

LAND TENURE, CONSTRUCTION COMPANIES, REAL ESTATE AND FINANCIAL CAPITAL. WHO OWNS THE CITY OF BELO HORIZONTE?

ESTRUTURA FUNDIÁRIA, CONSTRUTORAS, CAPITAL IMOBILIÁRIO E FINANCEIRO. QUEM SÃO OS DONOS DO BELO HORIZONTE?

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A B S T R A C T : There have been very few empirical studies on urban land and property ownership patterns, due, in part, to the habitual confidential treatment of data related to land, property and transactions. This research sheds light onto this particular subject and presents previously unpublished results for Belo Horizonte, a Latin American metropolis, the third largest metropolitan region in Brazil, with a population of 5 million. The results, at different scales of analysis, indicate a very high concentration of privately owned urban land, particularly by the construction, real estate and financial sectors, and a small number of individuals. This situation is especially severe in the North Axis of the city, a poor, peripheral area, which over the past 15 years has received massive public-private partnership (PPPs) investments in large-scale urban projects. For this research, access to land is considered a fundamental element for exercising the right to the city, as described by Lefebvre, and a possible consequence of its concentration is the denial of this basic right.

KEY WORDS : land tenure, urban land, property, urban land concentration, large-scale urban projects, Brazil.

R E S U M O : Estudos empíricos sobre concentração patrimonial fundiária urbana são raros no mundo todo, haja vista o habitual tratamento sigiloso dos dados. Este trabalho joga luz sobre essa questão e apresenta resultados inéditos para Belo Horizonte, uma metrópole latino-americana, a terceira maior Região Metropolitana do Brasil, com 5 milhões de habitantes. Os resultados, em diferentes escalas de análise, indicam elevadíssima concentração da propriedade da terra urbana em mãos privadas, em particular pelos setores construtivo, imobiliário, financeiro e algumas poucas pessoas físicas. Isso é especialmente claro no Eixo Norte da cidade, área pobre e periférica que passou, nos últimos 15 anos, por expressivos investimentos, via parcerias público-privadas (PPPs), em Grandes Projetos Urbanos. Para esta pesquisa, o acesso à terra é elemento fundamental para o exercício do direito à cidade, nos termos de Lefebvre, e uma possível consequência da sua concentração é a negação deste direito básico.

P A L A V R A S - C H A V E : estrutura fundiária, terra urbana, propriedade, concentração de terras urbanas, Grandes Projetos Urbanos, Belo Horizonte.

INTRODUCTION

This paper analyzes the property ownership patterns of vacant urban land in the city of Belo Horizonte, focusing on the North Axis. Belo Horizonte is the third largest metropolitan region in Brazil, with a population of 5 million, and was the first planned Brazilian city, at the end of the nineteenth century. The research is unprecedented, and has obtained access to cadastral data from the Municipal Secretariat of Finance, at the City Hall of Belo Horizonte (SMFA/PBH)¹. Despite the extensive literature on land tenure policies, paradoxically, considering the importance of the subject, in the twentieth and early twenty-first centuries, there have been very few national and international empirical studies, related to the ownership of urban land and its concentration (KIVELL & MCKAY, 1988; DIXON, 2009; PAYNE, 2001 e 1996; EVERS 1975; as well as the following work apud Kivell & McKay (1988): DENMAN, 1974; MASSEY & CATALANO, 1978; FLATT, 1982; NORTON-TAYLOR, 1982; GOODCHILD & MUNTON, 1985; TRANTER & GIBBS, 1977; BARRETT & HEALEY, 1985; RATCLIFFE, 1976; BARRETT, STEWART & UNDERWOOD, 1978)².

While there is an abundance of studies on land concentration for rural areas, there are surprisingly very few for urban areas – something, which needs to be rectified. While in empirical studies on rural areas concern is focussed on land as a means of production, for the present study, it is imperative to explain the relationship between the private ownership of urban land and the “right to the city”, as described by Lefebvre, i.e., to provide a link between empirical analysis on the concentration of urban land and the literature on urban geography, which emphasizes the importance of land tenure in defining the “social space”. These issues are addressed from the viewpoint of the political theory of urbanization (MARICATO 2016 and 2012; ROLNIK, 2015; LEFEBVRE, 2008 and 2007; HARVEY, 2017, 2006, 1997; SASSEN, 2017a, 2017b and 2016).

The property ownership patterns of urban land is understood as an economic mechanism that may reinforce the processes of socio-spatial segregation. Rolnik, when addressing the financialization of real estate, states that “tenure relations are crucial for defining - or blocking - rights”³ (2015, p.13). Ribeiro (1997) highlighted that access to urban land is an historical limit for the expansion of real estate. Sassen (2017) indicated that the buying up of urban buildings by international corporations in global cities is, in fact, a land purchase, which undermines equity, democracy and rights in cities, constrains spaces occupied by powerless minorities and is a threat to the urban diversity of cosmopolitan cities.

The value of real estate places cities in a particularly relevant position within the discussion regarding inequality. French researchers have indicated a return to strong discussion on the land issue which, although not new, is gaining relevance within the international debate on urban inequalities. This importance is derived from the recent phenomenon of increased land value, especially since the 1970s. Piketty (2013) states that the value of land divisions in France represented 40% of the GDP in 1978, 50% in 1997, and 250% in 2010. For the French case, according to data from Comby (2013), what really grew was the value of the land divisions, especially from 1998. It is in the urban environment, given the possibility of acquiring very high values and generating a huge differential rent, that land is used as a financial asset and thus, has a significant impact on the inequality indices of property and wealth (PIKETTY, 2013).

1 The author would like to thank the City Hall in Belo Horizonte, for access to the data.

2 Most of these studies refer to the reality of countries in the Northern Hemisphere, during the 1970s and 1980s. Evers' (1975) work is an exception and addresses cities in Asian countries, although it focuses on areas where urban land is expanding into rural areas. The author states that, at first, there is a change in the pattern of land ownership, with its subdivision and fragmentation, followed by possible short periods of regrouping by speculators and developers/builders. Subsequently, there are two possibilities: land may be developed and its rural use changed to residential; or large areas of divided land may remain unusable, with patterns of use and property similar to those observed for rural areas, except within urban areas, due to speculative processes.

