

A photograph of a person's hands holding a green recycling bin. The bin is filled with various types of cardboard waste, including flattened boxes, rolls of cardboard, and crumpled paper. The person is wearing a black and white striped shirt and blue jeans. The background is a solid green color with a white recycling symbol on the bin.

Gestão de Resíduos Sólidos

Leonardo Tullio
(Organizador)

Atena
Editora

Ano 2019

Leonardo Tullio

(Organizador)

Gestão de Resíduos Sólidos

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APRESENTAÇÃO

A sustentabilidade do planeta está na dependência da ação humana, principalmente na adoção de consumo consciente, respeitando o meio ambiente. Neste volume 1 apresentamos 18 trabalhos que abordam o aspecto do uso correto e estratégias para a utilização de resíduos sólidos.

A Gestão Integrada de Resíduos Sólidos é definida como o conjunto de ações voltadas para a busca de soluções para os resíduos sólidos, de forma a considerar as dimensões política, econômica, ambiental, cultural e social, com controle social e sob a premissa do desenvolvimento sustentável. Contudo, para que a utilização do resíduo seja adequada várias estratégias gerenciais, técnicas, financeiras, urbanas e socioambientais precisam ser tomadas.

A redução significativa dos impactos ambientais e econômicos propiciados pela atividade de reciclagem, com relevância ao aspecto social ligado ao setor, são fundamentais neste contexto. Assim, na medida em que a reciclagem se caracteriza como um serviço ambiental urbano que contribui na significativa melhora dos serviços ambientais, do quais toda a sociedade usufrui, os seus prestadores podem ser recompensados.

Neste sentido, a busca por melhorias e o correto destino dos resíduos são estudados e requerem interação de todas as etapas da cadeia produtiva, inclusive na gestão reversa do resíduo.

Por fim, apresentamos as mais inovadoras pesquisas e estudos relacionados com o uso de resíduos, sejam urbanos ou rurais, de maneira sustentável.

Bons estudos.

Leonardo Tullio

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PLANOS INTERMUNICIPAIS DE RESÍDUOS SÓLIDOS E O PAPEL DOS CONSÓRCIOS PÚBLICOS: UMA ANÁLISE A PARTIR DO DIREITO AMBIENTAL

Mariana Gmach Philippi

Master Student in Socioenvironmental Law and Sustainability in the Pontifical Catholic University of Parana. *E-mail*: mariana.philippi@hotmail.com

Larissa Milkiewicz

Master Student (CAPES scholarship) in Socioenvironmental Law and Sustainability in the Pontifical Catholic University of Parana. Coordinator in association with Professor Dr. Vladimir Passos de Freitas and coauthor of publication “Energy Sources and Environment” (Curitiba-PR, Juruá, 2017) and “Environmental Law: Technologies and Economic Impacts” (Curitiba-PR, Juruá, 2018). Lawyer. *E-mail*: larissa_milkiewicz@hotmail.com

ABSTRACT: This study deals with Solid Waste Intermunicipal Plans, provided in the Law no. 12305/2010, and the main instruments of the National Policy on Solid Waste, taking the premises of the Environmental Law. It is sought to check the viability of the creation of intermunicipal Public Consortia intended to create and implement these plans. For this objective, the scientific approach method is deductive, based on a chain of descending reasoning, from the analysis of the general to the particular aspects, and the procedure method is historic with the purpose of comparing the conjunct of elements that exist currently with their origins, through

the monitoring of the normative and doctrinal evolution of the research object. Furthermore, it was also used the monographic method, by the detailed description of the rules and the application of intermunicipal Consortia of solid waste in the Brazilian context. It was concluded that the Solid Waste Management Plans must be integrated and multisector, oriented to present solutions that congregate social, economic, cultural and environmental aspects, related to the generation and destination of the waste. Considering the importance of the performed role by the municipalities in the achievement of the objective of the National Policy on Solid Waste and the difficulties imposed to those, the public consortia are a possible alternative for the associated management of public services, among them the solid waste management by municipalities. For neighboring municipalities considered small and that present similar demands and difficulties, the association promotes the reduction of costs and the scale gain in the waste management.

