


Social Housing and the Master Plan of Cataguases-MG

A Habitação de Interesse Social e o Plano Diretor de Cataguases-MG


Vivienda Social y Plan Director de Cataguases-MG

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Abstract

The Special Zones of Social Interest (SZSI) was consolidated as a special type of zoning, with the objective of providing access to urbanized land served as infrastructure for the low-income population, based on the principle of the social function of property. Despite being a usual instrument in Master Plans, it presents many obstacles to its implementation. This paper aims to report the trajectory of the ZEIS in Cataguases and the impasses in their implementation. To achieve these objectives, bibliographical research and documental research were used. In Cataguases-MG, despite having



represented advances, by predicting SZSI of urban vacant land to face housing problems related to occupation in areas at risk of flood and landslides, the municipality faces different obstacles for its implementation, among them the lack of regulation, technical unfamiliarity and lack of political will.

Keywords: Special Zones of Social Interest; Urban Planning; Director Plan.

Resumo

A Zona Especial de Interesse Social (ZEIS) consolidou-se como um tipo especial de zoneamento, com o objetivo de possibilitar o acesso à terra urbanizada servida de infraestrutura à população de baixa renda, baseada no princípio da função social da propriedade. Apesar de ser um instrumento comum nos Planos Diretores, apresenta muitos obstáculos para sua implementação. Este artigo tem por objetivo relatar o percurso das ZEIS em Cataguases e os impasses para sua implementação. Para alcançar esses objetivos, utilizaram-se pesquisa bibliográfica e pesquisa documental. Em Cataguases-MG, apesar de ter representado avanços, ao prever ZEIS de vazios urbanos para o enfrentamento dos problemas habitacionais relacionados à ocupação em áreas de risco de inundação e de deslizamento, o município enfrenta diferentes obstáculos para sua implementação, dentre eles a falta de regulamentação e o desconhecimento técnico.

Palavras-chave: Zona de Especial Interesse Social; Planejamento Urbano; Plano Diretor.

Resumen

La Zona de Especial Interés Social (ZEIS) se consolidó como un tipo especial de zonificación, con el objetivo de facilitar el acceso a suelo urbanizado servido como infraestructura para la población de bajos ingresos, con base en el principio de la función social de la propiedad. A pesar de ser un instrumento común en los Planes Directores, presenta muchos obstáculos para su implementación. Este artículo tiene como objetivo dar cuenta de la trayectoria de las ZEIS en Cataguases y los impases en su implementación. Para lograr estos objetivos, se utilizó la investigación bibliográfica y la investigación documental. En Cataguases-MG, a pesar de haber representado avances, al predecir ZEIS de vacíos urbanos para enfrentar problemas habitacionales relacionados con la ocupación en zonas con riesgo de inundación y deslizamientos, el municipio enfrenta diferentes obstáculos para su implementación, entre ellos la falta de regulación, desconocimiento técnico y la falta de voluntad política.

Palabras clave: Zona de Especial Interés Social; Urbanismo; Plan Maestro.



INTRODUCTION

Throughout the 20th century, industrialization became more robust and was accompanied by population growth and increasing urbanization in Brazil. Santos (1993, p. 9) states that the urban population became “generalized as of the last third of the 20th century.” The abrupt swelling of cities has led to several urban problems, including access to decent housing located on urbanized land, with access to services, public facilities, health, education, leisure, etc.

Since the 1960s, housing policies have been notable for large-scale production, with little concern for qualitative aspects, such as the location of the houses, appropriate space for the families’ reality, and the quality of the materials used, among others. The inclusion of the Urban Policy chapter in the 1988 Federal Constitution (CF-88) and, thirteen years later, the enactment of Law No. 10,257/2001 - better known as the Statute of Cities (EC, *Estatuto da Cidade*) - represented essential advances in the struggle for Urban Reform. In this context, among the initiatives and experiences implemented after the EC, we must highlight those related to the Special Zones of Social Interest (ZEIS [Zonas Especiais de Interesse Social]), one of the primary sources of progress in urban policy.

In Cataguases, the ZEIS were included in the 2006 Participatory Master Plan. The ZEIS are a part of the Urban Macrozonning measures, predominantly demarcated in vacant urban spaces. Despite their inclusion in the plan, their application would depend on subsequent regulation, which did not occur until 2023. The case study presented in this paper represents a sizable number of municipalities that, despite addressing the instrument in municipal legislation, found obstacles to its implementation.

The purpose of this paper was to report the trajectory of the ZEIS in Cataguases and the impasses to their implementation. To achieve these objectives, the descriptive-exploratory research method was adopted, using the following methodological procedures:

- Bibliographic review on the topics covered through research in dissertations, theses, articles, and books with content from researchers in the area of urban planning.
- Document research, including queries of the Cataguases City Hall and City Council websites, to survey and analyze laws (Master Plan, Land Use and Occupation Law and Zoning); queries of federal laws (Federal Constitution and City Statute); survey of maps and data from institutions, such as the Brazilian Institute of Geography and Statistics.
- Analysis of the Municipal Master Plan of Cataguases and the City Statute to identify social housing content, comparing it to reality.



- An on-site survey and collection of satellite images were used to analyze occupation and urban transformations in the areas studied.

This article is organized into three parts: a brief history of the consolidation of ZEIS in Brazil, an outline of the ZEIS instrument in the urban planning of Cataguases and the obstacles to its implementation, as well as a critical analysis of the ZEIS areas, through their characterization and a description of their developments over the last seventeen years.