3 All citations in Portuguese have been translated by the author.

In the capitalist system, while space becomes a commodity, the private ownership of urban land becomes social wealth. In the context of cities, the huge demographic, commercial and services concentration encourages the dispute over land use. The dispute for access to urban land and, consequently, to the wealth accumulated within it - in the form of differential rent that, from time to time, changes the exchange value of urban land – has inspired the four questions that the present research intends to answer, related to the ownership of vacant urban land. The first question addresses the distribution of vacant urban land between the public and the private sector, given the logic of rent that underlies the use of private land in a capitalist system. The degree of private sector control over urban land renders an impact on the type of housing offered and the access that the poor have to it. The second deals with the degree to which vacant land ownership is concentrated, particularly private ownership, taking into account a possible correlation between oligopolized markets and the speculative retention of the supply of local land. The third deals with the participation of real estate capital, represented by an ensemble of construction companies, developers, real estate and the financial system, in owning vacant land in Belo Horizonte. The final question is whether there are any differences in the pattern of vacant land ownership in the North Axis of the city, in relation to the whole of Belo Horizonte, and what they are.

The research aims to answer such questions for Belo Horizonte, focusing on the North Axis, an area that, since 2004, has been the subject of investments in large-scale urban projects (LSUPs), through funding by public-private partnerships. According to Betancur (2014), considering the availability of financial capital and the absence of risks in Latin America, international agencies have great interest in forging agreements with local governments, via public-private, national or international partnerships. The investments, mostly public, by increasing the density of the infrastructure available in the urban environment and improving the provision of services, ensure the appreciation of the surrounding land. Investments in transportation and communication infrastructure facilitate the connection between people/companies, and enable barriers of space to be overcome - in Harvey's (2006, p.28 and 48) terms, the *time-space compression* – thereby creating a new value for the location. It is also necessary to contemplate the possible concentration of urban land ownership over recent years, in view of the late initiation of the financialization of housing in Brazil, in the early 2000s (FIX, 2011; ARAGÃO, 2017; SHIMBO, 2011), which should have transformed real estate property into financial assets. This process demands that construction and development companies listed at the stock exchange, constitute a potent land bank, a “guarantee” for the financial market that real estate will be launched over subsequent years, which has been described by Rolnik (2015) as “the colonization of urban land by finance”.

Within this scenario, we hypothesize that the North Axis of Belo Horizonte has been the object of forming a private land bank by real estate developers, insurance companies, pension funds and banks. The concentration of land by such sectors in a historically poor area, which has undergone a large-scale urban project tends to potentialize expulsion processes of the original population. According to the World Bank Vice-President for Sustainable Development, Katherine Sierra (apud ROLNIK 2015, p. 227), the collateral effect of land mobilization for LSUPs is to “signal” a more “rational” allocation of urban land, i.e., to eliminate forms of occupation held by sectors that do not use them as financial assets.

The results obtained herein are unprecedented, and are particularly relevant in a country, in which the property ownership patterns of urban land is unknown and has never been subjected to urban reform, even though 85% of its population lives in cities. The research, by undertaking a multi-scale diagnosis, aims to assist in understanding the disparities in the property ownership of Brazilian urban land. The results concern a city with an exclusively urban land area, which exhibits various types of use and, despite being relatively developed, still has remnants of *glebas*⁴.

⁴ A portion of land that has not yet been divided into lots, for building purposes.

PRELIMINARY NOTES ON THE DATABASE

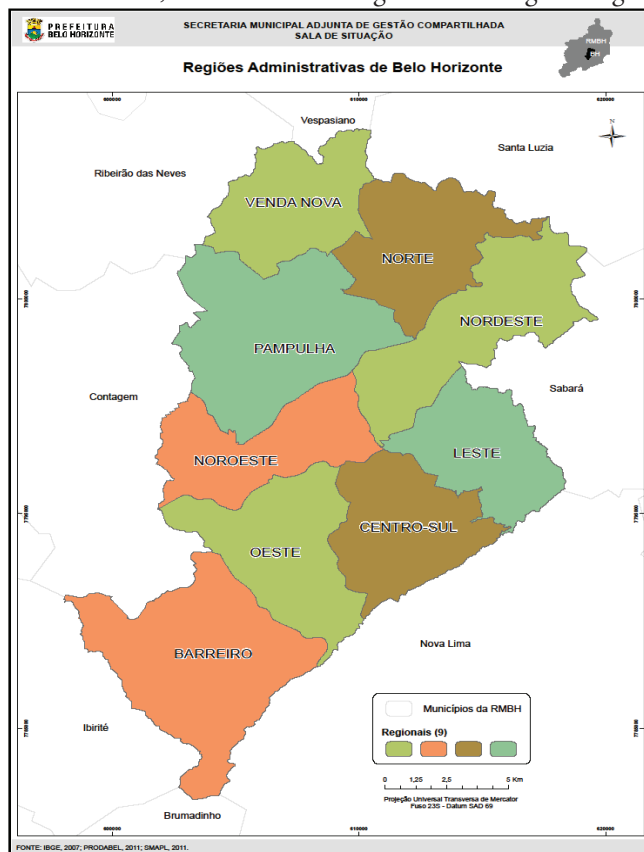
The explanation for the lack of studies on land property, both national and international, is the non-availability of data for public use. Kivell & McKay (1997), in a study on public land in Manchester, cited Edwards & Lovatt (1980) to report the UK “tradition” of treating property data as confidential. In Brazil, the situation is the same. The unprecedented availability of such data however, by the São Paulo City Council in 2015 and 2016 revealed that there is certainly room for questioning as to what should be considered as confidential. These data enabled the publication of at least two articles on land concentration in São Paulo (SANTORO, 2018; SANDRONI, 2017). Apart from our research, focused on Belo Horizonte, these are the only known quantitative studies for urban areas in Brazil.

The empirical study conducted herein uses municipal cadastral data from 2017, drawn up for urban property taxation. It involves an analysis of the property ownership of “vacant land” - also called “vacant lots”, without distinction of meaning - and does not address the ownership of land beneath residential, governmental or commercial buildings.

The use of cadastral data involves difficulties, the main one being slightly out-of-date data, given the dynamics of real estate and urban informality in Latin American cities. There is also, in the case of vacant urban land, the risk of both oversizing the areas available for construction - not all vacant land constitutes an area that may be occupied - and undersizing, especially for under-registered public land. These issues are reflected in our results, although, on a national level, the technical quality of the cadastral data in Belo Horizonte is generally recognized (MINISTÉRIO DAS CIDADES, 2014).

