

Environmental public policies: scientific production in national administration journals between 2013 and 2017

Políticas públicas ambientais: produção científica em periódicos nacionais da área de administração entre 2013 e 2017

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Abstract

The objective of this study was to identify the profile of national scientific productions on environmental public policies in journals in the area of administration classified by Qualis-Periódicos from A1 to B2, from 2013 to 2017. To this end, a descriptive, documental, and quantitative research was conducted. The results show that most of the authors who published on the subject are graduates in business administration and doctors in the same area of formation. The main theme of the articles on environmental public policies was solid waste. Regarding the methodological aspects, it was found that usually theoretical, empirical, descriptive and qualitative papers with cross-sectional approach are published. In this sample space, most were classified as case studies that used multiple instruments for data collection and made use of content analysis for analytical treatment. This article contributes by identifying the profile of productions on the topic, helping researchers and managers interested in the subject.

Keywords: Environmental public policies. Environmental sustainability. Environment. Administration. Environmental management.

Resumo

O objetivo deste estudo foi identificar o perfil das produções científicas nacionais sobre políticas públicas ambientais em periódicos da área de administração classificados pelo Qualis-Periódicos de A1 a B2, no período de 2013 a 2017. Para tal, realizou-se uma pesquisa documental, descritiva e quantitativa. Os resultados relevam que a maioria dos autores que publicaram sobre o tema são graduados em administração e doutores na mesma área de formação. A principal temática dos artigos sobre políticas públicas ambientais foi resíduos sólidos. Em relação aos aspectos metodológicos, constatou-se que normalmente são publicados trabalhos do tipo teórico-empírico, descritivos, e qualitativos com recorte transversal. Neste

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espaço amostral, grande parte foi classificada como estudos de caso que utilizaram múltiplos instrumentos para a coleta de dados e fizeram uso da análise de conteúdo para tratamento analítico. Este artigo contribui ao identificar o perfil das produções sobre o tema, auxiliando pesquisadores e gestores interessados na temática.

Palavras-chave: Políticas públicas ambientais. Sustentabilidade ambiental. Meio ambiente. Administração. Gestão ambiental.

1 INTRODUCTION

Sustainability is a widely debated theme by scholars, governments and companies, especially after some milestones, such as the Brundland Report, published in 1987, also known as "Our Common Future", which coined the best known definition of sustainable development, in addition to the Rio-92 conference, which aimed to raise awareness of sustainable development among societies and Heads of State, whose main result was the production of some key official documents, such as the Earth Charter and conventions. Sustainable development, most of the time, is represented by a union between the economic, social and environmental dimensions. Each dimension has a concern: the economic is attentive to the efficiency necessary for organizations to remain competitive; the social is concerned with the social impacts on human communities within and outside organizations (unemployment, social exclusion, poverty, organizational diversity, among others); and the environmental is concerned with the environmental impacts of the use of natural resources and emissions of pollutants (BARBIERI *et al.*, 2010). Elkington (1998) defined the term Tripple Bottom Line, which advocates a balance between the three dimensions of sustainability.

This study focused only on the environmental dimension of sustainability. It has several instruments that can be used by governments and companies to ensure environmental balance. In the public sphere, according to art. 225 of the Constitution of the Federative Republic of Brazil (1988), "everyone has the right to an ecologically balanced environment, a good

of common use of the people and essential to a healthy quality of life, imposing on the public power and the community the duty to defend and preserve it for present and future generations. So that governments can guarantee environmental preservation, public environmental policies are instituted.

In public administration, environmental policies are the government's main tools for seeking environmental sustainability. Environmental public policies are principles and guidelines, established in the form of the law, which "aims at the preservation, improvement and recovery of environmental quality conducive to life" (BRAZIL, 1981). When considering the importance of public administration to ensure environmental sustainability through environmental public policies, this article was based on the research conducted by Souza e Ribeiro (2013) in order to verify how scholars in the area are analyzing the subject.

Souza and Ribeiro (2013) investigated the profile of research on environmental sustainability in national periodicals of administration from A1 to B2, from 1992 to 2011. The study results show that there are signs that the subject is being consolidated in Brazil. One of the categories analyzed by Souza and Ribeiro (2013) were the environmental public policies, which in the period had only 11 articles published, which represents 2.78% of the studies found on environmental sustainability. In view of this scenario, in order to verify if there was an evolution in the category environmental public policies, the following research objective was defined: to identify the profile of national scientific productions on environmental public policies in periodicals of the administration area ranked by *Qualis-*

Periódicos from A1 to B2, in the period from 2013 to 2017.

In order to fulfill the proposed objective, a literature review was conducted with systematized search and article selection procedures. This work was divided into four sections. Besides this introduction, the methodological procedures adopted in the research are presented in the sequence. The results section follows, which is divided into three items: (1) publications' identification and demography; (2) articles' thematic; and (3) studies' methodological design. Finally, the final considerations are addressed.

