

## WHAT RECENT STUDIES TALK ABOUT MASTER PLAN?

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**Abstract:** Master Plan is an important tool for urban policies and most municipalities have this document to guide their planning. It can explain and shows the path through which cities have passed, and above all indicate the path to follow. Aimed to assess data concerning the MP, we searched on Periódicos CAPES scientific database, papers published in the last five years containing the “*city master plan*” or “*plano diretor*” in title or keywords. Applying the inclusion/exclusion criteria we found 42 papers, 32 (76.19%) published in Portuguese, 9 (21.43%) in English and 1 (2.38 %) in Spanish. Brazilian cities were mentioned in 26 (60.47%). Many aspects of the MP were addressed such as urban management, concept and design, climate changes and popular participation. The importance of popular participation to construct the MP was explored in 8 (19.05%) studies, mainly relating the theme to Brazilian cities. Environmental implications were also another recurring theme explored. All papers presented general aspects of the MP. The MP is a comprehensive issue that allows discussion from different themes and its application certainly wide and must be explored in its entirety.

**Keywords:** City, master plan, popular participation, urban planning.

## O QUE OS ESTUDOS RECENTES TRAZEM SOBRE O PLANO DIRETOR?

**Resumo:** O Plano Diretor é uma importante ferramenta para política urbana e muitos municípios possuem este documento como guia para o planejamento. Ele pode explicar e mostrar o percurso pelo qual as cidades passaram, e sobretudo indicar o caminho a qual seguir. Objetivando levantar dados referentes ao PD, buscamos na base de dados Periódicos CAPES, artigos publicados nos últimos cinco anos contendo no título ou palavras-chave, o termo “*city master plan*” ou “*plano diretor*”. Aplicando os critérios de inclusão/exclusão, encontramos 42 artigos, 32 (76,19%) publicados em português, 9 (21,43%) em inglês e 1 (2.38 %) em espanhol.

Cidades brasileiras foram mencionadas em 26 (60,47%). Muitos aspectos do PD foram abordados como gestão urbana, conceito e concepção, mudanças climáticas e participação popular. A importância da participação popular para construção do PD foi abordada em 8 (19,05%) estudos, relacionando o tema principalmente a cidades brasileiras. A relação do tema com as implicações ambientais foi também explorada. Todos os artigos apresentaram aspectos gerais do PD. O PD é um tema abrangente que permite a discussão de diversos tópicos e sua ampla aplicação certamente deve ser explorada em sua totalidade.

**Palavras-chave:** Cidade, plano diretor, participação popular, planejamento urbano.

### **¿QUÉ APORTAN LOS ESTUDIOS RECIENTES SOBRE EL PLAN DIRECTOR?**

**Resumen:** El Plan Director es una herramienta importante para la política urbana y muchos municipios tienen este documento como guía para la planificación. Puede explicar y mostrar el camino por el que han pasado las ciudades, y sobre todo indicar el camino a seguir. Para recolectar datos sobre el PD, buscamos en la base de datos de Periódicos CAPES artículos publicados en los últimos cinco años que contuvieran el término “city master plan” o “plano diretor” en el título o palabras-claves. Aplicando los criterios de inclusión/exclusión, encontramos 42 artículos, 32 (76,19%) publicados en portugués, 9 (21,43%) en inglés y 1 (2,38%) en español. Las ciudades brasileñas fueron mencionadas en 26 (60,47%). Se abordaron muchos aspectos de lo PD, como la gestión urbana, el concepto y el diseño, el cambio climático y la participación popular. La importancia de la participación popular para la construcción de lo PD fue abordada en 8 (19,05%) estudios, relacionando el tema principalmente a las ciudades brasileñas. También se exploró la relación del tema con las implicaciones ambientales. Todos los artículos presentaron aspectos generales de lo PD. El PD es un tema amplio que permite la discusión de diversos temas y su amplia aplicación ciertamente debe explorarse en su totalidad.

**Palabras-claves:** Ciudad, plan Maestro, participación popular, planeamiento urbano.

## **1. Introduction**

Urban planning is undoubtedly an important tool for the organization and sustainable development of cities. The set of norms that define how it is organized, what are the rights, duties, actors and each action inherent to the structural dynamics of a city must be the object of a decision taken by a multidisciplinary team in dialogue with the community and concretized in the elaboration of a document guiding principle, the Master Plan (MP).

This instrument has existed since the 1930s as a legal apparatus for urban planning. According to Lage and Francisco Filho (2020) it has its origin in the European concept of city, especially the French city. It later took on a broader scope, reaching housing, socioeconomic, environmental and sustainability issues. According to Dunhan (1958), in the United States, MP comes from the organization of municipal government and from constitutional principles and Standard City Planning, with the objective of improving the actions to be taken by the government in relation to public and private land uses.

In contemporary Brazil, urban policy is based on the 1988 Federal Constitution (Brasil, 1988) and the City Statute (Brasil, 2001). The legislation consolidates the MP as the main instrument of urban planning and determines that it is the responsibility of the municipality to elaborate, implement and supervise the urban policy (Rodrigues, 2010).