ZEIS: Instrument for access to land and social justice

Brazilian urbanization has been notable for accelerated population growth, driven by industrialization, which became more intense by the end of the 19th century. This led to social inequalities and precarious housing conditions (Santos, 1993, p. 21).

Faced with this reality of social exclusion, the expansion of underprivileged city outskirts, and the increase of risky occupations, the struggle for Brazilian urban reform began in 1960. Made impossible by the authoritarian regime that was installed between 1964 and 1984 (Rolnik, 1997; Maricato, 2011), the debate resurfaced in 1985 in the form of the National Urban Reform Movement (MNRU, *Movimento Nacional de Reforma Urbana*). The movement was made up of non-governmental groups, with the participation of researchers, trade unions, architects, and intellectuals, offering significant contributions to urban regulation, strengthening the period in which Brazilian society returned to democracy (Rolnik, 1997; Ancona, 2011).

The inclusion of the Urban Policy chapter in the Federal Constitution and, thirteen years later, the enactment of the Statute of Cities represented essential steps forward in the fight for Urban Reform. According to Fernandes (2021), even though the concept of the social role of property had been present since the Federal Constitution of 1934, its contents lacked further definition. According to the author, the EC, through the insertion of new urbanism features and more excellent detailing of existing ones, made it possible to implement the social role of property based on the “idea that the social role of property also lies in the possibility of obliging property owners to behave in a certain way” (Fernandes, 2021, p. 17).

In their original conception, ZEIS appeared as a type of zoning. For Villaça (1999, p.177), zoning is “urban legislation that varies in urban space.” Also, according to this author, “zoning appeared in Brazil without any theoretical elaboration, without the participation of intellectual scholars from the city and the influence of foreign thinking” (Villaça, 1999, p. 178). In the author mentioned above’s view, this is a law that is available to the specific interests and solutions of Brazilian elites. This occurs because, according to Villaça (1999) and Maricato (2011), this type of law only interacts with the formal real estate market.



ZEIS started to fight social exclusion and mitigate socio-spatial injustice, according to Maricato (2011, p. 157), with a zoning model inspired by the “peripheral city.” In a reverse manner, it sought to secure the right over the city to those excluded from it, with mandatory Social Interest Housing (HIS, *Habitação de Interesse Social*) in urbanized regions. Thus, ZEIS or “priority zoning” emerged as “an essential modality from the perspective of promoting social justice” (Souza, 2006, p. 268).

The demarcation and enforcement of ZEIS usually occur in two ways: occupied areas and vacant urban spaces. ZEIS in populated regions are characterized by slums or irregular allotment and are predominantly inhabited by lower-income populations. The distinction of these ZEIS makes it possible to include, through zoning and a specific plan, portions of the city built without observing legal rules, which allows for the introduction of infrastructure services and basic facilities to improve the population’s living conditions. ZEIS in vacant urban areas are characterized by unbuilt or underused land¹ that is well-located and equipped with infrastructure, creating a land market reserve for social housing production. The different modalities expand the scope of the objectives, which are allowing the inclusion of marginalized parts of the city, enabling access to services and infrastructure in underprivileged areas, increasing the availability of land for lower-income populations by reducing land prices, increasing the municipality’s revenue through regularization efforts; among others (Brasil, 2009).

Although the inclusion of the ZEIS instrument in the EC represented a significant quantitative expansion in the country’s Municipal Master Plans, there has been an inadequacy in regulating these instruments in the Master Plans for their practical application (Santos Junior; Montandon, 2011). According to Rodrigues and Barbosa (2010), in many cases, the instrument was present in the Master Plan, but its application areas were not demarcated; in other cases, they were undersized or ignored when representing more significant conflicts with established economic interests.

According to Santos Junior and Montandon (2011), the Master Plan must secure sufficient regulation so that such instruments are effectively rendered effective in licensing new private or public projects. Thus, the ZEIS, “without adequate conceptualization, demarcation in the territory and definition of urban parameters, the instrument loses its effectiveness when the owner intends to make a project viable, running the risk of the area being destined for another purpose” (Santos Junior; Montandon, 2011, p. 35). Therefore, the Master Plan must guarantee the highest level of self-applicability; otherwise, the laws will become insufficient, and the instruments will be ineffective.

Faced with socio-spatial inequality, the advancement of neoliberal policies in the 1990s became an obstacle to consolidating a new agenda (Moraes, 2021).

1 According to the City Statute, an underutilized property is one whose use is lower than the minimum level defined in the master plan or in resulting legislation. The Cataguases Master Plan does not define the concept of underutilized property according to specific characteristics of the municipality.



Despite the various setbacks, some municipalities implemented and moved forward using instruments to mitigate the consequences of “unequal capitalist urbanization, promoting the permanence and access of urban dispossessed people in cities” (Moraes, 2020, p. 3). For example, the municipality of Taboão da Serra-SP, where the number of square meters demarcated as ZEIS corresponded to the extent of the city’s housing deficit, intending to mitigate it completely (Rodrigues; Barbosa, 2010).

Because of the above, the factors contributing to the inclusion of the ZEIS in the Participatory Master Plan of Cataguases-MG and the limits and challenges of these proposals will be discussed in the next section.

The Cataguases Master Plan and the proposal for ZEIS in the municipality

Located in the Minas Gerais Forest Zone (Figure 1), Cataguases belongs to the Intermediate Geographic Region of Juiz de Fora. The city has 66,261 inhabitants (IBGE, 2023) and is neighbored predominantly by small cities.