2 METHODOLOGICAL PROCEDURES

This is a descriptive review with a quantitative approach. A literature review was carried out, with systematized procedures for the search and selection of articles, based on national periodicals of administration. The study was longitudinal, since the scientific productions published in national journals in the area of administration from 2013 to 2017 were considered. To select the national journals of administration, the Qualis Capes system for Journals was used, which classifies “the scientific production of graduate programs with respect to articles published in scientific journals” (CAPES, 2016). As this research uses the latest available *Qualis-*

Periódicos classification for the 2013-2016 quadrennium, the analysis in journals started in 2013.

According to the same criteria of Souza e Ribeiro (2013), this study selected for analysis, national journals classified by *Qualis-Periódicos* as A1, A2, B1 and B2 in the evaluation area of Public and Business Administration, Accounting Sciences and Tourism in the quadrennium 2013-2016. There are a total of 1677 national and international journals classified in these strata, which is equivalent to 47.08% of the total number of journals in this evaluation area. Within this scope, the national journals of the area of Public Administration and Business were selected. They were not considered journals of the area of Accounting Sciences and Tourism. It is worth mentioning that there are no national journals classified as A1 in the administration area.

After this first selection, the focus and scope made available on each journal's website were analyzed to verify if they were really related to the administration area. Journals that work only with related or specific areas of the administration area were not selected, such as marketing, production engineering, psychology, economics and operational research. At the end of this stage 56 journals were left for analysis (Table 1).

Table 1 - Selected journals in the administration area, total number of articles published by each journal between 2013 and 2017 and number of articles published on environmental public policies in the period of analysis.

Journal Title	ISSN	QUALIS	TN ¹	NAP ²
Brazilian Administration Review (BAR)	1807-7692	A2	115	-
Brazilian Business Review (BBR)	1808-2386	A2	186	-
Cadernos Ebape.Br (FGV)	1679-3951	A2	230	-
Organizações & Sociedade (O&S)	1413-585X	A2	163	-
Revista de Administração Contemporânea (RAC)	1415-6555	A2	215	1
Revista de Administração De Empresas (RAE)	0034-7590	A2	199	-
Revista de Administração Pública (RAP)	0034-7612	A2	298	11
Revista de Administração (RAUSP)	0080-2107	A2	220	2
Revista Brasileira de Gestão de Negócios (RBGN)	1983-0807	A2	168	-
Administração: Ensino e Pesquisa (RAEP)	2177-6083	B1	99	-
Administração Pública e Gestão Social (APGS)	2175-5787	B1	112	5
Base – Revista de Administração e Contabilidade da Unisinos	1984-8196	B1	120	-

Contabilidade, Gestão e Governança (CGG)	1984-3925	B1	122	1
Contextus – Revista Contemporânea de Economia e Gestão	2178-9258	B1	108	-
Revista de Administração e Inovação (RAI)	1809-2039	B1	225	1
Revista de Administração Mackenzie (RAM)	1678-6971	B1	237	-
Revista Eletrônica de Administração (READ)	1413-2311	B1	157	2
Revista Eletrônica de Ciência Administrativa (RECADM)	1677-7387	B1	84	-
Revista de Gestão Usp (REGE)	1809-2276	B1	162	-
Revista de Empreendedorismo e Gestão de Pequenas Empresas (REGPEPE)	2316-2058	B1	98	-
Revista de Administração da Ufsm (REA)	1983-4659	B1	300	5
Revista de Ciências da Administração (RCA/UFSC)	2175-8077	B1	193	1
Revista de Gestão Social e Ambiental (RGSA)	1981-982X	B1	103	5
Revista de Negócios (RN)	1980-4431	B1	76	-
Revista Brasileira de Gestão Urbana (URBE)	2175-3369	B1	122	6
Adm.Made	2237-5139	B2	80	-
Alcance (Univali)	1983-716X	B2	139	-
Cadernos Gestão Pública e Cidadania (Cgp&C)	2236-5710	B2	83	1
Desenvolvimento em Questão	1678-4855	B2	80	-
Revista Economia e Gestão (E&G)	1984-6606	B2	140	-
Faces (Face/Fumec)	1984-6975	B2	140	1
Future Studies Research Journal (Future)	2175-5825	B2	92	-
Revista de Gestão e Projetos (GEP)	2236-0972	B2	122	-
Gestão & Planejamento (G&P)	2178-8030	B2	104	1
Gestão & Regionalidade (G&R)	1808-5792	B2	143	4
Gestão e Sociedade (UFMG)	1980-5756	B2	90	-
Gestão.Org	1679-1827	B2	137	-
Independent Journal of Management & Production (IJM&P)	2236-269X	B2	294	-
Organizações em Contexto	1809-1040	B2	147	-
Organizações Rurais & Agroindustriais (OR&A)	2238-6890	B2	145	1
Pretexto (Belo Horizonte)	1517-672X	B2	143	1
Revista de Administração, Ciências Contábeis e Sustentabilidade (Reunir)	2237-3667	B2	112	2
Revista Ciências Administrativas (RCA/Unifor)	2318-0722	B2	119	1
Revista da Micro e Pequena Empresa (Faccamp)	1982-2537	B2	68	-
Revista de Administração da Unimep	1679-5350	B2	151	-
Revista de Gestão Ambiental e Sustentabilidade (GeAS)	2316-9834	B2	136	3
Revista de Gestão e Secretariado	2178-9010	B2	78	-
Revista de Gestão, Finanças e Contabilidade	2238-5320	B2	150	-
Revista do Serviço Público (RSP)	2357-8017	B2	118	1
Revista Eletrônica de Estratégia e Negócios	1984-3372	B2	150	-
Revista Gestão & Tecnologia	2177-6522	B2	157	-
Revista Gestão Organizacional (RGO)	1983-6635	B2	86	-
Revista Gestão Universitária da América Latina	1983-4535	B2	280	-
Revista Pensamento Contemporâneo em Administração (UFF)	1982-2596	B2	182	-
Tecnologias de Administração e Contabilidade	2236-0263	B2	15	-
Teoria e Prática em Administração	2238-104X	B2	84	-