The City Statute indicates that the city must fulfill its social function by meeting the fundamental requirements of the organization, culminating in the development of the implications involved, and the MP's role is to guide the achievement of these objectives (Brasil, 2001). It determines the minimum requirements that the MP must contain to guarantee access by the municipal government to the financing instruments and public policies provided for in the Constitution (Araújo, Siqueira & Chrispim, 2018).

The various instruments present in the MP aim to guarantee the efficiency of urban policy in order to order the full development of the social functions of the city and urban property. Municipalities are autonomous for the preparation of their MP, but the law establishes some conditions such as the obligation that all municipalities with more than 20 thousand inhabitants, or belonging to metropolitan regions, or of tourist interest, or in an area of influence of undertakings with significant environmental impact must have MP (Brasil, 2001).

According to IBGE (2018), in Brazil 51.45% (2866) of the municipalities has MP and of the total of those municipalities that do not have it, 19.73% (533) are preparing the document. Among the municipalities with more than 20 thousand inhabitants (1762), 89.95% (1585) have MP and 4.31% (76) have MP in preparation. Due to the importance of the MP for the systematization of urban policies, the challenge is to enhance popular participation in the preparation and implementation of the actions of the Master Plan. The profound social, economic, structural and environmental transformations have imposed new challenges on urban planning and many of these changes are reflected in the MP. One of the results is the increase

in academic interest in urban planning studies involving the most diverse issues in cities from various points of view, with the Master Plan as a central element.

We aimed to evaluate the academic production referring to the Master Plan, in Brazil and abroad, published in the last five years, gathering from the search for articles in the scientific database Periódicos CAPES.

## 2. Material and methods

To this purpose, subjects and titles/abstracts containing the keywords “*city master plan*” or “*plano diretor*” were searched on Periódicos CAPES scientific database. Inclusion factors were papers published by peer reviewed journals, evaluating the city master plan and published from 2018 to 2022. Exclusion factors were scientific articles published before 2018 and studies that did not evaluate the city master plan as a target.

## 3. Results and discussion

The research found 861 records that, applying the inclusion/exclusion criteria and excluding redundant titles, resulted in 42 papers, all of them published in the last 5 years (2018-2022) (Chart 1).

**Chart 1:** Articles analyzed in the review.

Reference	Title	General information
Lage & Francisco Filho, 2020	A construção do estatuto da cidade e da ideia de plano diretor numa perspectiva histórica: Discutindo a adequação destes instrumentos aos municípios de pequeno porte populacional – <i>The construction of the City Statute and historical perspective of Master Plan: Discussing the suitability of these instruments for small population municipalities</i>	It presents a Master Plan legislation from the analysis of the process of elaboration of the City Statute since its original conception in the Housing and Urban Reform Seminar and the verification of the adequacy of this instrument to the municipalities of small population.
Capasso & Pequeno, 2021	A falência seletiva do plano diretor de Fortaleza – <i>The selective bankruptcy of Fortaleza's Master Plan</i>	It presents a discussion about the functionality of the Fortaleza's Master Plan through the analysis of the implementation process. Shows data about urban zoning and the discussions to amend the MP based on regulatory market demands as verticalization, political and social scenario associated with the MP of Fortaleza.
Caetano & Rosaneli, 2019	A paisagem no plano diretor municipal: Uma reflexão sobre sua referência na legislação urbanística dos municípios paranaenses – <i>The landscape in the municipal Master Plan: A reflection on its</i>	It proposes to identify how the landscape concept has been treated in urban legislation from the analysis of 381 Master Plans of Paraná cities, in Brazil. It shows that the word landscape is mentioned in the MP of 369

