# LAR: a new affordable housing rental system for Brazil

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## Abstract

In the last eight years, between 2007 and 2014, the housing shortage in Brazil increased from 5,8 to 6,1 million dwellings, ranking as one of the major social problems in the country. In 2009, a Federal Government Program, called "My House, My Life - MHML" ("Minha Casa, Minha Vida" in Portuguese) was launched to provide housing to lowincome families. Despite the fact that 2,81 million units were built as at May 2016 under the MHML program, it has clearly not been enough to solve the problem. The objective of this work is to present a complementary model to provide adequate homes for low income people, that along with the MHML program, supplies an additional amount of dwellings to help reduce the social housing shortage in Brazil in the long term. The tentative hypothesis was to conceive an affordable housing rental system that can be undertaken by the private initiative and only when necessary, with public subsidies or incentives. It has to be environmentally responsible and economically feasible for all involved in the process, like the owner, the builder, the facilities manager, the developer, the society as a whole and especially, for the low-income families that are unable to buy their own home and currently live in subnormal housing. Theoretically, the proposed system has potential to be technically, commercially, financially and economically feasible, despite some identified difficulties.

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#### **1** INTRODUCTION

Shelter is one of humanity's most important basic needs, because it provides the necessary protection from the natural elements. Modern societies however, should ensure much more than shelter for all individuals. Everyone should have access to adequate housing, which they can inhabit with a good quality of life and they can call it their home. A home is much more than a physical structure. According to the Cambridge Dictionary, home (*Lar* in Portuguese) is the place where a person feels they belong.

But in many countries, part of their population doesn't have a place to call home, and in Brazil, this is one of the most important social problems that the nation has to deal with.

The 2010 Brazilian census accounted for a shortage of 6,94 million housing units, corresponding to 12,1% of the total housing stock of the country. The majority of the shortage (62.7%) is situated within families with income ranging from 0 to 3 minimum wages (1 minimum wage = U\$268.55<sup>i</sup>).

The Federal Government program "My House, My Life - MHML" ("*Minha Casa, Minha Vida*" in Portuguese) was launched in 2009 to provide housing to low-income families.

Despite the fact that 2,81 million units were built until May 2016, and 1,11million are under construction by the MHML program, the housing shortage decreased only 12% between 2010 and 2014, so it has clearly not been enough to solve the problem.

Among others, two of the main obstacles for MHML program to supply the necessary dwellings so as to eliminate the deficit are: 1-the insufficient federal public financial resources to accomplish this enormous challenge and 2-the fact that many people are not eligible, according to the program's mortgage criteria, such as the elderly and families that fall within an income bracket which is above the program's limits but below which the level at which the free market acts as a provider of housing.

Conscious of the fact that the Brazilian government does not have enough financial resources to solve the housing deficit<sup>ii</sup>, and that adequate housing must also be provided for the people who are not eligible for a mortgage, the following question arises:

Would there be any other feasible way, besides homeownership, that could supply adequate housing to low-income families, undertaken by the private sector, with little or no public subsidy?

To solve this question, a new model has to be put in place, to try to tackle the Brazilian housing shortage, which is unacceptable in the seventh biggest economy in the world<sup>iii</sup>.

The new system would have to rely mainly on the private sector, and for this reason, it would have to be economically feasible and legally safe for investors. At the same time, it would have to make economic sense for low-income tenants who lack the minimum amount of savings, guarantees or necessary documentation to qualify for home mortgages. They would have the option to live in a decent place, for an equivalent rent

<sup>&</sup>lt;sup>1</sup> A full stop is used to denote decimal numbers (cents) when the currency is the US dollar (U\$1,000.00 = one thousand dollars).

A comma is used to denote decimal numbers when the currency is the Brazilian Real. It is also used in any other number, such as percentages, and in the numbers presented in all the Figures (even for the US dollar) presented in this paper. "The federal budget deficit in 2016 can reach 170,5 billion Reais (U\$48 billion)

<sup>&</sup>lt;sup>iii</sup> World Indicators database, World Bank, 11 April 2016. Available at: <u>http://databank.worldbank.org/data/download/GDP.pdf</u>

they would pay for a subnormal dwelling in a slum<sup>i</sup>, which has a monthly average price of R\$438,00<sup>ii</sup> in the city of São Paulo<sup>1</sup>. This is equivalent to 49,8% of the minimum wage.

Market rent projects are not a solution for low-income families, because they cannot afford it, except if located at the cities' peripheries or in slums. A vast amount of public subsidy would be necessary to make conventional rent projects viable and that is what this new model attempts to avoid.

Many studies related to affordable rents were conducted in Brazil and abroad. The Comparative Housing research Expertise Centre (CHEC) from the Faculty of Architecture and the Built Environment at Delft University of Technology in the Netherlands, currently led by professors Marja Elsinga, Marietta Haffner and Joris Hoekstra have been researching international comparative housing for the last twenty years, especially in Europe and they have published many relevant papers in this field of study. Andres Blanco and the team of experts at the Inter-American Development Bank published many studies related to the social housing context in Latin America. Some of the researchers that laid the foundations in this area of knowledge are Kemeny, J.; Hulse, K; Doling, J.; Rohe, W. M.; Harloe, M.; Boelhouwer, P.; van der Heijden, H.; Castles, F. G.; Matznetter, W.; Taffin, C.; Somerville, P.; Quilgars, D. and Belsky, E. S. In Brazil, among others that researched about affordable rent are Bonduky, N.; Mello, F.; Bushatsky, J.; Haddad, E.; Balbim R., Maleronka, C., Manhães, M.; Webwe A.; Gatti, S. and D'Ottaviano C.

The main association in Brazil that represents the companies that work in the real estate sector, Secovi-SP, formed a group of experts in different areas related to the housing industry, such as lawyers, realtors, builders, real estate and land developers, property owners, facilities managers, former public officials and investors<sup>iii</sup>. The purpose of this group was to create an alternative system to provide adequate homes for low-income families that along with the MHML program, would contribute to the housing supply in order to help tackle the deficit in Brazil in the long term.

The objective of this work is to present a sustainable Affordable Housing Rental system (in Portuguese: *Locação Acessível Residencial – LAR*), conceived and proposed by the Secovi-SP group, including technical, commercial, financial and economic analysis.

Some experiences in other countries are described in this work to identify what could be applied in Brazil and what should be avoided.

Existing legislation is analyzed and new legislation proposed in this work to provide the necessary framework for the LAR system, and to guarantee legal security for the private sector, especially for investors and property owners.

The anticipated difficulties and results are discussed and the conclusions are presented at the end of this paper.

<sup>&</sup>lt;sup>i</sup> According to "Cities Without Slums" action plan, available at: <u>http://www.citiesalliance.org/cws-action-plan</u>

Slums are neglected parts of cities where housing and living conditions are appallingly poor. Slums range from high density, squalid central city tenements to spontaneous squatter settlements without legal recognition or rights, sprawling at the edge of cities. Some are more than fifty years old, some are land invasions just underway. Slums have various names, Favelas, Kampungs, Bidonvilles, Tugurios, yet share the same miserable living conditions. Slums do not have: basic municipal services—water, sanitation, waste collection, storm drainage, street lighting, paved footpaths, roads for emergency access; schools and clinics within easy reach, safe areas for children to play; and places for the community to meet and socialize.

<sup>&</sup>lt;sup>ii</sup> Adjusted for inflation using the General Market Prices Index (In Portuguese Índice Geral de Preços de Mercado) from 2013 to May 2016 <sup>iii</sup> People that contributed to create the LAR system: João Batista Crestana, Ricardo Pereira Leite, Luiz Fernando Gambi, Flavio Gonzaga Nunes, Jaques Bushatsky, Eduardo Della Manna, João César Miranda, Rolando Mifano, Nicolau Sarquis, Domingos Pires, Alexandre Lafer Frankel, Fernanda Lisboa, Mario Lamberti Jr., Abelardo Campoy, Claudio Bernardes, Ricardo Yazbek, Emilio Kallas, Flavio Ayres Amary, Caio Calfat Jacob, Caio Portugal, Rodrigo Borges Fonseca, Ronaldo Cury, Celso Petrucci, Flavio Domingos Prando, Carlos Alberto de Moraes Borges, Rodrigo Uchoa Luna, Camila Maleronka, Priscila Izar, Fernando José Maximiniano, Lair Krähenbühl and Tony Grant FRICS.

#### 2 THE BRAZILIAN HOUSING CONTEXT

#### 2.1 Housing shortage (current) and projected demand (2025)

#### 2.1.1 Housing shortage in Brazil

In the last eight years, between 2007 and 2014, the housing shortage increased from 5,8 million dwellings to 6.112.022 units (9,1% of the total dwellings in the country)<sup>2</sup>. It is in the southeastern states (São Paulo, Minas Gerais, Rio de Janeiro and Espírito Santo), the region with the highest gross domestic product (GDP) per capta in the country<sup>i</sup>, where 40% of the shortage is located<sup>2</sup>, followed by the northeastern region (31,26%)<sup>2</sup>, that has the lowest gross domestic product (GDP) per capita in the country<sup>ii</sup>. Most of the shortage (88%) is situated in urban areas and 31% in the ten main Brazilian metropolitan regions.

The results of an annual survey (PNAD) conducted in nine metropolitan regions in 2012 by the Brazilian Institute of Geography and Statistics – IBGE, revealed that 92,6% of the demand is within families with income from zero to five minimum wages (R\$4.400,00) equivalent to U\$1,342.73 and 82,5% for families with income from zero to three minimum wages (R\$2.640,00) equivalent to U\$805.64 (Figure 1).



Figure 1 - Housing shortage according to family income - Brazil (minimum wage - MW). Source Fundação João Pinheiro Neto<sup>3</sup>.

According to IBGE and using the methodology created by the João Pinheiro Foundation (FJP), the housing shortage is the sum of four components<sup>4</sup>:

- 1. Precarious dwelling. The sum of rustic and improvised households.
  - a. Rustic households: groups of people living in substandard housing that does not have masonry or lumber-supported walls, constructed with inappropriate materials. As a result of unsanitary conditions, this type of building creates discomfort and brings a risk of contamination by disease.
  - b. Improvised households: people living in structures intended for non-residential purposes, but serving as residences during the housing search. For example, in commercial real estate, under bridges, in tents, abandoned cars, caves, etc.

<sup>&</sup>lt;sup>i</sup> Source: IBGE. Avaliable at: <u>http://saladeimprensa.ibge.gov.br/noticias?view=noticia&id=1&busca=1&idnoticia=3038</u>

<sup>&</sup>lt;sup>a</sup> Source: IBGE. Avaliable at: <u>http://saladeimprensa.ibge.gov.br/noticias?view=noticia&id=1&busca=1&idnoticia=3038</u>

- 2. Cohabitation: the co-existence of more than one family in the same dwelling (families living together).
- 3. Excessive rental. More than 30 percent of household income devoted to rental by families earning up to three times the minimum monthly wage.
- 4. Excessive density in rented dwellings. More than 3 people per bedroom<sup>i</sup>.

Besides the housing shortage, IBGE classified households as living in inadequate residences when there are more than three people per bedroom living in their own dwellings, or with lack of basic infrastructure services (piped water supply, electricity supply, sewerage and trash collection), or with inadequate landholding (residents who say they do not have ownership of the land but only the building) - usually houses built in *favelas*, or shantytowns. Inadequate residences worsen households' quality of life, but they do not add to the housing shortage number. According to the 2010 census, there is a lack of at least one basic infrastructure service in 13 million residences (3,2%) in Brazil.

It is important to note that in 2014 more than half (52,6%) of the housing shortage occurred due to excessive rental and it has been steadily growing since 2007 (Figure 2).





#### 2.1.2 Housing demand for Brazil until 2025

Secovi-SP hired Fundação Getulio Vargas (FGV), a well renowned university in Brazil to conduct a study<sup>2</sup> to estimate scenarios for housing demand until 2025 according to the families' income at the national and regional level.

The results show that the most consistent scenario within the horizon of the analysis projects an increase of 14,5 million dwellings between 2015 and 2025, equivalent to 1,8% per year. This annual increase is a little higher when compared to the increase observed between 2004 and 2014 (2,55%).

<sup>&</sup>lt;sup>1</sup> According to this concept, a bathroom or a kitchen may be considered a bedroom, if people permanently sleep there.

For the 2015-2025 period the projected annual increase for the Northern region is 2,21%, followed by the Center-West (2,13%), Northeast (1,98%), Southeast (1,63%) and 1,59% for the Southern region.

In terms of income, the biggest quantity increment should occur for families with income between R\$1.600 (U\$488.27) and R\$3.275 (U\$999.42), and it is corresponds to 6,8 million dwellings, followed by the income range between R\$3.275 and R\$5.000 (U\$1,525.83) that accounts for 3,3 million units and 1,6 million households for families with income higher than R\$10.000 (U\$3,051.66).

The projected increase of 14,5 million housing units for the next 10 years in Brazil represents the entire current housing stock of Spain or of California (USA). On top of that, the 6,1 million housing shortage has to be counted as well, totaling more than 20 million dwellings for this upcoming period.

## 2.2 Housing policies in Brazil

## 2.2.1 A brief overview

It is stated at the National Report for UN's Habitat III<sup>5</sup> that "Housing precariousness in Brazil has multiple sources, such as insufficient supply of housing solutions for the low income population, high cost of urbanized land, and families' low purchasing power." Those factors lead to informal production of precarious houses, without landholding and basic infrastructure, mostly subject to flooding or landslides in slums and in regions far from city centers.

The absence of effective public housing policies since the appearance of the first slums early in the 20<sup>th</sup> century, contributed to the growth of the housing shortage. In 2011, 63,25% of the 283 Brazilian cities with more than 100.000 inhabitants reported the existence of slums or areas with similar characteristics<sup>6</sup>.

The former Brazilian president Getúlio Vargas created the first organizations dedicated to the production of social housing in 1930. Those were Retirement and Pension Institutions, but at that time there was no structured housing policy in the country as yet<sup>7</sup>.

However, according to Almeida<sup>7</sup>, in 1946 the Fundação Casa Popular – FCP (Social House Foundation) was exclusively created to build social housing and infrastructure at the national level. Only 17.000 homes were built by FCP during two decades until it was closed, mainly due to federal budget's limitations.

To try to respond to the claims of the population for housing, in mid-fifties, the former president Castelo Branco launched the National Housing Plan and created the Housing National Bank (*Banco Nacional da Habitação - BNH* in Portuguese). Almeida<sup>7</sup> affirms that BNH innovated because: 1-) it was a bank, 2-) it included inflation correction, and 3-) it intended to promote closer public-private relationships. It financed more then 4,3 million homes during twenty years, and one third of that quantity were destined to low-income families. The federal government closed BNH in 1986, and did not establish any other housing policy in its place, causing a further increase of the Brazilian housing shortage.

Other initiatives were tried during the sixties, like the Housing Assistance Plan (*Plano de Assistência Habitacional* in Portuguese), that included funding from the Inter-American Development Bank – IADB, but they did not succeed. And some alternative programs

were also presented during the eighties and the nineties, like slum urbanization, the *Habitar-Brasil* and the *Morar-Município* programs that produced 54 thousand dwellings, and during former president Fernando Henrique Cardoso's term, the *Carta de Crédito*, *Pró-Moradia* and a Housing Leasing Program, called *Programa de Arrendamento Residencial – PAR*, in Portuguese<sup>7</sup> (see item 3.2).

The Ministry of Cities (*Ministério das Cidades* in Portuguese) and the Council of Cities (*Conselho das Cidades* in Portuguese) were created only in 2003 (seventeen years after BNH's expiry). The Ministry of Cities is in charge of several sectoral policies of urban development, such as urban planning, housing, environmental sanitation, urban mobility and transportation infrastructures. The Council of Cities is an advisory and deliberative entity, which integrates the Ministry of Cities and is comprised of representatives from the public sector and civil society.

The National Housing Plan (*PlanHab*) published in 2009, quantified the housing needs until 2023 as 35 million units and it stated that the demographic demand generated in the period should be met by effective housing policies. In the same year, the Federal Government Program, called My House, My Life - MHML (*Minha Casa, Minha Vida* in Portuguese) was launched to provide housing to low-income families (see item 2.2.2 below).

The number of financed units considerably increased from 2004 until 2014 (Figure 3), predominantly as a result of the MHML program, along with a new housing finance legislation (detailed below), economic stability and lower interest rates (Figure 3).



Figure 3 - Number of financed units in Brazil (thousands). Source: ABECIP and Central Bank.

 $\checkmark$  Housing finance overview and related legislation

The Brazilian economy faced a period of hyperinflation that took place from 1980 until 1994, when the annual inflation rate reached 1.972% (one thousand nine hundred and seventy two percent) in 1989 and 2.477% (two thousand four hundred and seventy seven percent) in 1993. During that period, Brazilian banks operated only short-term deposit funding and their portfolios were basically composed of indexed government bonds and short-term bonds. In this context of macroeconomic instability, long-term credit was carried out by state banks or by some earmarking rule imposed by the government<sup>8</sup>.

The economy's stabilization in 1994 laid down the foundations for a period of credit growth. However, due to domestic and international macroeconomic uncertainties, credit only started to increase consistently after 2003<sup>8</sup>.

Martins et al.<sup>8</sup> described the housing finance in Brazil as characterized by the establishment of the Housing Finance System (*Sistema Financeiro de Habitação, SFH* in Portuguese) in 1964, and the Real Estate Financing System (*Sistema Financeiro Imobiliário*, SFI in Portuguese) in 1997.

As a result, seventy percent of the passbook savings deposits held by banks have to be allocated to housing loans and 80% of that amount must be allocated to SFH's loans at interest rates controlled by the government. Banks can lend the other 20% at market interest rates. SFH (created by the Federal Law 4.380/64) financed more than 5 million units during the years previous to hyperinflation with resources from passbook savings accounts and the FGTS<sup>1</sup> and it is still an important source of housing loans in Brazil (see Figure 3). Between 1987 and 2000 it accounted for only 14,7% of new housing loans, in comparison to 33,8% in the period from 1967 to 1986<sup>8</sup>.

A new federal Law 9.154/97 created the SFI, which is a real estate fiduciary assignment device (a trust deed arrangement) that reduces the banks' lending risks<sup>8</sup> and provides the framework for the creation of the securitization companies. Those companies must entail the acquisition of housing credits from financial institutions and turn them into securities, designated Real Estate Receivables Certificates (*Certificados de Recebíveis Imobiliários, CRI* in Portuguese), a nominative credit instrument backed by housing loans, allowing the securitization of mortgage pools (mortgage backed securities)<sup>8</sup>.

By the end of 2001 the government issued two regulations that were intended to improve the legal housing finance framework. One of them (Provisional Measure 2.221) created the "equity segregation" (*Patrimônio de Afetação* in Portuguese). This legal device isolates a real estate project's assets and liabilities from the developer's total assets and liabilities, thereby reducing the risk both to the purchasers of housing units under construction and to lenders. Two new mortgage-backed securities were created by Provisional Measure 2.223 to expand the funding alternatives for mortgage lenders: The Real Estate Exchange Bills (LCI) and Real Estate Credit Bills (CCI)<sup>8</sup>.

In 2004, the Federal Law 10.931 introduced trust deed mechanisms (*Alienação Fiduciária* in Portuguese) in the Brazilian real estate mortgage system and according to Martins et al.<sup>8</sup>:

It also assured that undisputed balances must be paid under the contracted terms and forms and that only disputed balances can be suspended in lawsuits (either foreclosures by lenders or suits by borrowers challenging loan terms), although the debtor must deposit the corresponding disputed amount with the court. Among other provisions, Law 10,931 also created the Bank Credit Note and allowed tax relief on real estate securities, which have been exempt from income tax since August 2004. By creating these new securities and reducing the legal risks

<sup>&</sup>lt;sup>1</sup> FGTS is a compulsory savings fund to protect workers in case of unemployment and a source of funding for housing loans. Employers must deposit 8% of each worker's pay into a blocked account held in name of the worker at the official bank Caixa. The worker can only access this account balance upon dismissal without cause (layoff), retirement or in some other cases, such as to make a down payment on a home. In 2014 its total assets were R\$410 billion.

to lenders, Law 10,931 increased the liquidity to traditional housing finance, allowing the loans under the SFH to be securitized and traded under the SFI, creating in practice a bridge between the two systems.

Figure 4 below shows the growth of mortgage loans since 2003 in Brazil, followed by a steep drop in 2015 and in 2016 (estimated by ABECIP), due to the economic crisis that the country is currently experiencing.



Figure 4 - Mortgage loans (U\$ billions). \* Estimate. Source: ABECIP and Brazilian Central Bank.

Figure 5 below shows the decline of SELIC, the Brazilian Central Bank interest rate, since 2003 until it started to increase again by the end of 2014, matching the housing growth during that period (see Figure 3 and Figure 4).



Figure 5 - Interest rate (SELIC) from Jan/02 to Apr/16 (% per year). Source: Brazilian Central Bank

It is evident that housing policies based on long-term mortgages are intrinsically related to the SELIC interest rate and Brazil is currently experiencing a situation in which the government is borrowing heavily while businesses and individuals also want to borrow. The former can always pay the market interest rate, but the latter cannot, and is crowded out<sup>9</sup>.

Since 2015, due to internal political and economic crises, housing production, sales and financing have declined vigorously and despite the fact that many confidence indicators are starting to show improvement, the political and economic forecasts are still uncertain for the coming months (or years).

#### 2.2.2 My House My Life Program - MHML (Minha Casa Minha Vida)

The federal program created in 2009 seeks to facilitate the acquisition of homes for lowincome families. It is divided into four categories for urban social housing:

<u>Bracket 1</u>: The government hires construction companies to build housing projects for families with a maximum monthly income of R\$1.800,00 (U\$549.30). Up to 90% of its appraised sale price may be subsidized and the monthly payment, that ranges from R\$80,00 (U\$24.41) until R\$270,00 (U\$82.39), may be paid for up to 120 months, without any interest rate. Subsidies are funded by the National Treasury, mostly through the Residential Leasing Fund (In Portuguese: *Fundo de Arrendamento Residencial – FAR*) and also by the Social Development Fund (In Portuguese: *Fundo de Desenvolvimento Social – FDS*).

<u>Bracket 1,5</u>: For families with a maximum monthly income of R\$2.350,00 (U\$717.14). Depending on the family income and the city where the dwelling is located, from R\$11.000,00 (U\$3,356.83) until R\$45.000,00 (U\$13,732.49) of the appraised price, no higher than R\$135.000,00 (U\$41,197.47), may be subsidized. The annual interest rate is 5% and the mortgage can be paid for up to 360 months.

Families that are included in the Band 1 and 1,5 have to be randomly selected to get their homes.

<u>Bracket 2</u>: For families with monthly incomes between R\$2.351,00 and R\$3.600,00 (U\$1,098.60), with subsidies ranging from R\$10.000,00 (U\$3,051.66) until R\$27.500,00 (U\$8,392.08), depending on the family income and the city where the dwelling is located. It may be paid for up to 360 months, with interest rates ranging from 5,5% until 7% per year. The brackets 1,5 and 2 funded by FGTS and the National Treasury.

<u>Bracket 3</u>: For families with monthly incomes between R\$3.601,00 and R\$6.500,00 (U\$1,983.58). The mortgage may be paid for up to 360 months, with an interest rate of 8,16% per year, with no subsidies. It is funded by FGTS.

The dwelling's maximum appraised price ranges from R\$90.000,00 (U\$27,464.98) up to R\$225.000,00 (U\$68,662.46), depending on the city where the dwelling is located.

Two other modalities in the MHML program are available:

- Entities Allows families organized as a collaborative, by a registered entity (Associations, Cooperatives and others) to produce their housing projects.
- Rural Aimed at small farmers, rural workers or traditional communities, with income that can reach up to R\$78.000,00 (U\$23,802.98) per year. This modality allows both the construction of new homes and the renovation of existing units.

According to a presentation<sup>i</sup> conducted at Secovi-SP in June 2016 by the National Housing Secretary, Maria Henriqueta Arantes Ferreira Alves, from 2009 until May 2016, R\$ 306,2 billion (U\$93.44 billion) were invested by My House My Life Program (Minha Casa Minha Vida), 2,81 million dwellings were built, 1,11 million are under construction and 400 thousand have not started construction yet, totaling 4,32 million units (Figure 6). So far, 14 million people benefited from the program and it is supposed to reach the production of 6,7 million dwellings by the end of 2018. In March 2016 the ousted president Dilma Roussef launched the third phase of the program and the new Minister

<sup>&</sup>lt;sup>i</sup> Avaliable at: <u>http://hamiltonleite.com.br/06-2016\_MCMV.pdf</u>



of Cities Bruno Araújo, appointed by the interim president Michel Temer, stated that MHML program will continue<sup>i</sup>.

Figure 6 - My House My Life program (Number of hired dwellings until 31/05/2016). Source: Institutions/Financial Agents <sup>ii</sup>

2.2.3 Existing policies and legislation

✓ Social Housing

The 25<sup>th</sup> article of the UN's Universal Declaration of Human Rights<sup>10</sup> states that:

"Everyone has the right to a standard of living adequate for the health and wellbeing of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control."