Cataguases was emancipated in 1877, the same year the railway line arrived, with coffee being its main economic export. This situation made the city a critical regional emporium (Cardoso, 1955). With the recession of 1929, coffee production gave way to industrial production. For Cardoso (1955), the economic crisis caused by the decline in coffee prices and the depletion of land led to a veritable rural exodus in the municipality.

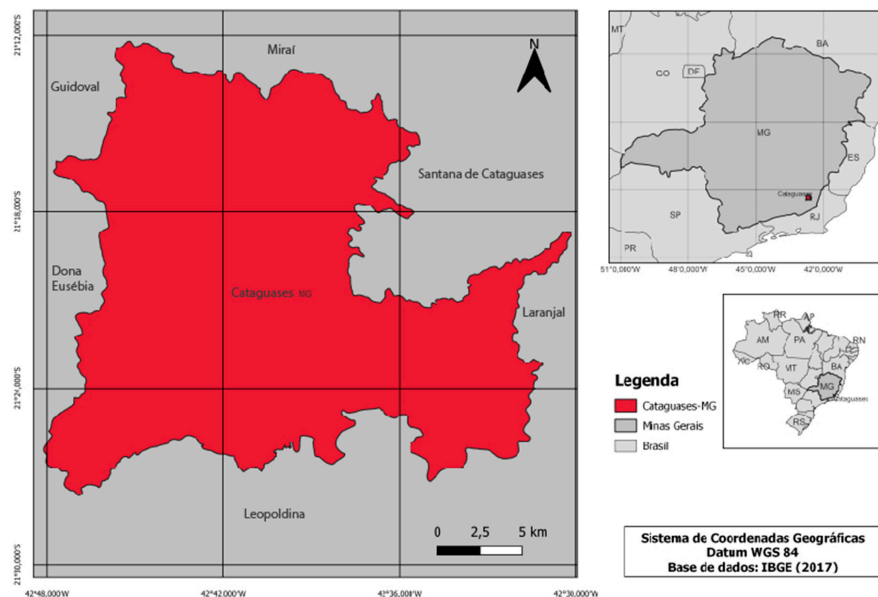


Figure 1: Location of the municipality of Cataguases in Minas Gerais. Source: Prepared by Marina O. Franzini using the Qgis software (2023).



According to Spósito (1988), the intensification of industrial production becomes viable thanks to accumulated capital, with urbanization taking on a very accentuated pace, a direct relationship with lesser or greater intensity. In Cataguases, we found that, until 1940, urban occupation was limited to the plain on the left side of the Pomba River, barely expanding from the original outline of its foundation. In the second half of the 20th century, industries already played an essential role in the local economy, mainly in the textile sector. At a time of intense promotion of road transport, the proximity to the Rio-Bahia highway (BR-116) was influential in developing local industry and trade, as it facilitated the rapid flow of products (Cardoso, 1955).

In 1971, an Industrial District was created to meet the demand for new areas for companies to establish themselves. In this same area, the City Hall authorized the construction of a housing complex known as the Taquara Preta neighborhood. The District, located 3 kilometers away from the city center, has consolidated itself as a growth vector, favoring the emergence of new neighborhoods (Oliveira Filho, 2006). This was a period of transformation and expansion of the municipal urban network. Over the years, the urban expansion of the municipality occurred, in some cases, through federal, state, and municipal housing policies and, in others, spontaneously through the transformation of rural areas into urban areas, with the division and dismemberment of land plots (Figure 2).

The 1990s marked increased competitiveness with Asian countries, and the Brazilian textile sector underwent a significant reduction. In Cataguases, most companies in this sector shut down, with only the Industrial Company and the Manufacturing Company remaining. Over the last two decades, the service and commerce sector has significantly expanded, reaching the leading sectors with employment contracts in 2020.

According to Maricato (2008), between 1940 and 1980, Brazil achieved significant economic growth, with a GDP approaching 7% per year. However, this growth came at the expense of worsening social inequality, low wages in the industrialization process, and the lack of social rights (Maricato, 2008). This situation can also be observed in Cataguases, where industrialization occurred based on low wages for the working class. Alonso (2022) demonstrated, based on average monthly income data from the latest census series, that 60% of the population of Cataguases had an average monthly per capita income of up to one minimum wage. These data were lower than the state and national averages.

At the end of the 1990s and in the first decade of the 2000s, transformations in urban space had decreased in pace, barring some specific interventions by public authorities. From 2013 onwards, there was a resumption of new plots (see Figure 2).

It appears that the occupation of urban space occurred through isolated projects at the executive branch's discretion. The city expanded without any urban