	<i>reference in the urban legislation of the Paraná cities</i>	municipalities that, in general, dealt with the issue in a superficial way associated with the idea of production of the inhabited territory.
Murué, Costa, Rosim & Pasquelatto, 2020	Análise da outorga onerosa e transferência do direito de construir em Goiânia – GO – <i>Analysis of the onerous grant and transfer of the right to build in Goiânia – GO</i>	It presents the norm and instruments referring to the use of onerous grant instruments and transfer of the right to build of Goiânia – GO. The results show broad use of the instruments, however, they need adjustment and some intervention is needed for the next Master Plan revision.
Araújo et al, 2018	Aplicabilidade dos instrumentos de política urbana: O caso do plano diretor de São João da Barra – RJ – <i>Applicability of urban policy instruments: The case of the Master Plan of São João da Barra – RJ</i>	It presents a study of Brazilian urban policy based on analysis of the Master Plan and land use and occupancy law of the São João da Barra – RJ. It was verified that most of the urban policy instruments set forth and did not have the application sites defined, compromising the applicability of them. Actions against real estate speculation is compromised and urban and environmental issues are little discussed.
Bienenstein, Bienenstein, Sousa & Gorham, 2018	Apontamentos sobre o processo de revisão do plano diretor da cidade de Niterói – <i>Notes on the process of reviewing the Master Plan of Niterói</i>	It presents a review process of the Master Plan of Niterói – RJ and it affirms that process occurred with contradictions imposed by urban administrators. The review was marked by the low social participation motivated by the attitudes of the municipal executive who instituted barriers to access. Bases were defined for the new urban reorganization, specific interventions of revitalization and infrastructure works were implemented, especially in areas of interest for real estate speculation.
Gallina & Piccinini, 2020	Density and planning. Study of the flexibilization of urban parameters in Passo Fundo – RS	It investigates the flexibility of urban planning instruments in relation to urban density in Passo Fundo – RS. The urban legislation flexibilization process does not have a positive correlation between planning and management policies. It characterized the locations in terms of their integration/segregation. It concludes that the pressure on urban soil occurs due to the verticalization and densification of well-located areas and the dispersion of the urban area. Zoning and the urban parameters of the urban planning policy present conflicts.
Antonello, 2020	Expressão do planejamento urbano no ordenamento do território – O plano diretor municipal de Lisboa – <i>Expression of urban planning in land use planning – Lisbon’s municipal Master Plan</i>	It evidences two elements that were considered advances in the Master Plan (Lisbon – 2012) in relation to the monitoring of urban public policy. It shows the MP follows the national spatial planning program, but it does not find a direct link with the national scope. It presents some progress the expansion of urban facilities, and an analysis of the potential, bottlenecks, opportunities and threats of the first strategic objective.
Lima, 2018	Integração do plano diretor de iluminação com o plano diretor: Estudo de caso:	It presents the Lighting Master Plans of Putrajaya and Singapore are presented which



	<p>Cingapura e Putrajaya – <i>Integration of the Lighting Master Plan with the Master Plan: Case study: Singapore and Putrajaya</i></p>	<p>demonstrate their compliance with their respective MP. Both use lighting as a tool for the hierarchy of roads and buildings, emphasize their organic forms and maritime fronts, prioritize pedestrian lighting and use the lighting as an urban marketing tool based on the interests of the market logic reproduction.</p>
<p>O’Byrne, 2018</p>	<p>La importancia de estudiar el plan director de Le Corbusier para Bogotá – <i>The importance of studying Le Corbusier’s Master Plan for Bogotá</i></p>	<p>It presents an analysis based on Le Corbusier’s urbanism plan, especially with the Master Plan for Bogotá from 1950. It shows the details of the regional plan, whose subsidy is the geography of the city, and the metropolitan plan with a focus on circulation. It explains the need to discuss the Bogotá MP and restore the dialog proposed by Le Corbusier in his theories.</p>
<p>Su &amp; Qian, 2020</p>	<p>Neoliberal planning, master plan adjustment and overbuilding in China: The case of Ordos city</p>	<p>It applies the concept of neoliberal planning in China to explore the interactions between planning, especially master plan adjustments, and overbuilding in Ordos City. It has been deregulated and adjusted to facilitate and cater to frenetic real estate development since the early 2000s. Overbuilding has in turn nurtured a more rational and socio-environmentally inclusive mode of planning. It adds insights to the underexplored, evolving interactions between neoliberal planning practices and development reality in the existing neoliberal planning literature, and it also contributes to neoliberal planning studies under authoritarian regimes.</p>
<p>Brule, 2020</p>	<p>Planejamento urbano no município de Juazeiro do Norte, Ceará: Concepções de desenvolvimento urbano em questão – <i>Urban planning of Juazeiro do Norte, Ceará: Conceptions of urban development in question</i></p>	<p>It identifies how the concept of urban development was approached in the Master Plan of Juazeiro do Norte-CE. The MP was marked by its approach to the idea of urban entrepreneurship. From the perspective of the analysis of the market-city and the city-law and through interviews, it establishes that the idea of well-being appears as the purpose of urban development, this aspect ranges from guaranteeing access to infrastructure to the idea of generating more access to health, education, housing, security and sanitation.</p>
<p>Magalhães, Ribeiro, Sousa, Ihlerdrumond, Granja, Pereira, Santos &amp; Aleix, 2018</p>	<p>Planos diretores dos municípios fluminenses: do “ter ou não ter” à avaliação de experiências – <i>Master Plans of the Rio de Janeiro cities: From “to have or not to have” to the evaluation of experiences</i></p>	<p>It presents an overview of the City Statute and the Master Plan with an emphasis on 15 municipalities in Rio de Janeiro. Most operate with relatively recent master plans and very old urban planning legislation. The totality of the master plans includes the provision of monitoring and/or management councils for the master plans with broad popular participation. It presents a summary of the applicability of the instruments in the municipality based on its regulation. It concludes with the predominance of general guidelines in the contents of the plans, in</p>