KEYWORDS: Solid Waste Intermunicipal Plan, Public consortia, Municipalities, Environmental Law.

RESUMO: Trata-se de estudo de Planos Intermunicipais de Resíduos Sólidos (PNRS), previsto na Lei nº 12.305/2010, e dos principais instrumentos do PNRS, tendo como plano de

fundo as premissas do Direito Ambiental. Busca-se aferir a viabilidade da criação de Consórcios Públicos intermunicipais voltados à criação e implementação destes planos. Para esse fim, o método de abordagem científica é o dedutivo, valendo-se de uma cadeia de raciocínio descendente, partindo da análise geral para a particular, e o método procedimental histórico com a finalidade de comparar o conjunto dos elementos que existe hoje com os de suas origens, através do acompanhamento da evolução normativa e doutrinária do objeto da presente pesquisa. Além disso, utilizou-se o método monográfico, a partir da descrição minuciosa da normatização e aplicação dos consórcios intermunicipais de resíduos sólidos no contexto brasileiro. Concluiu-se que os PNRS devem ser integrados e multisetoriais, orientados a apresentar soluções que congreguem os aspectos sociais, econômicos, culturais e ambientais relativos à produção e destinação desses resíduos. Considerando a importância do papel desempenhado pelos municípios na consecução dos objetivos da Política Nacional de Resíduos Sólidos e as dificuldades que se impõem a esses entes, os consórcios públicos surgem como uma alternativa possível para a gestão associada de serviços públicos, dentre eles a gestão dos resíduos sólidos pelos municípios. Para os municípios vizinhos considerados pequenos e que apresentam demandas e dificuldades semelhantes, a ferramenta associada promove a redução de custos e o ganho de escala no manejo dos resíduos.

PALAVRAS-CHAVE: Plano Intermunicipais de Resíduos Sólidos, Consórcio público, Municípios, Direito Ambiental.

INTRODUCTION

This study intends to present the main aspects about the Solid Waste Intermunicipal Plans, based, therefore, on premises originated in the Environmental Law.

In this process, the main elements that integrate the solid waste intermunicipal plan will be considered, as an instrument of Solid Waste Intermunicipal Plans, indicating the complexity that necessarily involves the development and implementation of these plans by the small municipalities in Brazil.

Also, it is intended to reach a conclusion about the viability of the creation of intermunicipal Public Consortia focused specifically on the creation and implementation of these plans, taking into consideration the legal rules related to the subject.

In this context, the provisions of the Solid Waste Intermunicipal Plans that authorize the institution of Public Consortia aimed at the implementation of the objectives and goals of the policy will be analyzed. The possibility of creation of Public Consortia specifically aimed at the environmental purposes will also be evaluated, as well as its justifying rules, as the Complementary Law no. 140/2011.

Taking into consideration the complexity of elements and factors that involve the development and implementation of solid waste plans by municipalities, the present study intends to evaluate if the process could be somehow facilitated by the Consortia

alternative. From other perspective, the eventual advantages and challenges of this process will be considered. It is important to emphasize that the developed analysis will be based on the premises and tools of Environmental Law.

OBJECTIVES

The objective of the present study is to analyze the viability of implementation of solid waste intermunicipal plans, instrument of the Law no. 12305/2010, through Intermunicipal Consortia created for this purpose.

Therefore, the following specific objectives are listed:

- (i) analyze the minimal content of the solid waste intermunicipal plans, provided by the National Policy on Solid Waste (NPSW), with focus on its multiple aspects (cultural, environmental and socioeconomic);
- (ii) evaluate the legal feasibility of constituting intermunicipal Public Consortia, especially those aimed at environmental purposes;
- (iii) analyze the possibility of implementation of solid waste intermunicipal plans through Public Consortia, demonstrating eventual advantages and challenges.