¹TN = total number of articles published by the journal between 2013 and 2017.

²NAP = number of articles published on environmental public policies for the period 2013 to 2017.

Source: Prepared by the authors.

The following step was to access, through each journal's website, all volumes published between 2013 and 2017 of the 56 selected journals. Those journals that did not have an *online* page were accessed through the *SciELO* and *Spell* databases. Subsequently, articles on environmental public policies were searched, taking into account the definition presented in the introduction of this study. 8,077 article titles were read and, when the subject of the study was not clear in the title, the abstracts were also read. The articles that do not deal with the theme or only mention public policies and environmental legislation were left out of the selection. At the end, 56 articles were divided among 21 journals.

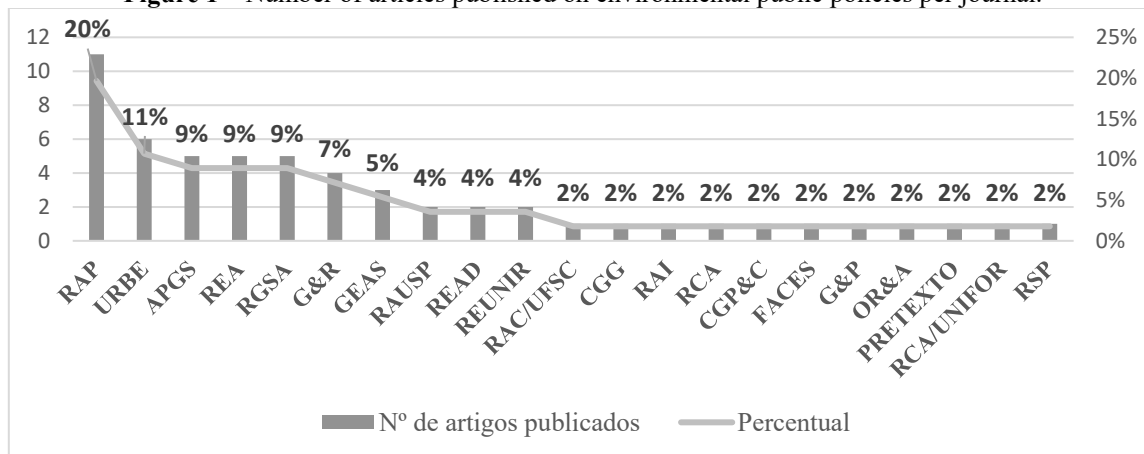
The chosen articles were analyzed and organized in three dimensions: (1) identification and demography of the publication; (2) theme of the article; and (3) methodological design of the study. In the first dimension, we extracted the data from the articles referring to the authors, such as the number of authors per article, authors who published the most in the period, area of basic education (graduation), maximum degree, area of education of the degree, institutional affiliation and gender. When no data was available in the article, the authors' *Lattes* curricula and/or the institutions to which they were affiliated were consulted to complement the information. The second dimension sought to identify the theme of the articles, through

the main theme worked and sub-themes, theoretical basis, level of study (national, state, municipal or business) and keywords. Finally, the last dimension dealt with the methodological aspects of the research, according to the conceptions of Meneses *et al.* (2014), with the following items: type, nature, approach, cutout, method, instrument, data origin, sampling and analytical techniques. In this last dimension, in some items, it was necessary for the authors of this review to classify the methodological aspects not informed in the works. Data analysis was done by means of descriptive statistics.

3 RESULTS

This section presents the results of the analysis of the 56 articles on environmental public policies selected in the national administration journals from 2013 to 2017. The selected articles were published in 21 journals in the area, with the *Revista de Administração Pública (RAP)* being the journal with the highest number of articles published on environmental public policies in the period, 19.64% of the total (Figure 1). The year 2015 had the highest percentage (26.79%) of articles published in the period of analysis, with 15 publications. Following are the years 2014 with 13 (23.21%), 2016 with 11 (19.64%), 2017 with 10 (17.86%) and 2013 with 7 (12.50%) publications.

Figure 1 – Number of articles published on environmental public policies per journal.



Source: Prepared by the authors.

As mentioned in the methodological procedures, the articles were analyzed under three dimensions. Thus, the results are also presented according to the following dimensions: (1) identification and demography of the publication; (2) theme of the article; and (3) methodological design of the study.