		<p>contrast to the absence of regulations on applicable urban instruments.</p>
<p>Oliveira, Boaventura, Moyses, Amorim &amp; Rodrigues, 2018</p>	<p>Produção e planejamento do espaço urbano da metrópole matogrossense: Análise sobre o acesso a terras urbanizáveis na cidade ilegal segundo os planos diretores – <i>Production and planning of urban space in the metropolis of Mato Grosso: Analysis of access to urbanizable land in the illegal city according to the master plans</i></p>	<p>It addresses the discussion of Master Plan with a special focus on Cuiabá – MT and analyzes how the urban planning theme has been implemented in Cuiabá from 1960 until the present time. It presents the general provisions of the MP as well as the characteristics of the Municipal System of Urban Development, the Municipal Council of Urban Development and the Institute of Research and Urban Development. It shows the general characteristics of the urban socio-spatial organization and concludes that historically new regulations and regulations have emerged, in order to provide alternatives for this form of appropriation of urban land.</p>
<p>Meck &amp; Retzlaff, 2018</p>	<p>The emergence of comprehensive urban design planning in the United States: The case of the San Francisco urban design plan</p>	<p>It analyzes the San Francisco Urban Design Plan in order to respond how it was made. It presents the emergence of the idea of the urban design plan for San Francisco since mid-1960s and shows a perspective of urban plan in the USA. The plan was adopted in 1971 focused on design objectives and social rules. The document includes implementation techniques but no guidance on architectural design.</p>
<p>Sangawi &amp; Ali, 2020</p>	<p>The implementation of residential projects on Sulaimani Master Plan</p>	<p>It presents a study of the Sulaimani Master Plan from 2006 to 2009. It identifies a clear vision of housing investment projects and shed the light on the necessary policies to be considered. Geography information system has been used to indicate the locations of housing projects in the city. It finds there are non-planning factors that affect the implementation of housing projects. Absence of laws and administrative errors in the implementation of housing projects playing the main role of having no clear housing implementation vision.</p>
<p>Carminatti Júnior &amp; Baptista, 2018</p>	<p>Mobilidade urbana, políticas públicas e o plano diretor do município de São Gonçalo – <i>Urban mobility, public policies and the Master Plan of the São Gonçalo</i></p>	<p>It presents a descriptive and analytical bibliographic study of Master Plan. It empathizes the prerogatives based on elements characteristic of São Gonçalo – RJ. It indicates the MP is a tool poorly used by political actors where the best planning should be used, applying it jointly to public policies to solve problems in public transport and urban mobility.</p>
<p>Alves, Fernandes &amp; Diniz, 2020</p>	<p>O PDDI-RMBH e as possibilidades de um desenvolvimento endógeno desencadeado pela economia popular metropolitana – <i>The PDDI-RMBH and the possibilities of an endogenous development triggered by the metropolitan popular economy</i></p>	<p>It discusses the limits and potentialities for the economy after the Master Plan approval. It presents an overview on the subject of solidary economy and solidary development in line with the MP, the proposal of the brand-new economy and exposed descriptive data on the popular economy of Minas Gerais. It points out that the initiatives to</p>

		promote this production are dispersed and that economic practices could be more efficiently brought together in instruments of actions and institutional programs.
Honorato, 2022	Onward with the anti-asylum struggle, occupying City Master Plans	It reflects on the limits and possibilities for articulating the anti-asylum struggle with participatory city Master Plans in Brazil. It presents data about mental health and the anti-asylum in MP of 100 cities and only 15 mentioned general terms about mental health and 6 cities directly mention the theme. It shows that it is important for the anti-asylum struggle to dispute municipal urban policies.
Cruz, Lima & Dantas, 2019	Plano diretor e os instrumentos de promoção de interesse social: O caso do município de Currais Novos – RN – <i>Master Plan and instruments to promote social interest: The case of Currais Novos - RN</i>	It shows how the existing instruments of social status in the cities have contributed to the fulfillment of the social function of urban property, preventing the existence of unused or underused buildings in the Currais Novos - RN based on the Master Plan analysis. It presents the main points of the MP and ascertains which strategies are present to achieve the objectives. It concludes that the document basically seeks to meet human rights through the reorganization and requalification of land use and occupation.
Bogo, 2020	Plano diretor participativo, território e inundações em Rio do Sul – SC – <i>Participatory Master Plan, territory and floods in Rio do Sul – SC</i>	It crosses information about urban planning and natural disaster management in Rio do Sul – SC. It concluded that the technicians responsible for the Master Plan did not consider floods in the process of composition of this instrument, influencing the spatial agents' action and reinforcing the segregation processes that already occurred.
Tourinho, Lopes, Vieira & Cabral, 2021	Planos diretores do município de Belém (PA) e a questão dos rios urbanos – <i>Master Plans of the city of Belém (PA) and the issue of urban rivers</i>	It analyzes documental, cartographic and socioeconomic data in order to discuss the roles and functions of urban rivers in the master plan of Belém – PA. It shows the urban occupation and watercourses has historically been marked by relationships of conciliation and environmental conflicts. In the 1993 and 2008 MP, it highlights the approaches to urban rivers based on environmental sanitation, housing, mobility and the requalification of the landscape. It concludes that the vast majority of the discussed strategies were not implemented.
Gumel, Aplin, Marston & Morley, 2020	Time-series satellite imagery demonstrates the progressive failure of a city Master Plan to control urbanization in Abuja, Nigeria	It uses multi-temporal remote sensing (from 1975 to 2014) to investigate the urbanization in Abuja – Nigéria. It shows the extent to which urban development has matched original intentions. It presents table and graphical data about areal coverage of each land cover class. It presents land cover classification and change detection results show built-up land increasing rapidly. Comparing image analysis against the MP showed Abuja's development matched broad planning intentions closely. It concludes



