated management can be for the planning, regulation, supervision and for the provision of public services of Urban Solid Waste. The consortium may assume, in accordance with the provisions of the Memorandum of Understanding, all phases of service provision or only one party, being able to render the services directly or delegate. The criteria for calculating charges for the services provided must be described in the Protocol. By its voluntary nature, not always the Entities that signed the Protocol of Intent will ratify it and become consortium.
2) Ratification of the Protocol of Intentions	It's done by law, in the respective Legislative Houses of each federative entity. A clause in the Memorandum of Understanding may provide for the minimum number of ratifications for constituting the Consortium. The Protocol becomes the Public Consortium Agreement, and the Federative Entities that have ratified it are now called consortium members.
3) Convocation of the General Meeting	It declares the constitution of the Consortium, with the verification of the previous stages, and defines the Statute of the Public Consortium. It is by the General Assembly that the decisions or approvals of alteration, inclusion or withdrawal of consortium entities are taken or announced.

Source: Silva, 2015.

1.2. National Policy on Urban Solid Waste

The National Policy on Urban Solid Waste (PNRS) was approved and homologated in August 2010, with the objective of defining guidelines for the management of solid waste in Brazilian municipalities. Nowadays, most cities do the disposal of their waste in open dumps. This new legislation in principle established a deadline up to August 2014 for all municipalities to conform to the standards, as four years wasn't enough for all cities to organize, the deadline was extended to 2021 depending on the size of the municipality.

The new policy encourages the formation of inter-municipal consortia for the implementation of its guidelines, as can be seen in the article 45: “the public consortia constituted under Law No. 1077 of 2005 with

the objective of facilitating the decentralization and provision of public services involving solid waste, has priority in obtaining the incentives established by the Federal Government " (BRASIL, 2010).

According to the PNRS, municipalities only receive the resources necessary for the implementation, management and administration of waste after the approval of the management plans. In this context, intermunicipal consortium for solid waste management will have priority in the acquisition of federal funding. The National Solid Waste Policy (PNRS) was first formulated addressing only health residues, such as the Law project No. 203/91. During the approval process of a project other draft laws with more approaches have been incorporated. (TEIXEIRA, 2017 apud INSTITUTO ETHOS, 2012, p. 18).

1.3. Management modelo of the Intermunicipal Consortium for Solid Waste Management

The National Solid Waste Policy (Law n.12.305/2010) discusses principles, objectives and instruments, as well as guidelines related to integrated management and solid waste management. It explains that in the integrated management of solid waste is a set of actions aimed at finding solutions for solid waste, in order to consider the political, economic, environmental, cultural and social dimensions, with social control and under the premise of sustainable development. (BRASIL, 2010).

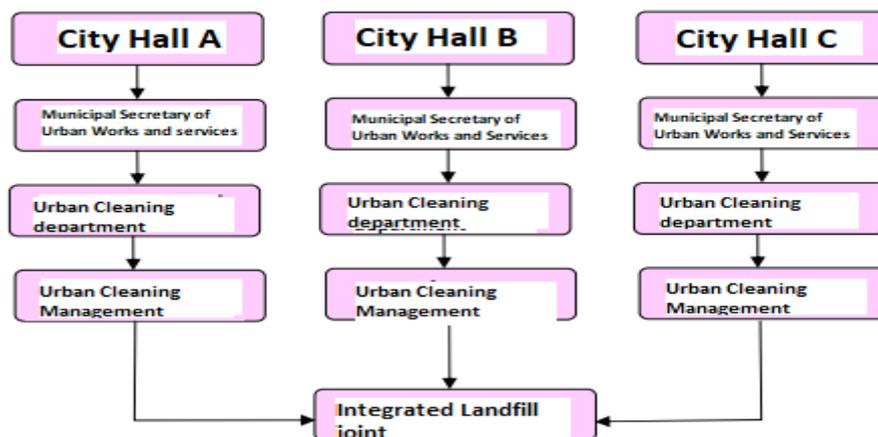
The Management model that should be institutionalized in the consortium municipalities according to the Integrated Solid Waste Management Manual (MGIRS) that is capable of: promote the economic sustainability of operations, preserve the environment, preserve the quality of life of the population, contribute to the solution of the social aspects involved with the issue. Emphasizing that should be chosen the alternatives that are more economical and technically correct for the environment and for the health of the population.

The MGIRS also highlights the importance of participation and awareness of society in the management of urban solid waste disposal. It's believed that the population is the decisive factor to the sustainability of the system.