3.1 Identification and demography of national scientific articles on environmental public policies

The articles analyzed were published by a total of 155 authors. Most were published by two male authors (33.93%) (51.61%). The authors are graduated mainly in the area of administration (30.97%) and are PhDs (58.71%) in the same area of training (37.43%).

Table 2 – Identification and demography of publications.

Number of authors	N°	%	Maximum Title/Degree	N°	%
One author	5	8,93	PhD	91	58,71
Two authors	19	33,93	PhD student	24	15,48
Three authors	17	30,36	Masters	29	18,71
Four authors	14	25,00	Master's student	5	3,23
Five	1	1,79	Specialization	0	0,00
Total	56	100	Undergraduate	4	2,58
			Undergraduate student	1	0,65
Authors' gender	N°	%	Not informed	1	0,65
Male	80	51,61	Total	155	100
Female	75	48,39			
Total	155	100			
			Administration	58	37,42
			Economy	14	9,03
Administration	48	30,97	Engineering	14	9,03
Economy	21	13,55	Sustainable Development	13	8,39
Accounting Sciences	17	10,97	Social Sciences	10	6,45
Engineering	14	9,03	Accounting Sciences	9	5,81
Architecture and Urbanism	7	4,52	Studies in Development	6	3,87
Law	7	4,52	Lay	4	2,58
Agronomy	5	3,23	Architecture and Urbanism	3	1,94
Biology	4	2,58	Agronomy	3	1,94
Social Sciences	4	2,58	Education	3	1,94
Social Communication	3	1,94	Biology	2	1,29
Psychology	3	1,94	Psychology	2	1,29
Turism	3	1,94	Political Science	2	1,29
Others	16	10,32	Others	11	7,10
Not informed	3	1,94	Not informed	1	0,65
Total	155	100	Total	155	100

Source: Elaborated by the authors.

The first authors of the analyzed articles are, in their majority, female (51.79%), graduated in the area of administration (30.36%) and doctors (51.79%) also in the area of administration (37.50%). It is noticeable that the results referring to most of the authors and the data from the first authors only are similar.

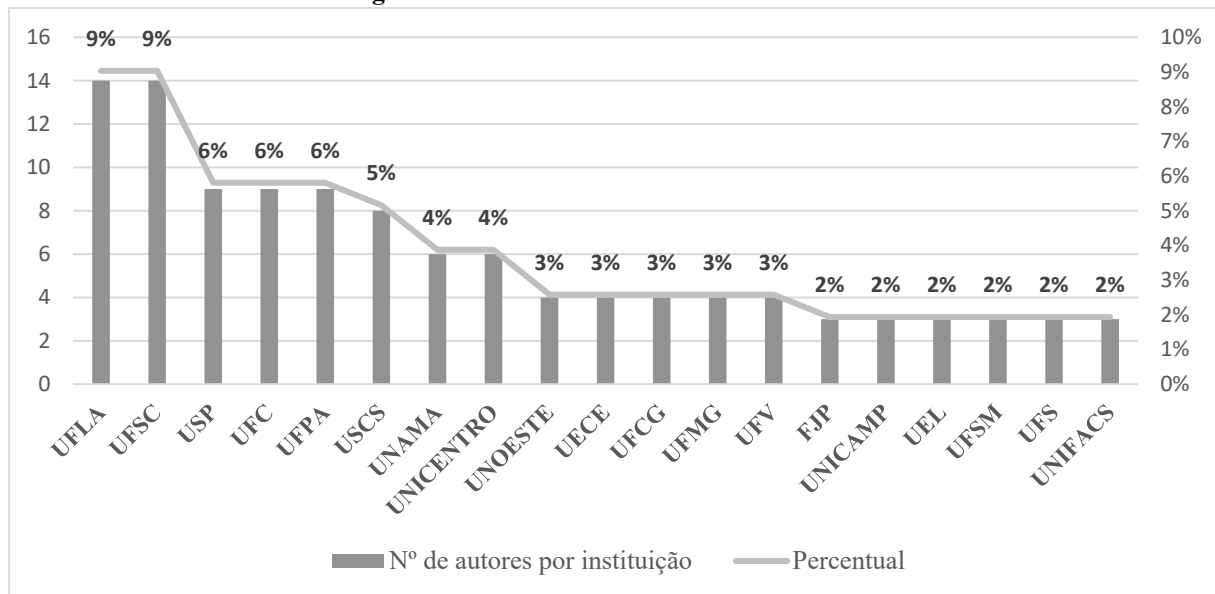
The articles with a single author were produced mostly by women (80%), graduated in different areas (Architecture and Urbanism, International Relations, Law and Management and Business Creation). In this group, all the authors had a PhD (100%) in different areas (Architecture and Urbanism, Political Science, Legal Sciences, Environmental Sciences and Accounting). In the case of articles published by two authors, the profile of researchers was changed: most of the male gender (73.68%), graduated in administration (23.68%) and doctors (73.68%) in administration (31.58%). In relation to the productions with three authors, the following profile was predominant: female gender (52.94%), degree in administration (33.33%), maximum doctorate degree (58.82%) and training area of maximum degree in administration (31.37%). Finally, the profile of the articles with four authors was similar to the previous one with the majority of the female gender (53.57%), graduated in administration (33.93%) and PhD (48.21%) also in administration (44.64%).