		level of adherence to the MP varied widely according to the system of government.
Shahraki, 2022	Tourism development techniques in the urban master plan	It correlates tourism to development and regional/urban and relationships between people and investment styles. It analyzes planning and design techniques of tourism complexes in the process of municipalities' master planning and suggests urban land-use policies and locating techniques. Presented data about land use policy for different users in a tourism. Is summarizes variables to consider in a design plan and improved data to assist engineers, planners, and students of urban and regional development.
Coutinho, Cardoso & Lessa, 2018	(Trans)formação do município de Confins e seu planejamento territorial – <i>(Trans)formation of Confins and its territorial planning</i>	It analyzes the socio-spatial process of Confins, Minas Gerais, as a result of the Master Plan for the Integrated Development of the Metropolitan Region of Belo Horizonte.
Menzori, Sousa & Gonçalves, 2021	Urban growth management and territorial governance approaches: A Master Plans conformance analysis	It shows the role of territorial governance arrangements in Master Plans implementation practices and explore the spatial outcomes of urban growth in a medium-sized Brazilian city MP. It presents disparate patterns of urban growth corresponding to different administrations, even under the same plan implementation, suggesting that the spatial outcomes could have been shaped either by the enforcement or the abstention of planning regulations, characterizing contrasting approaches on territorial governance.
Barros, Vasconcellos & Vasconcellos Sobrinho, 2019	Ação pública no processo de construção do plano diretor em cidade da Amazônia paraense – <i>Public action in the process of building the Master Plan in a city in the Amazon of Pará</i>	It examines the space for action between municipal management and civil society created to discuss and elaborate the Master Plan for the Baião – PA. It presents the details promoted by the working group, its constitution, the set of information discussed, the means of participation and dissemination. It was concluded that the MP elaboration came from the initiative of the municipal management with protagonism of the different social actors.
Goulart, 2020	O debate sobre a participação no planejamento urbano no Brasil contemporâneo – <i>The debate about participation in urban planning in contemporary Brazil</i>	It presents an analysis of the protagonist of social movements in urban planning in Brazil. It shows the formal multiplication of participatory instruments in the planning field (master plans, sectorial conferences, public hearings and consultations, councils), however, empirical observation and literature revealed scarce advances in the effective capacity of yielding democratic decisions.
Lunelli & Brandelli, 2019	Participação popular e revisão do plano diretor: Garantia de adequada atuação do gestor municipal – <i>Popular participation and review of the Master Plan: Ensuring adequate action by the municipal manager</i>	It presents the concept of a Master Plan and justifies the need for its review and updating. It shows that the procedure implies minimal intervention by the municipal manager limited to the conduct of the process. It discusses the need for social participation and

		<p>the management's obligation to make available all the communication tools necessary for the appreciation of technical data. It offers possible acts of improbity associated with the topic.</p>
<p>Lima, Polli &amp; Carvalho, 2021</p>	<p>Participação popular e TICS no plano diretor participativo de Curitiba – <i>Popular participation and ICTs in the participatory Master Plan of Curitiba</i></p>	<p>It discusses about the Master Plan review process of Curitiba – PR. It evidences and analyzes the interaction between society and the government, as well as participation and social representation with the opening of public consultation channels. It emphasizes the importance of Information and Communication Technologies (ICTs) in the democratic construction of the city.</p>
<p>Santos Junio, Duarte &amp; Souza, 2019</p>	<p>Participação popular no plano diretor de Porto Velho, Rondônia – Brasil – <i>Popular participation in the Master Plan of Porto Velho, Rondônia – Brazil</i></p>	<p>It shows that popular participation took place through community workshops and public hearings, which proved to be positive for the process. It points the process has shown obstacles to popular participation, such as the locomotion of participants to the hearing locations. Such mishaps can be evaluated as experiences to improve popular participation strategies.</p>
<p>Santos &amp; Silva, 2021</p>	<p>Participação social e as audiências públicas do plano diretor – Mito ou verdade? – <i>Social participation and public hearings of the Master Plan – Myth or truth?</i></p>	<p>It analyzes popular participation about the Urban Development Master Plan of Salvador, BA. It correlates the social participation of public hearings in the implementation of the ZEIS instrument with the effects of socio-spatial segregation, analyzing it is complex relationships in space and society. It concluded that the participation of the entities does not portray the reality of the city, contributes to the omissions and did not achieve the objectives.</p>
<p>Melo, Carvalho, Sobral, Castro &amp; Silva, 2021</p>	<p>Adaptação aos impactos das mudanças climáticas na perspectiva do plano diretor da cidade do Recife – <i>Adaptation to the impacts of climate change from the perspective of the Master Plan for Recife</i></p>	<p>It exposes the advances on the inclusion of the climate change agenda in the discussion of the review of the Master Plan of Recife – PE. It presents the characteristics of the Municipal Policy on Sustainability and Coping with Climate Change, and the details of this theme in the MP review in 2018, associating the theme in urban planning.</p>
<p>Bernardi, Silva, Falco, Pires &amp; Santos, 2020</p>	<p>Análise comparativa das ferramentas de gestão: Plano de manejo da APA Itupararanga e os planos diretores municipais – <i>Comparative analysis of management tools: APA Itupararanga management plan and municipal Master Plans</i></p>	<p>It analyzes the APA Itupararanga Management Plan and the municipal Master Plans in the areas of intersection and demonstrates the conflicting intersection between the territorial management tools. It presents 12 land use and occupation conflicts and points to the need to review the MP with the effective participation of municipal offices and the population.</p>
<p>Lima, Pereira, Crispim &amp; Fernandes, 2019</p>	<p>Análise quali-quantitativa da sustentabilidade de Castanhal (PA) de acordo com seu plano diretor participativo (2007-2016) – <i>Quali-quantitative analysis of the sustainability of Castanhal (PA) according to its participatory Master Plan (2007-2016)</i></p>	<p>It presents an analysis of the MP of Castanhal – PA, from the perspective of sustainable development. It explains that Environmental Planning instruments were developed, and logical mechanisms could be evaluated and appropriated to the city's reality in subject. It points out the abandonment of green and</p>