And the Brazilian Federal Constitution<sup>11</sup> states, in the following articles:

Article 6. "Education, health, food, work, housing, leisure, security, social security, protection of motherhood and childhood, and assistance to the destitute are social rights, as set forth by this Constitution."

Article 21. "The Union shall have the power to: ... XX – establish directives for urban development, including housing, basic sanitation and urban transportation;"

Article 23. "The union, the states, the federal district and the municipalities, in common, have the power:  $\dots$  IX – to promote housing construction programs and the improvement of housing and basic sanitation conditions;"

The housing social right was also ratified in a number of international pacts adhered to by Brazil, such as the UN's International Covenant on Economic, Social and Cultural Rights<sup>12</sup>:

<sup>&</sup>lt;sup>i</sup> Avaliable at: <u>www.brasil.gov.br/infraestrutura/2016/05/minha-casa-minha-vida-esta-mantido-garante-ministro-das-cidades</u>

<sup>&</sup>lt;sup>ii</sup> PNHU: Programa Nacional de Habitação Urbana (National urban housing program)

<sup>&</sup>lt;sup>ii</sup> FGTS: Fundo de Garantia por Tempo de Serviço (Compulsory savings fund)

iii FAR: Fundo de Arrendamento residencial (Residential leasing fund)

Article 11.1. "The States Parties to the present Covenant recognize the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living conditions. The States Parties will take appropriate steps to ensure the realization of this right, recognizing to this effect the essential importance of international co-operation based on free consent."

Almeida<sup>7</sup> argues that the concern to provide adequate housing, served by proper infrastructure, is observed in the Brazilian constitution and international treaties, but not necessarily homeownership. So, the supply of adequate housing should be pursued by society, regardless of whether the resident will be its owner or not and it reflects a concrete form of respect for Citizenship and Human Rights.

✓ Urban Policies

Articles 182 and 183 of the Brazilian Federal Constitution<sup>11</sup> defines the basic concepts of the country's urban policies, and the Federal Law 10.250/2001, known as City Statute, regulated and expanded the constitutional provisions on urban policies.

Article's 182 caput and its first two paragraphs, defines which governmental sphere is responsible for urban planning in the country and contains the macro guidelines for urban development policies that are carried out by the municipalities:

Federal Constitution: "Article 182. The urban development policy carried out by the municipal government, according to general guidelines set forth in the law, is aimed at ordaining the full development of the social functions of the city and ensuring the well being of its inhabitants.

Paragraph 1. The master plan, approved by the city council, which is compulsory for cities of over twenty thousand inhabitants, is the basic tool of the urban development and expansion policy.

Paragraph 2. Urban property performs its social function when it meets the fundamental requirements for the ordainment of the city as set forth in the master plan."

According to Fernandes<sup>13</sup>, the City Statute

is based upon four main pillars: (i) a conceptual approach, which gives expression to the central constitutional principle of the social functions of property and the city and to other principles enshrined in urban policy; (ii) an instrumental approach involving the creation of instruments for giving concrete expression to the principles underlying urban management; (ii) an urban management approach establishing mechanisms for progressing urban policy principles and, finally, (iii) tenure regularization to be applied to consolidated informal city settlements.

So, based on the Federal Constitution, and on the City Statute, each city with a population over twenty thousand inhabitants, must have its own master plan, zoning and building code.

#### ✓ Brazilian Rental Legislation

Housing rental relationships in Brazil are mainly regulated by the Federal Law 8.245/91, called Tenancy Law (*Lei do Inquilinato* in Portuguese). However, the rental agreement was first introduced in the federal legislation (Decree 4.403) in 1921.

The enactment of the Federal Law 4.598 in 1942, starts a second phase of the Tenancy Law, which apparently intends to protect tenants<sup>14</sup>. However, Bonduki<sup>15</sup> states that the fact that it prolonged the period of time that the rent had to be kept frozen has shown to be an excessive measure, that instituted a public intervention on private property and discouraged private rental housing supply.

An even more restrictive legislation (*Decreto-Lei* 6.739) was promulgated in 1944 and only in 1950 the Federal Law 1.300/50 substituted the previous legislation. It introduced a certain flexibility regarding rent prices and monetary adjustments, that could be freely negotiated for new buildings or empty property and it also allowed 12 eviction lawsuits per year in the case of tenant's default<sup>14</sup>.

But in 1955 the Federal Law 2.699/55 that was intended to be temporary, determined that rents must be fixed for an indefinite period of time, and except in some cases defined by that legislation, the landlord could not retake the property<sup>14</sup>.

The Federal Law 4.494/64, along with the Federal Law 4.864/65 arises in order to mitigate the excesses committed by former legislators. Monetary corection was then again accepted and the landlord could freely and without cause, terminate the rental agreement that had indefinite rental deadlines or those that had already reached the deadline (it is called *Denúncia Vazia* in Portuguese)<sup>14</sup>.

In 1979 the Federal Law 6.649/79 altered by Federal Law 6.698, tried to systematize the obligations of the landlords and the tenants but it eventually resulted in various conflicts between existing legislation<sup>14</sup>.

The legislation that is currently in effect (Federal Law 8.245/91), unified most of the country's rental legislation and it intends to meet the needs of tenants and owners in search of a balanced relationship<sup>14</sup>.

According to Bushatsky<sup>16</sup>, "Urban real estate renting in Brazil has already brought grief and loss to landlords, tenants and guarantors and, fortunately, it is only in memory, that remain the unbelievable problems that terrorized all involved in this operation." He continues, saying that since the Federal Law 8.245/91 was promulgated, along with some changes, the situation stabilized because:

- 1. Commercial and residential rental agreements had their limits clearly established, and they are currently immune to doubt.
- 2. Lawsuits were simplified and their time length reduced, simply by eliminating bureaucratic steps and including legal devices that enabled them to be concluded faster.
- 3. It is possible to evict defaulters in about 2 months when no guaratees were requested by the landlord, according to the rental agreement. When there are guarantees provided by the tenant, this period would increase and usually take up to 8 months.

The new Code of Civil Procedure (*Código de Processo Civil* in Portuguese) recently opened the possibility that the contracting parties establish some of the agreement's specific legal procedures. Mediation, conciliation and arbitration are also valid dispute resolutions<sup>16</sup>.

Bushatsky<sup>16</sup> states that the well developed legal framework that promotes legal security in Brazil, along with the good performance of courts and jurists, consolidating reasonable interpretations, that are always obeyed, can be evidenced by the decrease in the number

of rental lawsuits in São Paulo (Figure 7), despite the economic crisis, high unemployment rate and political instability.

In São Paulo, there were only 1.538 eviction lawsuits in May 2016 because of tenants' default, which is insignificant if compared to the existence of around one million residential rentals<sup>16</sup> corresponding to a default rate of 0,15%. This default rate is an important input, used for the economic and financial analysis on item 4.6.5. where we considered that only 10% of the default cases go to court, so the monthly default rate considered is 1,54%.



Figure 7 - Number of rental lawsuits in São Paulo. Source: Secovi-SP. Elaborated by Bushtsky, 2016.

#### 2.3 Problems and obstacles for social housing in Brazil

The main reasons for the incapacity of the current housing policy to provide social housing, sufficient to meet demand are:

✓ MHML program does not allow low-income citizens to live in neighborhoods where land and consequently housing have higher listing prices.

According to Maleronka<sup>17</sup>:

Historically, the Brazilian housing policy follows this logic: the poorest should be segregated in the periphery. Without housing policies with a locational integration objective, housing developments for sale, with compatible price, are situated where the land is cheaper, on the far periphery. Public investment in housing reinforce the tendency of gentrification, as they seek the cheapest and peripheral land for social housing. Thus, the unlimited horizontal expansion occurs, advancing on fragile areas, devoid of adequate infrastructure.

Affordable housing is badly needed in many parts of the world among workers who provide essential public services in city centers such as nurses, trainee doctors, firemen, police, ambulance drivers, electricity and gas repair engineers, plumbers and heating and cooling repair engineers. Society as a whole benefits from those workers being located close to where their skills are needed, often at short notice.

Almeida<sup>7</sup> affirms that:

"Despite the fact that the MHML is a program that substantially increased the access to social housing to a population, that was not being met by until then, it is worth noting that there are a considerable number of citizens who are not served by any housing program, as it is seen on the table below, presented by professor Ricardo Pereira Leite."

	Mínimum Wage	1	2	3	4	5	6	7	8	9	10
	R\$	880	1.760	2.640	3.520	4.400	5.280	6.160	7.040	7.920	8.800
Σ	44.601	MCMV	Market	Market	Market						
IMU	116.000	MCMV	Market	Market	Market						
IAX	127.561	No option	No option	MCMV	MCMV	MCMV	MCMV	MCMV	Market	Market	Market
≥ш ,⊔⊃	195.628	No option	No option	No option	MCMV	MCMV	MCMV	MCMV	Market	Market	Market
TAT VAL	212.121	No option	No option	No option	No option	MCMV	MCMV	No option	Market	Market	Market
ES	224.568	No option	MCMV	No option	Market	Market	Market				
AL	253.507	No option	Market	Market							
R	282.447	No option	Market								

Figure 8 - Housing programs - Supply and demand. Source: Ricardo Pereira Leite (apud Almeida<sup>7</sup>).

According to Balbim et al.<sup>18</sup> observations, the location factor is in general a hindrance to the effective adherence of the MHML program to the demands of families of living near the cities' centralities. Another approach formulated by them may indicate that MHML program is not meeting the housing shortage for families from zero to three minimum wages that are paying excessive rent and those that are living in bedrooms with excessive density. Their hypothesis is that the more distant is the deficit component's curve in relation to the MHML's curve, the greater is the possibility that the program is not meeting the housing shortage. As shown on Figure 9, MHML program is probably not meeting the housing shortage, mainly of families with income ranging from the 3<sup>rd</sup> to the 9<sup>th</sup> decil of the income bracket from zero to three minimum wages that are paying excessive rent and those that are living in rooms with excessive density.



Figure 9 - Dwellings in each shortage component and MHML (FAR 2013) for the income bracket between 0 and 3 minimum wages (deciles). Data source: PNAD 2012 IBGE and IPEA research, hired by the Cities Ministry (non published). Elaborated by Balbim et al.<sup>18</sup> Adapted by the authors.

As the minimum wage in 2012 - when the PNAD was carried out - was R\$622,00 and today it is R\$880,00 (41,48% higher), if we simply multiply the deciles values from 2012 by 1,4148, we can have an estimate of the deciles values in 2016, as shown in Figure 10 below.

De	eciles	1	2	3	4	5	6	7	8	9	10	
Voor 2012	R\$	502,00	622,00	772,00	900,00	1.050,00	1.216,00	1.330,00	1.500,00	1.672,00	1.866,00	Avg U\$ 2012/R\$
Year 2012	U\$	256,65	318,00	394,68	460,12	536,81	621,68	679,96	766,87	854,81	953,99	1,956
Voor 2016	R\$	710,00	880,00	1.092,00	1.273,00	1.486,00	1.720,00	1.882,00	2.122,00	2.366,00	2.640,00	Avg U\$ Jun16/R\$
Year 2016	U\$	207,72	257,46	319,49	372,44	434,76	503,22	550,61	620,83	692,22	772,38	3,418

Figure 10 -	Decile values	for the income	bracket	ranging t	From 0 to 3	minimum	wages in	Brazilian	Reais
and US Do	lars in 2012 (co	ommas are used	for deci	mals) an	d in 2016.				

#### ✓ Insufficient public resources

Federal, states and cities governments do not have sufficient public resources to provide enough social housing to meet demand resulting from the increase of the country's population and urban growth, along with the existing housing shortage.

The federal budget deficit in 2016 can reach R\$170,5 billion (U\$52.03 billion) and that number alone shows great financial public difficulty in subsidizing social housing.

According to a survey conducted by the Cities National Confederation<sup>i</sup> (*Confederação Nacional dos Municípios* – CNM in Portuguese), more then 60% of the Brazilian cities will have cash flow deficits by the end of 2016. Only 10% of the 5.570 cities in the country have enough income to pay their expenses and 576 cities have not been able to pay the salaries of government officials on time (11% of those for more than six months). The default affects not only the public officials, but also the municipalities' suppliers. The survey showed that 59,2% of the cities delayed the payment of suppliers (8,6% of those for more then six months).

The situation for the majority of the state governments is not different. For example, on June 17<sup>th</sup> 2016, the state of Rio decreed a public calamity related to its financial situation, because it will not able to cope with the R\$19 billion (U\$5.8 billion) deficit expected for 2016. According to the Brazilian Central Bank, Rio's deficit in relation to its net income in April 2016 was 19%. The state of Rio Grande do Sul reported 16%, followed by Minas Gerais (14,7%), São Paulo (13,7), Sergipe (10%), Ceará (8,7%) and Alagoas (6,6%).

The 2015 federal Fiscal Management Report (*Relatório de Gestão Fiscal* in Portuguese), showed that São Paulo State's debt, in relation to its net income, was equivalent to 168%, Rio's debt was 198%, Minas Gerais 199% and the worst of them, Rio Grande do Sul, was 227%. The legal limit is 200%<sup>ii</sup>.

✓ Incapacity to meet MHML's mortgage criteria

Some low-income groups, like older or younger people, immigrants and those who have financial problems, do not met MHML's mortgage criteria and are consequently not able to be homeowners.

<sup>ii</sup> Apud Revista Exame. (Magazine) June 5th 2016.

<sup>&</sup>lt;sup>i</sup> Apud Jornal Estado de São Paulo (Newspaper). May 28th 2016.

Avaliable at: http://economia.estadao.com.br/noticias/geral,60-das-cidades-terao-rombo-nas-contas,10000053825

Avaliable at: http://www.contabilidade-financeira.com/2016/06/situacao-fiscal-do-estados.html

 $\checkmark\,$  Lack of interest of some people to be attached to a household or a mortgage in the long-term

Some people prefer renting  $^{19}$ , and others are not willing to commit to a long-term alternative  $^{20}$ .

For workers that have temporary jobs or assignments in other cities or students that live away from their hometowns in order to study, the transaction costs associated with the acquisition and sale of property (fees, taxes, brokerage commissions) would not be financially feasible<sup>21</sup>.

According to Blanco et al.<sup>22</sup>:

"when the property is not owned long enough, the costs of ownership can exceed the financial benefits. Thus, there is a greater incentive to choose rental housing when relocation is temporary, the transaction and maintenance costs are greater, and the rate of appreciation in the housing market is lower. It can be deduced from the above that renting also allows families to have greater residential mobility, since high transaction and maintenance costs can be avoided."

#### 2.4 Justification of the need for a new system

It should be noted that:

- The federal government, most of the states and cities in Brazil are facing extreme difficulties regarding their budgets, and they consequently have limited resources to invest in social housing (see item 2.3),
- The Brazilian housing shortage is enormous (see item 2.2.1), and this is unacceptable in the seventh biggest economy in the world<sup>i</sup>,
- The necessary amount of dwellings that have to be built during the next 10 years to meet the country's housing needs are projected to be 20,6 million units,
- Housing ownership is the prevailing type of tenure in Brazil (Figure 11), but
- The MHML program will not able to solve alone the country's housing needs (see item 2.2.2),
- The MHML program is not able to supply housing in neighborhoods where land and real estate are expensive in the major cities in the country and those regions are also where most of the jobs are located (see item 2.3),
- The Brazilian public sector is highly inefficient in managing social rental housing projects, especially in terms of building maintenance, tenure control and eviction of defaulting families (see item 3.2),

Many people in the country are not able to buy their own houses, but need a decent place to live, like immigrants, students, older and younger people. In fact, according to international evidence, including Latin America, rental housing is more commonplace among certain social groups, like immigrants, young and divorced people<sup>22</sup>. Almeida<sup>7</sup> affirms that it is clearly shown at Figure 8, that the MHML program does not supply housing for a considerable portion of the population, and for that reason he maintains that the production of rental housing could meet the country's housing demand.

<sup>&</sup>lt;sup>i</sup> World Indicators database, World Bank, 11 April 2016. Available at: <u>http://databank.worldbank.org/data/download/GDP.pdf</u>

And according to Balbim et al.<sup>18</sup> different groups that make up the housing shortage live in different locations, both in the intra-urban context and regionally, revealing the need for specific policies for each situation, especially for families paying excessive rental.

In consequence of those reasons, a new system must be created and implemented to fill this void.

#### 3 RENTAL SYSTEMS: A STUDY OF LITERATURE

#### 3.1 Typologies of rental systems and their key features

Various scholars (Kemeny, 1995<sup>23</sup>, Harloe, 1995<sup>24</sup>, Kleinman, 1996<sup>25</sup>, Hoekstra, 2003<sup>26</sup>, Schwartz and Seabrooke, 2008<sup>27</sup>) have created theories and typologies of housing systems in order to be able explain and interpret international variations in housing policies and housing outcomes. Of these, theories, the ones developed by Harloe and Kemeny have been the most influential and will therefore be discussed in somewhat more detail.

#### The theory of Harloe (as described in Hoekstra, 2013<sup>28</sup>)

In his 1995 book *The People's Home*, Harloe uses a neo-Marxist framework to explain the development of national housing systems. He argues that government intervention in the housing sector depends on the profitability of housing to private capital, with all countries eventually passing through the same phases of commodification, decommodification, and recommodification. In periods of low profitability for private investment, the state intervenes and provides social rented housing; this process is reversed once conditions favorable to profit-making are re-established.

Based on this argument, Harloe discerned two basic models of social housing: a residual model and a mass model. The former describes social housing that has been produced through small-scale programs and that is destined for the poorest groups in society, which means that a stigma is attached to it (Doling, 1997<sup>29</sup>). The latter model refers to large-scale building programs for social rented dwellings that are subsidized by the state. In this model, social rented dwellings are destined not only for the poor but also for the middle classes, which implies that the level of stigma is considerably less. In Harloe's view, the residual model should be considered the 'normal' housing model. The mass model only applies to periods of crisis and/or restructuring, when the market sector is temporarily unable to provide housing in a profit-oriented manner (Van der Heijden, 2002<sup>30</sup>, 2013<sup>31</sup>).

#### The theory of Kemeny (as described in Hoekstra, 2013)

In *Housing and Social Theory* (1992), Kemeny develops a theoretical framework for international comparative housing research that is grounded in the dichotomy between collectivist and privatist ideologies. Kemeny associates advanced industrial homeownership-dominated societies with an ideology of privatism and a residualization of welfare. Conversely, advanced industrial societies with a sizable rental sector are associated with an ideology of collectivism and a commitment to welfare provision. Thus, the tendencies towards collectivism or privatism in a society are closely aligned with the organization of the housing system.

Kemeny expands and refines these ideas in *From Public Housing to the Social Market* (1995). There, analysing the rental sector, he makes a distinction between unitary rental systems (collectivist ideology) and dualist rental systems (privatist ideology). In societies with a unitary rental system, market rental and social rental dwellings are subject to similar regulations, have more or less equal rent levels, and compete with each other on a single market. Societies with a dualist rental system, on the other hand, are characterized by a rental market in which the social rental and the market rental sector are strictly separate. In such societies, the social rental sector is usually relatively small, primarily destined for (very) low-income groups, and strongly controlled by the government (Elsinga and Hoekstra, 2005<sup>32</sup>). Different from Harloe, who claims that all housing systems will ultimately develop into the direction of a residual housing model (convergence approach), Kemeny asserts that the differences between unitary and dualist rental systems are of a structural nature (divergence approach).

#### 3.1.1 Recent developments in the provision of affordable rental housing

The theories of Harloe and Kemeny were developed in a time in which the provision and subsidization of the affordable rental housing predominantly took place in the social rental sector. In the last 20 years, however, the social rental sector has come under pressure in various parts of the world. Social renting is often considered as inefficient, bureaucratic and leading to unfair competition with market parties. In many countries, the shrinking of the welfare state, a process that has been accelerated by the Global Financial Crisis, has gone hand in hand with a shrinkage of the social rental sector. However, this does not mean that there is less demand for affordable rental housing. On the contrary: housing affordability problems in the rental sector have only increased, not only because of rising rents but also because of high energy costs. Moreover, for increasing segments of the population a home ownership dwelling has become unaffordable (Habitat for Humanity, 2015<sup>33</sup>). In response to these problems, new policy and societal initiatives have been developed. In this respect, the following two trends can be discerned.

I - Increasing attention for the provision of affordable housing by private rental landlords

As a result of marketization, the border between social and private housing has become more and more blurred in recent years. Governments increasingly support private rental landlords so that they can provide affordable rental housing. Good examples of this can be found in Germany and France where private rental landlords can receive financial support if they rent out their dwelling for a limited time against a moderated rent to a household with a lower income (Oxley et al., 2010<sup>34</sup>). In countries like Belgium, Spain and Ireland, special government-supported intermediary organizations (so-called social rental agencies) serve as a mediator between private rental landlord and low-income tenants. These organizations offer the landlords a fixed rent and/or a guarantee against non-paying tenants (Haffner, 2013). In the USA, the provision of affordable rental housing is supported through so-called Low-Income-Housing-Tax credits (Oxley et al., 2010<sup>34</sup>). Finally, there also seems to be a renewed interest in private rental housing policies in the developing countries (UN Habitat, 2011<sup>35</sup>).

II - The emergence of bottom-up initiatives to solve housing problems: social innovation

In most countries, government policies are not sufficient to solve the housing problems. Particularly the urban areas are often characterized by a genuine housing crisis that has the following symptoms:

- Affordability problems;
- The urban housing market becomes inaccessible for a growing group of people;
- Increasing number of evictions;
- Homelessness;
- Squatting;
- Young people are living longer with their parents.

In order to tackle these problems, new bottom-up initiatives are developed within society. Many of these responses can be captured under the umbrella concept 'social innovation' (Garcia and Vicari Haddock, 2016<sup>36</sup>). Social innovation refers to new innovative responses, usually involving new actors and new processes, to social problems. Within the field of housing, various forms of collaborative housing or community-led housing (Czischke, 2013<sup>37</sup>), such as co-housing (Tummers, 2015<sup>38</sup>) and housing co-operatives, are often seen as manifestations of social innovation.

## 3.2 Affordable rental housing in Brazil

Rental used to be a frequent option of housing tenure until the first half of the 20<sup>th</sup> century, but the absence of public housing policies since then, especially policies related to affordable rent, relegated this type of tenure to a very a small portion of the housing supply in Brazil.

Bonduki<sup>15</sup> highlights that in 1940, almost 70% of São Paulo's population lived in rented homes, despite the fact that by that time, there were plenty of other housing alternatives. But, as Almeida<sup>7</sup> explains:

"In the past eight decades, public policies for public housing production are characterized by: (i) dependance, in most cases, upon the (scarce) public resources; (ii) no private funding for the public housing sector; (iii) no social housing production for rental purposes, but only for sale through subsidies and benevolent funding to the purchaser."

As Mello<sup>14</sup> stated, housing rental has not been, in general, included in the Brazilian housing public policies, despite the fact that market housing rental has been considered expressive in many periods. She also affirms that:

"the only attempt made so far, appears to have been the Residential Leasing Program (*Programa de Arrendamento Residencial* – PAR in Portuguese), established in partnership between the private sector and the state, which gives priority to social residential leases in re-urbanized areas. However, to date, the results are far below the expectations and the government has discontinued the program."

The Residential Leasing Program (*Programa de Arrendamento Residencial* – PAR in Portuguese) was created in 1999 and the projects are owned and funded by the Residential Leasing Fund (*Fundo de Arrendamento Residencial* – FAR in Portuguese). Its financial assets come from FGTS and the National Treasury. The official bank Caixa

Economica Federal (Caixa) manages the program and legally represents the FAR. The lessee pays rent for 15 years and at the end of this period he is able to choose if he wants to purchase the real estate by paying the final balance.

Monthly rents for families with income up to R2.800,00 (U854.47) ranges from 0,6% to 0,8% of the dwelling's cost, that starts at R32.000,00 (U9,765.33) and can reach R48.000,00 (U14,647.99), depending on the state where it is located<sup>i</sup>.

More than two hundred thousand dwellings were built under the PAR program and it has not been officially ended, but in practice since 2009 it has been replaced by the MHML program<sup>39</sup>.

Bonates<sup>40</sup> states that because the program's dwellings have a maximum pre-determined cost, the higher land value in the southern and southeastern regions of the country and in metropolitan areas, makes it difficult or even unfeasible to produce PAR projects in those regions.

And Blanco, Cibils and Muñoz<sup>22</sup> affirm that many public rental housing initiatives have been considered inefficient because governments are not usually effective at collecting rent and maintaining the housing units.

As described above, the vast majority of public housing policies developed in Brazil so far aimed at home ownership, and as a consequence, this rate is relatively high in the country (Figure 11).



Figure 11 - Homeownership rates in Latin America, the Caribbean and Europe. Source: Blanco et al.<sup>22</sup>

According to Blanco, Cibils and Muñoz<sup>22</sup>,

"the exclusive and excessive promotion of home ownership can reduce the flexibility of the market in meeting the actual housing demands, affect worker mobility, increase financial risk by concentrating assets, accentuate low-density development on the periphery, and negatively impact public finances because it is a costly and difficult option to scale up massively, particularly for low-income housing."