The journals classified in the A2 stratum of *Qualis-Periódicos* published 12 articles on the subject in the period (21.43%), most with two authors (41.67%). The articles linked to journals in this stratum presented the following profile: female gender (53.33%), degree in administration (26.67%), maximum doctorate degree (73.33%) and area of maximum degree also in administration (43.33%). The B1 stratum journals

constituted half of the sample of articles, with a total of 28 publications (50%). In this stratum, the predominant profile was of articles published by three male authors (32.14%) (51.32%), graduated in administration (23.68%) and doctors (60.53%) in administration (30.26%). The last stratum analyzed in this study (B2) composed 28.57% of the sample. Most of the articles published in periodicals classified as B2 had four authors (37.50%), predominantly male (55.10%). As for training, the profile was similar to the other strata - graduated in administration (44.90%) and PhD (46.94%) in administration (44.90%). It is noted, through the data presented, that the smaller the stratum of the journal, the greater the number of authors per article, and that the journals that are in a higher stratum have a higher percentage of authors with PhDs.

Researchers who have published articles in the last five years in management journals on environmental public policies are affiliated with 54 different institutions. The Federal University of Lavras - UFLA and the Federal University of Santa Catarina - UFSC presented the largest number of authors affiliated, each with 9.03% of the total number of researchers (Figure 2). Following are the University of São Paulo - USP (5.81%), the Federal University of Ceará - UFC (5.81%), the Federal University of Pará - UFPA (5.81%), the Municipal University of São Caetano do Sul - USCS (5.16%), the University of the Amazon - UNAMA (3.87%) and the State University of the Midwest - UNICENTRO (3.87%). The authors affiliated to these eight universities are responsible for 48.39% of the articles published on the subject in the area of administration. The 35 institutions that were not presented in figure 2 have only one or two authors affiliated.

Figure 2 – Main authors' institutional affiliations.



Source: Elaborated by the authors.

Of the 155 authors who published on the subject, ten produced more than one article in the period (2013-2017). The author Mário Vasconcellos Sobrinho had the largest number of articles published on environmental public policies between 2013 and 2017 (CARDOSO; VASCONCELLOS SOBRINHO; VASCONCELLOS, 2015; COSTA *et al.*, 2017; ESPADA; VASCONCELLOS SOBRINHO, 2015; VASCONCELLOS SOBRINHO, 2015). Vasconcellos Sobrinho was co-author of 4 (7.14%) of the analyzed articles. The second author who most published in the period was Raquel da Silva Pereira, being co-author of 3 (5.36%) of the articles on the subject (GOMES *et al.*, 2014; GUARDABASSIO; PEREIRA, 2015; OLIVEIRA; TRINDADE; PEREIRA, 2015). The other eight authors published two articles each. It should be noted that there are not many authors who frequently publish about environmental public policies in the area of administration.

3.2 Thematic profile of national scientific articles on environmental public policies

This section aims to identify the thematic profile of research on environmental public policies that has been published in national management journals in the A2, B1 and B2 strata of the *Qualis-Periódicos*, according to the research cutout explained in the methodological procedures.

Based on the bibliometric review conducted by Souza e Ribeiro (2013) on the subject of environmental sustainability and the articles selected for this research, ten thematic sub-categories were created. The main purpose of this categorization was to group the 56 articles, according to the thematic similarity between them.

Solid waste was the most addressed theme in the articles on environmental public policies in the last five years (Table 3). This theme was present in 15 articles, which reflects 26.79% of publications. This fact can be justified given the recent nature of law 12,305, sanctioned in 2010 and still being implemented in most Brazilian municipalities. Most of the cases analyzed in the articles deal with the application of the law at the local level, for example, the studies conducted by Domingos e Boeira (2015), Guardabassio and Pereira (2015), Gomes *et al.* (2014), Oliveira, Trindade and Pereira (2015) and Silva, Alcântara and Pereira (2016).

Table 3 – Thematic profile of articles.

Theme/thematic	Nº	%
Solid waste	15	26,79
Environmental economic instruments	10	17,86
Water Resources	6	10,71
Conservation Units	5	8,93
Relationship with <i>stakeholders</i>	5	8,93
Public policy as a legal device	4	7,14
Other issues	4	7,14
Climate	3	5,36
Land use and occupation	2	3,57
Socio-environmental performance indicators	2	3,57
Total	56	100,00

Source: Elaborated by the authors.

Following this, environmental economic instruments were the main guideline in ten of the articles analyzed (17.86%). The authors who dealt with this topic were concerned with the allocation of public spending for environmental purposes (BORINELLI; GUANDALINI; BACCARO, 2016; DANTAS *et al.*, 2014), in addition to understanding how the State has contributed to sustainable development from its purchasing power of goods (OLIVEIRA; SANTOS, 2015) or contracting services (ALENCASTRO; SILVA; LOPES, 2014). Also on this analysis category, some studies have evaluated the impact of taxes, such as ICMS Ecológico (MATTEI; MEIRELLES NETO, 2015; MOURA, 2015; NASCIMENTO; VAN BELLEN, 2013), among other environmental tax surveys.