		<p>historic areas, associating it with wear and socio-environmental stress.</p>
<p>Pizella, 2019</p>	<p>Avaliação ambiental estratégica como instrumento para a gestão integrada dos recursos hídricos: Estudo de caso do plano de bacia do São José dos Dourados e do plano diretor municipal de Ilha Solteira – SP – <i>Strategic environmental assessment as a tool for the integrated management of water resources: Study case of the São José dos Dourados basin plan and the Master Plan of Ilha Solteira – SP</i></p>	<p>It shows convergences and incompatibilities between Master Plan and Basin Plan. The possibility was raised of the Strategic Environmental Assessment to assist in the elaboration of common objectives, diagnoses and prognoses between both plans. It proposes best alternatives to achieve an improvement in water management, the diagnosis contained in the Basin Plan would ensure that the decision making in the Master Plans considered the municipality's contribution of land use and occupation public policy that considered impacts on water resources.</p>
<p>Espínola &amp; Ribeiro, 2020</p>	<p>Cidades e mudanças climáticas: Desafios para os planos diretores municipais brasileiros – <i>Cities and climate change: Challenges for Brazilian municipal Master Plans</i></p>	<p>It analyzes the Master Plan of Brazilian capitals and discusses the urban issue of climate change. It shows the MP are not oriented towards minimizing the effects and adapting to theme. Only 7 capitals address climate issues in their MP. Only 5 capitals had their MP approved after 2015. Of the cases analyzed, only one plan (Palmas – TO) addresses climate change, which shows that this topic has been scarcely considered in municipal urban public policies.</p>
<p>Freitas &amp; Couto, 2021</p>	<p>Desafios na implementação do plano diretor como garantia de um meio ambiente ecologicamente sustentável – <i>Challenges in implementing the Master Plan as a guarantee of an ecologically sustainable environment</i></p>	<p>It analyzes aspects of the participatory Master Plan as an instrument for urban planning and environment. It presents factors that hinder the execution of the MP such as the lack of planning, absence of financial resources and lack of budget forecast. It attributes to the MP a merely programmatic character and points possible mechanisms to correct deficiencies were pointed out.</p>
<p>Rech &amp; Santos, 2019</p>	<p>Desastres ambientais de Mariana e Brumadinho: A mitigação dos riscos pelo plano diretor do município – <i>Environmental disasters in Mariana and Brumadinho: Risk mitigation by the municipal Master Plan</i></p>	<p>It says the environmental disasters of Mariana and Brumadinho reflect the failures of the Municipal Master Plans. In both cases, there is an unacceptable violation of the principles of environmental law, such as prevention, precaution and sustainability, which, if observed, would prevent a devastation of the natural environment. It proposes the solution lies in environmental and urban law in order to adopt zoning of local interest in both urban and rural areas.</p>
<p>Nazareth, 2018</p>	<p>Planos diretores e instrumentos de gestão urbana e ambiental no estado do Rio de Janeiro – <i>Master Plans and instruments for urban and environmental management in the state of Rio de Janeiro</i></p>	<p>It shows a review points out that, in general, the Master Plans do not efforts on housing access, there are relevant lacks connection between them and the budget instruments, and the objectives and guidelines for environmental policy are generic, with no concrete goals, and not self-applicable. It concludes that the expectations of a sustainable socio-environmental development are not obtainable with the only formal, non-effective use of this instrument.</p>