Information regarding public sector data records on land ownership enables the quantification of public and private land - the latter being subdivided into companies and individuals. In the case of land belonging to “companies” (10,662 in 2017), the cadastral data was cross-referenced with a second database - the Municipal Companies Register (SMFA/PBH) - from which the main economic activity performed by the company was obtained. This cross-reference enabled us to verify which economic sectors concentrate urban land ownership. Finally, inequality indicators were constructed for vacant land property, the Gini coefficients and the Lorenz curves.

Figure 1 – Belo Horizonte, Administrative Regions and Neighboring Municipalities



Source: The Belo Horizonte City Hall, 2011

Three scales have been used to observe the property ownership pattern of vacant urban land (Figure 1): Belo Horizonte; “North Axis” - for the purposes of this research, delimited by both the Administrative Regions “Norte” and “Venda Nova” in Belo Horizonte⁵; and, individually, the Administrative Regions “Norte” and “Venda Nova”. With the aid of comparative analysis, particularities were sought with regard to the ownership of vacant land.

THE DISTRIBUTION OF LAND: THE PUBLIC AND PRIVATE SECTORS

The first results (Table 1) indicate that in 2017, in Belo Horizonte, with a territorial extension of 331 km², there were 37,000 vacant lots (VLs), totaling almost 56.5 million m².⁶ Companies owned the largest portion of the available land (36.3%), followed by the public sector (31.1%) and individuals (28.2%). Public land was comprised of vacant urban land registered as “federal”, “federal autarchy”, “state”, “state autarchy”, “municipal” and “municipal autarchy” property, with the vast majority, almost 90%, belonging to the municipality. (Table 2). It is noteworthy that the participation of the public sector tends to be undersized, since semi-public companies are referred to as “Companies”, due to the limitations of the cadastral data.

A comparative analysis of our results for Belo Horizonte with research conducted

⁵ Belo Horizonte is divided into nine Administrative Regions, as presented in Figure 1.

⁶ Areas were excluded where the location was uncertain, the multipurpose land registration codes which end in 30,000, 40,000, and 50,000.

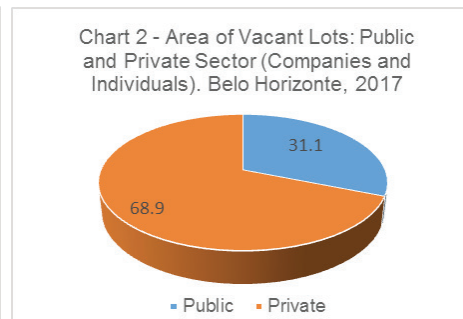
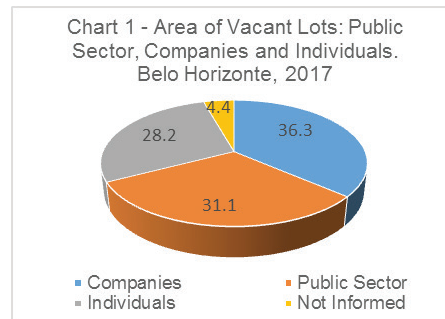
for São Paulo, data from 2016 (SANDRONI, 2017), reveals that the distribution of land between the public sector, companies and individuals presents certain particularities for each city. Although, apparently, in São Paulo, the participation of the public sector (22%) and companies (31%) is lower than that observed in Belo Horizonte, this statement may not be affirmed: data from the two cities are incomparable, in view of the previously mentioned form of accounting for the areas owned by semi-public companies in Belo Horizonte. On the other hand, the results for “individuals” enable us to state that family owners are of greater relevance in São Paulo: in Belo Horizonte individuals own less vacant land than companies or the public sector, whereas in São Paulo, these are the principal landowners (47% of the land). With regard to the number of land divisions in Belo Horizonte, there is a predominance of individual owners over companies. Sandroni (2017) reported the same result, although in São Paulo the frequency of individuals is even higher, where they own 73.01% of the land, as compared to 63%⁷ in Belo Horizonte.

Table 1 - Area and Quantity of Existing Vacant Lots Distribution of Public Sector, Company and Individual Ownership. Belo Horizonte, 2017

Company		Public Sector		Individuals		Not Informed		Total	
Area (m ²)	Qty.	Area (m ²)	Qty.	Area (m ²)	Qty.	Area (m ²)	Qty.	Area (m ²)	Qty.
20,489,628	10,662	17,585,158	4,348	15,952,803	18,493	2,472,833	3,523	56,500,422	37,026

Source: Produced by the author with data from IPTU, 2017. SMFA/PBH⁸

⁷ The “uninformed” were excluded.



⁸ IPTU is a municipal urban property and land tax.

Source: Produced by the author, with data from IPTU, 2017. SMFA/PBH

Table 2 – Vacant Lots (VL) Owned by the Public Sector. Area and Number. Belo Horizonte, 2017

Description of Property	Area VLs (m ²)	No. VLs
Municipal	15,728,346.40	3,653
Municipal Autarchy	46.34	1
State	857,781.26	185
State Autarchy	300,662.45	193
Federal	165,416.90	193
Federal Autarchy	532,904.65	123
Total	17,585,158.00	4,348

Source: Produced by the author, with data from IPTU, 2017. SMFA/PBH

PROPERTY OWNERSHIP PATTERNS OF VACANT URBAN LAND IN AREAS “REDEVELOPED” BY LARGE-SCALE URBAN PROJECTS: THE “NORTH AXIS” OF BELO HORIZONTE

A second scale of analysis comprises the “North Axis” of Belo Horizonte. This region is, from a historical viewpoint, an area with the highest concentration of poverty rates in the city. From 2004, investments were made in the North Axis of MRBH⁹, especially by the public sector, to implement an urban renewal project, with the aim of modernizing the economic infrastructure of the metropolitan region and promoting its productive insertion into global capitalist expansion (COSTA, 2011).¹⁰

⁹ Metropolitan Region of Belo Horizonte.

¹⁰ For details on this project, see Costa et al. (2010) and De Freitas (2017).