Afterwards, the topic of water resources was the most discussed, being found in 10.71% of the articles. The operability of the Municipal Master Plans (PERES; SILVA, 2013) and Brazilian watershed programs were analyzed (BARBOSA *et al.*, 2016; CERQUEIRA *et al.*, 2016). Still on the studies that deal with water resources, it is worth commenting on the differences regarding the scope of the government level. After all, those who researched the entire national territory tended to carry out theoretical studies, while those who researched at the local level usually did case studies of the theoretical-

empirical type (the next section of the work will be dedicated to methodological aspects).

Still related to the most frequent themes in the articles on public environmental policies, five articles dealt with conservation units and the same quantity, about relationships with stakeholders. The articles on protected areas (Conservation Units) dealt with community management, environmental governance, among other participation instruments, and management supervision. Intimately linked to this coexistence, almost always not very harmonious, the articles dealing with relationships with stakeholders were classified as relevant for showing practical cases of links between government, non-governmental organizations, rural communities, among other actors (BORGES; DUTRA; SCHERER, 2014; VASCONCELLOS; VASCONCELLOS SOBRINHO, 2015).

Four articles dealing with Environmental Public Policy purely as a legal provision (7.14%) and four categorized into other subjects (7.14%) appear in a lesser degree of periodicity. In other words, more dispersed subjects that could not be aggregated to a common theme. The articles that deal with public policies entirely under the legal aspect, were classified in this way considering that, commonly, they are theoretical studies seeking a greater understanding of environmental laws or

government programs, usually from the analysis of their content (TEIXEIRA; AZEVEDO, 2013). Considered as other subjects are, for example, those articles in which the authors discussed administrative theories having as basis the national environmental laws (LUIZ *et al.*, 2013).

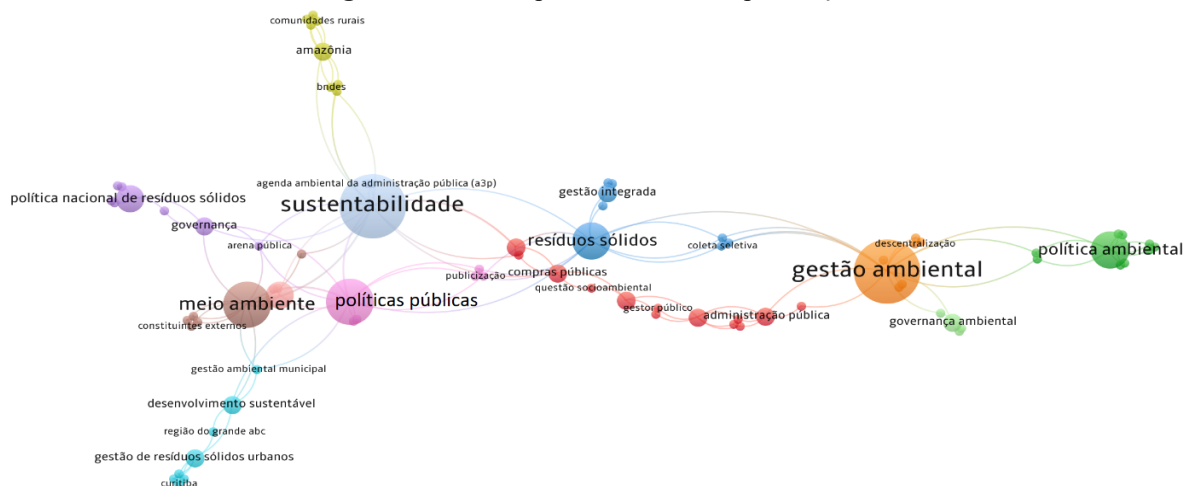
It is worth reiterating that some organizational theories served to support the work analyzed, such as Agency Theory, Stakeholders Theory, Institutional Theory, New Institutional Economy, among others (AUGUSTO; SOUZA; CARIO, 2014; BARBOSA *et al.*, 2016; BORGES; DUTRA; SCHERER, 2014; CARDOSO; VASCONCELLOS SOBRINHO; VASCONCELLOS, 2015). Meanwhile, it was evident that, although some authors use a theory as a basis, most works did not present a theoretical approach. Most of the papers made a historical rescue about sustainability or public policies in the theoretical foundation and did not use an organizational theory to support the theoretical-empirical argument.

Climate, land use and occupation were also themes contemplated by the articles

analyzed in this review, even if to a lesser degree. As an example on climate, one of the articles analyzed the partnership between Norway and Germany, which aims to mitigate greenhouse gas emissions by preserving the Amazon forest (MARCOVITCH; PINSKY, 2014). The works that deal with the use and conservation of the soil (3.57%) were concerned with the contradictions between Brazilian urban and environmental legislation and address the issue of urban environmental quality in an applied way, one in Presidente Prudente/SP (HONDA *et al.*, 2015) and another in Fortaleza/Ceará. (FREITAS, 2014).