METHODOLOGY

The proposed methodology will adopt as scientific approach the deductive method, based on a chain of descending reasoning, from the analysis of the general to the particular aspects. By the application of this method to the study object, the development of the analysis will begin from the rules that institute and regulate the solid waste intermunicipal plans, finishing with a more specific analysis about the national rules related to the intermunicipal Consortia, especially those oriented to solid waste management.

In relation to the adopted procedural method, it is primarily historic, allowing the comparison between the set of elements that currently exist with their origins, through the monitoring of the normative and doctrinal evolution of the research object. Finally, it will be also used the monographic method, by the detailed description of the rules and the application of intermunicipal Consortia of solid waste in the Brazilian context.

In reference to the research techniques, the study will be developed based on primary and secondary source, involving mainly bibliographic research, elaborated from studies already published, as books, articles, newspapers, specialized websites, among others, and in lower scale, documentary research.

RESULTS

(i) Nacional Policy on Solid Waste and the role of Municipalities

The National Policy on Solid Waste was instituted by the Law no. 12305/2012, which assigned duties to all those who are considered responsible, directly or indirectly, for the generation of the waste, attributing to individuals and legal entities of public or private law the responsibility.

It is the public policy that combines principles, objectives, instruments and actions that are oriented to the integrated and environmental management of solid waste, being integral part of the National Environment National Policy. Furthermore, its implementation must be articulated with the National Policy on Environmental Education, the National Policy on Basic Sanitation, among others (ANTUNES, 2016, p. 1122).

As integrated management, it is understood the process of waste management that involves the different steps, from the generation to the final destination, setting articulated activities with the basic sanitation system and incentivating and making feasible the participation and cooperation of all the social sectors, achieving the State, the private initiative and the civil society (CASTILHOS JUNIOR, 2003).

In relation to the objectives of the National Policy on Solid Waste (NPSW), the Law establishes, in its article 7th, an embracing set of complex and multisector objectives, oriented to achieve goals related to public health, environmental quality, development of clean technologies, sustainable education, articulation between the federal entities, public contracts, and social development, among others. The central objective of the NPSW can be identified as the integrated management of solid waste, defined in Law as the set of actions intended to seek solutions for solid waste, consideration the political, economic, environmental, cultural and social dimensions, with social control and under the premise of sustainable development.

To achieve these objectives, the Law sets instruments, foreseen in the article 8th. Among them, it can be highlighted the solid waste plans, directed to public and private sectors and that involve the National Policy on Solid Waste; the states plans on solid waste; the micro regional plans on solid waste and the solid waste plans of metropolitan regions or urban agglomerations; the intermunicipal plans on solid waste; the municipal plans on solid waste; and the management plans on solid waste. The Law further defines the wide publicity of the content of these plans in its formulation, implementation and operationalization process.

The article 18 and the following of the National Policy on Solid Waste determine the elaboration, by the municipalities, of municipal plans of integrated management of solid waste, which must include complex programs and actions, involving education, plans and goals; monitoring; identifications of environmental liabilities; reverse

logistic system; social inclusion; among others. The imposed determinations to the municipalities may be revealed as very inclusive and ambitious, consistent with the complexity that involves the generation context, the management and the destination of solid waste in Brazilian municipalities.

Although, many of these municipalities face difficulties to implement a suitable integrated management of solid waste, which are originated on issues of technical, administrative and financial scope. According to data of the Brazilian Institute of Geography and Statistics (IBGE), through the National Research on Basic Sanitation (PNSB) of 2008, “99.96% of Brazilian municipalities present services of solid waste management, but 50.75% of them dispose their waste in ditches; 22.54% in controlled landfills; and 27.68% in sanitary landfills”¹. The research has further indicated that only 11.56% of Brazilian municipalities present units to segregate recyclable waste.