However, a series of debates that took place from 2008 in the Cities Ministry and in the National Council of Cities resulted in the publication of resolution number 75 in July

<sup>&</sup>lt;sup>i</sup> Avaliable at: <u>http://www.cidades.gov.br/images/stories/ArquivosSNH/ArquivosPDF/Portarias/portaria-258-2008.pdf</u>

2009, that recommends the elaboration and implementation of the Social Housing Service in Brazil<sup>41</sup>. It is defined as "a public service that aims to provide housing units in urban centers, through a set of actions and initiatives integrated with other urban and social development and support policies, promoted in a participatory manner, continued and coordinated among the federal entities and civil society organizations, aiming to compose the housing stock and provide improved living conditions, being paid through rent, with value, periodicity and guarantees consistent with the residents profile and appropriate to their needs, and that requires continuous technical, social, architectural and legal assistance, and forums for monitoring and solving conflicts."

Some of its objectives are: to promote social inclusion through the provision of decent housing; enable a housing model for low-income families in urban centers; create alternatives to the informal rental market (slums and shantytowns); combat peripheral urban sprawl; contribute to reduce the housing shortage; and combat abusive rent levels.

A legislation proposition (PL 6342/2009<sup>i</sup>) to create a Social Housing Service in Brazil is currently being discussed at the Brazilian Congress. However it is defined as a **free** public service to ensure decent housing for low-income families. Tenants would only pay for the utilities bill, municipal taxes and part of the maintenance costs. It prioritizes people aged 60 or more; homeless and disabled people; families and individuals in vulnerable situations or social and personal risk; and residents in areas with unhealthy conditions or in environmental preservation areas.

According to Balbim et al.<sup>18</sup>, in this approach to the subject, there is a restriction of this mechanism only for vulnerable groups, revealing a vision of a social welfare policy, not a housing policy. The concept they want to clarify about social rent, exceeds the confusion between housing policy and an assistance or emergency policy, which is the case of rental vouchers for example. Those are a temporary benefit, aimed at specific strata and conditions in terms of natural disasters, the need for reallocation related to housing or infrastructure construction works, etc.

In São Paulo, the biggest city in Brazil, 82% of landlords have one property and in Brazil almost 25% of them live in the same building as the tenants and at least 50% within the same community (Pasternak and D'Ottaviano, 2012 apud Blanco, Cibils and Muñoz<sup>22</sup>).

We were not able to find data related to vacancy rates in social rental housing projects in Brazil, but DiPasquale<sup>42</sup> shows that in the United States of America, the vacancy rate in rents lower than U\$300.00 is equal to 3,6%. According to Norris<sup>43</sup> the available data regarding vacancy rates in the social housing sector in Finland indicate that some 4,000 social rented dwellings had been vacant for 2 months or more in November 2003. This represents 1.4% of all dwellings in this tenure. And Kemeny<sup>44</sup> mentioned the case of Zurich, where co-operatives, that owned 20% of all rental dwellings in 2002, gain importance on markets with very low levels of vacancy. In 1998, when 60% of all new rental dwellings were provided by co-operatives, the vacancy rate in Zurich was 0,55%.

In 2002 a social rental program was launched by the municipality of São Paulo for families with income ranging from 1 to 3 minimum wages. The maximum rent value ranged from 10% to 15% of the family's income. The municipality's goal was to build 1.627 dwellings<sup>45</sup>, but only 853 were actually produced<sup>46</sup>. Three new projects were built. Two

<sup>&</sup>lt;sup>i</sup> Avaliable at: <u>http://www.camara.gov.br/proposicoesWeb/fichadetramitacao?idProposicao=458310</u>

were completed in 2004 (Parque do Gato and Olarias) and one in 2007 (Vila dos Idosos). And three buildings were retrofited. Two in 2009 (Asdrúbal do Nascimento and Senador Feijó) and one in 2014 (Palacete dos Artistas)<sup>47</sup>.

Olarias project has 137 dwellings, Vila dos Idosos (Seniors' Village) 145 units, Asdrubal do Nascimento 40 apartments, Senador Feijó 45 dwellings, Palacete dos Artistas (Artists' Palace) 50 apartments and the biggest project, Parque do Gato (Cat's Park) has 486 dwellings. According to Gatti<sup>47</sup>, rents range from R\$22,00 (U\$6.71) until R\$107,00 (U\$32.65) in Parque do Gato and despite the fact that it is illegal, some tenants informally "sell" their units, for up to R\$40.000,00 (U\$12,206.66).

Gatti reported that drug dealers control the tenants and the entrance of strangers in Parque do Gato. She also reveals that in 2005 the municipality conducted a broad survey of the existing problems. The main identified problems were the default in payment of rent and condominium fees and the irregular tenure situation, involving illegal sales, cessions and subletting. After just over a year of the program's existence, almost 55% of the residents of Parque do Gato were in default with the payment of rent and in Olarias, the default reached 60%. Default in payment of condominium fees were even higher. In Parque do Gato, 56% of the families were in default and this proportion reached almost 95% in Olarias. Gatti interviewed many city officials who made it clear that there are no public officials with defined responsibilities to manage the rental program. She states that building maintenance is also a great difficulty, as they take a long time to be executed, because there are no available financial resources in the budget of the city for this task. She reported a case when the tenants of Parque do Gato spent several weeks without water because of the long time required for a bureaucratic procedure to buy and change a simple electronic device from a water pump.



Figure 12 - Social rental project Parque do Gato (Cat's Park) in São Paulo. Photo: Muriel Xavier



Figure 13 - Social rental project Parque do Gato. Photo: www.olhares.sapo.pt/EBarros

The Municipal Housing Department of São Paulo published in June 2016 its 16-year housing plan proposal<sup>i</sup>, that will be available online for public consultation and discussions until October 3<sup>rd</sup>, 2016<sup>ii</sup>. In line with the National Council of Cities' resolution number 75 and the legislation proposition (PL 6342/2009<sup>iii</sup>), it is restricted to vulnerable groups, with a predominant social welfare characteristic. It has four categories:

- 1- Institutional Intensive Hosting This is a transitional assistance to the population in high vulnerability and social risk, in buildings renovated or rented by the city, without the need of complete housing units, with the demand managed directly by the Municipal Social Service Department.
- 2- Rental of private property for transitional shelter Rental of private buildings offered to people with urgent need for housing, instead of rent assistance. This mode allows a non-monetary assistance to the population, with the provision of an effective housing unit, and leveraging at the same time, the reoccupation of unused buildings in the city center for low-income people.
- 3- Social Rent Construction of a public housing stock, for partial or fully subsidized rent. In the medium and long term, the social rental program should be not only a public stock of sufficient housing to meet the emergency demand of the Social Housing Services, but also a housing alternative for people seeking a permanent solution, by way of rent. In the first phase, specific lines for senior citizens on low income should be prioritized.
- 4- Rent Voucher This is a cash assistance program, which offers families an immediate solution to rent a property in the private market. However, unlike what

<sup>&</sup>lt;sup>i</sup> Avaliable at: <u>http://www.habitasampa.inf.br/files/CadernoPMH.pdf</u>

<sup>&</sup>quot;Avaliable at: http://pmh.habitasampa.inf.br/introducao/

iii Avaliable at: http://www.camara.gov.br/proposicoesWeb/fichadetramitacao?idProposicao=458310

happens today with the rental aid program, granting the voucher will be linked to the monitoring of tenants by the Housing Department.

The state of Rio de Janeiro also has a rental voucher program<sup>i</sup>, where R\$500,00 (U\$152.58) is paid during a period of 12 months, that may be extended. It is a temporary welfare benefit, designed to meet the needs of the removal of resident families in areas at risk, homeless due to temporary vulnerability, public calamity or due to construction works.

There are similar rental voucher programs in other Brazilian States like Amapá<sup>ii</sup> and Rio Grande do Sul<sup>iii</sup>, and in cities like Americana/SP<sup>iv</sup>, Porto Alegre/RS<sup>v</sup>, Serra/ES<sup>vi</sup>, Curitiba/PR<sup>vii</sup>, Ijuí/RS<sup>viii</sup>, Campinas/SP<sup>ix</sup>, Niteroi/RJ<sup>x</sup>, among many others.

#### 3.3 Conclusions for the Brazilian case

In Brazil, during the last eighty years, public housing policies have been predominantly directed towards homeownership and this strategy alone has proven ineffective to meet the country's social housing demand. There were projects for public rental housing but these schemes were limited and not without problems. In terms of Harloe and Kemeny, the Brazilian housing system can be characterized as a residual one (Harloe), or a dualist rental market (Kemeny). Currently, the need for affordable housing in urbanizing Brazil is growing and of key importance for viable and resilient cities. There is a need for new ways to provide affordable housing.

The literature overview demonstrates that not only in Brazil, but also in other parts of the world classic concepts "home ownership for all" and "broad nonprofit rental housing" are under discussion. In Europe for example the border between social and private housing is becoming blurred since private investors are more and more involved in the provision of affordable housing. Moreover, zero energy policies become more and more important for realizing affordable housing

To conclude, classic models for the provision of affordable housing are being reconsidered. This paper presents a proposal for Brazil that fits to current ambitions beyond Brazil to:

- Minimize the burden for governments
- To involve private investors in the provision of affordable housing
- To match agendas for sustainable and affordable housing To be creative and innovative in the provision of affordable housing

<sup>&</sup>lt;sup>i</sup> Avaliable at: <u>http://www.rj.gov.br/web/seasdh/exibeconteudo?article-id=1519686</u>

<sup>&</sup>quot;Avaliable at: http://www.sims.ap.gov.br/det.php?y=2062

<sup>&</sup>lt;sup>III</sup> Avaliable at: <u>https://www.legisweb.com.br/legislacao/?id=243135</u> iv Avaliable at: <u>http://leismunicipa.is/dgjea</u>

v Avaliable at: http://www2.portoalegre.rs.gov.br/demhab/default.php?p\_secao=116

vi Avaliable at: http://www.serra.es.gov.br/site/pagina/aluguel-social

vii Avaliable at: http://leismunicipa.is/dpubj

viii Avaliable at: http://leismunicipa.is/retqd

ix Avaliable at: http://www.campinas.sp.gov.br/governo/habitacao/auxilio-moradia.php

<sup>\*</sup> Avaliable at: http://www.niteroi.rj.gov.br/index.php?option=com\_content&view=article&id=3455

#### 4 A NEW SYSTEM FOR BRAZIL

#### 4.1 Objectives and premises of the new system

The objective of this new affordable housing rental model is to offer an alternative option to provide adequate homes for low-income families, which along with the MHML program would increase the amount of housing supply to meet the projected demand and help tackle the Brazilian shortage in the long term.

#### 4.2 Methodology

The question we attempt to answer is: would there be any other way, besides home ownership, that could supply adequate housing to low-income families, undertaken by the private sector, with little or no public subsidies?

To answer the question above, raised in the introduction of this study, the following method and steps were adopted.

As home ownership presents the obstacles described above, the alternative and complementary approach would be the creation of a new rental system. But it would have to overcome the difficulties related to home ownership, as well as difficulties related to a conventional rental system, that is not affordable for low-income families.

A brief overview of what has already been studied and implemented in Brazil and abroad in terms of affordable rental systems is presented. Specific parts of those references researches and experiences where used as a base of the proposed system and some negative experiences, related or implemented were avoided.

The vast experience of the experts from that group formed at Secovi-SP was extremely valuable to create the proposed system.

Based on the research conducted and the experts' experience, a list of premises that the system would have to meet was then created (item 4.3.1) and a basic flowchart (item 4.3.2) was drawn.

Basic economic, financial, architectural, commercial, social and technical feasibility studies were done, to test the theoretical hypothesis.

Market rental values were collected from the city of São Paulo, and used as an input to the economic simulations.

A floor plan was adopted for the proposed system (Appendix I).

An economic and financial simulation was done, using a mathematical model, and the results were analyzed.

The existing legislation is analyzed to check if it is sufficient to provide the necessary legal security for the private sector, especially for investors and property owners.

Considering the listed obstacles and the expected potential for the proposed system to effectively contribute to a reduction in the housing shortage in Brazil, some possible results are indicated.

To conclude, key findings, contributions to the sector, main results and their interpretations are presented.

## 4.3 LAR system description

The adopted premises and the LAR system are described below.

#### 4.3.1 Adopted premises

In order to create the new model, a number of premises are listed below. Most of them came from suggestions from the experts who participated in the group formed at Secovi to create LAR. Some of them are initial intentions or desired objectives that turned out unfeasible after technical, legal, commercial and economic analysis.

The premises are listed below and were raised considering the country's difficulty to subsidize homeownership and the fact that it should be attractive to low-income tenants, to developers, to condominium management companies and to society.

Take the country's difficulty to subsidize homeownership into occount

a- It should be undertaken by the private sector, with no involvement, or as little involvement as possible, of the public sector. Only if the system does not reach the proposed rental value, should public subsidies be proposed. Direct rent subsidy should be targeted only to those who really need it, like families in the lowest income quintile, people in distress, such as the displaced or victims of violence or even homeowners in a state of environmental or financial risk<sup>22</sup>.

#### It should be attractive to low-income tenants

- b- The intended rent value target is equivalent to a rent for a wooden shack in a slum. If this target is not economically feasible, lower interest rates, public subsidies or incentives have to be included.
- c- During the 10-year period, the maximum rental value will be limited by public regulation.
- d- The cost of the units has to include basic fixed furniture in the kitchen and in the bathrooms.
- e- No guarantees would be required from the tenant, only personal identification for the rental agreement.
- f- In order to make LAR projects affordable, only a small fraction of the lot's total value would be allocated to the LAR project, even if its physical fraction is greater than the value fraction allocated for accounting and business management purposes.
- g- LAR projects need to have a large number of dwellings, because as the quantity reduces, the apportionment of condominium fees for each dwelling increases, and vice-versa.

#### It should be attractive to developers

- h- An incentive of additional Floor Area Ratio (FAR) is one of the main characteristics of the proposed system. Despite the fact that it is a public incentive, it has no or little impact on public finances. Therefore, there should be small resistance from governments to allow additional FAR to the development of LAR projects.
- i- The existence of a loan, available to the developer to build the units to be rented, with a low interest rate, that would be paid monthly during the 10-year mandatory rental period. The repayment of the loan's principal would occur during the last 3-year transitional period.

- j- The same inflation index has to be applied to the loan and to the rental agreements, so there is a monetary equilibrium during the rental period.
- k- The developer (or owner) is allowed to terminate the rental agreement and sell the units after the 10-year mandatory rental period.
- I- The developer's monthly income from the rents should be enough to pay the loan's interest; to manage the relationship with the renters, including billing, rental agreement terminations and judicial eviction, whenever necessary; to maintain and manage the facilities and to manage vacancy and rent defaults during the 13-year period.
- m- The building structure has to allow the internal layout to be as flexible as possible, so the developer can easily adapt the units to future market demand.
- n- There will be no minimum parking spaces requirements for LAR projects
- o- Parking spaces need to be allowed over the plot's permeable area, so that less land area is needed.
- p- The additional FAR target should be a number that can accommodate as many units of LAR as possible as little land area as possible.
- q- There will be no monetary compensation to be paid by a developer to the public sector in order to obtain the FAR bonus to build affordable rental dwellings.
- r- After the building completion, the developer is allowed to sell the dwellings

It should be attractive to the condominium management companies

s- LAR projects need to have as many dwellings as possible, to provide a minimum income to the company that will manage the condominium.

It should be attractive to property owner

- t- The rental agreement can be easily terminated, with plain legal security
- u- Delinquent tenants can be rapidly evicted, when the agreement is terminated or in the case of payment default. According to the Brazilian legislation, in the case of payments default, it is possible to evict the delinquent tenant faster when there is no guarantee offered by the tenant.
- v- The apportionment of common building expenses for the LAR building should be totally independent of the conventional development project.
- w- One single person or company has to own the majority of the building's dwellings, so that the owner is able to control the building's management.

#### It should be attractive to the society

- x- It should be applicable in every city and especially in the country's largest cities.
- y- It should prevent the production of rental units occurring only on the cities' fringes. On the contrary, it will in fact stimulate the creation of rental units where land values are higher, because that is where developers are more interested in obtaining extra FAR.
- z- Considering that the LAR real estate will remain as a property of the developer for a period of at least 10 years, all sustainability attributes that contemplate a pay back period shorter than 10 years, will be economically attractive to implement. Additionally, maintenance and utilities costs are lower in green buildings, compared to conventional buildings.

#### 4.3.2 LAR System Description

Based on the premises above, the concept is that the real estate developer would get floor area incentives for the development of affordable housing, to be rented to lowincome households. The bonus would be added to the maximum Floor Area Ratio (FAR) permitted by zoning legislation to build conventional housing projects and has the exclusive purpose of building dwellings that would have to be rented during a 10-year minimum mandatory period. After that period, the developer would be allowed to terminate the rental agreements and sell the units at market prices. The rent levels during the mandatory period would be limited by public regulation.

The adoption of the system is optional, so developers can chose if they want to build LAR units and obtain extra FAR or develop only a conventional project.

After the 10-year period, there will be a 3-year transitional period when the developer can terminate the rental agreements, retrofit the building, sell the units, and repay the loan principal.

It is essential for the system to be effective, that a loan is available for the developer to build the units to be rented, with an interest rate between 2% and 5% per year, that would be paid monthly during the loan period. The repayment of the principal would occur during the 3-year transitional period.

After the building completion, the developer is allowed to sell 49% of the building's units, but the single dwelling's buyers (investors) need to continue to let those dwellings at the regulated rent, until the end of the 10-year period, as will be recorded in each dwelling's title. The developer could also sell the 51% portion of the building, as long as it is sold to one single buyer, so there is one majority owner of the building, that is able to control the building's management. Naturally, the closer to the beginning of the 10-year period, the greater will be the discount at which the units will be sold. Similarly, the closer to the end of the 10-year period, the smaller will be the sale discount. Single-family rental (SFR) securitization<sup>i</sup> could eventually be an option for the developer that for any reason is not able or want to sell the units. However, this financial transaction is more complex and costly for the real estate developer. And most importantly, low-income, short-term (30-month) residential agreements are probably not feasible to be securitized in the current Brazilian marketplace. Even in the North American market it is a new asset class. According to Schwarz and Ferris<sup>48</sup>, the inaugural SFR single-borrower securitization<sup>ii</sup> was closed in November 2013.

During the 10-year period, the developer (or investor) would collect the rents from the tenants and pay the loan interest rate; manage the relationship with the renters, including billing, rental agreement terminations and judicial eviction whenever necessary; manage and maintain the facilities and be responsible to manage vacancies and rent default.

A basic diagram of the proposed system is shown below (Figure 14).

<sup>&</sup>lt;sup>1</sup>Securitization is the financial practice of pooling various types of contractual debt such as residential mortgages, commercial mortgages, auto loans or credit card debt obligations (or other non-debt assets which generate receivables) and selling their related cash flows to third party investors as securities, which may be described as bonds, pass-through securities, or collateralized debt obligations (CDOs). Investors are repaid from the principal and interest cash flows collected from the underlying debt and redistributed through the capital structure of the new financing. Securities backed by mortgage receivables are called mortgage-backed securities (MBS), while those backed by other types of receivables are asset-backed securities (ABS).

<sup>&</sup>lt;sup>ii</sup> Single-borrower deals are a hybrid of residential mortgage-backed securities (RMBS) and commercial mortgage-backed securities (CMBS) in that their collateral is individual residential properties but there is a single institutional borrower and the bonds are backed by rental cash flows.



Figure 14 - LAR System Flowchart

#### 4.3.3 New legislation

For the LAR system to be put in place, cities interested to adopt the system would have to amend their legislation, to allow extra FAR for LAR projects and, to establish the developer's obligations to rent LAR dwellings for 10 years, with publicly regulated rents.

## 4.4 Difficulties

#### 4.4.1 People's preference for homeownership

There is a common assumption that Brazilians would avoid rent as much as they can if there is any chance for them to buy their own homes, even if it is a heavy burden for the family's budget and a long-term commitment.

Among other benefits of home ownership, parents experience a high level of satisfaction when they are able to provide the security of a property to their descendants.

According to Elsinga and Hoekstra<sup>49</sup>, homeownership is encouraged in many countries, based on the assumption that it has a positive effect on society and on the individual who experiences greater housing satisfaction and self-esteem. Homeownership can promote self-esteem because others will grant the owner a higher social status. This tends to reinforce arguments that homeownership is more financially attractive than renting in the long run and it provides a feeling of autonomy, security, personal identity, success and achievement. It also promotes health, happiness and social involvement. The ability to decorate and modify one's home according to personal taste is another positive factor.

However, they<sup>49</sup> reveal that those advantages, usually associated with homeownership are not always present. Research<sup>50</sup> conducted in the United States indicates that the main determinant for self-esteem is not ownership, but the quality of the home. Other research mentioned by Elsinga and Hoekstra's<sup>49</sup> concludes that there are fewer benefits of properties in less desirable neighborhoods, frequently owned by lower income families. They also observe that the home ownership benefits usually occur in countries where there is an inadequate supply of satisfactory alternatives for low-income families, especially in the English-speaking countries, like the United Kingdom, United States, Australia and New Zealand. Also Southern European countries like Spain, Italy and Greece. But in some Northern European prosperous countries like the Netherlands, Denmark, Germany, Sweden and demonstrably<sup>49</sup> in Austria, where there is an effective social security system and a well-developed supply of affordable rental dwellings, it is considered perfectly acceptable by the population to live in a low rented home. They do not need to own homes, to experience social acceptance and a sense of security.

## 4.4.2 Other identified difficulties

As the plot's FAR increase for LAR projects, there is a risk of land prices increase as well, when land owners realize that the developer is able to make an additional profit.

Because of density increase related to the construction of new LAR projects, infrastructure may be insufficient in some regions to meet the additional population.

As a consequence of the differences in land value, in different regions within most of the Brazilian metropolis, there is usually an established separation of social levels that live in different neighborhoods. So, there might be resistance from residents that live in expensive neighborhoods, to allow LAR projects to be built.

LAR dwellings sales prices, after the 10-year rental period will probably be lower in relation to new real estate, even after a major renovation.

Blanco, Cibils and Muñoz<sup>22</sup> raised other possible difficulties:

"Two of the main restrictions on the supply of large-scale rental housing are the complexity of managing these operations and the lack of specific financing for an activity in which the risk and the maturation period of the investment could be significant."

The upfront payment usually paid in Brazil by the tenant to the company that manages the relationship between the landlord and the tenant may be an important burden to low-income tenants.

Values of the owner occupied neighbor apartments could fail to reach the same sales price as in the general market due to the anti-social conduct of some LAR tenants.

#### 4.5 Benefits

When mortgages are high, rent may provide a greater purchasing power in areas such as education or leisure activities as its monthly value is usually lower then the mortgage.

It allows more freedom to move when residents change jobs to farther locations, or when their family grows or reduces, or their income increases or decreases and they are able to more easily adjust the household's rent to the family's new income.

A unique possibility to live in a good quality dwelling located in a good neighborhood, where families with lower income would have a lot of difficulty to be homeowners.

According to Blanco, Cibils and Muñoz<sup>22</sup>, a rental housing policy would create denser, more accessible and more compact cities, and consequently help to mitigate low-density peripheral growth and income segregation. And they affirm: "Because housing is actually a service more than a mere dwelling, renting is a valid – and often preferable – alternative to owning." They also say that there is no ideal type of tenure, but it depends on particular preferences and economic possibilities of each household and also evolves over time with changes in family composition, income and needs.

The additional FAR allowed to develop LAR projects is proportionally attractive to real estate developers as high as the land value is. And this is an excellent attribute to the LAR system, because it is exactly where affordable dwellings are more needed, as it is where it is more difficult to build feasible social housing projects. As more social housing is provided in high-priced neighborhoods, where usually most of the jobs are located, fewer daily trips would be necessary for low-income workers to get from their homes to their jobs (and vice-versa), and consequently a better urban mobility could occur.

Blanco, Cibils and Muñoz<sup>22</sup> affirm that "low-income rental housing offers several opportunities for the private provision of housing, which would alleviate the financial burden and improve the allocation of public resources." And "complementing the small-scale supply with commercial operators that build in order to rent on a large scale could increase the dynamism of the sector and the market as a whole."

#### 4.6 Feasibility analysis

## 4.6.1 Architectural

A floor plan (see Appendix I) was adopted as a reference for LAR projects. It has 8 units per floor (4 apartments with 2 bedrooms and 4 apartments with 1 bedroom). Its total floor area is  $362,74 \text{ m}^2$  (54,61 m<sup>2</sup> of area for hallways, elevators and stairwells per floor) and the apartments' net internal areas (NIA) are:

- 2 bedroom: 41,29 m<sup>2</sup> + 2,08 m<sup>2</sup> (terraces) = 43,73 m<sup>2</sup> (NIA)
- 1 bedroom: 31,58 m<sup>2</sup> + 2,08 m<sup>2</sup> (terraces) = 33,66 m<sup>2</sup> (NIA)

An architectural basic analysis was carried out, to find out what would be an ideal additional FAR to build a LAR project, with the following premises: 1-) higher number of dwellings as possible, especially to lower the condominium fees; 2-) 0,18 parking spaces per dwelling, 3-) a minimum land area possible to build a LAR project, 4-) the possibility to park cars over the plot's minimum permeable area defined at the zoning, or no permeable area for LAR projects, and; 5-) no outdoor area for recreational purpose.