Table 3 – Participation of the Administrative Regions in the Total Area of Existing Vacant Lots (VL) in Belo Horizonte and the division amongst the Public and Private Sectors. 2017

Administrative Region	Distribution Area (M ²) of Vacant Lots		Participation (%) of the Administrative Region Total Area of VLs in Belo Horizonte
	Public (%)	Private (%)	
NORTE	6.10	93.90	20.40
VENDA NOVA	29.61	70.39	5.62
NORDESTE	39.76	60.24	16.17
BARREIRO	24.00	76.00	10.41
OESTE	34.24	65.76	10.63
PAMPULHA	31.13	68.87	13.91
CENTRO-SUL	46.43	53.57	12.21
LESTE	43.36	56.64	4.46
NOROESTE	60.04	39.96	6.18
TOTAL	31.12	68.88	100.00

Source: Produced by the author, with data from IPTU, 2017. SMFA/PBH

Analysis of the data reveals extremely particular characteristics of the owners of vacant land in the “North Axis” of Belo Horizonte, fifteen years after the large-scale urban projects were initiated. This region concentrates the largest area of the city’s vacant land, 26% of the remaining area (Table 3). From amongst the nine administrative regions that make up the city of Belo Horizonte, the Norte concentrates the largest area of land, 20.4% of the total. Venda Nova accounts for only 5.6%. The public sector’s participation in vacant land ownership in the “North Axis” is much lower than that observed for the city. In the Norte Region, in particular, the participation of the public sector is negligible, with only 6% of the available area, while private capital has the largest percentage of vacant land in the city, indeed, almost all (94%). In the case of Venda Nova, the private (70%) and public (30%) holdings accurately reflect the average percentages of Belo Horizonte (69% and 31%). It is interesting to note that the three regions with the largest private sector ownership of land (Norte, Barreiro and Venda Nova, respectively) are poor peripheral areas, where land prices are generally

lower than those of other areas, there is less infrastructure and, consequently, are areas more likely to generate higher land rent when investments in urban infrastructure are eventually made.

Companies are the largest property owners of vacant land in the Norte Region, with 56.4% of the area (Table 4), a much larger share than the average of 36.3% observed in Belo Horizonte (Table 1). This pattern is also observed for the North Axis as a whole (51.7% of the area belongs to companies), basically dictated by the Norte, since the Venda Nova Region has very few areas of vacant land. Individuals in the Norte Region and the North Axis also have a higher share in the area of vacant land than that observed in Belo Horizonte, respectively, 36%, 34.8% and 28.2%, revealing that, in the North Axis of Belo Horizonte, the very high concentration of property ownership by companies and, secondarily, by individuals occurs in the same proportion as the very low participation of public sector ownership.

As land grabbing is an essential mechanism for the financialization process (Rolnik, 2015), these results, by revealing the location of the largest concentration of available land in the city, as well as the high concentration of property ownership in the hands of the private sector in the peripheral areas of Belo Horizonte, reinforce the argument that private companies are constituting a land reserve on the North Axis, especially in the Norte Region.

Table 4 – Number and Area of Existing Vacant Lots in the Norte and Venda Nova Administrative Regions. Distribution by Public Sector, Company and Individuals. 2017

Region	Companies				Public Sector				Individuals				Not Informed				Total	
	Área of VLs		No. VLs		Área of VLs		No. VLs		Área of VLs		No. VLs		Área of VLs		No. VLs		Área	No.
	M ²	%	Qty	%	M ²	%	Qty	%	M ²	%	Qty	%	M ²	%	Qty	%	(M ²)	VLs
Venda Nova	1,102,161	34.7	747	20,8	939,980	29.6	337	9.4	968,513	30.5	2,080	57.8	163,796	5.2	432	12.0	3,174,450	3,596
Norte	6,496,921	56.4	774	24,0	703,750	6.1	630	19.6	4,147,120	36.0	1,563	48.6	180,241	1.6	252	7.8	11,528,033	3,219
North Axis	7,599,082	51.7	1,521	22,3	1,643,730	11.2	967	14.2	5,115,633	34.8	3,643	53.5	344,037	2.3	684	10.0	14,702,483	6,815

Source: Produced by the author, with data from IPTU, 2017. SMFA/PBH.

ECONOMIC CAPITAL, URBAN LAND AND REAL ESTATE SPECULATION

Construction, real estate and finance activities, not necessarily in that order, for all the scales of analysis, possess most of the private land (Tables 5 and 6). In Venda Nova, which has a small inventory of vacant land, it is noteworthy that construction companies are the largest land owners, with 46% of the areas belonging to companies (23% in Belo Horizonte and 25% in the Norte Region).

In the Norte Region, financial activities have also accumulated a large amount of vacant land, more than double that observed in the city: 25% of the land belonging to companies in the Norte Region versus 10% in Venda Nova and 11% in Belo Horizonte. Real estate agents also possess a larger share of private land (33%) in the Norte Region than that observed in Belo Horizonte (28%) and Venda Nova (10%).

Table 5 - Ranking of economic activities, according to the areas of the vacant lots they own. In descending order. Norte and Venda Nova Administrative Regions, 2017

Region	Ranking	Economic Activities (CNAE)	Area	
			M ²	Participation (%)
NORTE	1	REAL ESTATE ACTIVITIES	2,158,940.81	33.23
	2	FINANCE ACTIVITIES, INSURANCE & RELATED SERVICES	1,669,004.91	25.68
	3	CONSTRUCTION	1,653,628.67	25.44
	4	OTHER SERVICE ACTIVITIES	305,785.99	4.71
	5	PROFISSIONAL, SCIENTIFIC & TECNICAL ACTIVITIES	105,038.74	1.62
	6	TRADE; VEHICLE, AUTOMOBILE & MOTOCYCLE REPAIRS	9,452.70	0.15
	7	TRANSPORT, WAREHOUSING & POST OFFICE	8,990.53	0.14
	8	HEALTHCARE & SOCIAL SERVICES	6,054.84	0.09
	9	MANUFACTURING INDUSTRIES	4,592.98	0.07
	10	EDUCATION	4,281.37	0.07
	11	INFORMATION & COMMUNICATION	3,832.00	0.06
	12	WATER, SEWAGE, MANAGEMENT ACTIVITIES FOR RESIDUE & DECONTAMINATION	3,606.77	0.06
	13	ELETRICITY & GAS	2,970.00	0.05
	14	ACCOMMODATION & FOOD	2,390.00	0.04
	NOT INFORMED	558,350.69	8.59	
	TOTAL	6,496,921.00	100.00	
VENDA NOVA	1	CONSTRUCTION	503,781.98	45.71
	2	REAL ESTATE ACTIVITIES	114,619.27	10.40
	3	FINANCE ACTIVITIES, INSURANCE & RELATED SERVICES	110,145.96	9.99
	4	ART, CULTURE, SPORT & RECREATION	92,634.10	8.40
	5	TRANSPORT, WAREHOUSING & POST OFFICE	18,411.00	1.67
	6	OTHER SERVICE ACTIVITIES	11,690.85	1.06
	7	EDUCATION	7,899.04	0.72
	8	WATER, SEWAGE, MANAGEMENT ACTIVITIES FOR RESIDUE & DECONTAMINATION	5,597.00	0.51
	9	HEALTHCARE & SOCIAL SERVICES	4,290.04	0.39
	10	TRADE; VEHICLE, AUTOMOBILE & MOTOCYCLE REPAIRS	3,298.03	0.30
	11	PROFISSIONAL, SCIENTIFIC & TECNICAL ACTIVITIES	3,290.39	0.30
	12	MANUFACTURING INDUSTRIES	2,658.21	0.24
	13	ADMINISTRATION ACTIVITIES & ADDITIONAL SERVICES	1,598.87	0.15
	NOT INFORMED	222,245.94	20.16	
	TOTAL	1,102,160.68	100.00	