According to information published by the Environmental Ministry², the current scenario of solid waste management by the municipalities is alarming. The majority of the city halls do not present the technical and financial resources to implement effective actions of solid waste management, fact that affects the execution of the National Policy on Solid Waste.

It is also important to emphasize that the difficulties of technical and financial scope are stronger in the municipalities of smaller size, which constitute the majority of Brazilian municipalities. According to data of Census 2010, published by IBGE, almost 90% of Brazilian municipalities present a population lower than 50 thousand inhabitants, and 70% are smaller than 20 thousand inhabitants. In other words, it can be verified that Brazil is a country formed by a majority of small municipalities. This characteristic implies in difficulties of operationalization to implement solid waste management and to achieve the goals of the National Policy on Solid Waste, taking into consideration mainly the access to technical and financial resources.

According to the research “Brazilian Municipalities Profile”, realized in 2013 by IBGE, the number of big municipalities that present Municipal Plans on Solid Waste Integrated Management is higher in comparison to small municipalities, in which the formulation of these plans is less usual. The data reveals that, from the 4,932 cities with a population up to 50 thousand inhabitants, only 31% have elaborated the Plan. In cities smaller than 20 thousand inhabitants, this proportion is 30%. On the other hand, considering the 39 Brazilian municipalities with more than 500 thousand inhabitants, 58% of them present the Plan (IBGE, 2014).

In special reporting realized in 2017, the Chamber Radio verified that the lack of resources, the technical difficulties in the management and treatment of waste,

1 BRASIL. Ministério do Meio Ambiente. **Gestão Adequada dos Resíduos**. Disponível em: <<http://www.mma.gov.br/responsabilidade-socioambiental/a3p/eixos-tematicos/gest%C3%A3o-adequada-dos-res%C3%ADduos>>. Acesso em 01/02/2018.

2 BRASIL. Ministério do Meio Ambiente. **Gestão Adequada dos Resíduos**. Disponível em: <<http://www.mma.gov.br/responsabilidade-socioambiental/a3p/eixos-tematicos/gest%C3%A3o-adequada-dos-res%C3%ADduos>>. Acesso em 01/02/2018.

the elevated cost of projects implementation, the challenges to access alternative technologies, among others, are the main difficulties pointed by the Brazilian municipalities to achieve the objectives established by the National Policy on Solid Waste³, especially in smaller municipalities.

Considering this scenario, it can be deduced that the high expense to manage solid waste are incompatible with the financial reality of the majority of municipalities, especially the smaller, which, taking into consideration the lack of resources and the technical difficulties, are in situation of disagreement to the objectives of the Law no 12305/2010 (ANTONELLO; PERALTA, 2015, p. 4018-4029).

This subject becomes especially delicate when analyzed the article 18, *caput*, of the Law no. 12305/2012, according to which the elaboration of plans of integrated management of solid waste is elementary condition for access, by the Federal District and the municipalities, of federal grants or resources controlled by the Union, destined to development of services related to urban cleaning and solid waste management, or to benefited by incentives or financing of federal entities of credit or development, directed to this finality.⁴ In other words, for the municipalities to access federal resources for the implementation of actions and programs related to the National Policy on Solid Waste, they need to present, as a previous condition, a plan of integrated management of solid waste, which elaboration demands a previous analysis of substantial depth.

(ii) The Public Intermunicipal Consortia.

The possibility of instituting consortium solutions of cooperation between the federal entities for the associated management of public services presents constitutional provision in the article 241 of the Federal Constitution⁵, instituted by Constitutional Amendment no. 19 of 1998. The public consortia are instrument of federal cooperation, formed by initiative of the federal entities, which can join them voluntarily (PEIXOTO, 2008). It is an alternative of management that proposes to improve the efficiency of the public services, allowing regional planning based on cooperation, rational use of resources and maximization of results (IBGE, 2016).