For a FAR equal to 6,43, an area of at least 1,000 square meters of land would be necessary, considering that all parking would be at ground level.

However, as LAR dwellings will be sold after the 10-year period, the developer will probably want to allocate more land area for recreational purpose and parking spaces, depending on the specific location, to make the project more attractive for sale after the 10-year period.

✓ Additional FAR to LAR projects

The concept is that the real estate developer would have the same amount of building potential that he would normally have to develop a conventional real estate project in the remaining plot, when he chooses to include a LAR project in a portion of the original plot. If the developer does not have the same amount of building potential that he would normally have to develop a conventional real estate project in the remaining plot, he would probably not be interested in developing a LAR project, because the project would be unfeasible, as most of the plots' cost remains in the portion of on which the conventional project will be built. An electronic spreadsheet shows the economic and

financial results for a conventional real estate development project<sup>i</sup> (Appendix II) with illustrative land and sales values, an FAR of 4 (four) in a plot with 4.000 m<sup>2</sup> (four thousand square meters). Appendix III shows the economic and financial results for a conventional real estate development with a LAR project in a portion (1.000 m<sup>2</sup>) of the original plot, with the same sales values, 90% of the original land value, the same FAR of 4 (four) in a plot with 3.000 m<sup>2</sup> (four thousand square meters)<sup>ii</sup>.



For example, at a 4.000m<sup>2</sup> plot, with an 4, FAR of the developer would have 16.000 m<sup>2</sup> of maximum building area (4 x 4.000 m<sup>2</sup>) to develop а conventional project to sell the units immediately at market prices (Figure 15).

Figure 15 - Building potential for a conventional real estate development.

If the developer uses  $3.000 \text{ m}^2$  to build the conventional project and  $1.000 \text{ m}^2$  to build a LAR project, he will have the same  $16.000 \text{ m}^2$  of computable built area for the conventional project and  $6.430 \text{ m}^2$  of additional computable area for the LAR project, totaling 22.430 m<sup>2</sup> (Figure 16). In this case, the extra FAR allowed at the LAR project will actually be an additional built area for the developer.



Figure 16 - Building potential for the conventional development and for the LAR project

Figure 17 shows the necessary FAR (6,43) to build a LAR project, based on the adopted floor plan (Appendix I), and the characteristics described earlier in this item.

<sup>&</sup>lt;sup>i</sup> The economic and financial analysis (Análise Econômica e Financeira – AEF in Portuguese) MS Excel spreadsheet is available for download (in Portuguese) at <u>www.bitly/AEF-C</u> (Conventional project without LAR)

<sup>&</sup>lt;sup>ii</sup> The economic and financial analysis (Análise Econômica e Financeira – AEF in Portuguese) MS Excel spreadsheet is available for download (in Portuguese) at <u>www.bit.ly/AEF-C\_LAR</u> (Conventional Project with LAR and the same FAR of 4)

Description		Value	Unity
Plot area	Pa	1.000,00	m2
FAR to build affordable rental units (LAR project)	aFAR	6,43	
Total computable built area*	CA	6.430,00	m2
Permeable area	/.hamiltonleite.com.br	0,00%	
Number of towers		1,00	tower(s)
Number of floors per tower (above groung floor)		18,00	floors
Number of dwellings per floor		8,00	dwellings/floor
Area for hallways, elevators and stairwells/floor	/.hamiltonleite.com.br	54,61	m2
Total number of dwellings at grounf floor		4,00	dwellings
Project's total number of dwellings		148,00	dwellings
Building's slab area (without terraces)		347,57	m2
Total area of the terraces in each floor		16,64	m2
Building's slab area (with terraces)		364,21	m2
Net average internal area per dwellng	/.hamiltonleite.com.br	38,70	m2
1 dormitory dwelling		33,66	
2 dormitories dwelling		43,76	
Project's total net internal area		5.727,56	m2
Plot area for outdoor recreational facilities and ec	luipment	-	m2
Machine room & water reservoir area per tower of	on the ceiling	120,00	m2
Parking space(s) per dwelling	/.hamiltonleite.com.br	0,18	
Area per parking space, incl. internal passageways	s for vehicles	24,00	m2
Project's total parking spaces		26	parking spaces
Project's total number of underground parking		-	parking spaces
Project's total area for underground parking	/.hamiltonleite.com.br	-	m2
Project's total outdor parking spaces (inside the p	lot)	26	parking spaces
Area occupied by the tower, permeable area & ou	utdoor facilities	347,57	m2
Project's total outdoor parking area (inside the plo	ot)	624,00	m2
Avaliable area for outdoor parking **		652,43	m2

\* Except halls at ground level & floors, terraces, stairways, elevators, water reservoir at the rooftop & underground parking.

\*\* (Plot area - floor area - recreational area)

#### AREAS

www.hamiltonleite.com.br	Non Comput.	Computable	Total
Undergroung parking area	-		-
Floor	299,52	6.256,22	6.555,74
Ground level	192,77	154,80	347,57
Elevator machine room and water reservoir area	120,00		120,00
Total	612,29	6.411,02	7.023,30

Figure 17 - LAR project's areas (commas are used for decimals)

#### 4.6.2 Commercial

As shown below on Figure 18, market rents in the city of São Paulo range from  $R$14,13/m^2$  to  $R$37,36/m^2$ , depending on the dwelling's condition, the region and the number of bedrooms.

CURRENCY	RATE		1 BED	ROOM		1		2 BED	ROOM	
3,50	R\$/U\$	GO	OD	REGU	JLAR		GO	OD	REGI	JLAR
REGION		MAX	MIN	MAX	MIN		MAX	MIN	MAX	MIN
	R\$	25,74	23,71	21,96	19,78		25,35	20,88	22,17	18,03
DOWNTOWN	U\$	7,35	6,77	6,27	5,65		7,24	5,97	6,33	5,15
ΕΛΩΤ Λ	R\$	23,89	19,31	19,94	16,13		21,63	21,41	18,66	18,47
EAST-A	U\$	6,83	5,52	5,70	4,61		6,18	6,12	5,33	5,28
EAST D	R\$	20,45	17,27	17,76	14,88		18,38	16,18	16,05	14,13
EAST-B	U\$	5,84	4,93	5,07	4,25		5,25	4,62	4,59	4,04
NORTH	R\$	23,62	20,30	20,15	17,32		21,81	18,77	18,87	16,16
NORTH	U\$	6,75	5,80	5,76	4,95		6,23	5,36	5,39	4,62
\A/EST_A	R\$	35,02	31,43	30,36	24,16		29,19	26,27	26,30	23,67
WEST-A	U\$	10,01	8,98	8,67	6,90		8,34	7,51	7,51	6,76
	R\$	19,82	19,09	17,04	15,23		19,87	17,75	16,92	15,80
WEST-B	U\$	5,66	5,45	4,87	4,35		5,68	5,07	4,83	4,51
	R\$	37,36	31,46	32,62	27,02		32,17	28,01	26,66	22,20
SOUTH-A	U\$	10,67	8,99	9,32	7,72		9,19	8,00	7,62	6,34
	R\$	26,41	19,93	22,83	17,13		22,17	17,96	19,21	15,24
3001П-В	U\$	7,55	5,69	6,52	4,89		6,33	5,13	5,49	4,35

Figure 18 - Residential rent monthly prices (commas used for decimals) - May 2016. Source: Secovi-SPi

For a one bedroom dwelling, with a net internal area of 33,66 m<sup>2</sup>, the monthly rent ranges from R\$500,86 to R\$1.257,54 and for a two bedroom dwelling, with a net internal area of 43,76 m<sup>2</sup>, the monthly rent ranges from R\$618,33 to R\$ 1.407,76.

		1 bedro	oom rent			2 bedr	oom rent
		per m2	dwelling			per m2	dwelling
	R\$ Max	37,36	1.257,54		R\$ Max	32,17	1.407,76
33,66	U\$ Max	10,67	359,30	43,76	U\$ Max	9,19	402,22
m2	R\$ Min	14,88	500,86	m2	R\$ Min	14,13	618,33
	U\$ Min	4,25	143,10		U\$ Min	4,04	176,67

Figure 19 - Monthly rent ranges for 1 and 2 bedroom dwellings in the city of São Paulo (May/2016)

São Paulo has the second most expensive real estate in the country, behind only Rio de Janeiro<sup>ii</sup>.

Subnormal dwellings located in slums are not included in Secovi's survey, but according to Kohara<sup>1</sup>, they have an average price of R\$438,00 (adjusted for inflation to May 2016) which is equivalent to 49,8% of the minimum wage. Haddad and Barbon's<sup>51</sup> research observed an average rent in the biggest slum in the city of São Paulo (Paraisópolis) ranging from 43% (R\$378,4) to 67% (R\$589,60) of the minimum wage.

#### 4.6.3 Maintenance

According to Weber<sup>52</sup>, the monthly cost with maintenance and with improvement works and its standards deviations in a group of 40 PAR apartment projects, between 2002 and

<sup>&</sup>lt;sup>i</sup> Avaliable at: <u>http://www.secovi.com.br/files/Arquivos/pml-maio-2016.pdf</u>

<sup>&</sup>quot; Avaliable at: <u>http://www.zap.com.br/imoveis/fipe-zap-b/</u>

2008, were respectively R\$6,67 ( $\sigma$  = R\$2,66) and R\$3,71 ( $\sigma$  = R\$3,27). As the average US dollar rate for that period was R\$2,488, and considering the average values plus its standard deviations, the current and adopted value for maintenance and improvement works is R\$21,48 per month, per dwelling. The developer is responsible to pay for the necessary maintenance and improvement works on the building during the rental period. Within Weber's sample, the maintenance costs are distributed according to the chart below (Figure 20).





#### 4.6.4 Social

The social work is an essential activity in housing projects for low-income families. According to Raichelis et al.<sup>53</sup>:

"social work is conceived as a set of socio-educational actions, appropriate to the socioeconomic and cultural characteristics of the population and the neighborhood, in tune with the principles of the Public Housing Policy and developed in conjunction with all involved stakeholders in decisionmaking, implementation and control of social housing programs. It has an ethical and political orientation: democratic, educational and organizing, encouraging participation, collective action of the population, the daily exercise of citizen involvement, socializing information, investing in the appropriation of new values and concepts of living and live in urban space"

For the economic and financial analysis below, we considered that one social worker is able to work simultaneously for two LAR projects with 148 dwellings per building. The social worker's average salary in Brazil is R\$2.452,66<sup>i</sup> (U\$748.47), plus 75% for all social and labor benefits, the total cost per employee is R\$4.291,00 (U\$1,309.50). So, for each dwelling, the social work would cost R\$14,50 (U\$4.42) per month.

<sup>&</sup>lt;sup>i</sup> Avaliable at: <u>http://www.catho.com.br/profissoes/assistente-social</u>

#### 4.6.5 Economic and financial

The economic and financial analysis for the LAR project are described in this item.

✓ The developer's cash flow for LAR projects consists of the following phases:

#### Project's design and licensing

The availability of equity is necessary to buy the land, pay taxes and legal services, develop the project's design and get it licensed. The equity could be supplied by the developer or by any other venture capital source.

#### **Construction**

The loan to build the project would be supplied by banks, funds or any other source. Its principal repayment will occur after the 10-year rental period and before the 13<sup>th</sup> year of the project. The loan's interests, including the interest that arose during the construction period, will be paid monthly during the rental period.

#### Rental Period

During the 10-year rental period, income from rent collection should be able to pay the construction loan interest; to manage the relationship with the renters, including billing, rental agreement terminations and judicial eviction, whenever necessary; to maintain and manage the facilities and to manage vacancy and rent default during the 13-year period.

Transition period (between the 10<sup>th</sup> and the 13<sup>th</sup> year)

After the 10-year rental period, the developer or the dwellings' owner<sup>i</sup> is allowed to sell them, so they will receive the sales income, and have the following costs: 1-) repayment of the loan's principal, 2-) to retrofit the building and each dwelling, 3-) Sales brokerage, 4-) marketing to advertise the project, 5-) sales taxes

The developer's cash flow for LAR projects is graphically represented below (Figure 21).



Figure 21 - Developer's flow chart

<sup>&</sup>lt;sup>i</sup> When LAR project's developer sells the units to an investor.

#### $\checkmark$ Economic and financial worksheet

The electronic worksheet presented below in this item is available online for download at: <u>www.bit.ly/LAR-RESULTS</u>. In the worksheet, it is possible to view the formulas in each cell and insert data in the yellow cells. Note that commas are used for decimal values.

For this work, the adopted currency rate for the Brazilian Real, in relation to the US Dollar is 3,2769 (average rate in July 2016) and the resulting values are related to one dwelling, with an average net internal area of 38,70 m<sup>2</sup>, at a LAR project with 148 dwellings.

1- Up front investments (equity) are: a-) the lot's value allocated to the area used by the LAR project, that depends on the lot's market value (adopted value=R\$10.000), and the proportion of that value distributed to the LAR project (adopted value=10%); b-) taxes, legal services & licensing, that is a percentage of the lot's total allocated value (adopted value=6%), and; c-) LAR project design, that is a percentage (adopted value=3,5%) of the construction cost.

2- The monthly costs during the rental period are: a-) construction loan interest, based on an interest rate (adopted value=5% per year), that is multiplied by the construction cost (adopted value=R\$2.500/m<sup>2</sup>) added to the sum of the loan interest that occurred during the construction period (totaling R\$4.359,50/dwelling by the end of the construction period); b-) condominium and tenant management, including legal assistance (adopted value=R\$67,57/dwelling/month or R\$10.000/building/month); c-) tenant default cost, that is a result of the multiplication of the default rate, shown on item 2.2.3 (adopted value=1,54%), by the necessary period (in months) to repossess the dwelling (adopted value=3 months); d-) project vacancy unperformed income, that is a multiplication of the expected vacancy rate (see item 3. - adopted value=R\$21,48 per dwelling); f-) Social worker cost per dwelling (see item 4.6.4) and 7-)Taxes (see Annex I).

3-The monthly rent price per dwelling with an average net internal area of  $38,70 \text{ m}^2$  is a sum of the total cost during the rental period and 2,50% of that value, allocated for contingencies, totaling R\$689,00 (U\$210.26). The rent for a 1 bedroom dwelling is R\$599,27 (U\$182.88) and it is R\$779,09 (U\$237.75) for a 2 bedroom dwelling.

4-The costs incurred between the 10<sup>th</sup> and the 13<sup>th</sup> year are: a-) the construction loan's principal repayment (adopted value=R\$2.500/m<sup>2</sup> that is the same value as the construction cost/m<sup>2</sup>); b-) lot's allocated value per dwelling; c-) We considered that there is no capital cost during the LAR project, so we are able to calculate the IRR, as it is one of the most important economic indicators, along with the project's payback, that will occur during the 10<sup>th</sup> and the 13<sup>th</sup> year, depending on the units' sales pace. d-) building and dwellings' renovations (adopted value=25% of the construction cost); e-) dwellings' sales brokerage commission (adopted value=5% of the sales price), and; g-) federal income tax (adopted value=6,8% of the sales price).

5-The income during the period between the 10<sup>th</sup> and the 13<sup>th</sup> year is obtained from the dwellings' sales, according to their listing price (adopted value=R\$8.000/m<sup>2</sup> per net internal area). This value and the land price are just references used for this specific simulation. A broader analysis, that includes a range of values for the dwelling's listing price and a range of land values that are used to calculate the internal rates of return for each combination is shown below on Figure 23.

6-The LAR project's result for the developer is the difference between the total income obtained from the dwellings' sales during the period between the 10<sup>th</sup> and the 13<sup>th</sup> year (Item 5 above) and the total cost incurred during the same period (item 4 above).

Item				
1	Up front investments per dwelling (Equity)	R\$	U\$	
	Total	-R\$10.548,39	-3.219,01\$	(a+b+c)
	Lot's value / Dwelling	-R\$6.757	-2.061,94\$	а
	lot's market value (ner m2)	R\$10.000	3 052\$	
	Lot's total market value for the LAP project	P\$10,000,000	2 051 6655	
	Lot's value allocated to the LAD project	R\$10.000.000	3.031.0035	
		R\$1.000.000	305.1665	
	Taxes, legal services & licensing (% of lot's value) 6,00%	-R\$405,41	-123,/2\$	b
	LAR project's Design (% of construction cost) 3,50%	-R\$3.386,22	-1.033,36\$	С
2	Monthly Costs per dwelling during the rental period (MC)	R\$	U\$	
	Total	-R\$672,18	-205,13\$	(a+b+c+d+e+f+g)
				(**************************************
	Construction loan's interests			
	Loan's interest rate to build the LAR project (per year)	5.00	1%	
	Interest rate (per year)	0.407	/4%	
	Construction cost / m2		762 026	
		R\$2.500,00	702,923	
	Construction cost / dwelling (m2)	R\$96.749,24	29.524,62\$	
	Accumulate interests during construction, per dwelling	R\$4.359,50	1.330,37\$	
	Interests per month, per dwelling	-R\$411,93	-125,71\$	а
	<u> </u>			
	Condo & tenants managt, incl. legal assistance per dwelling	-R\$67,57	-20,62\$	b
	Total value for a condominium with 148 dwellings	R\$10.000,00	3.051,66\$	
			- ,	
	Default rate	1 5/	0/	
	Months required to reposses the property from delinquent toponts	2,34	F70	
	Monthly cost related to delinguent tenants	D¢21 70	0.70¢	
	Monthly cost related to delinquent tenants	-K\$31,79	-9,70\$	C
	Vacancy rate	3,69	%	
	Monthly cost per vacant dwelling	-R\$24,80	-7,57\$	d
	Monthly maintenance cost per dwelling	-R\$21,48	-6,55\$	е
	Total annual value for a condominium with 148 dwellings	R\$38.148	11.642\$	
	Social worker (working for 2 LAB projects = 296 dwellings)	-R\$14 50	-1 125	f
	Total monthly value for a condominium with 149 dwellings	P\$2 1/6		•
		1192.140	0000	
	<b>T</b>		20/	
	Taxes	14,5:	3%	
		-R\$100,11	-30,55\$	g
	-			
	Contingencies (MRI - MC) per dwelling during the 10-year period	-R\$16,81	-5,13\$	h
3	Monthly rent income per dwelling with an average int. area (MRI)	R\$689,00	210,26\$	Total item 2 + h
	Dwelling's net internal area (1 bedroom) 33.66 m2	R\$599.27	182.88\$	
	Dwelling's net internal area (2 hedrooms) 43.76 m2	R\$779.09	237 75\$	
			207)700	1
л	Incurring costs botwoon the 10th and the 12th year (per dwelling)			
4	incurring costs between the roth and the roth year (per uwening)	D¢170 700	FA 940 15¢	(a the and ta the a)
	i Otal Deve week of the leads winded and willing	-K31/9.700	-54.640,153	
	Repayment of the loan's principal per dwelling	-к\$96.749	-29.524,62\$	а
	per m2	-R\$2.500	-R\$763	
	Current lot's market value / Dwelling	-R\$6.756,76	-2.061,94\$	b
	Lot's capital cost during 15 years, at a rate of 0,00% per year	R\$0,00	0,00\$	С
	Retrofit 25,00%	-R\$24.187,31	-7.381,16\$	d
	Brokerage 5,00%	-R\$15.479,88	-4.723,94\$	е
	MKT 5,00%	-R\$15.479,88	-4.723,94\$	f
	Taxes 6.80%	-R\$21.052,63	-6.424,56\$	g
5	Dwelling's listing nrice	R\$309.597.57	94,478,805	per dwelling
5		R\$8,000,00	2 441 335	ner net internal area
	l	n.90.000,00	2.741,009	
c		DC130 004 07	20 620 644	L I
ь	Result for the LAR project (\$/dwelling)	K\$129.891,87	39.038,64\$	n
	· · · · · · · · · · · · · · · · · · ·	42,0	1%	
	(\$/dwelling)	R\$5.026.776	1.534.003\$	per dwelling
	Total result for a LAR project with 148 dwellings	R\$743.962.827	227.032.509\$	per project
	IRR: Lot's market value (item b) in the 1st month	18,3	3%	per year
	compared to the Result (item h), after 15 years	1.41	.%	per month

✓ IRR – Internal Rate of Return

Considering that the construction costs will be paid with the financial resources obtained by a loan, it is possible to eliminate this period from the IRR's calculation, as well as the expenses during the rental period, that are equal to the income, as they have the same monetary correction.

So, only the up front equity will be the developer's investment and the net balance during the transition period will be the return.

The return date considered to IRR's calculation is the 181<sup>st</sup> month after the first investment was made (month zero). That is because we assumed that it will take 18 months for the project's design and licensing, plus 2 years for construction, 10 years for renting, and an average of 18 months to sell (between the 10<sup>th</sup> and the 13<sup>th</sup> year), totaling therefore 15 years, plus a month.



Figure 22 - Simplified cash flow for IRR's calculation

The simplified version of the developer's cash flow for LAR projects, that is used to calculate the internal rate of return (IRR), is graphically represented above (Figure 22).

	IRR (year)		Unfea	sible	IRR	equal or	lower th	nen	10,00%	per year	0,80%	p month			
	ікк (уеа	ar)	Interm	ediate	IRR betw	een lowe	er & high	er limits							
			Go	od	IRR e	equal or p	greater t	hen	18,00%	per year	1,39%	p month			
	ſ										P¢)			-	
		4 500	5 000	5 500	6.000	6 500	7 000	7 500	8 000	8 500	9 000	9 500	10.000	10 500	11 000
	7 500	5.3%	9.7%	12 5%	14.6%	16 3%	17 7%	18.9%	19.9%	20.9%	21.7%	22.5%	23.2%	23.8%	24.4%
	8,000	4 9%	9.4%	12.2%	14.3%	16.0%	17.3%	18 5%	19.6%	20.5%	21.3%	22.1%	22.8%	23.5%	24.1%
	8 500	4 5%	9.0%	11.9%	14.0%	15.6%	17.0%	18.2%	19.2%	20.2%	21.0%	21.8%	22.5%	23.1%	23.7%
	9.000	4.1%	8.7%	11.5%	13.6%	15.3%	16.7%	17.9%	18.9%	19.9%	20.7%	21.5%	22.2%	22.8%	23.4%
	9.500	3.7%	8.3%	11.2%	13.3%	15.0%	16.4%	17.6%	18.6%	19.6%	20.4%	21.2%	21.9%	22.5%	23.1%
	10.000	3.3%	8.0%	10.9%	13.0%	14.7%	16.1%	17.3%	18.3%	19.3%	20.1%	20.9%	21.6%	22.2%	22.8%
	10.500	3.0%	7.7%	10.6%	12.7%	14.4%	15.8%	17.0%	18.0%	19.0%	19.8%	20.6%	21.3%	21.9%	22.5%
	11.000	2,6%	7,4%	10,3%	12,4%	14,1%	15,5%	16,7%	17,8%	18,7%	19,5%	20,3%	21,0%	21,7%	22,3%
ŝ	11.500	2,2%	7,1%	10,0%	12,2%	13,9%	15,3%	16,5%	17,5%	18,4%	19,3%	20,0%	20,7%	21,4%	22,0%
R R	12.000	1,9%	6,8%	9,8%	11,9%	13,6%	15,0%	16,2%	17,2%	18,2%	19,0%	19,8%	20,5%	21,1%	21,7%
Ľ۳	12.500	1,5%	6,5%	9,5%	11,6%	13,3%	14,7%	15,9%	17,0%	17,9%	18,8%	19,5%	20,2%	20,9%	21,5%
VA	13.000	1,2%	6,2%	9,2%	11,4%	13,1%	14,5%	15,7%	16,7%	17,7%	18,5%	19,3%	20,0%	20,6%	21,2%
5	13.500	0,9%	6,0%	9,0%	11,1%	12,8%	14,3%	15,5%	16,5%	17,4%	18,3%	19,0%	19,7%	20,4%	21,0%
ARK	14.000	0,5%	5,7%	8,7%	10,9%	12,6%	14,0%	15,2%	16,3%	17,2%	18,0%	18,8%	19,5%	20,2%	20,8%
ž	14.500	0,2%	5,4%	8,5%	10,7%	12,4%	13,8%	15,0%	16,1%	17,0%	17,8%	18,6%	19,3%	19,9%	20,5%
2	15.000	-0,1%	5,2%	8,2%	10,4%	12,2%	13,6%	14,8%	15,8%	16,8%	17,6%	18,4%	19,1%	19,7%	20,3%
P	15.500	-0,5%	4,9%	8,0%	10,2%	11,9%	13,4%	14,6%	15,6%	16,5%	17,4%	18,2%	18,9%	19,5%	20,1%
	16.000	-0,8%	4,6%	7,8%	10,0%	11,7%	13,1%	14,4%	15,4%	16,3%	17,2%	17,9%	18,6%	19,3%	19,9%
	16.500	-1,1%	4,4%	7,5%	9,8%	11,5%	12,9%	14,1%	15,2%	16,1%	17,0%	17,7%	18,4%	19,1%	19,7%
	17.000	-1,5%	4,2%	7,3%	9,6%	11,3%	12,7%	13,9%	15,0%	15,9%	16,8%	17,5%	18,2%	18,9%	19,5%
	17.500	-1,8%	3,9%	7,1%	9,4%	11,1%	12,5%	13,7%	14,8%	15,7%	16,6%	17,3%	18,1%	18,7%	19,3%
	18.000	-2,1%	3,7%	6,9%	9,2%	10,9%	12,3%	13,6%	14,6%	15,6%	16,4%	17,2%	17,9%	18,5%	19,1%
	18.500	-2,5%	3,4%	6,7%	8,9%	10,7%	12,1%	13,4%	14,4%	15,4%	16,2%	17,0%	17,7%	18,3%	18,9%
	19.000	-2,8%	3,2%	6,5%	8,8%	10,5%	12,0%	13,2%	14,2%	15,2%	16,0%	16,8%	17,5%	18,1%	18,7%
	19 500	-3.1%	3.0%	6.3%	8.6%	10.3%	11.8%	13.0%	14.1%	15.0%	15.8%	16.6%	17.3%	18.0%	18.6%

Figure 23 - IRR for a range of land values and dwelling's listing prices

Highlighted in red in Figure 23 are the internal rates of return (IRR) that are equal to or lower than an adopted minimum feasible limit (adopted value=10,00% per year); in green, the IRRs that are equal to or greater than an adopted rate (adopted value=18,00% per year), that is considered good; and in brown, all other intermediate values. It is possible to change the cells in yellow in the results.xlsx spreadsheet to simulate different results.