Source: Produced by the author with data from IPTU, 2017. SMF/ PBH

Analysis of aggregate data for urban land controlled by the “**Construction**” sectors (consisting of a combination of “building construction”, “infrastructure works” and “specialized construction services”, groups, respectively, “41”, “42” and “43” of the National Classification of Economic Activities [CNAE]), “**Financial, Insurance and Related Services Activities**” (“financial services activities”, “insurance, reinsurance, private pension and health insurance” and “auxiliary activities for insurance, private pension and health plan services, CNAEs “64”, “65” and “66”) and “**Real Estate Activities**” (CNAE “68”) confirms that the North Axis is a strategic area for the formation of a land bank for these branches of economic activity (Table 7). Together, these three sectors hold 42% of all vacant land in the North Axis, almost double the percentage they control in Belo Horizonte (22%). Half the land bank in real estate, finance and construction activities is in the North Axis.

The marriage between real estate capital and finance capital, amongst other factors, through the introduction of capital from developers and the emergence of new, more sophisticated mortgage and financing mechanisms, has aided the huge concentration of capital within the sector. One consequence of this concentration was that the developers themselves have also become major property owners. From this point onwards, land rent was no longer a barrier and became a significant source of gain for property capital. (DINIZ, p. 21, 2011)

Table 6 - Ranking of economic activities, according to the vacant lots they own. In descending order. Belo Horizonte. 2017

Ranking	Economic Activities (CNAE)	Área	
		M ²	Participation (%)
1	REAL ESTATE ACTIVITIES	5,646,115.02	27.56
2	CONSTRUCTION	4,730,066.61	23.09
3	FINANCE ACTIVITIES, INSURANCE & RELATED SERVICES	2,250,551.53	10.98
4	MANUFACTURING INDUSTRIES	2,155,002.13	10.52
5	ELETRICITY & GAS	1,408,013.49	6.87
6	WATER, SEWAGE, MANAGEMENT ACTIVITIES OF RESIDUES & DECONTAMINATION	730,397.72	3.56
7	OTHER SERVICE ACTIVITIES	640,463.51	3.13
8	ART, CULTURE, SPORT & RECREATION	488,512.23	2.38
9	TRANSPORT, WAREHOUSING & POST OFFICE	343,300.57	1.68
10	TRADE; VEHICLE, AUTOMOBILES & MOTORCYCLE REPAIRS	282,260.73	1.38
11	PROFISSIONAL, SCIENTIFIC & TECHNICAL ACTIVITIES	275,277.94	1.34
12	EDUCATION	205,498.22	1.00
13	EXTRACTIVE INDUSTRIES	187,170.62	0.91
14	ADMINISTRATION ACTIVITIES & ADDITIONAL SERVICES	186,430.70	0.91
15	AGRICULTURE, LIVESTOCK, FOREST, FISHING & AQUACULTURE PRODUCTION	62,580.38	0.31
16	HEALTHCARE & SOCIAL SERVICES	54,325.39	0.27
17	INFORMATION & COMMUNICATION	42,742.64	0.21
18	PUBLIC ADMINISTRATION, DEFENCE AND SOCIAL SECURITY	23,153.90	0.11
19	ACCOMMODATION & FOOD	13,588.16	0.07
	NOT INFORMED	764,176.51	3.73
	TOTAL	20,489,428.00	100.00

Source: Produced by the author with data from IPTU, 2017. SMFA/PBH

The results point towards Harvey's (1982, p. 367-372) analysis on the transformation of land into a financial asset: so that the contradiction between the law of value and the existence of land rent disappears, land must be treated as fictitious capital. This signifies that property owners play an active role in enabling future rent increases: to give land the best, most profitable uses so as to maximize the production of surplus value to be appropriated. The circulation of remunerated capital in land markets fosters an alliance between property owners and capitalists, which forces investments in the land (construction, for example), provides profit and increases rent. The result may be beneficial to property owners and capitalists, as investments may not only enhance original differences in location, but also create them. These considerations indicate a strong rentier trait in current capitalism, constitutive of the process of accumulation.

TABLE 7 - Area of Vacant Lots owned by Finance, Real Estate & Construction Activities. Belo Horizonte and North Axis. 2017

Economic Activity	Area of Vacant Lots		CNAEs
	North Axis	Belo Horizonte	
Real Estate Activities	2,273,560	5,646,115	68
Construction	2.157.411	4,730,067	41, 42 & 43
Finance Activities	1.779.151	2,250,552	64, 65 & 66
Total Area of the 3 Activities (A)	6,210,122	12,626,734	41 to 43, 64 to 66 & 68
Total Area (B)	14,702,483	56,500,421	
Participation % (A*100/B)	42,24	22,35	

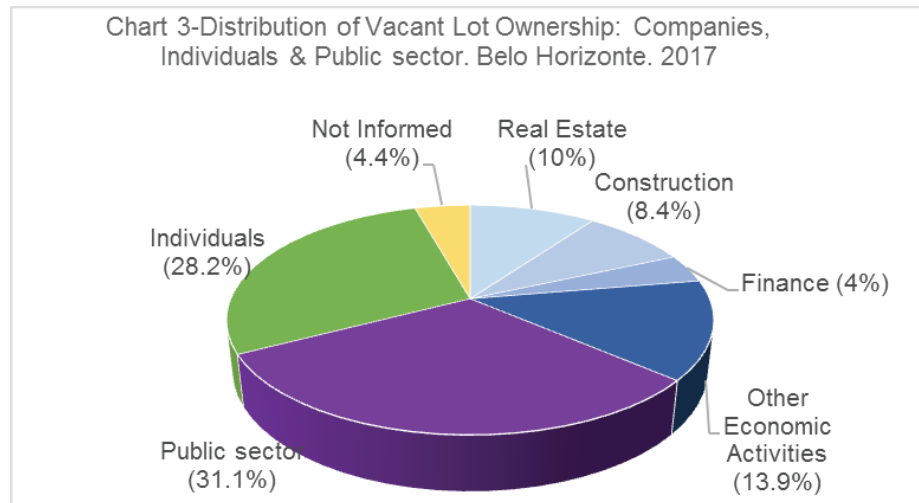
Source: Produced by the author with data from IPTU, 2017. SMFA/PBH