To regulate the execution of the article 241 of the Federal Constitution, it was edited the Law no. 11107/2005, that discourses on the general rules of public consortia contracting, posteriorly regulated by the Decree no. 6017/2007. The Public Consortia

3 BRASIL. Câmara dos Deputados – Rádio Câmara. Reportagem Especial. **Política Nacional de Resíduos Sólidos: situação dos municípios**: Bloco 4. Disponível em: <<http://www2.camara.leg.br/camaranoticias/radio/materias/REPORTAGEM-ESPECIAL/523265-POLITICA-NACIONAL-DE-RESIDUOS-SOLIDOS-SITUACAO-DOS-MUNICIPIOS-BLOCO-4.html>>. Acesso em: 02/02/2018.

4 Art. 18. A elaboração de plano municipal de gestão integrada de resíduos sólidos, nos termos previstos por esta Lei, é condição para o Distrito Federal e os Municípios terem acesso a recursos da União, ou por ela controlados, destinados a empreendimentos e serviços relacionados à limpeza urbana e ao manejo de resíduos sólidos, ou para serem beneficiados por incentivos ou financiamentos de entidades federais de crédito ou fomento para tal finalidade.

5 Art. 241. A União, os Estados, o Distrito Federal e os Municípios disciplinarão por meio de lei os consórcios públicos e os convênios de cooperação entre os entes federados, autorizando a gestão associada de serviços públicos, bem como a transferência total ou parcial de encargos, serviços, pessoal e bens essenciais à continuidade dos serviços transferidos.

Law altered significantly their traditional concept, as before the publication of the law the consortia did not present their own legal personality (ARAÚJO, 2010, 210).

The definition of public consortia by the Decree no. 6017/2007 reflects clearly this change, with highlight to the legal personality of the consortium, which can present public law character and autarchic nature or private law character without profitable purposes. According to the article 2nd of the Decree, in its subsection I, the consortia intend to set federal cooperation relations, including the achievement of common interest objectives, and may be constituted both as public association as private legal entity without profitable purposes.

In practical terms, the consortia present as objective the celebration of association to solve problems and fulfill common demands, articulating the necessary resources in each level of the administration (LIMA, 2003, p. 45).

In relation to the abilities to achieve their finalities, the Decree no 6017/2017 authorizes the public consortia to execute a large diversity of actions. Furthermore, it provides many performance mechanisms and resources sources, taking into consideration, however, that the provisions of their intention protocols and normative rules to public law entities must be observed, if applicable.

In research published in 2016, IBGE points a significant increase, in the recent years, of municipalities that participate of intermunicipal public consortia. According to the data, the number of Brazilian municipalities that adopt the instrument of horizontal cooperation (integrate some intermunicipal consortium) achieved 96.7% in 2015. It is interesting to note, furthermore, that this reality can be observed all over the country, independently from the analyzed region. The research indicated that the intermunicipal consortia were used by more than 91% of municipalities in all the Great Regions and sizes classes of population (IBGE, 2016). In other words, the adoption of the instrument of consortium management is a common practice in the Brazilian context, fact that demonstrates the importance in the comprehension its rules and practical implications.

The creation of consortia for environmental purposes is still sparse⁶, in comparison with other areas, as health. It must be highlighted, however, that the formation of intermunicipal consortia to achieve objectives related to the environmental protection is feasible from a legal perspective, as can be verified in the article 3rd of the Decree no. 6017/2017, which establishes an exemplar list of objectives for the consortia, among them the promotion of the reasonable use of natural resources and the environmental protection. Furthermore, the Complementary Law no. 140/2011 fix rules for the cooperation between the federal entities on the common jurisdiction related to the environmental protection, placed the public consortia as instrument of institutional cooperation that accept the participation of the Union, the States and the Municipalities.

(iii) Incentives and challenges to Intermunicipal Management of Solid Waste

6 Segundo dados do IBGE, apurados na Pesquisa “Perfil dos Municípios Brasileiros: 2015”, entre os municípios que declararam possuir algum tipo de consórcio público, independente do parceiro, 75,9% atuava na área de saúde, enquanto apenas 25,2% destinava-se ao meio ambiente e 35,2% apresentava como área de atuação o manejo de resíduos sólidos.