 $\checkmark$  Funding possibilities for the construction loan

Construction loan's monthly interest is the main cost for the real estate developer (or property owner) during the rental period. The economic and financial analysis above, considered an annual interest rate of 5%, that resulted on a total monthly cost (or rent price) of R\$ 700,00 (U\$213.62).

Currently in Brazil there is no possible funding with an interest rate of 3,5% per year. However, international financial institutions, such as the World Bank, or the Inter-American Development Bank, might possibly be able to supply funding for LAR projects with 3,5% interest rates, or even lower. The problem related to international loans is that currency variations occur, bringing insecurity to the borrower. The National Treasury could eventually assume the currency hedge, as it is responsible for the country's currency exchange policies and the LAR system is a matter of national interest.

FGTS would not reach annual interest rates of 3,5% for example, but could perhaps reach 4,5%, as some of its specific loans currently offer this rate.

## ✓ Subsidies and tax exemptions

If there is no funding available in the Brazilian marketplace with low interest rates (from 3,5% to 5%) the only option to reach the target rent (see item 4.6.2), is to include public subsidies and tax exemptions. Some of them are:

- i. Special federal tax regime for rent (Regime Especial de Tributação para Locação)
- ii. Federal, State and Municipal vouchers
- iii. Lower Federal Income Tax
- iv. Lower State value-added tax on the circulation of goods, interstate and intercity transportation and communication services (In Portuguese: Imposto sobre Operações relativas à Circulação de Mercadorias e sobre Prestações de Serviços de Transporte Interestadual e Intermunicipal e de Comunicação ICMS) exemption related to construction materials
- v. Municipal services and property tax exemptions: Services Tax and Building and Urban Land Tax (In Portuguese: Imposto Sobre Serviço ISS and Imposto Predial e Territorial Urbano IPTU)
- vi. Loan for land acquisition offered by the State's housing company (In Portuguese: *Companhia de Desenvolvimento Habitacional e Urbano - CDHU*) with no interest.
  - ✓ <u>Rent prices related to families income</u>

The calculatated rents in the economic and financial analysis above show that the rental value for a 1 bedroom dwelling is R\$599,27 and it is R\$779,09 for the 2 bedroom dwelling. If we compare those rent levels with the minimum wage, we see that they represent 68,10% and 78,30% respectively. Considering a maximum commitment of

family income of 30%, we deduce that the minimum family incomes are R\$1.997,58 for a one bedroom dwelling and R\$2.596,97 for a two bedroom dwelling, that is equivalent to 2,27 and 2,95 times the minimum wage (Figure 24).

			Incol	ne	Min.	Rent / Income	
	Rent	value	R\$	U\$	wage	1 bedr. 2 bedr.	
Dwelling type	R\$	U\$	R\$880,00	268,55\$	1,00	68,10%	78,30%
Average area dwelling	R\$689,00	R\$210,26	R\$2.296,67	700,87\$	2,61		
2 bedroom dwelling	R\$599,27	R\$182,88	R\$2.596,97	792,51\$	2,95	30,0	00%
1 bedroom dwelling	R\$779,09	R\$237,75	R\$1.997,58	609 <i>,</i> 59\$	2,27		

Figure 24 - Rent levels in relation to the families income. (Commas are used for U\$ and R\$ decimals)

#### 4.7 An alternative proposal for the city of São Paulo

Excessive rent represents 50,3% of the housing shortage in the São Paulo Metropolitan Area (SPMA), which is equivalent to 256.000 dwellings, so there is an evident demand for LAR projects in the SPMA.

Considering that there would be no additional FAR incentive in the city of São Paulo, the group formed in Secovi-SP by João Crestana and led by Ricardo Pereira Leite, came up with a proposal, presented at the 2016 Secovi-SP Convention.

The proposed model for the city of São Paulo is based on:

- i- The concession of public subsidies, such as a special federal tax regime for rent from the 15% currently in effect to a proposed 4% and a loan for land acquisition offered by CDHU, with zero interest for half of the plot's cost, and
- ii- New FGTS funding lines that would have to be approved by its Board of Trustees, for a construction loan and for a single-family rental (SFR) securitization. This new asset-backed security (ABS) securitization model would have to be economically and financially feasible, especially from the point of view of the investor (FGTS).

The LAR projects would have to be built on the Special Zone of Social Interest 3 (In Portuguese: *Zonas Especiais de Interesse Social – ZEIS 3*) in São Paulo.

Some of the premises adopted by the group are:

- i- Plot value: R\$4 million (U\$ 1,220,665)
- ii- Plot area: 1.935 m<sup>2</sup>
- iii- Dwelling sales price: 50% of R\$224.000 (U\$68,361)
- iv- Number of dwellings per project: 200 (8 dwellings in the ground floor + 24 floors or two buildings with 4 dwellings in the ground floor + 12 floors)
- v- Floor Area Ratio (FAR): 4
- vi- Construction cost: R\$2.500/m<sup>2</sup> (U\$762.92)
- vii- Construction loan interest plus the reference inflation rate<sup>i</sup>: 9%
- viii- Special federal tax regime (tax subsidy): from 15% to 4%
- ix- Marketing investment: 1% of the total sales value;
- x- Maintenance and condominium fees: 7% of the rent income
- xi- Social assistance: 2% of the rent income
- xii- Securitization: 2,8% per year / 168-month duration/ 2% structuring cost / 25% subordination (not securitized)

<sup>&</sup>lt;sup>i</sup> Taxa Referencial in Portuguese

Based on a mathematical model<sup>i</sup> created by Ricardo Pereira Leite and his coworkers, the results for the best-case scenario are:

Rent value: R\$851,60 (U\$259.88)

Rental dwellings for families with average income higher than 3,2 minimum wages

Internal rate of return: 7,80% per year or 14,39% including the inflation rate

Necessary investment: R\$8,5 million (U\$2.6 million)

Net present value: R\$9,9 million (U\$3.0 million)

## 4.8 Sustainability

The results of a survey<sup>54</sup> answered by 240 Brazilian real estate developers, shows that sustainable premium cost range from 1,6% to 8,6%, depending on the building's typology, the level of certification and the project's location. However, the results of Kats's<sup>55</sup> research shows that half of his data set of 103 certified green buildings have paybacks of six years or less, only considering energy and water savings, in a conservative scenario. In the fuller benefits scenario, including health and productivity benefits, 75% of the buildings show paybacks of five years or less.

Kats affirms that: "A recent analysis showed higher occupancy, rents, and sales prices in green buildings when compared with non-green buildings."



For this reason, building sustainable LAR projects make economic sense for the developer and the property owner, as paybacks are shorter than the 10-year rental period and rents are higher in sustainable buildings when compared with conventional buildings. Additionally, among other benefits they achieve higher premiums, sales slower depreciation, lower operating and maintenance costs. Sustainable buildings are also valuable for the tenants, as they expend less in utility bills, experience better health and wellbeing and increased productivity.

Figure 25 - Stakeholder perceptions that affect the value of green buildings. Source: World Green Building Council<sup>56</sup>

<sup>&</sup>lt;sup>i</sup> We were authorized to provide the mathematical model print sheet, that is presented in the Annex II.

#### 5 CONCLUSIONS

In the next 10 years, Brazil would have to build 20,6 million new dwellings to meet its population's housing demands and eliminate the existing housing shortage. It means that more than 2 million units per year would have to be produced. That level of production was never experienced in the country, but at the same time, an impressive production has been accomplished during the last seven years, especially under MHML program (almost four million dwellings).

However, the Brazilian debt to GDP ratio is expected to reach 74%<sup>i</sup> by the end of this year, and in the long-term, it is projected to trend around 75%<sup>ii</sup>. Consequently, the government will continue to have a limited budget to subsidize and invest in social housing for the next several years.

Furthermore, the MHML program is not able to provide housing for some low-income groups, such as older or younger people, immigrants and those who have financial problems and it does not allow low-income citizens to live in neighborhoods where land and consequently housing have higher listing prices. There is also a lack of interest of some people to be attached to a household and others are not willing to commit to a long-term alternative, so they prefer renting. But existing public social rental initiatives have not been successful because the Brazilian public sector is highly inefficient in managing social rental housing projects, especially in terms of building maintenance, tenure control and eviction of defaulting families.

In consequence of those reasons, a new system called LAR was created to fill this void.

The LAR model intends to complement the MHML program, supplying rental housing for families with incomes above R\$1.997,00, which is equivalent to 2,27 minimum wages. The rental value calculated for a one bedroom apartment is a little lower than R\$600,00 and for a two bedroom apartment it is almost R\$780.00.

It is interesting to note that the higher income limit for the Bracket 1,5 of MHML program (R\$2.350,00) is a little more than the lower limit of income for the LAR program. It means that the LAR program, without a lower interest rate than 5% for the construction loan and without any subsidies or additional incentives, could supply housing for families that fit within the higher end of Bracket 1,5, but mostly for families that fit within the Bracket 2 of MHML program, that until now was their only option to access an adequate home.

The R\$1.997,00 income is situated between the 7<sup>th</sup> and the 8<sup>th</sup> decile of the income bracket between zero and three minimum wages, where the MHML curve reaches the greater distance from the curves that represents the housing shortage for families that are paying excessive rent and for families that are living in bedrooms with excessive density (see Figure 9). It means that it is within this income range that MHML is predominantly not meeting the housing shortage in those two components (excessive rent and excessive density) and it is exactly where LAR projects may be able to help reduce the housing shortage.

For the results obtained in this study, the only incentive considered for LAR is additional building potential, and a loan with an interest rate compatible to the FGTS funding. Of

<sup>&</sup>lt;sup>i</sup> Avaliable at: <u>http://www.valor.com.br/brasil/4602807/fazenda-previsao-para-deficit-primario-em-2016-vai-r-134178-bi</u>

<sup>&</sup>quot;Avaliable at: http://www.tradingeconomics.com/brazil/government-debt-to-gdp/forecast

course, as there is availability of public resources from the Federal, State and Municipal governments, to include subsidies to LAR, the value of the rents will drop proportionately. Another possibility to be explored is the availability of international funds for construction loans, to be used in LAR projects.

It is worth mentioning that the average rent value (R\$852) obtained in the best-case scenario in the model proposed for the city of São Paulo, that has a considerable amount of public subsidies, is 23,6% higher than the average rent resulted from the model that includes an additional building area incentive (see items 4.1 through 4.6).

As the construction loan's monthly payments represent almost 60% of the proposed rent price, if there is an available loan, with an interest rate of 3,5% per year for example, the rent for the one bedroom dwelling could cost around R\$440,00 (U\$134.27). This rent is equivalent to a shack rent at a slum in the city of São Paulo. For this reason, the Brazilian Federal Government should concentrate all efforts to seek external funds from international entities that are able to provide funds with lower interest rates to real estate developers, so they can build LAR projects and tackle this immense social problem that is the country's housing shortage.

## 6 EXPECTED RESULTS

The interest in implementing the proposed LAR system by local governments and real estate developers will have to be assessed in the coming years, but it will certainly not be attractive for real estate developers in medium size and small cities, where land is cheaper. On the other hand, despite the fact that we were not able to quantify in this work, a projection of LAR projects that could be built in the next years, the expectation is that it would attract developers to build in neighborhoods where land and dwelling prices are higher (see Figure 23). It would also attract many Brazilian metropolises, because they all need to provide a large amount of social housing units and the implementation of LAR projects does not require any direct public financial resources. It could also help to improve urban mobility, as they will be mostly located near the city centers.

The LAR system may also have a potential for replication in other developing countries, with minimum adjustments, as many of their housing and urban characteristics are very similar.

#### 7 FINAL CONSIDERATIONS

At the request of the federal government in 2009, Secovi-SP, led by João Batista Crestana, played a key role in helping to create the basis of MHML and since then, its directors and members continue collaborating in a very significant way to improve the program. And now, as a result of the contribution of several professionals who work in the real estate sector, Secovi-SP is taking the initiative again to propose a new system for the country, to supply high quality housing for low-income families. Despite all the knowledge from Secovi's members who have gathered together to create this new system, it is not complex, but on the contrary, it is a very simple model that may be easily and quickly implemented in many of the country's metropolis.

LAR projects will probably have difficulties in being implemented in some Brazilian cities, governed by political parties with ideologies contrary to their growth and densification, but it has a good chance of success in cities that have leaders committed to finding solutions to the need for adequate social housing for its citizens.

It is obvious that the historical paternalistic characteristic of the Brazilian government, that has led to a failure to collect condominium fees or to evict defaulting tenants, harms the vast majority of the population that needs adequate social housing, as social rental projects become economically unsustainable.

In is critical to maintain high standards of behavior among tenants in the new complexes. In order to avoid values of the owner occupied apartments failing to rise at the same rate as in the general market, or even falling, due to the anti-social conduct of some LAR tenants, it will be essential to enforce strict management regulations. Otherwise, the reputation of the new development opportunities could be damaged among investors, developers and occupiers.

Part of the agreement with government would therefore need to be an ability to evict tenants who failed to adhere to good standards of conduct. Any unreasonable noise, smells, untidiness, unruly or threatening behavior, criminal activity, etc. should be regarded as acts of default leading to rapid eviction.

The success of the new form of mixed owner-occupier and rental projects is dependent upon high standards of safety and comfort being protected for all residents.

As the proposed system is heavily based on a construction loan with low interest rates, it is fundamental that the FGTS Board of Trustees approve this new loan typology.

✓ Dilemma's

Some argue that infrastructure (roads, public transit, hospitals, schools, etc.) in most of the Brazilian metropoles is saturated and for this reason, density should not be increased near city centers. But what is the best option? To build social housing on the cities' fringes, far from where most jobs exist, with clear negative consequences for urban mobility and the quality of life for those residents, or to put more pressure on the existing infrastructure near city centers?

Additional taxes<sup>i</sup> arising from the rental units, would help to offset the cost of meeting a greater need for public services, infrastructure, public transport, etc.

Another dilemma can arise from the fact that the units of a LAR project offered for rent to low-income families will be withdrawn from the market after 10 years, and then the population will be left without adequate housing. Again, we were not able to quantify in this work the projection of LAR projects that could be built in the coming years, but if there is a solid attractiveness of LAR for real estate developers and governments, and if the necessary conditions for construction financing are put in place, there should be a constant and increasing number of LAR dwellings available in the market for the next decades.

<sup>&</sup>lt;sup>1</sup> In Brazil: the sum of an Income tax (*Imposto de Renda* in Portuguese), the Social Contribution on Net Income (*Contribuição Social sobre o Lucro Líquido - CSLL* in Portuguese), the Social Integration Program (*Programa de Integração Social - PIS* in Portuguese), and the Contribution to Social Security Financing (*Contribuição para o Financiamento da Seguridade Social - COFINS* in Portuguese).

In the USA: Real Estate Taxes

In the UK: Council Taxes

✓ Need for Further research

Projection of LAR production in the next years.

Quantification of the impact of the supply of rental dwellings on the housing shortage Quantification of the impact of LAR dwellings that will be later sold, on the level of demand

Impact analysis of the additional population in LAR projects on cities' infrastructure.

A comprehensive comparative study related to international housing experience.

The existing master plans and housing legislation in the major cities in the country need to be researched, to verify if the LAR program would be feasible in each one of them.

Further empirical economic, financial, architectural, commercial, social and technical feasibility studies need to be done, to test the theoretical hypothesis.

Market rental values need to be collected from other Brazilian cities, as they are important inputs to the economic simulations. The researched dwellings will need to range from wooden shacks in slums to apartments located in expensive neighborhoods.

More architectural evaluations need to be done to recommend typologies that would best fit the proposed system.

Based on the existing legislation's limitations, new legislation can be proposed to complement the current legal framework, so it can provide the necessary legal security for the private sector, especially for the investors and property owners.

A survey needs to be conducted, directed to professionals from the public and private sectors that work in the Brazilian real estate sector, to identify other possible obstacles and difficulties in implementing the proposed system, as well as to check the level of attractiveness of the model. Their answers have to be compiled, organized and published.

A comprehensive description of the sustainability aspects that should be incorporated in LAR projects needs to be carried out.

Further research of the LAR system will be carried out at Delft University of Technology's Faculty of Architecture and the Built Environment, in the Netherlands.

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# APPENDIX I

Adopted floor plan



#### APPENDIX II

	TIR (ao ano)	18.1%		Planilha de <i>l</i>	Análise Econômica	e Financeira	Vorcão 8 Ago/2016	
Prin-	Resultado Estático	15 5%		de Emp	reendimentos Imo	biliários	Desenvolvido nor:	
<u>cipais</u>	Resultado Dinâmico	41.5%		<u></u>			www.hamiltonleite.com.br	
Resul-	VPL Ret./VPL Inv.	1.5%			Secovi-SP			
1005	Investimento (Nominal)	R\$58.358.884	Empreendim	ento convencio	onal - Sem projeto de	Locação Acessível R	esidencial	
		Endereco:	•		• •	•		
		Data:	31/08/16					
	Mês Base da Análi	ise (mês zero): *	ago-16		Inserir dados nas c	élulas em amarelo		
		_			* Preenchimento ob	rigatório		
	CENÁR	IO ECONÔMICO	www.hamiltonleite.com.br				_	
	l. I	nflação (IGP-M) *	0,49%	ao mês	6,00%	ao ano		
	Inflação	Setorial (INCC) *	0,49%	ao mês	6,00%	ao ano		
	Taxa I	Referencial (TR) *	0,08%	ao mês	1,00%	ao ano		
	Custo de Opor	tunidade (COP) *	0,87%	ao mês	11,00%	ao ano		
	Taxa Minima de Atra	atividade (TIVIA) *	1,39%	ao mes	18,00%	ao ano		
		PROIFTO	www.hamiltonleite.com.hr					
	Número total d	e unidades Tipo*	96.0	unidade(s)	]			
	Área Privativa média p	or unidade Tipo*	160,00	m <sup>2</sup>				
	Número total de	e unidades Tipo 2	,	unidade(s)				
	Área Privativa p	or unidade Tipo 2		m²	1			
	Número total de	e unidades Tipo 3		unidade(s)				
	Área Privativa p	or unidade Tipo 3		m²				
	Número	total de unidades	96,00	unidades				
	Área Total	Privativa (A.T.P.)	15.360,40	m <sup>2</sup>				
	Área	a Privativa MÉDIA	160,00	m²				
	Área	Total Construída	25.120,33	m²				
		TERRENO						
	4		www.hamiltonleite.com.br	1		· · · · ·		
	Area	a do terreno (m <sup>-</sup> ) r	4.000,00		valor total das	A.I.P. (m <sup>-</sup> )	% do	% da
	Valor do Nº do unidados p	ormutadas Tipo 1	K\$10.000,00	unidado(s)	unids. permutadas	Permutada	V.I.I.	A.T.P.
	Nº de unidades p	ermutadas Tipo 1	0	unidade(s)	R\$0		0,0%	0,0%
	Nº de unidades p	ermutadas Tipo 3	0	unidade(s)	R\$0	-	0.0%	0,0%
	Total de unid	ades permutadas	0	unidade(s)	R\$0	-	0,0%	0,0%
	Valor da	Outorga Onerosa	R\$0,00					
	Mês do pagar	nento da outorga	-2	meses em rela	ição ao lançamento	jan/17	mês	4
Va	llor total pago em dinh	eiro pelo terreno	R\$40.000.000,00					
	Valor total d	o terreno (V.T.T.)	R\$40.000.000,00	(dinheiro + p	ermutas)			
D	espesas com a transfe	rência do terreno	R\$1.600.000,00	4,00%	sobre V.T.T.	4.5	<u>^</u>	
Me	s do pag. das desp. c/ t	ranst. do terreno	1	meses apos o	bagamento do sinal	nov/16	mes	2
	Condiço	es de pagamento Sinal	R\$8,000,000,00	011	20.00%	do total pago em di	nheiro	
N⊆	de parcelas mensais i	guais após o sinal	6		Correção monet	ária das parcelas (Se	em Correcão=SC) :	SC
N	∕lês do pagto. do sinal	(ou Valor Total) *	1	mes(es) a part	ir do mês base >	out-16	mês	1
		_						
v	ENDAS, IMPOSTOS E	ADMINISTRAÇÃO	www.hamiltonleite.com.br					
	Valor de v	/enda do Tipo 1 *	R\$10.000,00	por m <sup>2</sup> de área	a privativa			
	Valor de venda p	or unidade Tipo 1	R\$1.600.041,67	2				
	Valor de vende n	e venda do Tipo 2	R\$0,00	por m <sup>2</sup> de area	a privativa			
	valor de venda p	or unidade Tipo 2	R\$0,00	por m <sup>2</sup> do áro	a privativa			
	Valor de venda p	or unidade Tipo 3						
	Valor de venda p	de Vendas (VGV)	(GV) R\$153.604.000,00 (Valores de venda das unidades permutadas não incluídos)					
	Valor Valor	r de venda médio	nédio R\$1.600.041,67					
		Corretagem	tagem R\$6.144.160,00 4,00% sobre VGV (paga no mês do recebimento do sinal)					
		Impostos	npostos R\$10.445.072,00 6,80% sobre VGV (incorridos sobre os valores das receitas)					
ļ	Administração da Incor	poração e da SPE	da SPE R\$4.608.120,00 3,00% sobre VGV (do mês 1 até 6 meses após o Habite-se)					
M	lês de lançamento (iní	cio das vendas) *	6	meses a partir	do mês base	mar-17	mês	6
	Prazo entre o Lanç	amento e Chaves	36	meses	]			

TABELA DE VENDAS	www.hamiltonleite.com.br				
Γ	Valor Tot	al	Valor da	parcela	Nº de
	(Tipo 1)	Percentual	(Tipo 1)	Percentual	parcelas
Sinal	R\$96.002,50	6,00%	R\$96.002,50	6,00%	1
Mensais (entre lançamento e Chaves)	R\$320.008,33	20,00%	R\$9.412,01	0,59%	34
Verificar comentário na marca vermelha -> Semestrais	R\$0,00	0,00%	R\$0,00	0,00%	4
Verificar comentário na marca vermelha -> Anuais	R\$64.001,67	4,00%	R\$32.000,83	2,00%	2
Chaves (no mês do Habite-se)	R\$80.002,08	5,00%	R\$80.002,08	5,00%	1
<b>TOTAL</b> recebido até as Chaves (inclusive)	R\$560.014,58	35,00%			
Pós Chaves (Pós C.)	R\$1.040.027,08	65,00%			
Financiamento bancário ao cliente (P.C.)	Tx. juros (ao ano) :	11,00%	R\$14.022,84	/mês (juros incluídos)	120
Financiamento direto ao cliente (P.C.)	Tx. juros (ao ano) :	12,68%	R\$34.542,67	/mês (juros incluídos)	36

Obs.: os valores das parcelas mensais, semestrais e anuais que tenham data de pagamento anterior ao mês da venda das unidades comercializadas após o mês de lançamento, conforme definido no quadro "Velocidade de Vendas" abaixo, são incorporados proporcionalmente ao valor do sinal de cada nova unidade vendida após o mês de lançamento.

OBRAS	www.hamiltonleite.com.br				
Mês de início das obras (MIO) *	9	meses a partir do lançamento ->	dez-17	mês	15
Mês de conclusão das obras (MCO) *	24	meses de prazo -> Conclusão em:	dez-19	mês	38
Mês da entrega das Chaves (Habite-se) *	3	meses após o término da obra ->	mar-20	mês	41
Custo da Obra (atualização pelo INCC)	R\$2.201,30	) por m <sup>2</sup> de área total construída			
Custo da Obra (atualização pelo INCC)	R\$3.600,00	) por m² de área privativa			
Custo Total da Obra, incl. projetos (C.T.O.) *	R\$55.297.440,00	) (inclue desp. indiretas, benefícios ou	ı taxa de adm. e pro	ojetos executivos)	
Proporção de desembolso com as obras					
Durante 1º terço das obras *	20,00%	9			
Durante 2º terço das obras *	42,00%				
Durante 3º terço das obras *	38,00%				
VELOCIDADE DE VENDAS	N° total	de unidades disponíveis para venda:	<u>96</u>		

#### VELOCIDADE DE VENDAS

N° total de unidades disponíveis para venda:

	www.hamiltonleite.com.br	Unidades				
	N° de meses	por mês	no pe	ríodo	acumulado	
No mês do lançamento *	1	8	8	8,3%	8	8,3%
Entre o lançamento e o inicio das obras *	8	2	16	16,7%	24	25,0%
Durante 1º terço das obras *	8	2	16	16,7%	40	41,7%
Durante 2º terço das obras *	8	2	16	16,7%	56	58,3%
Durante 3º terço das obras *	8	2	16	16,7%	72	75,0%
Verificar comentário na marca vermelha -> Após as obras	12	2	24	25,0%	96	100,0%

E.