Charts 3 and 4 illustrate the differences in the division of property ownership of vacant land in the North Axis and Belo Horizonte between the public sector, individuals and companies. In the North Axis, real estate and construction activities have higher percentages of land than in Belo Horizonte - respectively, 15.5% against 10% for real estate and 14.7% against 8.4% for construction. Financial activities concentrate, in percentage terms, three times more vacant land than Belo Horizonte (respectively, 12.1% and 4%). The high concentration of land in the hands of the financial, real estate and construction sectors in the research area, particularly in the Norte Region, associated with a relatively lower amount of public land, reveals a strategy which reinforces the character of speculative investment in land.

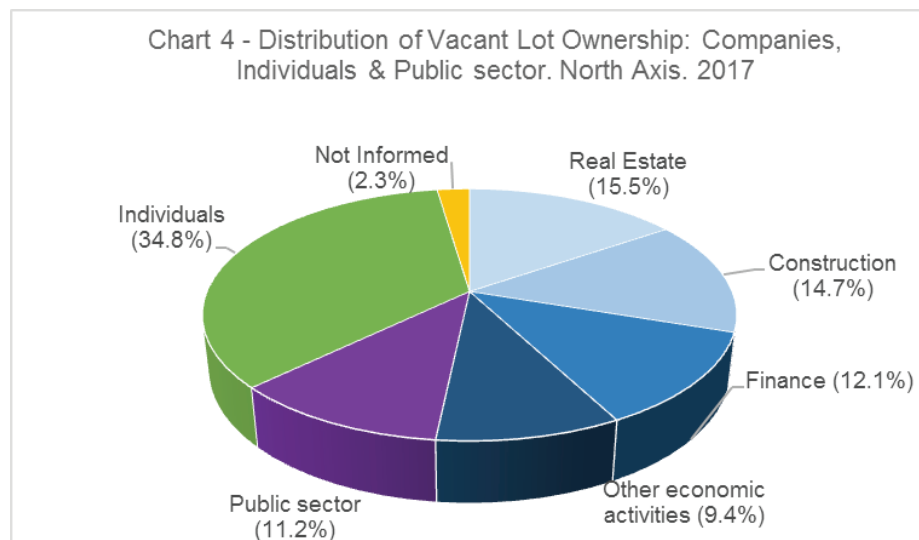
Sassen (2016, 2017a and 2017b) argues that, in recent years, the increasing buying up of land by international corporations is underway in both global cities of the northern hemisphere and rural areas of the southern hemisphere. Addressing a completely different context, our research has also discovered a high concentration of property ownership of vacant land by companies - although apparently these are not international corporations, but rather Brazilian corporations operating on a national or local level, especially those related to real estate, construction and finance. Even without knowing whether, in the case of Belo Horizonte, the land concentration in the hands of companies is an old phenomenon or has worsened over recent years, as Sassen mentions, the volume of urban vacant land in the hands of companies reflects their high capacity to treat the city as a commodity, and thereby gain exchange value. Thus, as in the universe studied by Sassen, land is a central element in the concentration of wealth and rent. When consulting the websites of large construction companies, those with shares traded on the stock exchange, it may be confirmed that in recent years, they have formed national land banks¹¹, as a guarantee of their solvency for undertaking new projects, accompanied by the Real Estate Securities Commission¹².

¹¹ See the sites of Direcional Engenharia S.A., MRV Engenharia e Participações S.A and Construtora Tenda S.A., for example.

¹² It is noteworthy that, given the confidentiality of the cadastral data analyzed, the concentration of land by individualized companies was not analyzed.



Source:Produced by the author with data from IPTU, 2017. SMFA/PBH



Source:Produced by the author with data from IPTU, 2017. SMFA/PBH

LAND OWNERSHIP CONCENTRATION

We proceed to different methods of analysing land ownership concentration: calculating the Gini coefficient, producing the Lorenz curve and analysing properties controlled by the 30 top owners. All demonstrate the coexistence of a significant number of owners and a huge concentration of land ownership. This scenario is repeated on multiple scales, varying only in the level of concentration.

There are 17,595 ownerships of vacant lots in Belo Horizonte. Concentration rates are very high (Table 8): the 30 top owners own 58% of the area of the city, the majority of which are “glebas”. Amongst the 30 top owners – public sector, individuals, construction companies, real estate companies, financial and banking companies and, with lesser participation, other activities -, the public sector owns more than half the area.

Table 8 - Area belonging to the Top 30 Owners of Vacant Lots (VL) Belo Horizonte, 2017

Owner	Area (m2)	Participation in VL Area (%)
Public Sector	16,950,481	30.43
Individuals	5,167,430	9.28
Building Construction	4,144,311	7.44
Real Estate Activities	2,749,557	4.94
Finance Activities, Insurance & Related Services	2,129,752	3.82
Other activities + Not Informed	1,143,534	2.06
Total	32,285,068	57.97

Source: Produced by the author with data from IPTU, 2017. SMFA/PBH

There is extreme inequality in the Norte Region regarding urban land ownership, with a much higher concentration than Belo Horizonte and Venda Nova. The 30 top owners own 10 million m² of vacant land (Table 9) - almost 20% of Belo Horizonte's land area. Of the 1,438 property owners in the Norte Region, the top 30 own 89%, almost all the region's vacant land, of which only 10.67% is owned by the public sector. Amongst these 30, in first place, are individuals, followed by real estate activities, financial companies, building contractors, the public sector and, to a lesser degree, other economic activities. The concentration of land in the hands of a few generates an oligopolized land ownership pattern, with a high capacity for speculation, in which a huge stock of land may remain untapped, especially considering the public sector's poor use of land value capture tools – none of them are adopted in the North Axis of the city. This concentration of urban land increases the power of private property owners to commoditize space and define its social use only according to the logic of profit, thereby contributing to the expulsion of the original population.