Pham, Nguyen, Phan & Nguyen, 2018	Thu Thiem new urban center Master Plan: Urban design in the direction of adapting to the natural and cultural environment	It analyzes the Master Plan of Thu Thiem new urban center of Ho Chi Minh City – Vietnam. It identifies the strengths of the detailed MP in adaptation to the natural environment and local cultural and proposed further researched in the implementation of the MP, to ensure the adaptability to the natural and cultural environment of the project which will be successfully applied in practice.
Trevisan & Moschini, 2018	Utilização das metas AICHI na avaliação do plano diretor municipal de São Carlos – SP – <i>Use of AICHI goals in the evaluation of the municipal Master Plan of São Carlos – SP</i>	It presents City Master Plan of 2005 and the Strategic Master Plan of São Carlos – SP. It verifies that, in relation to the conservation of biodiversity, the MP have gaps, since both have not detailed information on the activities related to the conservation of ecosystems. It recommends to revise the MP to insert elements of the AICHI Goals to promote the conservation of biodiversity and sustainable development.

Org.: Authors (2023)

Most works (32–76.19%) were published in Portuguese and the others in English (9–21.43%) and Spanish (1–2.38%). Brazilian cities were the focus of most of studies (26–60.47%), approaching regional aspects (4–15.39%), of the capitals (7–26.92%) and cities of the interior (15–57.09%).

General aspects of the MP, without mention specific cities, such as urban management, concept and design, climate changes and popular participation were topics addressed by some studies. The topics focused specifically for the cities mentioned in the papers, we highlight territorial planning and urbanism, urban management, environment and sustainability. All papers brought a small review of general aspects of the MP and for studies about Brazilian cities, information concerning the City Statute was present.

The popular participation to construct the MP was the focus of some investigations (8–19.05%). All the authors agreed about the importance of social contribution to the urban planning and to concept and design the MP, however, many fragilities were identified in the studies. The participation of civil society and non-governmental organizations gains centrality in the debates. The increase of participatory ways has broadened and pluralized democratizing formats, given to social actors the possibility of proposing solutions (Barros, Vasconcellos & Vasconcellos Sobrinho, 2019).

Contradictorily, Goulard (2020) states that there are many obstacles, starting with the incompleteness and generic nature of the institutional framework. According to Santos (2011),

advances in urban policy are important, but he points out that social participation still has a mere opinionated character.

About the availability of social participation during discussion and elaboration of the MP, Goulard (2020) points out intrinsic problems into the popular representation, such as organizational level, elitization, bureaucratization and separation between representatives and represented. The author also adds issues related to the public agents that impose a high level of subordination on corporate representation. Additionally, Bienenstein et al. (2018) point to the identification of strategies by the public power to suppress popular participation in the construction and discussion of the revision of the MP of Niterói - RJ, resulting in an empty participatory process motivated mainly by the executive's attitudes. According to the authors, even following the legislation, the manager can manipulate, hinder or limit popular mobilization, among which they highlight restricted convocations, use of technical and complex language and limited time for popular dialogue.

Barros Barros, Vasconcellos & Vasconcellos Sobrinho (2019) showed a different situation in the municipality of Baião - PA. The popular involvement during discussion process through GTPDIRETOR mobilized the participation of non-organized society through workshops, hearings and public conferences.

Environment issues was another highlighted topic in the studies (9–20.93%). Melo et al. (2021), based on the documental review of the Recife MP observe some social and environmental vulnerabilities in the city. The study has been focused on the climate changes and its influence during MP design. The authors indicated that in 2014 the Law of Sustainability Policies and Climate Change of Recife has been approved as the result of discusses of city committee for the climate change tackling. The diagnosis details some infrastructure adaptation needed in order to avoid problems with rising sea levels, coastal erosion and floods.

Based on analysis of Ilha Solteira MP and São José dos Dourados River Basin Plan, Pizella (2019) showed that, in 2008, both were disjointed. In 2015 the MP was revised, and some objectives and goals were congruent, mainly in aspects related to good water management. the author highlights that there are more compatible than incompatible points between both Plans, which have common goals regarding prevention, control and recovery and sustainability of natural resources and the environment.

Espínola and Ribeiro (2020) qualitatively analyzed the PM of Brazilian capitals instituted after 2015 in search of data on climate change, containing, for example, references to



mitigation actions, adaptation plans or models for planning and managing the urban territory to avoid damage. The survey found that 30.4% of these municipalities had some type of environmental licensing, 28% had information on environmental zoning and 21% had some legislation on conservation units. No policy was found directly linked to climate change or reduction of gas emissions. The authors also highlighted that in 11 Brazilian capitals, the MP were expired, or had exceeded the deadline for review.

Freitas and Couto (2021) expose the MP as the basic tool for the city planning as a promoter of significant changes. The purpose of their work was to evaluate the challenges in the implementation of the master plan as a guarantee of an ecologically sustainable environment, however, the paper presents a generic set of data about this topic. According to the authors, the problems of the urban development are not associated with the absence of the MP, but rather with the difficulty of implementing a development policy, especially for budgetary reasons. They consider that the objectives must be adapted to the reality and specificities of the Municipality with articulated budgetary execution, detailed execution and participatory structure.