DESPESAS PRÉ OPERACIONAIS	www.hamiltonleite.com.br	Mês	N° de			
	Valor	% / VGV	Meses em relação ao		Inicial	parcel.
Despesas Juridicas + Reg. da Incorporação	R\$1.536.040,00	1,00%	lançamento :	-4	nov-16	24
Pesquisas e Estudos Preliminares	R\$768.020,00	0,50%	mês base :	1	out-16	6
Propaganda, Promoção e MKT	R\$7.680.200,00	5,00%	lançamento :	-1	mar-17	18

FINANCIAMENTO PARA AS OBRAS	www.hamiltonleite.com.br
Taux da tura da finanziana ata a / alama	0.070/

Taxa de juros de financiamento p/ obras	0,87%	ao mês	11,00%	ao ano		
Correção monetária do fin. p/ obras (CMF)	0,00%	ao mês <>	Sem Correção			
Valor do financ. para as obras (VFO) *	R\$38.708.208,00	<>	70,00%	do C.T.O.	]	
Taxa de Estruturação da Operação (TEO)	R\$0,00	<>	0,00%	do V.F.O.		
% mínimo de <u>obra</u> s p/ início das liberações	20,00%				-	
% mínimo de <u>vendas</u> p/ início das liberações	40,00%				_	
Cobrança de Juros	М	(M=mensal ou	P=no mês do pagam	iento do principal)		
Mês base do contrato de financ. p/ obra	0	meses em rela	ção ao <mark>MIO</mark> ->	dez-17	mês	15
Mês da 1a. liberação do financ. p/ obra	8	meses em rela	ção ao MIO ->	ago-18	mês	23
Mês do pagto. do financ. p/ obra e repasses	4	meses a partir	das chaves ->	jul-20	mês	45
Total de juros do financ. para as obras	R\$4.311.219,41					
Valor Financiado + Juros	R\$43.019.427,41					
Pós C. recebido à vista ou repassado ao banco	90%	das unidades n	ão permutadas =	86	unidades	
Unidades financiadas pelo Incorporador	10%	das unidades n	ão permutadas =	10	unidades	
Total de Repasses de Financiamento Bancário	R\$89.442.329,17					

#### RESULTADOS

Empresa:	Secovi-SP			
Nome do Empreendimento:	Empreendimento conve	encional - Sem	projeto de Locaç	ão Acessível Residencial
	www.hamiltonleite.com.br			
<u>ANÁLISE ESTÁTICA</u>				Data : 31/08/16
-				
TOTAL DE RECEITAS	R\$156.055.100,24			
Valor Geral de Vendas (VGV)	R\$153.604.000,00			
Juros (financiamento direto pós chaves)	R\$2.451.100,24			
	www.hamiltonleite.com.br			_
TOTAL DE CUSTOS E DESPESAS	-R\$131.827.628,11	85,82%	sobre V.G.V.	
Valor total pago em dinheiro pelo terreno	-R\$39.270.681,88	25,57%	sobre V.G.V.	Valor do terreno deflacionado
Despesas com a transferência do terreno	-R\$1.600.000,00	1,04%	" "	
Valor da Outorga Onerosa	R\$0,00	0,00%		
Custo Total da Obra (C.T.O.)	-R\$55.297.440,00	36,0%		
Corretagem	-R\$6.144.160,00	4,00%		
Impostos	-R\$10.611.746,82	6,91%		Incluídos impostos sobre juros cobrados pós-cha
Administração da Incorporação e da SPE	-R\$4.608.120,00	3,00%		
Despesas Juridicas + Reg. da Incorporação	-R\$1.536.040,00	1,00%		
Pesquisas e Estudos Preliminares	-R\$768.020,00	0,50%	" "	
Propaganda, Promoção e MKT	-R\$7.680.200,00	5,00%	" "	
Total de juros do financ. para as obras	-R\$4.311.219,41	2,81%	" "	
Taxa de Estruturação da Operação (TEO)	R\$0,00	0,00%	" "	Valor da TEO deflacionada pelo delta entre o IGPM e a C
-	www.hamiltonleite.com.br			
ar RESULTADO	R\$24.227.472.13	15,5%	sobre V.G.V.	
		18,4%	sobre Custos e De	espesas
ANALISE DINAMICA				
	www.hamiltonleite.com.br			
TIR (Taxa Interna de Retorno)	11,51% a	io ano	0,9	1% ao mês
TIR (incluído IGP-M)	18,14% a	io ano	1,4	0% ao mês
TR Restrita (investimentos à valor presente)	11,43% a	io ano	0,9	1% ao mês
TR Restrita (incluído IGP-M)	18,05% a	io ano	1,3	9% ao mês
VPL Receitas / VPL Despesas -1	0,74%	Utilizado :	0,8735%	ao mês para cálculo do Valor Presente
VPL Retorno / VPL Investimento -1	1,46%	Utilizado :	0,8735%	ao mês para cálculo do Valor Presente
Investimento <sub>vp</sub> (Valor Presente)	R\$54.824.889,53	Utilizado :	0,8735%	ao mês (COP) para cálculo do Valor Present
Investimenton (Nominal)	R\$58.358.884,01			
Retorno	R\$82.586.356,14		www.hamiltonleite.com	br
Resultado Dinâmico (Retorno - Investimento <sub>n</sub> )	R\$24.227.472,13	<>	41,	5% do valor investido
Pavback	45 r	neses	3	.8 anos