It is worth mentioning that two investigations on socio-environmental performance indicators were also conducted. One of them proposes a list of indicators for federal public agencies (LUIZ; PFITSCHER; ROSA, 2015) and the other studies the evaluation criteria of the Verde-Azul Program in the Great ABC region of São Paulo (OLIVEIRA; TRINDADE; PEREIRA, 2015).

Figura 3 – Rede de palavras-chave das publicações.



Source: Elaborated by the authors from the VOSviewer program.

Finally, the network formed by the most recurrent keywords in the analyzed articles on environmental public policies is presented (Figure 3). The most recurrent are sustainability and environmental management, each with seven occurrences. In

the sequence, present in five articles each, are the keywords environment and public policies. With four occurrences the words solid waste and environmental policy are in third place. With the exception of solid waste,

the most recurrent keywords in the articles are usually broad and generic.

3.3 Methodological profile of national scientific articles on environmental public policies

Given the research objective exposed, it is important to detail the methodological aspects of the studies that

composed the sample of this work. As presented in table 4, most of the works have a theoretical-empirical character (73.21%), which means that most of them are concerned not only with picking up concepts in the literature, but also with applying what is being studied.

Table 4 – Methodological profile of publications.

Type of Research	N°	%	Instrument	N°	%
Theoretical	15	26,79	Questionnaire	5	8,93
Theoretical-empirical	41	73,21	Interview	2	3,57
Total	56	100,00	Documental research - No instrument	22	39,29
			Multiple instruments	27	48,21
Nature	N°	%	Total	56	100,00
Descriptive	50	89,29			
Explanatory	1	1,79	Origin	N°	%
Exploratory	3	5,36	Primary	13	23,21
Mixed	2	3,57	Secondary	22	39,29
Total	56	100,00	Mixed	21	37,50
			Total	56	100,00
Approach	N°	%	Sampling	N°	%
Qualitative	40	71,43	Non Probabilistic	32	57,14
Quantitative	8	14,29	Probabilistic	0	0,00
Mixed	8	14,29	Census	2	3,57
Total	56	100,00	Mixed	0	0,00
			Not informed	22	39,29
Cutout	N°	%	Total	56	100,00
Cross-sectional	39	69,64			
Longitudinal	14	25,00	Analytical Techniques	N°	%
Mixed	3	5,36	Content analysis	20	35,71
Total	56	100,00	Discourse Analysis	0	0,00
			Descriptive statistics	3	5,36
Method	N°	%	Inferential Statistics	2	3,57
Case study	27	48,21	Multiple Combinations	1	1,79
Documental research	21	37,50	Combined statistics	1	1,79
Survey	4	7,14	Others	4	7,14
Multiple	4	7,14	Not informed	25	44,64
Total	56	100,00	Total	56	100,00

Source: Elaborated by the authors.

Regarding the type of research, only 18 of the 56 articles analyzed informed in the methodological section whether the work was theoretical or empirical. Therefore, all other 38 were classified by

the authors of this review. This task of classification or reclassification was repeated by the authors, whenever possible, in all the other items of the methodological dimension.

As for the nature of the works, most (89.29%) were classified as descriptive, since they sought to describe a phenomenon based on variables already established in the literature. The other works were exploratory, explanatory and mixed, in this order of frequency. Likewise, it is important to consider that only 20 of the 56 researches expose their methodological nature, leaving it to the researchers to classify the other studies.

Purely quantitative studies were not the preferred approach of researchers who publish in Brazil on public environmental policies. Only 14.29% of the works fit as fully quantitative and another 14.29% use a mix of approaches when conducting qualitative studies. Thus, it was found that the majority of the sample (71.43%) refers to qualitative studies. In addition to this information, it was found that the classification of the approach was somewhat common in the studies analyzed, since most did not need to be classified or reclassified by the authors.

Concerning the temporal cutout of the analyzed research, it is evident that most of the studies (69.64%) opted for a transversal cutout, that is, the one that observes the phenomenon in a single point in time. The other 14 studies opted for a longitudinal cut approach, since they follow the progression of the variables during a given period. However, it should be noted that 8 of the 56 papers (14.29%) deal with this type of methodological classification, so all the others (48 papers) were classified or reclassified by the researchers, also regarding the temporal cut.

Regarding the research methods that were used in the selected studies, there is a predominance of case studies and documentary research, present in 27 and 21 articles, respectively. To a lesser extent, there are the studies that made use of surveys (4 articles), and those in hybrid form that mixed the methods (4 articles), representing 7.14% each. Another relevant finding is the fact that no research on environmental public policy published in

national journals in the strata analyzed, carried out an action research or an ethnographic study.