In the case of the Venda Nova Region, there are 1,957 property owners of urban land. The 30 top owners hold 62% of the urban land, most of which is controlled by the public sector (30%) and by construction companies (14.75%), as presented in Table 10. Individuals have a much smaller share than that observed in Belo Horizonte and the Norte Region, which is expected, given that there is little remaining vacant land. It would appear that when less land is available, the participation of construction companies in land ownership is greater.

Table 9 - Area belonging to the Top 30 Owners of Vacant Lots (VL) Northern Administrative Region, 2017

Owner	Area (m2)	Participation in VL Area (%)
Individuals	3,484,688	30.32
Real Estate Activities + Finance Activities, Insurance & Related Services	3,702,957	32.21
Building Construction	1,424,907	12.40
Public Sector	1,226,630	10.67
Other Activities	384,945	3.35
Total	10,224,127	88.95

Source: Produced by the author with data from IPTU, 2017. SMFA/PBH

Table 10 - Area belonging to the Top 30 Owners of Vacant Lots (VL) Administrative Region of Venda Nova. 2017

Owner	Area (m2)	Participation in VL Area (%)
Public Sector	927,479	29.52
Building Construction	463,470	14.75
Real Estate Activities	208,404	6.63
Other Activities	129,920	4.14
Individuals	112,163	3.57
Finance Activities, Insurance & Related Services	100,436	3.20
Total	1,941,872	61.81

Source: Produced by the author with data from IPTU, 2017. SMFA/PBH

The Gini coefficients (Table 11) that we calculated for Belo Horizonte confirm the results obtained: 0.81 for private plots of land and 0.87 for all public and private plots of land. In the Norte Region, there were very high levels of land ownership concentration, with a Gini coefficient of 0.94 for private and 0.95 for public and private plots of land. The land ownership concentration was lower in Venda Nova, with a Gini of 0.77 for all plots of land and 0.67 for private plots of land.

Table 11 - Gini Coefficient Belo Horizonte, the Norte and Venda Nova Administrative Regions, 2017

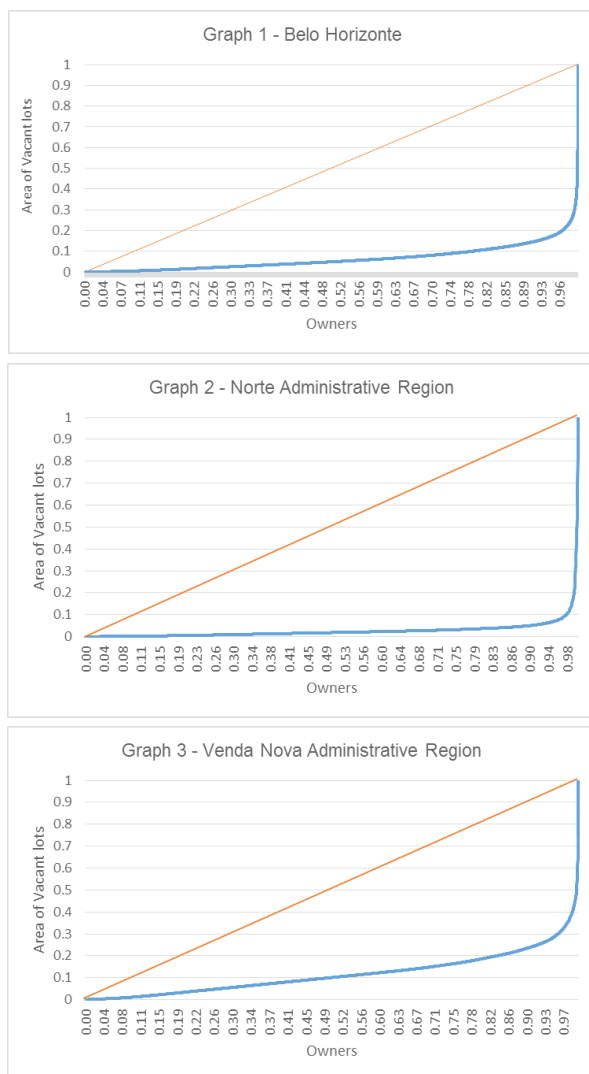
Area	Gini Coefficient	
	Public and Private Ownership	Private Ownership
Norte	0,945668322	0,941187718
Venda Nova	0,76659145	0,670253124
Belo Horizonte	0,870464769	0,812007224

Source: Produced by the author with data from IPTU, 2017. SMFA/PBH

The Lorenz curve (Graphs 1 to 3), as an analytical tool, represents, in the case of this study, the relationship between the proportion of public and private land owners of at least an *n*th amount of vacant land and the accumulated percentage of the area of vacant land. If the property were perfectly evenly distributed, the curve would coincide with the 45 degree line passing through the origin - this is nowhere near the situation of any of the areas surveyed. The Norte Region presents a curve that closely resembles perfect inequality, in which one person holds all the land - the curve is almost coincident with the abscissa axis to 1.00. The Venda Nova Region presents the best distribution of vacant land ownership, as compared to Belo Horizonte and the Norte Region: about 80% of owners own 20% of the existing area of vacant land, with the remaining 80% of land in the hands of 20% of owners.

These results demonstrate a huge concentration of vacant land in Belo Horizonte in the hands of very few owners. These results differ from those for São Paulo (SANDRONI, 2017 and 2018), which are restricted to the categories of “individuals” and “real estate” (“construction companies, developers, holding companies, housing associations and real estate companies”) and reveal the atomization of land ownership. It should be noted that the results for São Paulo are preliminary, as the author himself mentions, and the study does not calculate the usual indicators for concentration studies.

Lorenz Curves. Vacant Lots Ownership, 2017



Source: Produced by the author, with data from IPTU, 2017. SMFA/PBH

The results for Belo Horizonte cast doubt on the customary interpretation that the extension of the city (331 km²), small by Brazilian metropolis standards, acts as a “natural” limit to land supply (MAGALHÃES et al. 2011, p. 33). The results of this research propose, as one of the factors limiting land supply in Belo Horizonte, the oligopolistic concentration of urban land, mainly in the form of *glebas*, kept idle as a form of real estate speculation in areas with urban infrastructure.