Solid Waste Management Model is understood as a "set of political-strategic, institutional, legal, financial and environmental references capable of guiding the organization of the sector" according to Lima (2003). It also proposes that in the composition of a management model the following elements are indispensable:

- Recognition of the social agents involved, identifying the roles they play in promoting their articulation;
- Consolidation of the necessary legal basis and the mechanisms that enable the implementation of laws;
- Financing mechanisms for the self-sustainability of management and management structures;
- Information to society, undertaken by the public and private sectors involved, so that there is a social control.
- Integrated planning system, guiding the implementation of public policies for the sector.

Among the existing models of Shared Solid Waste Management, what is being observed in this article is the model where the management and the administration are individual for each municipality and the sharing is given appeals in a phase of the urban cleaning, usually in the final disposal. In this sense, you can observe the model described above in the following figure.



Picture 1 – Management Model/ Shared Management. (LIMA, 2003)

The federated entities are responsible for the costing of the investments of the system. According to the MGIRS, the urban cleaning system, in general, consumes seven to fifteen percent of the municipality's budget.

1.4. Intermunicipal Consortium for the Integrated Management of Solid Residues of the Municipalities of Firminópolis, São Luis de Montes Belos, Turvânia and Cocheira de Goiás

The Intermunicipal Consortium for the Integrated Management of Solid Waste of the Municipalities of Firminópolis, São Luís de Montes Belos, Turvânia and Cachoeira de Goiás (CIGIRS), started in 2014 with the purpose of meeting the goals and instruments contained in Law No. 12,305 / 10, which establishes the National Solid Waste Policy (PNRS). The CIGIRS was conceived by the mayors of São Luís de Montes Belos and Firminópolis, observing the need for adaptation to PNRS and aiming to obtain resources for the implementation and maintenance of the Municipal Solid Waste Management of the municipalities.

In February of 2014 three meetings took place with the managers of the municipalities of São Luís de Montes Belos and Firminópolis. In the first, the municipalities formalized the Protocol of Intent for the establishment of the Intermunicipal Consortium (IC), in the second the managers approved the Statute of CIGIRS and in the third meeting they elected the mayor of the city of São Luís de Montes Belos as the first director of the consortium. Only in August of the same year that the municipalities of Cachoeira de Goiás and Turvânia joined to the CIGIRS.

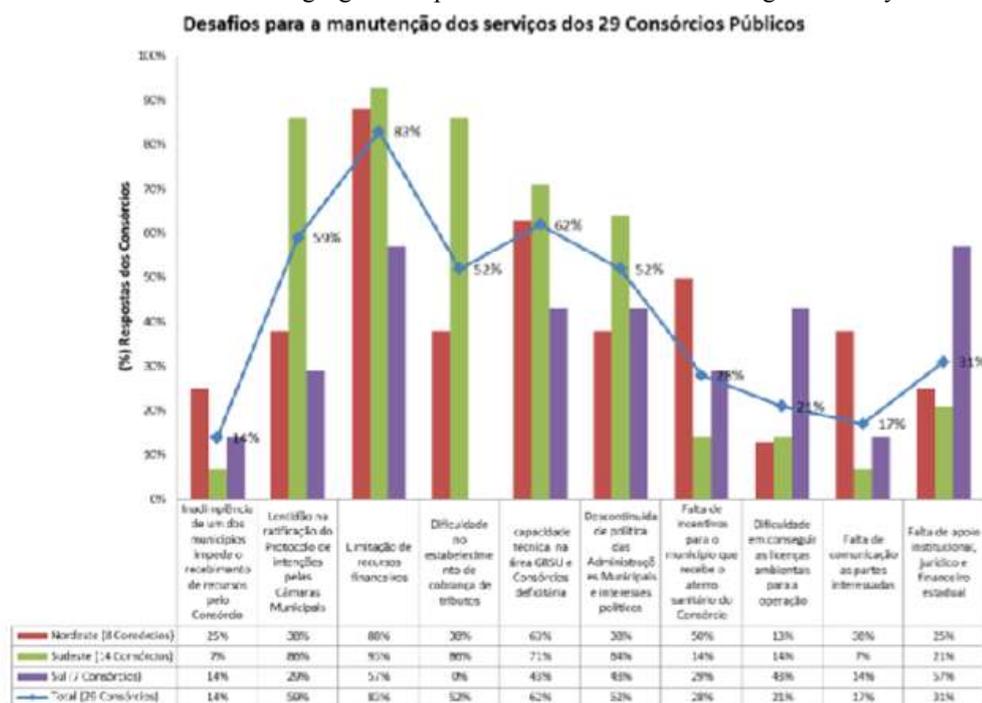
The CIGIRS, in accordance with the instruments of Law No. 12,305 / 10, has the objective of extinguishing open-air dumps in the cities of São Luís de Montes Belos, Firminópolis, Turvânia and Cachoeira de Goiás, since all the participating municipalities manage inadequate. In this way this institutional arrangement will come to remedy this problematic of environmental and social scope.