#### APPENDIX III

Prime Resultado Estatolo 9,3%      Bergendimentos Imobiliários      Descrito        Resultado Dinámico 22,0%      Encreto      Encreto      Encreto        Secol-SP      Encreto      Encreto <td< th=""><th></th><th>Versão 8 - Ago/2016</th><th>e Financeira</th><th>Análise Econômica</th><th>Planilha de A</th><th></th><th>12,9%</th><th>TIR (ao ano)</th><th>D.d</th></td<>		Versão 8 - Ago/2016	e Financeira	Análise Econômica	Planilha de A		12,9%	TIR (ao ano)	D.d
Classistic      Seconi-SP        Tados      VPL ReL/VRL (m.      12.15%        Investmento (Nominal)      R549 579.241      Empreendimento convencional - COM projeto de Locação Acessivel Residencial        Data:      31/08/16      Inserir dados nas células em amarelo        Data:      ago-16      Inserir dados nas células em amarelo        CENÁRIO ECONÓMICO      Inserir dados nas células em amarelo      * Preenchimento obrigatório        Inflação cistro (INCC)      0.49% ao mês      6,00% ao ano        Inflação strol (INCC)      0.49% ao mês      1,00% ao ano        Custo de Oportunidade (COP)      0.87% ao mês      1,00% ao ano        Custo de Oportunidade (TNA) *      1,39% ao mês      18,00% ao ano        Número total de unidades Tipo 7      72,0      unidade(S)        Area Privativa média por unidade Tipo 7      72,0      unidade(S)        Area Privativa média por unidade Tipo 7      11.465.30      m²        Area Privativa média por unidade Tipo 7      11.465.30      m²        Area Privativa NEDIA      159.24      m²        Area Trubat por unidade Tipo 7      11.465.30      m²        Area Trubat por unidade Tipo 7      11.465.30      m²		Desenvolvido por:	biliários	reendimentos Imo	de Emp		9,3%	Resultado Estático	Prin-
Result      Second-SP        Index W1 Ref./VPL Inv.      -12.15        Investmento (Nominal)      R549.572.211        Enderego:      Data:        Data:      31/08/16        Més Base da Análise (més zero):      ago 16        ** Preenchimento obrigatório        CENÁRIO ECONÔMICO      ago 16        ** Preenchimento obrigatório        Taxa Rénercial (RF)      0.49% ao més        10 Ady 36 ao més      6,00% ao ano        Taxa Rénercial (RF)      0.49% ao més        Taxa Minima de Arratividade (TMA) *      1.39% ao més        Taxa Minima de Arratividade (TMA) *      1.39% ao més        Taxa Minima de Arratividade Tipo 7      72.00 unidade(S)        Area Privativa por unidade Tipo 7      72.00 unidade(S)        Area Privativa por unidade Tipo 7      72.00 unidade(S)        Area Total Function Area (S)      72.00 unidade(S)        Area Total Function Area      72.00 unidade(S)        Area Total Function Area      72.00 unidade(S)        Area Total Construída      18.398.95.6 m²        Meindades permutadas Tipo 7      0 unidade(S)        Area Total Function Area      72.00 unidade(S)        N' de		www.hamiltonleite.com.br					22.0%	Resultado Dinâmico	<u>cipais</u>
Tatos      Description      Status        Investment (biomia)      RS45:372.41      Empreendimento convencional - COM projeto de Locação Acessivel Residencial        Mês Base da Análise (mês zero).*      Empreendimento convencional - COM projeto de Locação Acessivel Residencial        Mês Base da Análise (mês zero).*      ago-16      *        CENÁRIO FCONÓMICO      Inserir dados nas células em amarelo      *        CENÁRIO FCONÓMICO      0.49% ao mês      6,00% ao ano        Taxa Referencial (TR)      0.08% ao mês      1.00% ao ano        Taxa Referencial (TR)      0.98% ao mês      1.00% ao ano        Taxa Referencial (TR)      0.98% ao mês      1.00% ao ano        Taxa Referencial (TR)      0.98% ao mês      1.00% ao ano        Taxa Referencial (TR)      0.98% ao mês      1.00% ao ano        Taxa Referencial (TR)      0.049% ao mês      1.00% ao ano        Taxa Referencial (TR)      0.014dde(S)      1.00% ao ano        Múmero total de unidades Tipo 2      m²      1.00% ao ano        Area Privativa por unidade Tipo 3      m²	7			Secovi-SP			-12.1%		Resul-
Endereço: Data:    31/08/15      Més Base da Análise (més zero): *    3000/15      CENÁRIO ECONÒMICO Inflação (IGP-M)    0.49% ao més    6,00% ao ano      CENÁRIO ECONÒMICO Inflação (IGP-M)    0.49% ao més    6,00% ao ano      Taxa Referencial (TR)    0.08% ao més    11.00% ao ano      Custo de Oportunidade (ICOP)    0.87% ao més    11.00% ao ano      Custo de Oportunidade (TMA)    1.39% ao més    18,00% ao ano      Wimero total de unidades Tipo Internet Inter	-	esidencial	Locação Acessível R	nal - COM projeto de	ento convencio	Empreendime	R\$49.579.241	Investimento (Nominal)	tados
Data:    31/08/16      Mes Base da Análise (més zero):*    ago 16      Inserir dados nas células em amarelo    * Preenchimento obrigatório      Inflação Setoria (I/RC)    0.49% ao mês    6.00% ao ano      Inflação Setoria (I/RC)    0.49% ao mês    1.00% ao ano      Taxa Referencial (I/RC)    0.09% ao mês    1.00% ao ano      Custo de Oportunidade (CM)    0.87% ao mês    11.00% ao ano      Taxa Minima de Atratividade (TMA)    1.39% ao mês    11.00% ao ano      Número total de unidades Tipo?    unidade(s)      Area Privativa mella por unidade Tipo?    unidade(s)      Area Total de unidades Tipo?    m²      Número total de unidades    72,00 unidade(s)      Area Total Privativa (ALT.P.)    11.455,30 m²      Area Total Privativa (ALT.P.)    11.452,324 m²      Area Total Construída    18.3989,56 m²      Valor total de unidades permutadas Tipo?    0 unidade(s)      Area Total Privativa (ALT.P.)    1.452,30 m²      Area Total Privativa (ALT.P.)    1.452,30 m²      Valor total de unidades permutadas Tipo?    0 unidade(s)    RS0 o. 0,0      Valor total de segementadas Tipo?    0 unidade(s)    RS0 o. 0,0	4		,	,		P	Endoroco:		
Měs Base da Análise (més zero):*    Jayou zo ago-16    Inserir dados nas células em amarelo * Preenchimento obrigatório      CENÁRIO ECONÔNCO Inflação (GP-M) Inflação Setorial (INCC) Taxa Referencial (TR)    0.49% ao més 0.49% ao més 6.00% ao ano 0.49% ao més 6.00% ao ano 0.49% ao més 6.00% ao ano 0.49% ao més 6.00% ao ano 0.48% ao més 11,00% ao ano 0.48% ao més 11,00% ao ano 0.48% ao més 11,00% ao ano 0.48% ao més 11,00% ao ano 0.48% ao més 113,00% ao ano 0.48% ao més 123,00% ao ano 0.40%					1	31/08/16	Data:		
Imagin (INCC)    * Preenchimento obrigatório      Imagin (INCC)    0.49% ao més    6.00% ao ano      Taxa Referencial (INC)    0.49% ao més    1.00% ao ano      Custo de Oportunidade (COP)*    0.87% ao més    1.00% ao ano      Taxa Referencial (INC)    0.49% ao més    1.00% ao ano      Custo de Oportunidade (COP)*    0.87% ao més    1.00% ao ano      Número total de unidades Tipo*    72.0    unidade(s)      Área Privativa média por unidade Tipo 2    m²      Número total de unidades Tipo*    72.0    unidade(s)      Área Privativa média por unidade Tipo 3    m²      Número total de unidades Tipo 4    11.465,30    m²      Area Privativa por unidade Tipo 3    m²    n²      Area Total Privativa (A.T.P.)    11.465,30    m²      Area Total Construíde    18.809,56    n²      Nº de unidades permutadas Tipo 2    0    unidade(s)    Aro 0      Nº de unidades permutadas Tipo 3    0    unidade(s)    Aro 0      Nº de unidades permutadas Tipo 3    0    0    0    0      Nº de unidades permutadas Tipo 3    R\$1.000,00    unidade(s)    R\$0    0 <t< td=""><td></td><td></td><td>lulas em amarelo</td><td>Inserir dados nas cé</td><td></td><td>ago-16</td><td>ise (mês zero): *</td><td>Mês Base da Análi</td><td></td></t<>			lulas em amarelo	Inserir dados nas cé		ago-16	ise (mês zero): *	Mês Base da Análi	
CENÁRIO ECONÓNICO Inflação (CP-M) Inflação (CP-M) Taxa Referencial (TR) Custo de Oportunidade (CP) Taxa Mínima de Artatividade (CP) Taxa Mínima de Artatividade (CP) Taxa Mínima de Artatividade (TM) Taxa Mínima de Artatividade (TM) Area Privativa por unidade Tipo 2 Area Privativa por unidade Tipo 2 Número total de unidades Tipo 3 Area Privativa MÉDIA Area Triati Construida Area Total Construida Area Total Construida Area Total Construida Area Total Construida Area Total Construidade (S) Mé de unidades permutadas Tipo 2 O Unidade(s) R512.000,00 Valor do terreno (RS/m) R\$12.000,00 Valor do total pago em dinheiro pelo terreno Valor do terreno (RS/m) R\$36.000,000,00 Mé de unidades permutadas Tipo 2 O Unidade(s) R\$00 Q Unidade(s) R\$00 Q Unidade(s) R\$00 Q Unidade(s) R\$00 Q Unidade(s) R\$00 Q Unidade(s) R\$00 Q Unidade(s) R\$00 Q Unidade(s) R\$14.000,00 Valor total do terreno (V.T.T. R\$36.000,000,00 Valor total do terreno (V.T.T. R\$36.000,000,00 Valor total do terreno (V.T.T. R\$36.000,000,00 Valor total do terreno (V.T.T. R\$36.000,000,00 Valor total do unidades permutadas Tipo 2 Valor de venda do Tipo 1 R\$15.024.027.8 Xextemated Terregio monetária das parcelas (Sem Correção-SC Més do pagamento do unidade Stata Valor de venda do Tipo 1 R\$15.000,000 ou Valor de venda do Tipo 1 R\$15.000,000 ou Valor de venda do Tipo 1 R\$15.000,000 ou Valor de venda do Tipo 1			igatório	* Preenchimento obr	1	080 10			
Inflação (IGP-M) *    0,49% ao mês    6,00% ao ano      Taxa Réferencia (INCC) *    0,08% ao més    1,00% ao ano      Custo de Oportunidade (ICOP) *    0,87% ao més    11,00% ao ano      Taxa Minima de Atratividade (ITM) *    1,39% ao més    11,00% ao ano      Taxa Minima de Atratividade (ITM) *    1,39% ao més    11,00% ao ano      Número total de unidades Tipo *    72,0    unidade(s)      Área Privativa média por unidade Tipo *    m²    Número total de unidades Tipo 3      Area Privativa por unidade Tipo 3    m²    Número total de unidades Tipo 3    m²      Número total de unidades Tipo 3    m²    Número total de unidades Tipo 3    m²      Area Privativa MEDIA    11,465,30    m²      Area Privativa MEDIA    11,465,30    m²      Area Total Privativa MEDIA    11,465,30    m²      Area total Construída    18,989,56    m²    0      Nº de unidades permutadas Tipo 1    0    0    Unidade(s)    850    0    0      Nº de unidades permutadas Tipo 1    0    0    Unidade(s)    R50    0    0    0    0      Valor dot duerseno (RS)/m²    R51.000,00 </td <td></td> <td></td> <td>Baterio</td> <td></td> <td></td> <td>www.hamiltonleite.com.br</td> <td>RIO ECONÔMICO</td> <td>CENÁR</td> <td></td>			Baterio			www.hamiltonleite.com.br	RIO ECONÔMICO	CENÁR	
Inflação Setorial (INCC) *    0,49% ao mês    6,00% ao ano      Taxa Referencial (TR) *    0,08% ao mês    1,00% ao ano      Custo de Oportunidade (COP) *    0,87% ao mês    11,00% ao ano      Taxa Minima de Atratividade (TMA) *    1,39% ao mês    18,00% ao ano      PROJETO    recentratividade (TMA) *    1,39% ao mês    18,00% ao ano      PROJETO    recentratividade (TMA) *    1,39% ao mês    18,00% ao ano      PROJETO    recentratividade (TMA) *    1,39% ao mês    18,00% ao ano      Privativa média por unidade Tipo 2    m²    100    159,24 m²      Número total de unidades Tipo 3    unidade(s)    Area Privativa por unidade Tipo 3    unidade(s)      Area Privativa por unidade Tipo 3    m²    11,465,30 m²    .      Area Total Privativa (A.T.P.)    11,465,30 m²    .    .    .      Valor do terreno (RS/m)    R512,000,00    unidade(s)    R50    .    .    .      Nº de unidades permutadas Tipo 1    0    0    Unidade(s)    R50    .    .    .      Nº de unidades permutadas Tipo 3    0    Unidade(s)    R50    .    .    .    .			ao ano	6,00%	ao mês	0,49%	nflação (IGP-M) *	I	
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Custo de Oportunidade (COP) * 0.87% ao més 11,00% ao ano Taxa Minima de Atratividade (TMA) * 1,39% ao més 18,00% ao ano PROJETO Prove transference (TMA) * 1,39% ao més 18,00% ao ano PROJETO Prove transference (TMA) * 1,39% ao més 18,00% ao ano PROJETO Número total de unidades Tipo 7,2,0 unidade(s) Área Privativa média por unidade Tipo 7 Número total de unidades Tipo 7 Area Privativa por unidade Tipo 7 Número total de unidades Tipo 7 Area Privativa por unidade Tipo 7 Múmero total de unidades Tipo 7 Area Privativa (A.T.P.) Area Privativa (A.T.P.) Area Privativa (A.T.P.) Area Privativa (A.T.P.) Area Privativa (A.T.P.) Me a privativa (A.T.P.) Area frivativa (A.T.P.) Area do terreno (R <sup>2</sup> ) Valor do terreno (R <sup>2</sup> ) R512.000,00 Nº de unidades permutadas Tipo 7 Valor do terreno (R <sup>2</sup> ) Nº de unidades permutadas Tipo 7 Valor do terreno (R <sup>2</sup> ) Nº de unidades permutadas Tipo 7 Valor do total do unidades (D.R.SO) - 0,0 Nº de unidades permutadas Tipo 7 Valor do totreno (R <sup>2</sup> ) Valor total do utorgo Neverson Nº de unidades permutadas Tipo 7 Valor total do utorgo Neverson Nº de unidades permutadas Tipo 7 Valor total do terreno (R.S36.000.000,00 Valor total do terreno (R.S36.000.000,00 Valor total do terreno (R.S36.000.000,00 Nº de unidades permutadas Tipo 7 Valor total do terreno (R.S36.000.000,00 Nº de unidades permutadas Tipo 7 Valor total do terreno (R.S36.000.000,00 Nº de unidades permutadas Tipo 3 O unidade(S) R.SO - 0,0 Nº de unidades permutadas Tipo 3 O unidade(S) R.SO - 0,0 Nº de unidades permutadas Tipo 3 Nº de pagemento do outorgo R.S36.000.000,00 Nº de unidades permutadas Tipo 3 Nº de pagemento do outorgo R.S36.000.000,00 Nº de unidade tereno (R.S36.000.000,00 Nº de venda do treno (R.S36.000.000,00 Nº de venda do Tipo 1 Nº de pagemento do sinal (ou valor Total) * Nº de venda do Tipo 1 Nº de venda do Tipo 1 Nº de venda do Tipo 1 Nº			ao ano	1,00%	ao mês	0,08%	Referencial (TR) *	Taxa I	
Taxa Minima de Atratividade (TMA) *    1,39% ao més    18,00% ao ano      PROJETO      Número total de unidades Tipo?    72,0    unidade(s)      Área Privativa por unidade Tipo 2    unidade(s)      Area Privativa por unidade Tipo 2    m²      Número total de unidades Tipo 2    m²      Número total de unidades Tipo 3    m²      Area Privativa por unidade Tipo 4    11.465,30 m²      Area Total Construida    18.989,56 m²      Marea do terreno (m²)    3.000,00    unidade(s)    unids. permutadas    V.T.T.      Marea do terreno (R5/m²)    R\$12.000,00    unidade(s)    R\$0    .0    .0      Nº de unidades permutadas Tipo 3    0    unidade(s)    R\$0    .0    .0    .0      Nº de unidades permutadas Tipo 3    0    unidade(s)    R\$0    .0    .0    .0    .0    .0    .0    .0    .0    .0			ao ano	11,00%	ao mês	0,87%	rtunidade (COP) *	Custo de Opor	
PROETO      Número total de unidades Tipo    72,0    unidade(s)      Área Privativa média por unidade Tipo 2    unidade(s)    159,24    m²      Número total de unidades Tipo 2    unidade(s)    m²      Número total de unidades Tipo 3    m²    unidade(s)      Área Privativa por unidade Tipo 3    m²    m²      Número total de unidades Tipo 3    m²    unidade(s)      Área Privativa por unidade Tipo 3    m²    m²      Número total de unidades Tipo 3    m²    unidade(s)      Área Total Privativa (A.T.P.)    11.465,30    m²      Área Total Construída    18.989,56    m²      Nº de unidades permutadas Tipo 3    0    unidade(s)    R\$0    .0      Nº de unidades permutadas Tipo 3    0    unidade(s)    R\$0    .0    .0      Nº de unidades permutadas Tipo 3    0    0    unidade(s)    R\$0    .0    .0      Nº de unidades permutadas Tipo 3    0    0    Unidade(s)    R\$0    .0    .0      Nº de unidades permutadas Tipo 3    0    0    0    .0    .0    .0    .0			ao ano	18,00%	ao mês	1,39%	atividade (TMA) *	Taxa Mínima de Atra	
PKOLE UD    Prover hundrades Tipo*    72,0 unidade(s)      Área Privativa média por unidade Tipo 2    unidade(s)      Area Privativa por unidades Tipo 3    m²      Número total de unidades Tipo 3    m²      Area Privativa por unidade Tipo 3    m²      Área Total Privativa (A.T.P.)    11.465,30 m²      Área Total Construída    18.989,56 m²      TERRENO    Valor total das A.T.P. (m²) % do      Valor do terreno (R5/m²)    0 unidade(s)      Nº de unidades permutadas Tipo 1    3.000,00    unidade(s)      Nº de unidades permutadas Tipo 2    0 unidade(s)    R\$0    0,      Nº de unidades permutadas Tipo 3    0 unidade(s)    R\$0    0,      Nº de unidades permutadas Tipo 1    0 unidade(s)    R\$0,00    0,      Nº de unidades permutadas Tipo 3    0 unidade(s)    R\$0    0,      Nº de unidades permutadas Tipo 4    0.0,    R\$12.000,00    0,    0,      Nº de unidades permutadas Tipo 3    0 unidade(s)    R\$0    0,    0,							DDO/FTO		
Ářeze Privativa médiade Tipo 12,0 midade Tipo 159,24 m²      Número total de unidades Tipo 2      Ařeze Privativa por unidade Tipo 2      Número total de unidades Tipo 3      Número total de unidades Tipo 3      Ařeze Privativa por unidade Tipo 3      Mimero total de unidades Tipo 3      Número total de unidades Tipo 3      Ařeze Privativa por unidade Tipo 3      Mimero total de unidades Tipo 3      Ařeze Privativa MÉDIA      159,24 m²      Áreze Total Privativa MÉDIA      Ařeze Total Construída      18,989,56 m²      TERENO      Valor do terreno (R²/m²      Rérea total construída      18,924 m²      Área do terreno (R²/m²      Nº de unidades permutadas Tipo 1      O unidade(s)    R\$0      Nº de unidades permutadas Tipo 2      O unidade(s)    R\$0      Nº de unidades permutadas Tipo 3      O unidade(s)    R\$0      Nº de unidades permutadas Tipo 3      O unidade(s)    R\$0      Nº de unidades permutadas Tipo 3      O unidade(s)    R\$0      N' do total page end inheiro pelo terreno      Valor total pago end inheiro pelo terreno				1	unidade(s)	www.hamiltonleite.com.br	PRUJEIU	Número total d	
Nider of total de unidades Tipo 2    m²      Número total de unidades Tipo 3    m²      Área Privativa MÉDIA    159,24 m²      Área Total Construída    18.989,56 m²      Valor do terreno (R\$/m²)    R\$12.000,00    Valor total das    A.T.P. (m²)    % do      Valor do terreno (R\$/m²)    R\$12.000,00    unidade(\$)    R\$0    -    0,      Nº de unidades permutadas Tipo 3    0    0    0    0,    0,    0,      Nº de unidades permutadas Tipo 3    0    0    0,    0,    0,    0,      Valor da Outorga Onerosa    R\$0,00    R\$0,00    R\$36.000.000,00    -    0,      <				-	m <sup>2</sup>	150.24	or unidado Tipo*	Ároa Privativa módia n	
Area Privativa por unidade Tipo 2    m²      Número total de unidades Tipo 3    m²      Area Privativa por unidade Tipo 3    m²      Area Total Privativa (A.T.P.)    11.465,30 m²      Area Total Privativa MÉDIA    159,24 m²      Área Total Construída    18.989,56 m²      Valor do terreno (RS/m²)      Núde unidades permutadas Tipo 1    0 unidade(s)      Nº de unidades permutadas Tipo 2    0 unidade(s)      Nº de unidades permutadas Tipo 2    0 unidade(s)      Nº de unidades permutadas Tipo 2    0 unidade(s)    R\$0    -      Nº de unidades permutadas Tipo 2    0 unidade(s)    R\$0    -    0,0      Nº de unidades permutadas Tipo 2    0 unidade(s)    R\$0    -    0,0      Nº de unidades permutadas Tipo 2    0 unidade(s)    R\$0    -    0,0      Notar da Untaga Oncrosa    R\$36.000.000,00    R\$36.000.000,00    -    0,0      Valor total pago em dinheiro pelo terreno    1 meses após o pagamento do sinal    nov/16    mês   <					unidade(s)	133,24	e unidades Tino 2	Número total de	í
Número total de unidades Tipo 3    m²      Número total Privativa (A.T.P.)    11.465,30 m²      Área Total Privativa MÉDIA    159,24 m²      Área Total Construída    18.989,56 m²      Valor do terreno (m²)      Área do terreno (m²)    3.000,00      Valor do terreno (R5/m²)    R\$12.000,00      Nº de unidades permutadas Tipo 2    0      Nº de unidades permutadas Tipo 3    0      Nº de unidades permutadas Tipo 3    0      Ne de unidades permutadas Tipo 3    0      Ne de unidades permutadas Tipo 3    0      Na do totrago norrosa    R\$0,00      Més do pagamento da outorga    R\$0,00      Valor total pago em dinheiro pelo terreno    R\$36.000.000,00      Nº de parcelas mensais iguais após o sinal    R\$7.200.000    au 20,00% do total pago em dinheiro      Sinal    R\$7.200.000,00    au 20,00% do total pago em dinheiro      Nº de parcelas mensais iguais após o sinal    6    Correção monetária das parcelas (Sem Correção-SC      Més do pagto. do sinal (ou Valor Total) *    1<					m <sup>2</sup>		or unidado Tipo 2	Ároa Brivativa p	
Area Privativa por unidade Tipo 3    m²      Número total de unidades    72,00 unidades      Área Total Privativa (A.T.P.)    11.465,30 m²      Área Total Construída    159,24 m²      Área Total Construída    18.989,56 m²      TERRENO      Valor do terreno (R\$/m²)      Valor do terreno (R\$/m²)    3.000,00      Valor do terreno (R\$/m²)    0 unidade(s)      Nº de unidades permutadas Tipo 2    0 unidade(s)      Nº de unidades permutadas Tipo 2    0 unidade(s)      Nº de unidades permutadas Tipo 3    0 unidade(s)      Valor da Outorga Onerosa    R\$0,00      Mês do pagamento da outorga    - 0,      Valor total pago em dinheiro pelo terreno    R\$36.000.000,00      Valor total do terreno (V.T.T.)    R\$36.000.000,00      Nº de parcelas mensis iguais após o sinal    6      Condições de pagamento    1 meses após o pagamento do sinal nov/16      Nº de parcelas mensais iguais após o sinal    6      Valor de venda do Tipo 1    R\$1.200,000							e unidades Tipo 3	Número total de	
Nivers for lottade unidades    72,00    unidades      Área Total Privativa (A.T.P.)    11.465,30    m²      Área Total Privativa MÉDIA    159,24    m²      Área Total Construída    18.989,56    m²      TERENO      Valor total dos terreno (m²)    3.000,00    Valor total das    A.T.P. (m²)    % do      Valor do terreno (R\$/m²)    8\$12.000,00    unidade(s)    R\$0    -    0,      Nº de unidades permutadas Tipo 1    0    unidade(s)    R\$0    -    0,      Nº de unidades permutadas Tipo 2    0    unidade(s)    R\$0    -    0,      Nº de unidades permutadas Tipo 3    0    unidade(s)    R\$0    -    0,      Nº de unidades permutadas Tipo 3    0    unidade(s)    R\$0    -    0,      Valor do Outorga Onerosa    R\$0,000    R\$0    -    0,    0,      Valor total do terreno (V.T.T.    R\$36.000.000,00    (dinheiro + permutas)    -    0,      Valor total do terreno (V.T.T.    R\$36.000.000,00    (dinheiro + permutas)    -    0,      Despesas com a transferência do terreno    1 <td< td=""><td></td><td></td><td></td><td>-</td><td>m<sup>2</sup></td><td></td><td>or unidade Tipo 3</td><td>Área Privativa p</td><td></td></td<>				-	m <sup>2</sup>		or unidade Tipo 3	Área Privativa p	
Area Total Privativa (A.T.P.)    11.45,30    m²      Área Total Privativa (A.T.P.)    11.45,30    m²      Área Total Privativa (A.T.P.)    11.95,24    m²      Área Total Construída    18.989,56    m²      TERRENO      verow hamittenetie construint      Área do terreno (R\$/m²)    R\$12.000,00    Valor total das A.T.P. (m²)    % do      Nº de unidades permutadas Tipo 1    0    unidade(s)    R\$0    -    0,      Nº de unidades permutadas Tipo 2    0    unidade(s)    R\$0    -    0,      Nº de unidades permutadas Tipo 3    0    unidade(s)    R\$0    -    0,      Nº de unidades permutadas Tipo 3    0    unidade(s)    R\$0    -    0,      Nº de unidades permutadas Tipo 3    0    unidade(s)    R\$0    -    0,      Valor do Utorga Onerosa    R\$0,00     -    0,    -    0,      Valor total pago em dinheiro pelo terreno    R\$36.000.000,00    -    -    0,      Valor total do terreno (V.T.T.)    R\$36.000.000,00    4,00% sobre V.T.T.    -    -    0,      Des					unidades	72.00	total de unidades	Número t	
Area Privativa MÉDIA    113.400,00      Area Privativa MÉDIA    18.989,56      m²    18.989,56      Mera Total Construída    18.989,56      Nº de unidades permutadas Tipo 1    0      Unidade(s)    R\$0    -      Nº de unidades permutadas Tipo 2    0    unidade(s)    R\$0    -    0,0      Nº de unidades permutadas Tipo 3    0    unidade(s)    R\$0    -    0,0      Nº de unidades permutadas Tipo 3    0    unidade(s)    R\$0    -    0,0      Valor da Outorga Onerosa    R\$0,00     -    0,0      Valor da Dutorga Onerosa    R\$36.000.000,00     -    0,0      Valor total goo em dinheiro pelo terreno    N\$36.000.000,00    4,00% sobre V.T.T.    R\$36.000.000,00       Valor total do terreno (V.T.T.P.    R\$36.000.000,00    4,00% sobre V.T.T.     R\$36.000.000,00					m <sup>2</sup>	11 465 30	l Privativa (A T P )	Área Total	
Area Fitvatura incluit    133,24 m²      Área Total Construída    18.989,56 m²      TERRENO      Valor do terreno (m²)    3.000,00    Valor total das    A.T.P. (m²)    % do      Valor do terreno (R\$/m²)    R\$12.000,00    unidade(s)    R\$0    -    0,      Nº de unidades permutadas Tipo 1    0 unidade(s)    R\$0    -    0,      Nº de unidades permutadas Tipo 2    0 unidade(s)    R\$0    -    0,      Nº de unidades permutadas Tipo 3    0 unidade(s)    R\$0    -    0,      Valor do terreno (R\$/m²)    8    0 unidade(s)    R\$0    -    0,      Nº de unidades permutadas Tipo 3    0 unidade(s)    R\$0    -    0,      Total de unidades permutadas    0 unidade(s)    R\$0    -    0,      Valor do Utorga Onerosa    R\$36.000.0000      R\$36.000.0000      Valor total page em dinheiro pel terreno    R\$36.000.0000    (dinheiro + permutas)     R\$36.000.0000      Valor total do terreno (Y.T.T.    R\$36.000.000,00    4,00% sobre V.T.T.     R\$1.440.000,00    4,00% sobre V.T.T.      Despesas com a transferência					m <sup>2</sup>	150.24		Ároz	
TERRENO    www.hamiltonietie.com.hz      Área do terreno (m²)    3.000,00    Valor total das    A.T.P. (m²)    % do      Valor do terreno (R\$/m²)    R\$12.000,00    unidade(s)    R\$0    -    0,      Nº de unidades permutadas Tipo 1    0    0    unidade(s)    R\$0    -    0,      Nº de unidades permutadas Tipo 2    0    0    unidade(s)    R\$0    -    0,      Nº de unidades permutadas Tipo 3    0    unidade(s)    R\$0    -    0,      Nº de unidades permutadas Tipo 3    0    unidade(s)    R\$0    -    0,      Valor da Outorga Onerosa    R\$0,00    R\$0.00    -    0,    R\$36.000.000,00    -    0,      Valor total do terreno (V.T.T.)    R\$36.000.000,00    R\$36.000.000,00    -    0,    R\$36.000.000,00    -    0,      Valor total do terreno (V.T.T.)    R\$36.000.000,00    4,00% sobre V.T.T.    -    R\$36.000.000,00    -    0,      Mês do pag. das desp. c/ transf. do terreno    1    meses após o pagamento do sinal    nov/16    mês      Condições de pagamento    Sinal    6    Correção monet					m <sup>2</sup>	19 090 56		Ároa	
TERRENO    www.hamiltonkete.com.br      Área do terreno (m²)    3.000,00    Valor total das    A.T.P. (m²)    % do      Valor do terreno (R\$/m²)    R\$12.000,00    unids.permutadas    Permutada    V.T.T.      Nº de unidades permutadas Tipo 1    0    unidade(s)    R\$0    -    0,      Nº de unidades permutadas Tipo 3    0    unidade(s)    R\$0    -    0,      Nº de unidades permutadas Tipo 3    0    unidade(s)    R\$0    -    0,      Valor da Outorga Onerosa    R\$0,00     -    0,    0,      Valor total pago em dinheiro pelo terreno    R\$36.000.000,00     -    0,      Valor total do terreno (V.T.T.)    R\$36.000.000,00     -    0,      Valor total do terreno (V.T.T.)    R\$36.000.000,00    4,00% sobre V.T.T.     Mês do pag. das desp. c/ transf. do terreno    R\$1.440.000,00    4,00% sobre V.T.T.      Mês do pag. das desp. c/ transf. do terreno    R\$7.200.000,00    ou    20,00% do total pago em dinheiro      Sinal    R\$7.200.000,00    ou    20,00% do total pago em dinheiro    mess      Mês do pagto. do sinal (ou Valor Total)*    1				]	111	18.989,30		Alea	
Área do terreno (m²)    3.000,00    Valor total das    A.T.P. (m²)    % do      Valor do terreno (R\$/m²)    R\$12.000,00    unids. permutadas    Permutada    V.T.T.      Nº de unidades permutadas Tipo 2    0    unidade(s)    R\$0    -    0,      Nº de unidades permutadas Tipo 3    0    unidade(s)    R\$0    -    0,      Nº de unidades permutadas Tipo 3    0    unidade(s)    R\$0    -    0,      Total de unidades permutadas    0    unidade(s)    R\$0    -    0,      Valor da Outorga Onerosa    R\$0,00     -    0,      Mês do pagamento da outorga    -2    meses em relação ao lançamento    jan/17    mês      Valor total pago em dinheiro pelo terreno    R\$36.000.000,00    -    0,    R\$36.000.000,00    -    0,      Valor total do terreno (V.T.T.)    R\$36.000.000,00    4,00% sobre V.T.T.    0    més do pag. das desp. c/ transf. do terreno    1    meses após o pagamento do sinal    nov/16    mês      Mês do pagto. do sinal (ou Valor Total) *    1    mes(es) a partir do mês base > out-16    mês      Vendas do ripo 1 *    N° de venda por unidad						www.hamiltonleite.com.br	TERRENO		
Valor do terreno (R\$/m²)    R\$12.000,00    unids. permutadas    Permutada    V.T.T.      Nº de unidades permutadas Tipo 1    0 unidade(s)    R\$0    -    0,      Nº de unidades permutadas Tipo 2    0 unidade(s)    R\$0    -    0,      Nº de unidades permutadas Tipo 3    0 unidade(s)    R\$0    -    0,      Nº de unidades permutadas Tipo 3    0 unidade(s)    R\$0    -    0,      Nº de unidades permutadas Tipo 3    0 unidade(s)    R\$0    -    0,      Valor da Outorga Onerosa    R\$0,00    -    0,    -    0,      Valor total pago em dinheiro pelo terreno    R\$36.000.000,00    -    -    0,      Valor total pago em dinheiro pelo terreno    R\$36.000.000,00    -    R\$36.000.000,00    -    -    0,      Valor total pago em dinheiro pelo terreno    R\$1.440.000,01    4,00% sobre V.T.T.    -    R\$36.000.000,00    -    -    0      Mês do pag. das desp. c/ transf. do terreno    I meses após o pagamento do sinal    nov/16    mês      Condições de pagamento    Sinal    R\$7.200.000,00    ou    20,00% do total pago em dinheiro      Nº de	sh %	% do	$\Delta T P (m^2)$	Valor total das	1	3 000 00	a do terreno (m²)	Área	
Nº de unidades permutadas Tipo 1    0    unidade(s)    R\$0    -    0,      Nº de unidades permutadas Tipo 2    0    unidade(s)    R\$0    -    0,      Nº de unidades permutadas Tipo 3    0    unidade(s)    R\$0    -    0,      Nº de unidades permutadas Tipo 3    0    unidade(s)    R\$0    -    0,      Nº de unidades permutadas Tipo 3    0    unidade(s)    R\$0    -    0,      Nº de unidades permutadas Tipo 3    0    unidade(s)    R\$0    -    0,      Valor total de unidades permutadas    0    unidade(s)    R\$0    -    0,      Valor total do utorga    -2    meses em relação ao lançamento    jan/17    mês      Valor total do terreno    R\$36.000.000,00    (dinheiro + permutas)    R\$1.440.000,00    4,00% sobre V.T.T.      Mês do pag. das desp. c/ transf. do terreno    R\$1.440.000,00    4,00% sobre V.T.T.    mês    mês      Condições de pagamento    Sinal    R\$7.200.000,00    ou    20,00% do total pago em dinheiro      Nº de parcelas mensais iguais após o sinal    6    Correção monetária das parcelas (Sem Correção=SC      Mês		VTT	Permutada	unide permutadas		R\$12,000,00	a terreno ( $R$ \$/m <sup>2</sup> )	Valor de	
N° de unidades permutadas Tipo 1    0 unidade(s)    1,00    0,      N° de unidades permutadas Tipo 2    0 unidade(s)    R\$0    -    0,      N° de unidades permutadas Tipo 3    0 unidade(s)    R\$0    -    0,      Total de unidades permutadas    0 unidade(s)    R\$0    -    0,      Valor da Outorga Onerosa    R\$0,00    -    0,    0,      Valor total pago em dinheiro pelo terreno    Valor total do terreno (V.T.T.)    R\$36.000.000,00    -    -    0,      Valor total do terreno (V.T.T.)    R\$36.000.000,00    4,00% sobre V.T.T.    -    0,    -    -    0,0    -    -    0,0    -    0,0    -    0,0    -    0,0    -    -    0,0    -    0,0    -    0,0    -    0,0    -    -    0,0    -    0,0    -    0,0    -    0,0    -    0,0 <td>A.T.F.</td> <td>0.0%</td> <td>-</td> <td>R\$0</td> <td>unidade(s)</td> <td>N\$12.000,00</td> <td>ermutadas Tino 1</td> <td>Valor ut Nº de unidades no</td> <td></td>	A.T.F.	0.0%	-	R\$0	unidade(s)	N\$12.000,00	ermutadas Tino 1	Valor ut Nº de unidades no	
Nº de unidades permutadas Tipo 3    0 unidade(s)    R\$0    -    0,      Nº de unidades permutadas Tipo 3    0 unidade(s)    R\$0    -    0,      Total de unidades permutadas    0 unidade(s)    R\$0    -    0,      Valor da Outorga Onerosa    R\$0,00    -    0,      Mês do pagamento da outorga    -2 meses em relação ao lançamento    jan/17    mês      Valor total pago em dinheiro pelo terreno    Valor total do terreno (V.T.T.)    R\$36.000.000,00    4,00% sobre V.T.T.    0      Despesas com a transferência do terreno    1 meses após o pagamento do sinal    nov/16    mês      Condições de pagamento    Sinal    R\$7.200.000,00    ou    20,00% do total pago em dinheiro      Sinal    R\$7.200.000,00    ou    20,00% do total pago em dinheiro    6    Correção monetária das parcelas (Sem Correção=SC      Mês do pagto. do sinal (ou Valor Total)*    1 mes(es) a partir do mês base > out-16    mês      Vendas, IMPOSTOS E ADMINISTRAÇÃO    www.hamitonleite.com.br    www.hamitonleite.com.br      Valor de venda do Tipo 1    R\$1.592.402,78    www.hamitonleite.com.br      Valor de venda do Tipo 2    R\$0,00    por m² de área privativa    R\$0,00 <td>0,0%</td> <td>0,0%</td> <td>-</td> <td>R\$0</td> <td>unidade(s)</td> <td>0</td> <td>ermutadas Tipo 1</td> <td>Nº de unidades po</td> <td></td>	0,0%	0,0%	-	R\$0	unidade(s)	0	ermutadas Tipo 1	Nº de unidades po	
Total de unidades permutadas    0    unidade(s)    R\$0    -    0,      Valor da Outorga Onerosa    R\$0,00	6 0,0%	0,0%	-	R\$0	unidade(s)	0	ermutadas Tipo 3	Nº de unidades po	
Valor da Outorga Onerosa Mês do pagamento da outorga    R\$0,00      Mês do pagamento da outorga    -2 meses em relação ao lançamento      Valor total pago em dinheiro pelo terreno Valor total do terreno (V.T.T.)    R\$36.000.000,00      Despesas com a transferência do terreno    R\$1.440.000,00      Mês do pag. das desp. c/ transf. do terreno    1 meses após o pagamento do sinal      Mês do pag. das desp. c/ transf. do terreno    1 meses após o pagamento do sinal      Sinal    R\$7.200.000,00    ou      Nº de parcelas mensais iguais após o sinal Mês do pagto. do sinal (ou Valor Total)*    1 mes(es) a partir do mês base > out-16    mês      VENDAS, IMPOSTOS E ADMINISTRAÇÃO    www.hamiltonleite.com.br    www.hamiltonleite.com.br      Valor de venda do Tipo 1    R\$1.592.402,78    www.hamiltonleite.com.br      Valor de venda do Tipo 2    R\$0,00 por m² de área privativa    R\$0,00 por m² de área privativa	6 0.0%	0.0%	-	R\$0	unidade(s)	0	ades permutadas	Total de unid	
Mês do pagamento da outorga    -2 meses em relação ao lançamento    jan/17    mês      Valor total pago em dinheiro pelo terreno    R\$36.000.000,00    R\$36.00	,-,-					R\$0.00	Outorga Onerosa	Valor da	
Valor total pago em dinheiro pelo terreno Valor total do terreno (V.T.T.)    R\$36.000.000,00      Despesas com a transferência do terreno    R\$36.000.000,00      Mês do pag. das desp. c/ transf. do terreno    1 meses após o pagamento do sinal      Omições de pagamento    1 meses após o pagamento do sinal      Sinal    R\$7.200.000,00    ou      Nº de parcelas mensais iguais após o sinal    6    Correção monetária das parcelas (Sem Correção=SC      Mês do pagto. do sinal (ou Valor Total) *    1 mes(es) a partir do mês base > out-16    mês      VENDAS, IMPOSTOS E ADMINISTRAÇÃO    www.hamiltonleite com br    vwww.hamiltonleite com br      Valor de venda do Tipo 1 *    R\$1.592.402,78    R\$1.592.402,78      Valor de venda do Tipo 2    R\$0,00 por m² de área privativa	4	mês	jan/17	ição ao lancamento	meses em rela	-2	mento da outorga	Mês do pagan	
Valor total do terreno (V.T.T.)    R\$36.000.000,00 (dinheiro + permutas)      Despesas com a transferência do terreno    R\$1.440.000,00 4,00% sobre V.T.T.      Mês do pag. das desp. c/ transf. do terreno    1 meses após o pagamento do sinal nov/16 mês      Condições de pagamento    Sinal      Nº de parcelas mensais iguais após o sinal    6      Mês do pagto. do sinal (ou Valor Total) *    1 mes(es) a partir do mês base > out-16 mês      VENDAS, IMPOSTOS E ADMINISTRAÇÃO    www.hamiltonleite.com.br      Valor de venda do Tipo 1 *    R\$1.592.402,78      Valor de venda do Tipo 2    R\$0,00 por m² de área privativa				, ,		R\$36.000.000,00	neiro pelo terreno	lor total pago em dinh	Va
Despesas com a transferência do terreno    R\$1.440.000,00    4,00% sobre V.T.T.      Mês do pag. das desp. c/ transf. do terreno    1 meses após o pagamento do sinal    nov/16      Condições de pagamento    Sinal    R\$7.200.000,00    ou    20,00% do total pago em dinheiro      Nº de parcelas mensais iguais após o sinal    6    Correção monetária das parcelas (Sem Correção=SC      Mês do pagto. do sinal (ou Valor Total) *    1 mes(es) a partir do mês base > out-16    mês      VENDAS, IMPOSTOS E ADMINISTRAÇÃO    www.hamiltonleite.com.br      Valor de venda do Tipo 1 *    R\$1.0000,00 por m² de área privativa      Valor de venda do Tipo 1    R\$1.592.402,78      Valor de venda do Tipo 2    R\$0,00 por m² de área privativa				ermutas)	(dinheiro + p	R\$36.000.000,00	lo terreno (V.T.T.)	Valor total d	
Mês do pag. das desp. c/ transf. do terreno    1 meses após o pagamento do sinal    nov/16    mês      Condições de pagamento    Sinal    R\$7.200.000,00    ou    20,00% do total pago em dinheiro      Nº de parcelas mensais iguais após o sinal    6    Correção monetária das parcelas (Sem Correção=SC      Mês do pagto. do sinal (ou Valor Total) *    1 mes(es) a partir do mês base > out-16    mês      VENDAS, IMPOSTOS E ADMINISTRAÇÃO    www.hamiltonleite.com.br    verwww.hamiltonleite.com.br      Valor de venda do Tipo 1 *    R\$1.592.402,78    R\$1.592.402,78      Valor de venda do Tipo 2    R\$0,00 por m² de área privativa    R\$1.592.402,78				sobre V.T.T.	4,00%	R\$1.440.000,00	rência do terreno	espesas com a transfe	De
Condições de pagamento      Sinal    R\$7.200.000,00    ou    20,00% do total pago em dinheiro      Nº de parcelas mensais iguais após o sinal    6    Correção monetária das parcelas (Sem Correção=SC      Mês do pagto. do sinal (ou Valor Total) *    1    mes(es) a partir do mês base > out-16    mês      VENDAS, IMPOSTOS E ADMINISTRAÇÃO      Valor de venda do Tipo 1 *    R\$10.000,00 por m² de área privativa      Valor de venda do Tipo 1    R\$1.592.402,78      Valor de venda do Tipo 2    R\$0,00 por m² de área privativa	2	mês	nov/16	bagamento do sinal	meses após o p	1	transf. do terreno	s do pag. das desp. c/ t	Mês
Sinal    R\$7.200.000,00    ou    20,00% do total pago em dinheiro      № de parcelas mensais iguais após o sinal    6    Correção monetária das parcelas (Sem Correção=SC      Mês do pagto. do sinal (ou Valor Total) *    1    mes(es) a partir do mês base >    out-16    mês      VENDAS, IMPOSTOS E ADMINISTRAÇÃO    www.hamiltonleite.com.br    Valor de venda do Tipo 1 *    R\$10.000,00 por m² de área privativa      Valor de venda por unidade Tipo 1    R\$1.592.402,78    Valor de área privativa    Valor de venda do Tipo 2    R\$0,00 por m² de área privativa							ies de pagamento	<u>Condiçõ</u>	
Nº de parcelas mensais iguais após o sinal    6    Correção monetária das parcelas (Sem Correção=SC      Mês do pagto. do sinal (ou Valor Total) *    1 mes(es) a partir do mês base >    out-16    mês      VENDAS, IMPOSTOS E ADMINISTRAÇÃO    www.hamiltonleite.com.br    Valor de venda do Tipo 1 *    R\$10.000,00 por m² de área privativa      Valor de venda por unidade Tipo 1    R\$1.592.402,78    Valor de área privativa    Valor de venda do Tipo 2		iheiro	do total pago em dir	20,00%	ou	R\$7.200.000,00	Sinal		
Mes do pago. do sinal (ou valor rotal) *    1 mes(es) a partir do mes base >    OUt-16    mes      VENDAS, IMPOSTOS E ADMINISTRAÇÃO    www.hamiltonleite.com.br      Valor de venda do Tipo 1 *    R\$10.000,00 por m² de área privativa    R\$1.592.402,78      Valor de venda do Tipo 2    R\$0,00 por m² de área privativa		m Correçao=SC) :	aria das parcelas (Se	Correçao monet		6	guais apos o sinal	de parcelas mensais i	Nº
VENDAS, IMPOSTOS E ADMINISTRAÇÃO      www.hamiltonielite.com.br      Valor de venda do Tipo 1 *    R\$10.000,00 por m² de área privativa      Valor de venda por unidade Tipo 1    R\$1.592.402,78      Valor de venda do Tipo 2    R\$0,00 por m² de área privativa	1	mes	001-16	ir do mes base >	mes(es) a pari	1		nes do pagio, do sinal	IV
Valor de venda do Tipo 1 * R\$10.000,00 por m <sup>2</sup> de área privativa Valor de venda por unidade Tipo 1 R\$1.592.402,78 Valor de venda do Tipo 2 R\$0,00 por m <sup>2</sup> de área privativa						www.hamiltonleite.com.br	ADMINISTRAÇÃO	ENDAS, IMPOSTOS E A	V
Valor de venda por unidade Tipo 1 R\$1.592.402,78 Valor de venda do Tipo 2 R\$0,00 por m <sup>2</sup> de área privativa				a privativa	por m <sup>2</sup> de área	R\$10.000,00	venda do Tipo 1 *	Valor de v	
Valor de venda do Tipo 2 R\$0,00 por m <sup>2</sup> de área privativa				·		R\$1.592.402,78	or unidade Tipo 1	Valor de venda po	
				a privativa	por m² de área	R\$0,00	e venda do Tipo 2	Valor de	
Valor de venda por unidade Tipo 2 R\$0,00						R\$0,00	or unidade Tipo 2	Valor de venda po	
Valor de venda do Tipo 3 R\$0,00 por m² de área privativa				a privativa	por m² de área	R\$0,00	e venda do Tipo 3	Valor de	
Valor de venda por unidade Tipo 3 R\$0,00						R\$0,00	or unidade Tipo 3	Valor de venda po	
Valor Geral de Vendas (VGV) R\$114.653.000,00 (Valores de venda das unidades permutadas não incluídos)		dos)	ermutadas não inclu	venda das unidades pe	(Valores de v	R\$114.653.000,00	de Vendas (VGV)	Valor Geral	
Valor de venda médio <u>R</u> \$1.592.402,78						R\$1.592.402,78	r de venda médio	Valor	
Corretagem R\$4.586.120,00 4,00% sobre VGV (paga no mês do recebimento do sinal)		do sinal)	nês do recebimento	sobre VGV (paga no r	4,00%	R\$4.586.120,00	Corretagem		
Impostos R\$7.796.404,00 6,80% sobre VGV (incorridos sobre os valores das receitas)		is receitas)	s sobre os valores da	sobre VGV (incorrido	6,80%	R\$7.796.404,00	Impostos		
Administração da Incorporação e da SPE R\$3.439.590,00 3,00% sobre VGV (do mês 1 até 6 meses após o Habite-se)		Habite-se)	até 6 meses após o	sobre VGV (do mês 1	3,00%	R\$3.439.590,00	rporação e da SPE	Administração da Incor	А
Mês de lançamento (início das vendas) *      6      meses a partir do mês base      mar-17      mês	6	mês	mar-17	do mês base	meses a partir	6	icio das vendas) *	ês de lançamento (iní	M
Prazo entre o Lançamento e Chaves 36 meses				J	meses	36	amento e Chaves	Prazo entre o Lanç	