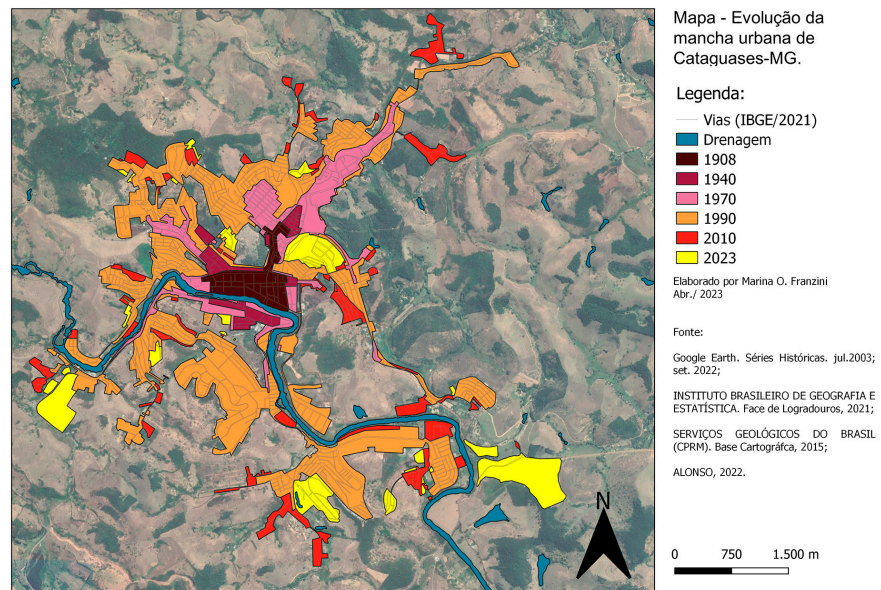


Figure 2: Patches of expansion of the urban fabric of Cataguases-MG (1908 – 1940 – 1970 – 1990 – 2010 – 2022). Source: Prepared by Marina O. Franzini (2023) using Google Earth. Historical Series. Jul.2003- Sep. 2022; IBGE. Face de Logradouros, 2021; CPRM); Base Cartográfica, 2015; Alonso, 2022, p. 189.

planning guidelines or defined construction parameters, resulting in occupations in inappropriate areas, such as flooded areas and slopes. It was only in 1995 that the first territorial planning laws were passed: the Law on Zoning, Land Plotting, Use and Occupation of Soil, the Code of Works, and the Code of Postures.

The Cataguases Master Plan (PDP, Plano Diretor de Cataguases) was approved in 2006 to meet the deadline established by the EC. The PDP defined a Planning and Management System consisting of the Municipal Master Plan Council, Territorial Planning Department, Municipal Information System, and Municipal Territorial Policy Conference. The Plan set deadlines for installing the bodies, but these were not implemented.

The PDP presented a Municipal Macro zoning agenda. The urban zoning areas were divided into nine zones: (1) Cultural Preservation; (2) Restricted Densification; (3) Controlled Verticalization; (4) Green Area Installation; (5) Controlled Occupation; (6) Economic Activities; (7) Special Intervention; (8) Urban expansion; and (9) Special Social Interest. The Diagnosis highlights vacant urban areas throughout the region, classified in the PDP as Urban Expansion Zones (ZEU, Zonas de Expansão Urbana). These should be occupied before an expansion of the urban network. Some ZEIS were superimposed on ZEUs. In this way, the vectors of urban growth were directed towards the urban perimeter itself.

Zoning, which should have been regulated within 300 days of the law's approval, did not occur. As a result, the zoning that was drawn up in 1995 remains in

effect in 2023. This means that the assumptions of the Master Plan were not implemented in their entirety since the complementary ones are not aligned with it or other urban instruments.

Empreendimento	Ano	Agente	Origem (agente)	Unid.	Tipologia
Conjunto Hab. São Cristóvão	2006	Estado - COHAB/MG	Governo Estadual	69 unidades hab.	Loteamento, conjunto horizontal
Conjunto Hab. São Marcos	2014	Estado - MCMV 2	Governo Federal	464 unidades hab.	Parcelamento, condomínio vertical
Bairro Imigrantes	2017	Promotor imobiliário	Local - Méthodus	217 lotes	Loteamento acesso irrestrito
Boaventura Residence	2022	Promotor imobiliário	Belo Horizonte/MG - Urbanville Urbanismo	191 lotes	Loteamento, acesso restrito ("condomínio fechado")
Loteamento Terras Altas	2022 *	Promotor imobiliário	Lavras/MG - Grupo CAP	506 lotes	Loteamento acesso irrestrito
Parque Mirante do Sol	2022 *	Promotor imobiliário	Belo Horizonte/MG - Urbanville Urbanismo	163 lotes	Loteamento acesso irrestrito

Table 1: Urban land plots between 2006 and 2023. Source: Prepared by the authors based on information obtained in document research carried out at the Cataguases-MG Department of Works (2023).

The consequences of this can be noticed in Cataguases when analyzing medium and large projects between 2006 and 2022. Despite complying with the requirements of complementary urban planning laws, these projects have characteristics² that hinder achieving the objectives of the Master Plan (2006), such as the social role of property.

Next, aspects related to housing in Cataguases and the perspective adopted by the Master Plan will be specifically addressed.

2 These characteristics involve implementation in areas outside expansion zones and the settlement of medium and high-income residents in areas designated for ZEIS.



ZEIS in Cataguases: a good idea in theory

According to the PDP Diagnosis, the housing deficit was around 1,387 units in 2000. In 2006, city hall data indicated a deficit of 2,500 units for families with incomes between one and two minimum wages, without considering housing in risk areas, one of the main housing problems identified by the PDP.

The Diagnosis highlighted that the two main problems were the occupation of valley bottoms, where flooding occurs during periods of intense rainfall, and the occupation of areas located on slopes. According to the report, these phenomena resulted from the location of the city's outskirts in hilly terrain and the lack of planning that would guide the orderly growth of the urban core. According to IBGE (2010), Cataguases had 8,212 people exposed to the risk of flooding and landslides. Faced with this reality, the PDP, in its chapter on Housing, outlined guidelines for a Housing Policy, proposed creating a system of social interest housing, and determined the preparation of the Municipal Social Interest Housing Plan. The Master Plan addressed problems such as floodable and environmentally vulnerable housing in risk areas, indicating population permanence when possible or resettlement directed to the ZEIS or ZEU. Plans were also made to create a Land Regularization Program for intervention in the ZEIS. As such, establishing a new legal and political institute, ZEIS (Figure 3), played a central role in shaping the municipality's housing policy. ZEIS, according to the Master Plan, "(...) comprises the areas in which there is a public interest in organizing occupation, through urbanization and land regularization or implementing housing projects of social interest" (Cataguases, 2006, Art. 54).