The articles were also analyzed from the perspective of the instruments handled to achieve their respective objectives. The largest portion of the studies (48.21%) employed multiple instruments for data collection, followed by documentary research that did not use any other instrument (39.29%). The use of the questionnaire was perceived in five studies and the exclusivity of the interview was identified in only two studies. It is also important to state that no study component of the present research sample made exclusive use of observation or focus groups. Finally, it is worth mentioning that 80.36% of the studies make a point of listing the research tools, which allows us to infer that the authors of articles in public environmental policies dedicate the section of methodological procedures to describe the tools used in their scientific research.

Regarding the origin of the data, there is practically no difference between secondary (39.29%) and mixed (37.50%) data. Works that collected primary data represent 23.21% and are usually linked to those that make use of multiple instruments.

The technique used to define the sample in most of the analyzed articles was classified as non-probabilistic (57.14%). Next, with 39.29%, are the works that the authors did not inform the methodological choice in the sampling. The remaining 3.57% were studies that chose the census form of sample definition. It is worth mentioning that only 35.71% of the works informed the type of sampling.

In order to conclude the presentation of the methodological aspects of the chosen research, the predominant analytical techniques are announced in the analyzed articles. Although the majority of the subjects were not informed in the article (44.64% simply did not mention it), it is worth mentioning that 35.71% of the sample used the content analysis to reflect on their research results. To a lesser extent,

statistical methods were also present: descriptive statistics (three articles), inferential statistics (two articles) and combined statistics (a single article).

In short, the low degree of methodological description in the analyzed works can be seen, since all 56 works contained at least one of the attributes that needed to be classified or reclassified by the researchers. Differences could also be observed among the journals. In fact, the higher the *Qualis-Periódicos* of the journal, the more complete was the methodological procedures section, which allows us to infer that the methodological rigor was greater.

4 FINAL CONSIDERATIONS

The purpose of this study was to identify the profile of national scientific productions on environmental public policies in periodicals in the administration area, classified by *Qualis-Periódicos* from A1 to B2, from 2013 to 2017. The analysis of results was divided into three profiles: demographic, thematic and methodological.

The results point to an alarming deduction: the subject of environmental public policies, despite having evolved in relation to the findings of the study by Souza e Ribeiro (2013), was little addressed in scientific journals of administration, since only 56 works were located in a census survey, whose universe was 8,077 articles. The peak in the number of publications occurred in the year 2015, center of the proposed time cutting, i.e., the frequency has declined since then.

The journals that most contributed to the dissemination of this theme were the *Revista de Administração Pública (RAP)* and the *Revista Brasileira de Gestão Urbana (URBE)*, together are responsible for 30.36% of publications. About the gender of the authors who published in national journals in the area of administration on the subject of environmental public policies, it was noted that there is no significant difference. As for the authors, it is also concluded that most of them, regardless of

gender, have already concluded their doctoral course.

These researchers are linked to 54 institutions and, of these, the Federal University of Lavras (UFLA) and the Federal University of Santa Catarina (UFSC) presented the largest number of affiliated authors. As for the themes, the most recurrent in national publications on environmental public policies are: Solid Waste; Economic Instruments and Water Resources. Some aspects have influenced these results, such as the recent character of laws, decrees and norms in these areas, as discussed in the text of the previous section, in addition to the explanatory table and the words network.

Regarding the methodological profile, it was found that these are usually works of the theoretical-empirical, descriptive, qualitative type, whose cross-sectional cut was the most used. In this sample space, a large part was classified as case studies that employed multiple instruments for data collection and made use of content analysis for analytical treatment. It is worth noting that none of the articles filled in all the methodological aspects that the researchers considered relevant and, therefore, the works' methodological categorization was necessary.

Despite the fact that this article contributes to identify the productions' profile on environmental public policies and helps researchers and managers interested in the subject, future studies capable of expanding the sampling space or deepening the discussions are still relevant. After all, the State has contributed incipiently to sustainable development and it is up to the administration researchers to collaborate so that the government uses productively its great power as buyer, regulator and manager of natural resources.

This article maps the main publications on environmental public policies, considering the period from 2013 to 2017 in national journals in the area of Administration, which may be useful for

researchers and managers interested in the environmental agenda. Moreover, with the articles' analysis it was possible to identify a research agenda based on two dimensions: (1) social, economic, environmental, cultural and political context; and (2) theoretical and methodological aspects.

The gaps found in the first dimension, which can be answered in future studies, were: how is the social, economic, environmental, cultural and political context, national and international, reflected in publications on environmental public policies? What factors cause the increase or decrease of publications in the area? Do the thematic categories found in the field of administration reflect the context of the area of environmental public policies as a whole?

Regarding the theoretical and methodological aspects, it was noted that

research on environmental public policies lacks a more consistent theoretical framework that can contribute to the empirical analysis performed in most articles. Theories such as the *Advocacy Coalition Framework* (ACF), the Institutional Theory and its various aspects, the Agency Theory, *stakeholder* analysis models, among others, may contribute to the theoretical improvement of the studies and, consequently, the analysis employed. Other methodological procedures should also be adopted for growth and consolidation of the research area within management. Studies of an explanatory nature must be conducted by researchers in the field. In addition, it is necessary to expand the qualitative and quantitative approaches used for the analysis of the theme, such as the application of survey, action research and ethnographic study.

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