Evaluated the main fundamentals that involve the formation of intermunicipal consortia, it can be evaluated how this instrument fits in the implementation, by the municipalities, of the solid waste plans.

Taking into consideration the concept of intermunicipal consortia for the National Policy on Solid Waste, the Law encourages the formation of intermunicipal associations that make feasible “the sharing of planning, regulation, superintendence and services execution tasks, according to the suitable technologies for the regional reality”⁷.

About the minimal scope of the waste management plans, the National Policy on Solid Waste creates the possibility for the municipalities to elaborate and implement solid waste intermunicipal plans. These plans must observe the minimal content fixed for the municipal plans, exempting the need to elaborate autonomous municipal plans.

Furthermore, the NPSW establishes that those municipalities that choose the elaboration and implementation of intermunicipal plans have priority to access Union resources destined to development and services related to urban cleaning and solid waste management. It is verified, therefore, that the National Policy on Solid Waste not only makes feasible but also encourages the elaboration of solid waste plans through consortium solutions.

CONCLUSION

It can not be ignored that the imposed duties to the municipalities by the NPSW are extremely complex, demanding, for its achievement, technical, financial and administrative resources, which are not always available in the municipal context, especially the small ones. This way, the effectiveness of the achievement of the objectives of the National Policy on Solid Waste by the municipalities present many challenges, putting in risk the effectiveness of the National Policy as a whole.

Furthermore, it is important to consider that the solid waste management plans intend to be integrated and multisector, oriented to present solutions that congregate social, economic, cultural and environmental aspects, in relation to the generation and destination of the waste. In other terms, the elaboration and implementation of municipal plans is complex, fact that is incompatible with the municipal structure.

Considering the importance of the role performed by the municipalities in the achievement of the objective of the National Policy on Solid Waste and the difficulties imposed to these, the public consortia are a possible alternative for the associated management of public services.

Furthermore, these consortia present many mechanisms of performance and resources sources, as well as their own legal personality, fact that facilitates the development of more effective solutions. In addition, the municipalities that are

7 SINIR. Sistema Nacional de Informações sobre a Gestão de Resíduos Sólidos. **Planos Intermunicipais de Resíduos Sólidos**. Disponível em: <<http://sinir.gov.br/web/guest/2.4-planos-intermunicipais-de-residuos-solidos>>. Acesso em 12/11/2017.

organized in public consortia have priority in the destination of federal resources that are destined to the implementation of management plans.

This way, it is possible to verify the existence of an express incentive to the formation of public consortia destined to develop and implement solid waste intermunicipal plans. It will be up to these consortia to plan, regulate, superintend and supply waste management services, using “suitable technologies for each reality with a permanent board of trained professionals, strengthening the realized investments and making the management more professional”⁸.

Obviously the consortium solution does not represent the end of all the difficulties faces by the municipalities in the solid waste management. However, especially small neighboring municipalities, that present similar demands and difficulties, the association facilitates the reduction of costs and the gain of scale for the waste management.

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SOBRE O ORGANIZADOR

Leonardo Tullio - Doutorando em Ciências do Solo pela Universidade Federal do Paraná – UFPR (2019-2023), Mestre em Agricultura Conservacionista – Manejo Conservacionista dos Recursos Naturais (Instituto Agronômico do Paraná – IAPAR (2014-2016), Especialista MBA em Agronegócios – CESCAGE (2010). Engenheiro Agrônomo (Centro de Ensino Superior dos Campos Gerais- CESCAGE/2009). Atualmente é professor colaborador do Departamento de Geociências da Universidade Estadual de Ponta Grossa – UEPG, também é professor efetivo do Centro de Ensino Superior dos Campos Gerais – CESCAGE. Tem experiência na área de Agronomia. E-mail para contato: leonardo.tullio@outlook.com

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