In Brazil, the social function of the city and propriety was defined by City Statute, based on 1988 Constitution, that instituted the urban development policy and the Master Plan instrument (Lage & Francisco Filho, 2020; Rodrigues, 2010). However, the Standard City Planning was proposed in New York in 1928 as a model planning by department of commerce in order to recommendation as to the general location of streets and other means of communication. According to Dunhan (1958) its concept was clearly limited to actions to be taken by government with respect to public and private land uses.

Lots of cities around the world has a MP as an organizational instrument of city government to defines urban planning in general. This review found eight (19.05%) papers that discuss punctual features about city MP of non-Brazilian municipalities – Lisbon, Singapore, Putrajaya, Bogota, Ordos, San Francisco, Sulaimani, Ho Chi Minh City and Abuja.

In Lisbon, the MP was approved in 2012 and advocates the importance of territorial planning. It is linked to the European Charter and the National Program for the Territorial Planning Policy, which establishes guidelines for territorial planning. The MP presents seven strategic goals, that was built in order to address some problematic points in Lisbon such as the reduction of population and the increase in socioeconomic disparity and unemployment (Antonello, 2019).

For Putrajaya and Singapore (Lima, 2018) highlights they were made to improve international investments and this feature is present in urban planning. The focus of the paper was to analyze how the Lighting City Plan (LCP) is articulated to the MP. It concluded in both cities the MP has a concern with the pedestrian and the LCP highlights the identity of the city at night, prioritizing the urban structure through a color code and highlighting the landmarks.

Su and Qian (2020) explore the neoliberal planning concept from an analysis of the master plan adjustments and overbuilding in Ordos City, China. They explain the prerogative of neoliberal planning is prioritizes economic development and private profitability over social justice and public welfare. In Ordos, the MP (2003-2020) had undergone frequent revisions (and manipulated) to sustain the rapid real estate development and serve the political and economic interests. According to the authors, this framework needs to study to evolving interactions between planning and development reality. This conclusion, in general terms, corroborates the proposal of O'Byrne (2018) for Bogota, Colombia, which suggests the revision of the MP to answer the needs of the city.

Apart from some criticisms, the first San Francisco MP brought important contributions, especially in the social sphere. It was implemented in 1971 to attend design objectives and social roles of urban design. Based on documental review and interviews, Meck and Retzlaff (2018) characterized the planning process until the concept, preliminary studies to the implementation of the plan. They point out that the motivation was a developmental pressure in 1960's and changes that involved several levels. The urban design plan defined functional zoning, areas of development and according to the authors, kept the social role of the urban design, one of the most notable, marking its importance as a practical lesson for the present day.

When analyzing the Master Plan of the new urban center of Ho Chi Minh City, Pham et al. (2018) present some advantages of the project in adaptation to the natural environment and local cultural environment. From the principle of zoning and functional integration in land use, the MP aims to maintain harmonious connection with the historic urban center to preserve natural environment. in general, the objectives were achieved, and the region is an important element in the ongoing development of city. The road network is fully adapted to the nature, the transport and landscape spaces are connected and the region is functionally a success.

#### **4. Conclusion**

- The elaboration of planning with the capacity to produce territorial organization actions in the cities, in addition to complying with legal determination, in Brazil, provides the rationality of the uses of these spaces, as well as the preservation of natural resources. Undoubtedly, the existence of a set of norms, synthesized in the MP, capable of disciplining and directing the organization of urban space through public power action is a desirable condition, even in neoliberal economies.
- Due to its relevance as a territorial ordering instrument, the MP is a recurrent academic theme, as verified. The set of academic productions points to the predominance of debates that permeate its capacity as a guiding instrument when dealing with different dimensions, as well as the limits for effectively intervening in the urban space by determining the MP.
- Debates on the construction, implementation and evaluation of MP results stand out, as these are studies normally associated with a special and specific time frame. The diversity of conditions and variables that interfere in this process gave rise to studies where the general objective was to observe its main characteristics and how its elaboration and implementation directly affect the structure of cities and their population.
- It was observed that the importance of popular participation for the elaboration, revision and implementation of the MP stood out as a theme addressed by the set of texts evaluated. The works present a set of positive and negative points in relation to participatory management and show the importance of including different social actors in the discussions. Considering that local communities are the main stakeholders in the results of the MP's implementation, it is clear that popular participation mechanisms at different times need adjustment.
- Another recurring theme was about environmental implications. The approach and possible mitigating actions were found in several studies that aimed to evaluate the impacts of environmental public policies within cities and their MP. In general, these works were purposeful and clearly demonstrated the need to implement public policies aimed at sustainability and the environment.
- This review made it possible to identify the current scenario of academic production about the MP, an important instrument for urban territorial planning. It is evident,

through current academic production, that the implementation of territorial planning actions is a challenge for technical teams, public managers and the community.

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