The Intermunicipal Consortium for the Integrated Management of Solid Waste is composed of the municipalities of Firminópolis, São Luís de Montes Belos, Turvânia and Cachoeira de Goiás. Currently the board of CIGIRS is composed by: President - Eldecirio da Silva (Mayor of São Luís de Montes Belos); Vice President - Geraldo Antônio Neto (Mayor of Cachoeira de Goiás); Treasurer - Geraldo Antônio Neto (Mayor of Cachoeira de Goiás); 1st Secretary - Fausto Mariano Gonçalves (Mayor of Turvânia); 2nd Secretary - Jorge José de Souza (Mayor of Firminópolis); Counselors - Fausto Mariano Gonçalves, Jorge José de Souza and Eldecirio da Silva; Executive Director - Fabrício Rômulo Teixeira.

The notice of the prior license granted by the Secretariat of the Environment and Water Resources for the construction of the CIGIRS landfill was published in the Official Gazette / GO No. 22.035, on March 6, 2015, to be executed in the city of São Luís de Montes Belos. The Installation License has not yet been granted, CIGIRS is currently in tender phase of an environmental company to provide services on the projects for the landfill.

1.5. Limitations of the Inter-Municipal Consortium

Silva (2015) states that the greatest challenge for maintenance and service provision of inter-municipal consortia for Solid Waste Management is the limitation of financial resources, based on data collection with 29 Consortia distributed in the states of Brazil, the author draws attention to the importance of the municipalities to add sources of resources and collection of taxes for the provision of services in order to maintain the maintenance of services. In the following figure it's possible to observe the challenges listed by the consortia:



Picture 2 – Challenges for the Maintenance of the Services of the 29 Public Consortia. (SILVA, 2015)

Complementing the data in Figure 2, the author Silveira (2008) states that one of the limitations found is political-party interests, which hinder microregional coordination and overcome this problem is essential for the formation of consortia. Other aspects that Silva (2015) highlights as a challenge, the slow ratification of the Protocol of Intentions by the Municipal Councils and the political discontinuity of the Municipal Administrations at every change of government and public interests.

Another relevant factor is the lack of compliance with the rights and duties of the consortium members, if they don't meet the demands of the institutional arrangement, they lead to a failure in the sustainability of the enterprise. Such as, for example, the delinquency of a consortium that directly engages in the process of managing Urban Solid Waste of the municipalities as a whole.

The limitations found in inter-municipal consortia are issues that can be worked on and elevated its potential. This question is for managers to analyze and establish methodologies and techniques, as well as potential partnerships to overcome them.

III. FINAL CONSIDERATIONS

Observing the financial conditions of the Brazilian municipalities, which are precarious, and the need to comply with the National Solid Waste Policy, intermunicipal consortia appear as a viable possibility for the joint solution among those who have the same difficulties in solving local problems within a regional context. According to Matos (2011), the consortia develop a new model of public policy management based on the expansion of service provision, with flexible recruitment, technical cooperation and the joint execution of temporary or permanent works, services and activities. That is, it makes possible an expansion of the political capacity of the municipalities linked to them.

The consortium for environmental programs, such as solid waste management, besides solving a financial problem, allows the reduction of contamination of areas where landfills would be established, thus minimizing environmental impacts and optimizing the final disposal of urban waste.

In relation to consortia in the field of urban solid waste disposal, the provision of public services opens up a range of possibilities for regional integration, from health-related activities to educational or cultural activities.