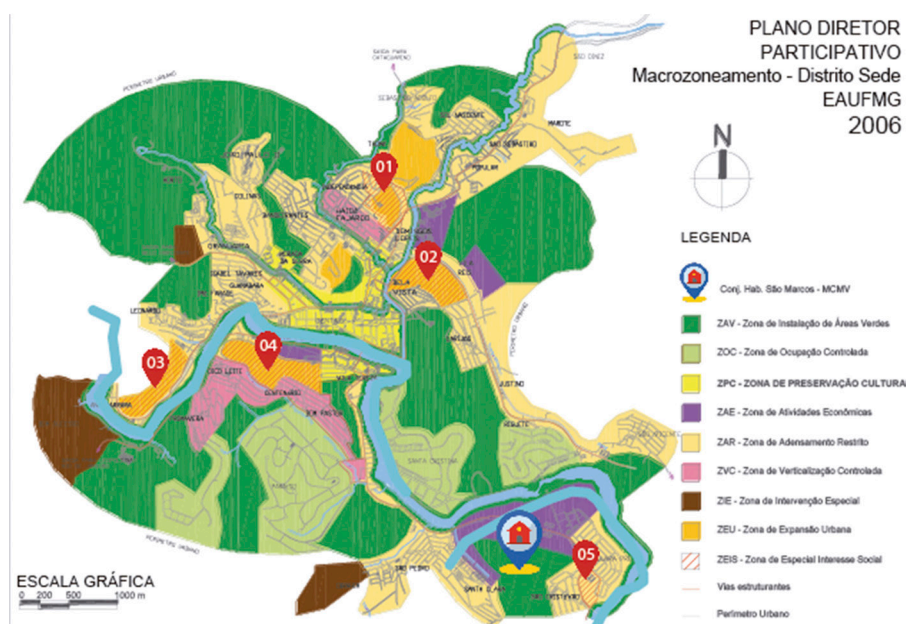


Figure 3: Identification of ZEIS in the Urban Macro zoning of the Cataguases-MG Master Plan (2006). Source: Extracted from the Cataguases Master Plan (2006) and elaborated by the authors (2023).



The ZEIS are, for the most part, vacant urban spaces. This characteristic is justified by securing urbanized areas or areas inserted in the urban environment to provide new housing construction. Furthermore, out of the six ZEUs, four have overlapping ZEIS, which would enable, on the part of the public authorities, control over real estate speculation in social housing areas and negotiation for the provision of social housing in new real estate developments, among other mechanisms. However, the ZEIS was not regulated.

The subject of housing in the Cataguases Master Plan

To understand how the Cataguases Master Plan deals with housing, 15 provisions were identified and analyzed (Table 2). The analysis was carried out to identify whether the provisions were applied, installed, regulated, and whether they were operational.

Artigo	Conteúdo		Aplicação	
Art. 18.	Diretrizes da política habitacional	Inciso II	Criar Política Habitacional de Interesse Social;	Não aplicada
		§ 1º	instalar o Sistema Municipal de Habitação de Interesse Social	Não instalado
		§ 1º	elaborar o Plano Municipal de Habitação de Interesse Social.	Não elaborado
Art. 19	Composição do Sistema Municipal de Habitação	Incisos	I. Conselho Municipal de Habitação;	Inativo
			II. Secretaria Municipal de Assistência Social;	Existente
			III. Secretaria Municipal de Obras Públicas;	Existente
			IV. Fundo Municipal de Habitação de Interesse Social.	Inativo
Art. 20	Define as diretrizes do Plano Municipal de Habitação		I. Investir prioritariamente em áreas de risco,	Não elaborado.
			III. Criar o Programa de Regularização Fundiária para intervenção nas Zonas de Especial Interesse Social	
			IV. Manter banco de dados de famílias de baixa renda	
			V. Estabelecer política e programas de	
			VII. Garantir assistência técnica em arquitetura, urbanismo, engenharia, jurídica e social gratuita para as comunidades e grupos sociais de baixa renda	
§ 2º.	Os novos núcleos habitacionais a serem criados deverão ser providos além da infraestrutura básica, de praças, áreas de lazer e recreação, creches, escolas, postos de saúde, transporte público com acessibilidade, arborização, dentre outros.			
Art. 45	Zoneamento	Inciso IX	Zona Especial de Interesse Social (ZEIS)	Não regulamentado
Art. 54	Define as ZEIS		Zona de Especial Interesse Social, ZEIS, compreende as áreas na qual há interesse público em ordenar a ocupação, por meio de urbanização e regularização fundiária ou implantar empreendimentos habitacionais de interesse social.	Não regulamentado

Table 2: Content on housing in the Cataguases Master Plan. Source: Prepared by the authors.



In addition to the analysis shown in Table 2, analyses were necessary regarding the content of the City Statute (Federal Law no. 10,257) on housing, relating it to the Master Plan, and an assessment of the way it was applied in practice. Table 3 shows this relationship.