TABELA DE VENDAS	www.hamiltonleite.com.br				
	Valor Tot	al	Valor da	parcela	Nº de
	(Tipo 1)	Percentual	(Tipo 1)	Percentual	parcelas
Sinal	R\$95.544,17	6,00%	R\$95.544,17	6,00%	1
Mensais (entre lançamento e Chaves)	R\$318.480,56	20,00%	R\$9.367,08	0,59%	34
Verificar comentário na marca vermelha -> Semestrais	R\$0,00	0,00%	R\$0,00	0,00%	4
Verificar comentário na marca vermelha -> Anuais	R\$63.696,11	4,00%	R\$31.848,06	2,00%	2
Chaves (no mês do Habite-se)	R\$79.620,14	5,00%	R\$79.620,14	5,00%	1
TOTAL recebido até as Chaves (inclusive)	R\$557.340,97	35,00%			
Pós Chaves (Pós C.)	R\$1.035.061,81	65,00%			
Financiamento bancário ao cliente (P.C.)	Tx. juros (ao ano) :	11,00%	R\$13.955,89	/mês (juros incluídos)	120
Financiamento direto ao cliente (P.C.)	Tx. juros (ao ano) :	12,68%	R\$34.377,75	/mês (juros incluídos)	36

Obs.: os valores das parcelas mensais, semestrais e anuais que tenham data de pagamento anterior ao mês da venda das unidades comercializadas após o mês de lançamento, conforme definido no quadro "Velocidade de Vendas" abaixo, são incorporados proporcionalmente ao valor do sinal de cada nova unidade vendida após o mês de lançamento.

OBRAS	www.hamiltonleite.com.br				
Mês de início das obras (MIO) *	9	meses a partir do lançamento ->	dez-17	mês	15
Mês de conclusão das obras (MCO) *	24	meses de prazo -> Conclusão em:	dez-19	mês	38
Mês da entrega das Chaves (Habite-se) *	3	meses após o término da obra ->	mar-20	mês	41
Custo da Obra (atualização pelo INCC)	R\$2.173,57	por m <sup>2</sup> de área total construída			
Custo da Obra (atualização pelo INCC)	R\$3.600,00	por m <sup>2</sup> de área privativa			_

Custo Total da Obra, incl. projetos (C.T.O.) \* R\$41.275.080,00 (inclue desp. indiretas, benefícios ou taxa de adm. e projetos executivos) Proporção de desembolso com as obras

Obra, Incl. projetos (C.1.O.)	R\$41.275.080,00	(1110
de desembolso com as obras		
Durante 1º terço das obras *	20,00%	
Durante 2º terço das obras *	42,00%	

38,00%

## Durante 3º terço das obras \* VELOCIDADE DE VENDAS

N° total de unidades disponíveis para venda: 72

	www.hamiltonleite.com.br		Unidades			
	N° de meses	por mês	no pe	ríodo	acumulado	
No mês do lançamento *	1	6	6	8,3%	6	8,3%
Entre o lançamento e o inicio das obras *	8	2	16	22,2%	22	30,6%
Durante 1º terço das obras *	8	2	16	22,2%	38	52,8%
Durante 2º terço das obras *	8	2	16	22,2%	54	75,0%
Durante 3º terço das obras *	8	2	16	22,2%	70	97,2%
Verificar comentário na marca vermelha -> Após as obras	1	2	2	2,8%	72	100,0%

DESPESAS PRÉ OPERACIONAIS	www.hamiltonleite.com.br				Mês	N° de
	Valor	% / VGV	Meses em	relação ao	Inicial	parcel.
Despesas Juridicas + Reg. da Incorporação	R\$1.375.836,00	1,20%	lançamento :	-4	nov-16	24
Pesquisas e Estudos Preliminares	R\$687.918,00	0,60%	mês base :	1	out-16	6
Propaganda, Promoção e MKT	R\$6.879.180,00	6,00%	lançamento :	-1	mar-17	18

FINANCIAMENTO PARA AS OBRAS	www.hamiltonleite.com.br					
Taxa de juros de financiamento p/ obras	0,87%	ao mês	11,00%	ao ano		
Correção monetária do fin. p/ obras (CMF)	0,00%	ao mês <>	Sem Correção			
Valor do financ. para as obras (VFO) *	R\$28.892.556,00	<>	70,00%	do C.T.O.		
Taxa de Estruturação da Operação (TEO)	R\$0,00	<>	0,00%	do V.F.O.		
% mínimo de <u>obra</u> s p/ início das liberações	20,00%				_	
% mínimo de <u>vendas</u> p/ início das liberações	40,00%				_	
Cobrança de Juros	М	(M=mensal ou	P=no mês do pagam	ento do principal)		
Mês base do contrato de financ. p/ obra	0	meses em relag	ção ao <mark>MIO</mark> ->	dez-17	mês	15
Mês da 1a. liberação do financ. p/ obra	8	meses em rela	;ão ao <mark>MIO</mark> ->	ago-18	mês	23
Mês do pagto. do financ. p/ obra e repasses	4	meses a partir	das chaves ->	jul-20	mês	45
Total de juros do financ. para as obras	R\$3.217.977,65					
Valor Financiado + Juros	R\$32.110.533,65					_
Pós C. recebido à vista ou repassado ao banco	90%	das unidades n	ão permutadas =	64	unidades	
Unidades financiadas pelo Incorporador	10%	das unidades n	ão permutadas =	8	unidades	
Total de Repasses de Financiamento Bancário	R\$66.243.955,56					

#### RESULTADOS

Empresa:	Secovi-SP					
Nome do Empreendimento:	Empreendimento conve	encional - Sem	projet	o de Locaçã	ão Acessível Residencia	al
-	www.hamiltonleite.com.br					
<u>ANÁLISE ESTÁTICA</u>					Data :	31/08/16
_						
TOTAL DE RECEITAS	R\$117.101.348,26					
Valor Geral de Vendas (VGV)	R\$114.653.000,00					
Juros (financiamento direto pós chaves)	R\$2.448.348,26					
	www.hamiltonleite.com.br				_	
TOTAL DE CUSTOS E DESPESAS	-R\$106.208.207,02	92,63%	sobre '	V.G.V.		
Valor total pago em dinheiro pelo terreno	-R\$35.343.613,69	30,83%	sobre '	V.G.V.	Valor do terreno de	flacionado
Despesas com a transferência do terreno	-R\$1.440.000,00	1,26%	"	н		
Valor da Outorga Onerosa	R\$0,00	0,00%	"	н		
Custo Total da Obra (C.T.O.)	-R\$41.275.080,00	36,0%	"	н		
Corretagem	-R\$4.586.120,00	4,00%	"	"		
Impostos	-R\$7.962.891,68	6,95%	"	н	Incluídos impostos so	bre juros cobrados pós-cha
Administração da Incorporação e da SPE	-R\$3.439.590,00	3,00%	"	"		
Despesas Juridicas + Reg. da Incorporação	-R\$1.375.836,00	1,20%	"	"		
Pesquisas e Estudos Preliminares	-R\$687.918,00	0,60%	"	н		
Propaganda, Promoção e MKT	-R\$6.879.180,00	6,00%	"	"		
Total de juros do financ. para as obras	-R\$3.217.977,65	2,81%	"	н		
Taxa de Estruturação da Operação (TEO)	R\$0,00	0,00%	"	н	Valor da TEO deflacionad	a pelo delta entre o IGPM e a G
_	www.hamiltonleite.com.br					_
PESUITADO	P\$10 902 141 22	9,3%	sobre '	V.G.V.		
Sr RESOLIADO	NJ10.895.141,25	10,3%	sobre	Custos e De	spesas	
-						-
ANÁLISE DINÂMICA						
-	www.hamiltonleite.com.br					-
TIR (Taxa Interna de Retorno)	6,52% a	ao ano		0,53	3% ao mês	
TIR (incluído IGP-M)	12,87% a	ao ano		1,01	.% ao mês	
TR Restrita (investimentos à valor presente)	7,16% a	ao ano		0,58	3% ao mês	
TR Restrita (incluído IGP-M)	13,55% a	ao ano		1,06	5% ao mês	
VPL Receitas / VPL Despesas -1	-6,43%	Utilizado :	(	),8735%	ao mês para cálculo	do Valor Presente
VPL Retorno / VPL Investimento -1	-12,12%	Utilizado :	C	),8735%	ao mês para cálculo	do Valor Presente
Investimento <sub>vp</sub> (Valor Presente)	R\$46.833.845,15	Utilizado :	0	),8735%	ao mês (COP) para	cálculo do Valor Present
Investimento <sub>n</sub> (Nominal)	R\$49.579.240,85					
Retorno	R\$60.472.382,09		www.ha	miltonleite.com.		
Resultado Dinâmico (Retorno - Investimento,)	R\$10.893.141,23	<>		22,0	)% do valor investido	]
Payback	45 r	neses		3,	8 anos	1

# ANNEX I

#### **IMPOSTOS INCIDENTES SOBRE LOCAÇÃO**

#### > A – BASE DE CÁLCULO:

> Levando-se em conta que o titular do imóvel e, consequentemente, da receita de locação, seja uma empresa privada, com objeto imobiliário e que a receita bruta anual não seja mais do que R\$78Milhões, a tributação da securitização das receitas de locação, via de regra, pode se dar de duas formas:

> (i) Considerando como base de cálculo da tributação o Valor Presente dos Créditos: A regra de contabilização e de reconhecimento do resultado de receitas diferidas vem cada vez mais se aproximando das regras aplicadas fora do Brasil (IFRS e USGAP), mas muita coisa ainda é nova e não possui uma única interpretação, dessa forma algumas empresas optam por tributar a receita de locação antecipada tendo como base de cálculo o valor presente do fluxo, ou seja, aquilo que efetivamente foi captado/recebido pela empresa com a operação de securitização de recebíveis. Considerando essa interpretação que este (o valor que a empresa realizou) seria o "fair value" (valor justo) da receita no tempo que a locadora abriu mão.

> (ii) Considerando como base de cálculo da tributação o Valor Nominal dos Créditos: Outra forma de interpretação é considerar que a receita de locação, embora tenha sido cedida, o seu reconhecimento deveria ser feito na integralidade pela empresa que cedeu. De forma que a base de calculo dos impostos incidentes sobre a locação fosse o valor total do fluxo e não apenas o valor presente que entrou no caixa da empresa.

#### > B – PERIODICIDADE DE APURAÇÃO:

Em ambos os casos, a periodicidade do reconhecimento da receita e, consequentemente da sua tributação, deveria seguir a mesma periodicidade do contrato que se originou o fluxo dos aluguéis, ou seja, se for estipulado que o pagamento da locação é mensal, o reconhecimento da receita, por sua vez, também deverá se dar mensalmente.

Para exemplificar, se fizéssemos a securitização de um contrato de locação de 10 anos, com pagamentos de alugueis mensais, faríamos um caixa na empresa detentora do imóvel na data do pagamento da cessão dos créditos e reconheceríamos o seu resultado proporcional a 1/120 avos mensalmente e colheríamos os impostos sobre 1/120 avos sobre (i) o valor presente (se adotarmos a primeira interpretação) ou (ii) o valor nominal (se adotarmos a segunda interpretação).

#### > C – ALÍQUOTA EFETIVA:

> Pela regra tributária vigente a alíquota efetiva de impostos considerando IR, CSLL, PIS e Cofins para uma empresa com objeto imobiliário, cuja receita bruta total no ano seja inferior a R\$78milhões, será de aproximadamente 14,53% incidentes sobre a totalidade da receita de locação.

#### >> FERNANDO JOSÉ MAXIMIANO

# ANNEX II

Funding - CRI		
Captação Bruta	R\$	24.404.827
Subordinação	%	25,0%
Таха	% .а.а.	2,8%
Taxa	% .a.m.	0,23%
Período	meses	168 meses
Custos estrutura CRI	% Recebíveis	2,0%
Captação líquida	R\$	22.940.537
Mês do início da securitização		48 meses
Resultados		
Custo de oportunidade mensal	% a.m.	0,50%
Custo de oportunidade anual	% a.a.	6,17%
Desalavancado		
TIR mensal (Desalavancado)	% a.m.	0.63%
TIR anual (Desalavancado)	ее%	7 80%
Exposição máxima (Desalavancado)	R\$	(29.175.038)
Margem (VP/VGV teórico)	% VGV	10.45%
VPL	R\$	R\$ 4.683.468
Payback	mês	182
Alavancado		
TIR mensal (Alavancado)	% a.m.	1,13%
TIR anual (Alavancado)	% a.a.	14,39%
Exposição máxima (Alavancado)	R\$	(8.534.093)
Margem (VP/VGV teórico)	% VGV	22,12%
VPL	R\$	R\$ 9.911.456
		171
Comprometimento de renda	%	30%
Renda mínima	R\$	2.839
SM	R\$	880
Faixa de renda mínima	SM	3,23
Renda mínima (1 a 3 SM - 60%)	SM	3,00
Renda minima (3 a 6 SM - 20%) Renda mínima (1 ivre - 20%)	MS MS	5,00 2 13
	5	2

Premissas construção		
Obra		
Custo da Obra sem Taxa Adm.	(R\$/m²)	2.273
Custo Total da Obra sem Taxa Adm.	R\$	(21.817.913)
Taxa de Administração	%	10%
Custo da Obra com Taxa Adm.	(R\$/m²)	2.500
Custo Total da Obra com Taxa Adm.	R\$	(23.999.704)
Prazo das Obras	meses	24 meses
Despesas		
N° meses antes do início obra	meses	12 meses
% Marketing até início obra	% VGV	0,00%
% Marketing durante obra	% VGV	0,00%
% Marketing pós obra	% VGV	1,00%
Despesas de Projeto	% VGV	1,50%
Outorga Onerosa	R\$	(0)
Mês em que a OO é paga		12
Drominene Contine Aliminel		
% Impostos	%	4.0%
% Manitencão/Condomínio	%	2 00%
% Assist. social	%	2.00%
Custo de comercializacão	(entre 0 e 3 aluquéis)	2
Fator Valor Residual	%	50,0%
Financiamento obra		
% LTV	%	80,0%
Juro do programa locação c/ TR	% .a.a.	9,0%
Inflação	% .a.a.	6,0%
Таха	% .а.а.	2,83%
Таха	% .a.m.	0,23%
Período do Financiamento	meses	180 meses
Carência após a obra (com pagamento de juros)	meses	12 meses
Pagamento de juros durante a obra	S ou N	S
Saldo devedor	R\$	(19.199.763)
		(1.050.579)

Premissas imobiliárias - aluguel		
Valor do aluguel	R\$/m <sup>2</sup>	22,00
Área média das unidades	m²	38,71
Aluguel pago pelos moradores	R\$/mês	852
Inadimplência + Vacância Moradores	%	5%
Taxa de ocupação	%	95%
Veloc. de ocupação (Tempo de estabilização)	meses	9
Perda inflácionária (0,8)	% a.m.	0,50%
Início do aluguel	meses	37 meses
Valor do aluguel - Iojas	R\$/m <sup>2</sup>	40,00
Valor do aluguel - sala comercial	R\$/m <sup>2</sup>	40,00
Premissas Imobiliárias - terreno		
Fração do terreno	(R\$/un)	20.000
Valor total do Terreno	R\$	(4.000.000)
N° de parcelas iguais	meses	с С
ITBI	%	3,00%
Valor da fração de terreno/m²	R\$/m <sup>2</sup>	517
Coeficiente de Aproveitamento Residencial	CA	4,00
CA adicional - Fachada ativa (Lojas)	(entre 0% e 20%)	10%
CA adicional - Salas comerciais	(entre 0% e 20%)	20%
Área total Lojas	m²	619
Área total Salas comerciais	m²	1.239
Área total Residencial	m²	7.742
Valor terreno/m²	R\$/m²	2.067
Área	m²	1.935
Período de amortização (Duration)	meses	180 meses
Número de unidades	(un)	200
Valor de mercado do imóvel novo	R\$	224.000
Valor da unidade/m <sup>2</sup>	R\$/m²	5.787
VGV	R\$	44.800.000
Financiamento Terreno		
% LTV	%	50,0%
Juro do programa locação c/ TR	% .a.a.	0,0%
Inflação	% .а.а.	0,0%
Таха	% .а.а.	0,00%
Таха	% .a.m.	0,00%
Financiamento	meses	36 meses
Saldo devedor no início do pgto	R\$	(2.000.000)
Mês do início do financiamento		48 meses

LAR - LOCAÇÃO ACESSÍVEL RESIDENCIAL

**RESUMO DOS RESULTADOS** 

VARIÁVEIS Valor aluguel	(R\$/m²)	22	Intervalos de referência 25 a 45	50.00000      FLUXO DE CAIXA        40.000.000
rraçao do terreno Juro do programa locação FGTS c/ TR	(K\$/un) (% aa)	%6	20.000 00 40.000 9% ou 15%	30.000.000 20.000.000
Período do Financiamento	(meses)	180	180 ou 60	10.000.000
Carência após a obra - com pagamento de juros	(meses)	12	12 ou 0	S42 S42 S42 S42 S42 S42 S42 S42
CRI Júnior - não securitizado	(%)	25%	25% ou 100%	
Financiamento do terreno CDHU	(%LTV)	50%	50% on 0%	(000°000)
Impostos sobre aluguel	(%)	4%	4% a 15%	(40.000.000)
			EIXO	ZEIS.3

	_	SIMIL ACÃO	0) SEH	1) CEH	1 1) CENTCEL	2) EGTS	2 1) EGTS4SED	3) EGTS+CDHII	3.1)	(†	4.1) FGTS+CDHU
						2121/2	000.0101/1		FGTS+CDHU+SEC	FGTS+CDHU+RET	+RET+SEC
Alavancado											
TIR anual	(% aa)	14,39%	14,17%	14,16%	14,13%	14,01%	14,32%	14,16%	14,66%	14,50%	14,39%
Exposição máxima	(R\$)	(8.534.092,96)	(17.287.782,05)	(15.671.997,01)	(10.771.119,91)	(10.550.649,78)	(10.549.037,12)	(8.546.618,15)	(8.546.618,15)	(8.534.227,80)	(8.534.092,96)
Margem	(% VGV)	22,12%	49,65%	41,13%	23,95%	28,79%	23,71%	25,73%	22,47%	26,68%	22,12%
VPL	(R\$)	9.911.456	22.243.892	18.427.561	10.728.047	12.898.364	10.623.092	11.528.019	10.067.783	11.951.821	9.911.456
Payback	(mês)	171	124	133	144	135	131	156	166	150	171
Valor aluguel	(R\$/m²)	22,00	65,00	50,00	46,00	32,00	30,00	27,00	27,00	23,00	22,00
Valor total aluguel	(R\$)	851,60	2.516,10	1.935,46	1.780,62	1.238,69	1.161,28	1.045,15	1.045,15	890,31	851,60
Faixa de renda média	(MS)	3,2	9,5	7,3	6,7	4,7	4,4	4,0	4,0	7'8	3,2
Faixa de renda HIS 1 (60%)	(1 a 3 SM)	3,0		3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0
Faixa de renda HIS 2 (20%)	(3 a 6 SM)	5,0		5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0
Faixa de renda R2V (20%)	(SM)	2,1		22,7	19,7	9,5	8,0	5,8	5,8	2,9	2,1
				2.508,00							
Fração do terreno	(R\$/un)	20.000	40.000	20.000	20.000	20.000	20.000	20.000	20.000	20.000	20.000
Juro do programa locação FGTS c/ TR	(% aa)	%6	15%	15%	15%	%6	%6	%6	%6	%6	%6
Período do Financiamento	(meses)	180	60	60	60	180	180	180	180	180	180
Carência após a obra - com pagamento de juros	(meses)	12	0	0	0	12	12	12	12	12	12
CRI Júnior - não securitizado	(%)	25%	100%	100%	25%	100%	25%	100%	25%	100%	25%
Financiamento do terreno CDHU	(%TTV)	20%	%0	%0	%0	%0	%0	15%	20%	20%	20%
Impostos sobre aluguel	(%)	4%	15%	15%	15%	15%	15%	20%	15%	4%	4%