We observe that the area of vacant land in Belo Horizonte is 56.5 km², of which 39 km² is in the hands of the private sector, while in the city of São Paulo (SANDRONI, 2017) there is 81.5 km² of vacant land, of which 63 km² is private. The results for calculating the available per capita private area of land for Belo Horizonte and São Paulo refute the argument that there is lack of vacant land in Belo Horizonte when compared to other Brazilian cities.

Table 12 - Area per capita of privately owned Vacant Lots (VL) Belo Horizonte, 2017 and São Paulo, 2016

Area VLs (m2)		Population		Area/Capita (m2/inhab)	
Belo Horizonte	São Paulo	Belo Horizonte	São Paulo	Belo Horizonte	São Paulo
38,915,264	63,058,426	2,375,151	11,253,503	16.38	5.6

Source: Produced by the author with data from IPTU, 2017, SMFA/PBH and SANDRONI (2017)

While for São Paulo this indicator is 5.6 m² per capita, for Belo Horizonte it is 16.38 m² per capita (Table 12). Even if we consider that the total private area of São Paulo, unlike Belo Horizonte, does not account for land of semi-public companies, the per capita indicator of Belo Horizonte is not lower than that of São Paulo. The land areas of just the top 100 private landowners in Belo Horizonte, excluding all public sector and semi-public company properties, results in 8.33 m² of private land per capita, a much higher value than in São Paulo.

CONCLUSIONS

This research presents previously unpublished results on the property ownership patterns and concentration of vacant urban land in a major Latin American metropolis, Belo Horizonte, in 2017, at different scales. Amongst the limitations of this article - which may serve as inspiration for further studies - is the concept used for urban land, restricted to vacant lots, which in the future may be extended to include low-density buildings (such as “shacks”, “houses” and “warehouses”), since they can easily be transformed into vacant urban land. Comparative analyzes with other cities are restricted by the rarity of empirical studies, both national and international. A possible review, by Brazilian municipalities, of the definition by which data are subjected to fiscal secrecy, as in the case of São Paulo in 2015, would enable further studies on who owns the urban land.

From amongst the results, we first highlight the central role in defining the use of urban land in Belo Horizonte of private agents, who own 69% of vacant land. This situation is even more serious in poor peripheral areas such as the North Axis of the city.

Second, from amongst all the economic activities, the real estate, finance and construction sectors are the main property owners of vacant land in Belo Horizonte. The North Axis stands as a key area in which these sectors have formed a land bank – whereby together, they own 42% of the land in this region, almost double their share of 22% in Belo Horizonte. This result is significant in light of the financialization of Brazilian real estate and the expected increase towards the land bank of large developers and construction companies.

Third, the results confirm a very strong concentration of land ownership in Belo Horizonte, particularly in the North Axis. For private land ownership, the figures demonstrate a Gini coefficient of 0.94 in the Norte Region, 0.81 in Belo Horizonte and 0.67 in the Venda Nova Region. The lower concentration of vacant land in Venda Nova would seem to be a reflection of its occupation by more popular segments as of the late nineteenth century, when it became a housing area for part of the expelled population from the newly created city of Belo Horizonte. In contrast, the largest concentration is in the Norte Region, an area of urban expansion and of recent interest to the real estate market, with the largest area of vacant land in the city and

13 There are several different spellings for the name of this region (Izidora, Isidora, Izidoro or Isidoro). Professor Margarete Leta of the Association of Architects Without Borders - Brazil states that: “The first reason is that on the maps of Belo Horizonte, until at least 1937, the stream that gave its name to this area is written as *Ribeirão da Izidora* [...]. Like *Ribeirão da Onça*, both were masculinized in the following maps. I thought it was just a gender issue of a chauvinistic society, until I came across Quilombo Mangueiras in the same region, and was informed (which I could not prove) that Izidora had been a slave (or an enslaved woman) there, and constituted her descendance. We would therefore, have a question of gender and class! Alessandro Borsagli wrote to me, saying: “With regard to Izidora I know of the existence of an Isidora da Costa, who owned 7 bushels of land on the Onça Stream when they sanctioned the Land Act of 1850. It is possible that the name originates from her - Isidora da Costa [...]” Available at: <https://www.facebook.com/ocupacaoesperancabh/posts/221530724684171/>. Viewed on March 20, 2019.

the largest private sector participation controlling the supply of land, amongst which are several large *glebas*. The largest of these is the Izidora region¹³, the largest urban park in the world, with 10 km², and where the last clean stream of the city is located, as well as over 250 springs, and a *quilombola* community (COTA, 2010; BIZZOTTO & MENDONÇA, 2014; INDISCIPLINAR, 2019). Part of this land was donated by the public sector, at the beginning of the twentieth century, to a private entity (two individuals), through Municipal Law 82, on October 24, 1914, with a requirement to build a “model sanatorium” on the site. The owners kept the land without parcelling and, according to Cota (2010), demonstrated an interest in promoting its occupation only after it became a viable real estate product, as of 2010. The situation would have changed with the LSUP on the North Axis of the MRBH, which increased the profitability of real estate investments in the Izidora region. This aroused “[...] the interest of the owners to promote its occupation, leading them to seek the executive powers in an attempt to make a partnership that would allow the sustainable use of the area” (COTA, 2010). In 2010, a municipal law¹⁴ provided for an *Operação Urbana*¹⁵ in this area, which contemplated real estate interests. Even so, these *Operações Urbanas* were not carried out due to a number of legal irregularities and because of the land conflict that began in 2013, when part of the area became occupied by 8,000 low-income families (BITTENCOURT, NASCIMENTO and GOULART, 2016).

The results for the Gini Coefficients, Lorenz curves and the top landowners reveal the strength of neoliberal models applied to the urban land issue: public sector regulation is strongly constrained. The emphasis of these models is precisely on reducing public sector intervention to create a “good business environment”. The high degree of private sector control over vacant land in the North Axis of Belo Horizonte and the concentration of such property into the hands of just a few owners is only possible due to the absence of using the tax and urban planning regulatory instruments provided for in Brazilian legislation in order to curb speculation. The public sector, thereby, avoids conflict with the capitalist production of unequal space; to the contrary in fact, according to HARVEY (2006), it is aligned with the geography of capital accumulation.

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14 Municipal Law 9,959, amended by Law 10,705 / 2014.

15 Operação urbana is a Brazilian urban policy instrument introduced into the country's legal system in 2001 («Estatuto da Cidade»). It aims to promote urban services and infrastructure in a specific area by selling construction benefits, which include changes in land uses and building rights.

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