Como aparece no Estatuto da Cidade	Como aparece no Plano Diretor	Como acontece na realidade
Art. 2: A política urbana tem por objetivo ordenar o pleno desenvolvimento das funções sociais da cidade e da propriedade urbana, mediante as seguintes diretrizes gerais: VI - ordenação e controle do uso do solo, de forma a evitar: h) a exposição da população a riscos de desastres; XV - simplificação da legislação de parcelamento, uso e ocupação do solo e das normas edilícias [...]	Art. 5 - I. Estabelecer projetos de desenvolvimento sustentável orientado para a preservação dos solos, dos recursos hídricos [...], a partir de um modelo de gestão participativa e de estabelecimento de parcerias; VI. Restringir, regulamentar e fiscalizar a ocupação e as atividades humanas nas áreas próximas aos mananciais do município [...];	Existe o Plano Municipal de Redução de Riscos, em atendimento à Política Nacional de Proteção e Defesa Civil (Lei 12.608, de 10 de abril de 2012). Existe um mapeamento da Defesa Civil, para trabalhos internos do órgão.
Art. 3º: Compete à União, entre outras atribuições de interesse da política urbana: III - promover, por iniciativa própria e em conjunto com os Estados, o Distrito Federal e os Municípios, programas de construção de moradias e melhoria das condições habitacionais, [...] e dos demais espaços de uso público; IV - instituir diretrizes para desenvolvimento urbano, inclusive habitação [...], que incluam regras de acessibilidade aos locais de uso público [...].	Art. 18 - II. Criar Política Habitacional de Interesse Social. Art. 18 - IV. Induzir a ocupação de áreas e vazios urbanos centrais, destinando áreas infra-estruturadas para provisão de HIS, evitando a construção em áreas periféricas. Art. 18 § 1º [...] instalará o Sistema Municipal de HIS e [...] fará elaborar o Plano Municipal de HIS. Art. 20 - Diretrizes do Plano da HIS: III. Criar o Programa de Regularização Fundiária para intervenção nas Zonas de Especial Interesse Social [...]; V. Estabelecer políticas e programas de regularização fundiária [...]; VII. Garantir assistência técnica [...] gratuita para as comunidades e grupos sociais de baixa renda [...]; IX. Negociar com o Estado a utilização de seus terrenos; XI. Estimular formas consorciadas para produção de moradias de interesse social.	Não existe Política Habitacional de Interesse Social no município. Em 2007, a Lei de Perímetro Urbano (Lei Nº 3.638/2007) foi alterada e expandida, contrariando as premissas do Plano Diretor de 2006. O Sistema Municipal não foi instalado; o Plano Municipal não foi elaborado. Não há programa de regularização fundiária. Não há assistência técnica gratuita voltada para a habitação. Existem iniciativas de produção de habitação de interesse social por meio da Companhia de Habitação do Estado de Minas Gerais (COHAB-MG) em 2006 e do Programa Minha Casa Minha Vida em 2014.
Art. 26º: O direito de preempção será exercido sempre que o Poder Público necessitar de áreas para: [...] II - execução de programas e projetos habitacionais de interesse social [...].	Art. 56: Para a efetiva implementação do Plano Diretor serão utilizados, dentre outros, os seguintes instrumentos: IV: Direito de preempção;	Não foi criada lei específica. Não há registros de aplicação do Direito de Preempção para HIS.
Art. 35º: Lei municipal, baseada no plano diretor, poderá autorizar o proprietário de imóvel urbano [...] a exercer em outro local [...] o direito de construir previsto no Plano Diretor ou em legislação urbanística dele decorrente, quando o referido imóvel for considerado necessário para fins de: III - programas de regularização fundiária, urbanização de áreas ocupadas por população de baixa renda e HIS.	Art. 56: V: Transferência do Direito de Construir.	Não foi criada lei específica para aplicação deste instrumento.
Art. 42-A. Além do conteúdo previsto no art. 42, o Plano Diretor dos municípios incluídos no cadastro nacional de municípios [...] deverá conter: [...] V - diretrizes para a regularização fundiária de assentamentos urbanos irregulares, se houver [...], e demais normas federais e estaduais pertinentes, e previsão de áreas para habitação de interesse social.	Art. 12: São diretrizes para a gestão dos riscos geológicos: I. Determinar a manutenção e atualização de mapas de risco geológico [...]; II. Manter atualizado o inventário das áreas de risco; III. Estabelecer graus diferenciados de estudos; Art. 20.	O Sistema Municipal de Habitação de Interesse Social não foi implementado, pois o Plano Municipal de Habitação não foi elaborado. O Conselho Municipal de Habitação está inativo. Não existe projeto para regularização fundiária; não há mapeamento das áreas irregulares.
Art. 42-B. Os Municípios que pretendam ampliar o seu perímetro urbano após a data de publicação desta Lei deverão elaborar projeto específico que contenha, no mínimo: [...] V - a previsão de áreas para habitação de interesse social por meio da demarcação de zonas especiais de interesse social e de outros instrumentos de política urbana, quando o uso habitacional for permitido.	Art. 45: A Zona Urbana do Distrito Sede é dividida nas seguintes zonas: [...] IX: Zona Especial de Interesse Social, ZEIS.	O Zoneamento de 1995 deveria ter sido revisado em 300 dias, essa revisão não ocorreu. Não existem outros instrumentos da política urbana citados. Como o zoneamento do Plano Diretor não foi regulamentado, a definição das ZEIS não teve impacto relevante. O perímetro urbano foi ampliado sem critério técnico, uma vez que não passou nem mesmo pelo corpo técnico da prefeitura.

Table 3: The application of the Cataguases Master Plan in relation to the City Statute. Source: Prepared by the authors.