REFERENCES

- [1]. BRASIL, República Federativa do. Lei nº 12.305 – Institui a Política Nacional de Resíduos Sólidos e dá outras providências. Diário Oficial da União. Brasília, 02 de agosto de 2010.
- [2]. BRASIL. Decreto nº 6.017, de 17 de janeiro de 2007. Regulamenta a Lei no 11.107, de 06 de abril de 2005, que dispõe sobre normas gerais de contratação de consórcios públicos. Diário Oficial [da] República Federativa do Brasil. Brasília, DF, 17 jan. 2007a. Disponível em < http://www.planalto.gov.br/ccivil_03/_ato2007-2010/2007/decreto/d6017.htm > Acesso em: 22 jan. 2018.
- [3]. BRASIL. Lei nº. 11.107, de 6 de abril de 2005. Dispõe sobre normas gerais de contratação de consórcios públicos e dá outras providências. Disponível em < http://www.planalto.gov.br/ccivil_03/_ato2004-2006/2005/lei/111107.htm > Acesso em: 22 jan. 2018.
- [4]. CALDERAN, T. B. Consórcio público Intermunicipal de gerenciamento de resíduos sólidos domésticos: um estudo de caso. Dissertação (Mestrado em ambiente e Desenvolvimento). Centro Universitário UNIVATES, 2013.
- [5]. CARVALHO, V.C.. Consórcio intermunicipal e cooperação federativa: desafios para a gestão ambiental conjunta na bacia do Jiriquiricá (Bahia). 2007. Dissertação (Mestrado em desenvolvimento sustentável) – Universidade de Brasília. Brasília, DF: UNB, 2007.
- [6]. FIORENTIN, O. Uma proposta de consórcio para gerenciamento de resíduos sólidos urbanos na unidade de receita da costa oeste pela companhia de saneamento do Paraná. Dissertação (Mestrado em Engenharia de Produção) – Universidade Federal de Santa Catarina, SC: UFSC, 2002.
- [7]. LIMA, José Dantas. Consórcio de Desenvolvimento Intermunicipal: instrumento de integração regional. ABES-PB, 2003.
- [8]. MATOS, Fernanda; DIAS, Reinaldo. A gestão de Resíduos Sólidos e a Formação de Consórcios Intermunicipais. Revista em Agronegócios e Meio Ambiente, 2011.
- [9]. MELO, M. R.. A construção de um modelo de gestão descentralizada de resíduos sólidos na escola agrotécnica federal de Uberlândia inspirado nas metas de desenvolvimento do milênio. Dissertação (Mestrado em Engenharia Civil) – Universidade Federal de Uberlândia, MG: UFU, 2008.
- [10]. MORAES, José Laécio de. Os consórcios Públicos e a Gestão Integrada de Resíduos Sólidos em Pequenos Municípios do Estado do Ceará, Brasil. Revista Geonorte, 2012.
- [11]. NARUO, Mauro Kenji. O estudo do consórcio entre municípios de pequeno porte para disposição final de resíduos sólidos urbanos utilizando sistema de informações geográficas. Dissertação de Mestrado. Universidade de São Paulo, 2003.
- [12]. NETO, P. N. e MOREIRA, T. A.. Consórcio intermunicipal como instrumento de gestão de resíduos sólidos urbanos em regiões metropolitanas: reflexões teórico-conceituais. Revista Brasileira de Gestão e Desenvolvimento Regional, 2012.
- [13]. OLIVERIA, Gilberto de. Consórcio Intermunicipal para o Manejo Integrado de Lixo em Cinco Municípios da Região Administrativa de Bauru. Dissertação (Mestrado em Geografia) – Universidade Estadual Paulista, SP: UNESP, 2004.
- [14]. PEREIRA, S. S., e CURI, R. C. Modelos de gestão integrada dos resíduos sólidos urbanos: a importância dos catadores de materiais recicláveis no processo de gestão ambiental. SciELO Books, 2013.
- [15]. ROCHA, V. G.. Gestão de Resíduos Sólidos da Barra dos Coqueiros/SE. Dissertação (Mestrado em Desenvolvimento e Meio Ambiente) – Universidade Federal de Sergipe, SE: UFS, 2007.
- [16]. SILVA, W. de M. F.. Consórcios Públicos na Gestão de Resíduos Sólidos Urbanos no Brasil. Dissertação (Mestrado em Gestão Econômica do Meio Ambiente) – Universidade de Brasília, DF: UNB, 2015.
- [17]. SILVEIRA, Rosi; PHILIPPI, Luiz. Consórcios Públicos: uma alternativa viável para a gestão regionalizada de resíduos sólidos urbanos. 2008.

- [18]. SPINK, P. K., TEIXEIRA, M. A. C. e CLEMENTE, R.. Governança, governo ou gestão: o caminho das ações metropolitanas. Cadernos Metrópole, 2009.
- [19]. SUZUKI, Juliana Akiko Noguchi; GOMES, João. Consórcios intermunicipais para a destinação de RSU em aterros regionais: estudo prospectivo para os municípios no Estado do Paraná. Eng Sanit Ambient, v. 14, 2009.
- [20]. TEIXEIRA, A. F.. Associativismo e Consórcios Intermunicipais no Brasil. Dissertação (Mestrado em Administração) – Universidade de Brasília, DF: UNB, 2014.
- [21]. TEIXEIRA, Jeanne C. M.. Plano Municipal de Gestão Integrada de Resíduos Sólidos (PMGIRS/NATAL): Atores, Processos, Instituições, Representações e Resultados. 2017. Tese (Doutorado em Administração) – Universidade Federal do Rio Grande do Norte, RN: UFRN, 2017.
- [22]. VAZ, José Carlos. Consórcios Intermunicipais. Pólis-Ildesfes, 1997.

Luana Marriê de Moraes Souza "Inter-municipal Consortia: An Alternative for Urban Solid Waste Management "International Journal of Business and Management Invention (IJBMI) , vol. 07, no. 09, 2018, pp. 65-70