After the analyses, it is understood that the housing policy present in the City Statute is also present in the Cataguases Master Plan. However, of the nine items identified and analyzed in the Master Plan, seven were not included. One was partially covered in 2012 with the creation of the Municipal Risk Reduction Plan. However, it is impossible to state that the creation of this plan was an initiative by the Municipality of Cataguases to meet the provisions of the Master Plan. One of the items (Article 18, item IV) was disrespected since the urban perimeter defined in 2007 was expanded, disregarding the provisions of the Master Plan.

Characterization and transformations of ZEIS

This section proposes a comparative analysis of the areas classified as ZEIS in the Master Plan, considering the period between 2006 and 2023. To do so, we resorted to maps produced during the drafting of the law, an analysis of historical images from Google Earth, on-site visits, and analyses of IBGE data to understand the characteristics of these places at the time of their demarcation and the current status.

ZEIS	Tipologia	Localização	Infraestrutura (Raio de 1km)	Perfil socioeconômico (Censo IBGE-2000)*
ZEIS 01	ZEIS mista, apresenta algumas áreas ocupadas, mas com predominância de vazios.	Integrada a uma malha urbana consolidada, dista aproximadamente 1,4 km do centro da cidade	Área era servida com saneamento básico, iluminação pública, transporte público, próximo a serviços, trabalho, comércio e equipamentos de saúde e educação. A área ocupada apresenta pavimentação precária.	Considerando a área ocupada, apresentava um perfil predominante com renda de até 02 salários mínimos.
ZEIS 02	ZEIS de vazio	Integrada à malha urbana consolidada, dista aproximadamente 1,1 km do centro da cidade.	No entorno encontrava-se uma boa infraestrutura, com oferta de serviços diversos, comércio, trabalho, equipamentos de saúde e educação. A gleba possui topografia acidentada.	A renda era de 4 a 8 salários mínimos em 2000. Por se tratar de um vazio urbano, possivelmente, este dado representa o perfil de ocupação do Bairro Bela Vista, inserido no mesmo setor.
ZEIS 03	ZEIS de vazio	Localizada em um bairro nas bordas do perímetro urbano, a área dista aproximadamente 2,5 km do centro da cidade.	No entorno possuía pavimentação, iluminação pública e saneamento básico. No perímetro analisado possui pouca oferta de comércio. Não foram identificados equipamentos de saúde e educação.	Apresentava faixas abaixo de 2 salários mínimos e de 2 a 4 salários mínimos.
ZEIS 04	ZEIS de vazio	Inserida na malha urbana, a área dista aproximadamente 1,70 km do centro da cidade.	A área possuía em seu entorno alguns comércios locais, equipamentos de saúde e educação, penitenciária e o cemitério municipal. O entorno possuía pavimentação, iluminação pública e saneamento básico.	Apresentava uma renda predominante de 2 a 4 salários mínimos.
ZEIS 05	ZEIS predominantemente de vazio, com uma parcela pequena de área ocupada.	Dista aproximadamente 4,60 km do centro da cidade e no momento de sua criação contava com alguns comércios locais e dois equipamentos educacionais. Além disso, a área encontra-se a menos de 800 metros do Distrito Industrial.	A área localiza-se ao lado de um bairro criado a partir de construção de casas populares financiado pela COHAB-MG.	A renda média do “chefe de família” era de 2 a 4 salários mínimos.

Table 4: Characterization of areas defined as ZEIS in 2006. Source: Authors' Archive. This data was drawn from historical images from Google Earth, data from the IBGE/2000 Census, and surveys carried out on-site. * Considered the income of the “head of the household” according to the methodology adopted in the IBGE Census (2000).



Table 4 presents an overview of the areas in 2006. The typology that characterized each area (vacant area ZEIS or occupied area ZEIS), location, available infrastructure (considering a radius of 1 kilometer), and the socioeconomic profile of the location were analyzed. The ZEIS were identified according to the numbering indicated in Figure 3.

Considering the urban context and the data obtained, ZEIS 1, 2, and 4 presented characteristics favorable to housing: insertion in an urbanized area, close to areas offering infrastructure, services, work, commerce, and transport, and areas available to produce new housing. ZEIS 3 and 5 are located on the edges of the urban perimeter. Therefore, they had a smaller offer of services, commerce, and public facilities. Even so, the surrounding area had infrastructure, such as electricity, public lighting, and basic sanitation.

In 2015, the Ministry of Mines and Energy created the Geotechnical Charter of Suitability for Urbanization in Cataguases, which attempted to indicate areas suitable for urbanization in the urban perimeter or expansion areas. According to the document, unoccupied areas are classified according to their suitability for urbanization: high (green) – areas without occupation restrictions; medium – areas that can be occupied, however with some restrictions and technical guidelines; low or none – areas with severe restrictions, where urbanization is not recommended.

When superimposing the ZEIS on this map (Figure 4), it is noted that almost all zones have areas with low or no suitability for urbanization. In ZEIS 1, ZEIS 2, and ZEIS 3, this classification corresponds to nearly 50% of the total area. ZEIS 5 has

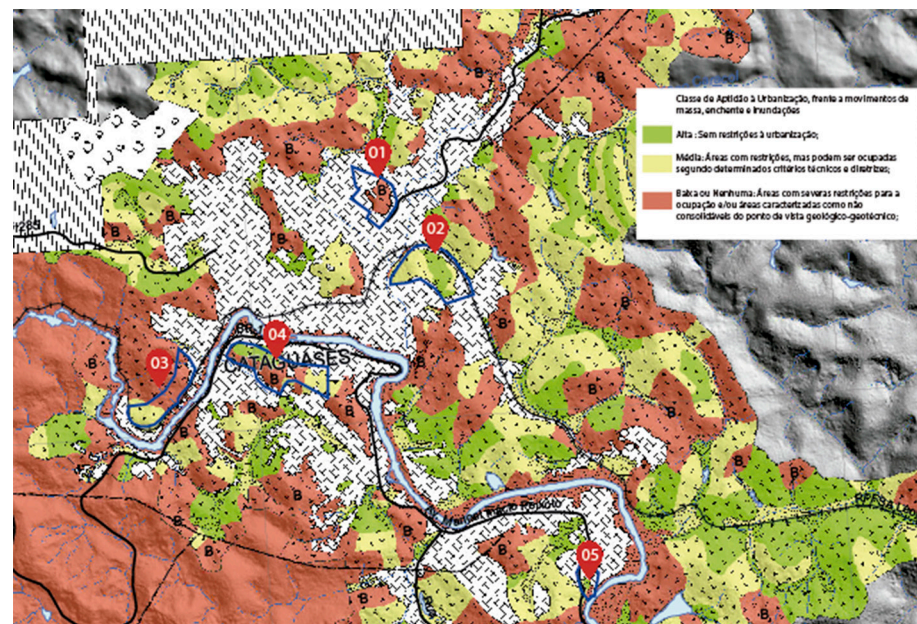


Figure 4: Geotechnical chart identifying the ZEIS. Source: Extracted from the Cataguases Geotechnical Charter – Mineral Resources Research Company (2015) and elaborated by the authors (2023).



a small area that is not recommended. ZEIS 2 has the best occupation conditions of all the regions, with some sections classified as “average,” requiring attention to technical restrictions.

In 2014, the São Marcos housing complex was inaugurated in Cataguases (Figure 5), resulting in the Minha Casa Minha Vida Program, intended for Range I. The project was approved without the Municipal Housing Plan. When analyzing the area where the complex is located, it appears that the guidelines set out in the Master Plan, such as its inclusion in ZEIS, were disregarded. The complex was built in an area characterized by the PDP as a Green Area Installation Zone (ZAV), distant from the urban mesh.



Figure 5: Photo of Condomínio São Marcos (2013). Source: Marcelo Lopes website. Available at: <https://ury1.com/zneJ0>. Accessed on: March 12, 2023.

After on-site visits and analysis of satellite images of the ZEIS areas, it was found that ZEIS 1 (Figure 6 – images 1 and 2) underwent few changes, with some subsequent occupations, with the pre-existing vacant urban area remaining. ZEIS 2 was the one that underwent the most extensive transformation. The area was divided by private initiative; 217 land plots were created with the project (Figure 6 – images 3 and 4). The plots vary from 360 to 900m². Regarding the approval of the project and reports in local media, no mention of ZEIS was identified, nor is there any knowledge, to date, of whether this fact has been questioned. The law also does not mention any issue related to Social Housing. ZEIS 3 presented no changes (Figure 6 – images 5 and 6). ZEIS 4 (Figure 6 – images 7 and 8) also underwent few modifications, with some subsequent occupations. ZEIS 5 (Figure 6 – images 9 and

10) had some housing occupations and the implementation of a daycare center; however, the area is still predominantly empty, as it has a neighborhood soccer field, and some points are affected during the Pomba River floods.



Figure 6: Satellite images of the ZEIS in 2007 (left) and 2021 (right). Source: Satellite images of the city of Cataguases-MG (2021) extracted from Google Earth software and prepared by the authors (2023).

It was noted that the real estate market captured one of the areas determined as ZEIS (the one with the best topography and location conditions). The other areas remain vacant due to topographical conditions since their occupation would require significant investments in earthworks.

FINAL CONSIDERATIONS

By reversing the predominant logic of zoning, the ZEIS represented a milestone for progress in the fight for the right to the city, decent housing, and land regularization, among other rights. However, in many cases, there are several obstacles to their implementation. Often, areas delimited as ZEIS are of interest to the real estate market, and the objectives for these areas are not achieved. Therefore, the indication and delimitation, though representing an important step, are not enough to secure their implementation.

The analysis of Cataguases legislation allowed us to verify that the production of a generalist Master Plan conditions its application to subsequent regulations. In the case of the ZEIS, we conclude that, compared to their planned form, the

plan did not create the minimum conditions necessary for their implementation. The use of one of the areas defined as ZEIS (with better topography and location conditions) by the real estate sector was also identified for different purposes from the initial objective. Three of the five ZEIS were planned in locations geotechnically incompatible with occupation for housing purposes and floodable areas.

This situation is corroborated by the failure to implement the municipality's housing policy guidelines and the restriction on popular participation in urban land management. Added to this is the lack of updated information and technical data, which makes it difficult for municipal management and the population to recognize these problems and their magnitude.

The ZEIS did not move forward in practice. In theory, they were limited to mapped areas for housing and the relocation of the population located in areas at risk of landslides and flooding. The provision of ZEIS in well-located vacant urban regions was an attempt to outline areas within the urban network to implement policies meant for housing of social interest and public facilities. However, the planned ZEIS was not applied without the municipal public authorities' necessary regulations and initiative. As a result, the most vulnerable population continues to occupy less attractive areas in the real estate sector.

Finally, it is understood that the paper presented does not exhaust the topic and reinforces the need for more profound studies on medium-sized cities and their urban issues. Thus, some of the possible developments of the research are the study of the already occupied ZEIS and their morphology, as well as the relationship between outlining the ZEIS polygons and the risk areas.

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