

El paradigma del crecimiento y las *Shrinking cities*. Caso de Estudio: Tokio

Shrinking cities and the growth paradigm. Tokyo Case Study

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Los sistemas de producción post-fordistas, definidos por una producción flexible y des-localizada, provocaron un cambio en la geografía de la producción. En consecuencia, se forjó una nueva dinámica en los procesos de urbanización que afectó a muchas ciudades culminando en dos tipos -a priori- antagónicos de ciudades: las *shrinking cities* y las ciudades globales. La definición de Tokio es controvertida. Algunas investigaciones académicas señalan la existencia del shrinkage, en tanto que la ciudad se sitúa sistemáticamente entre las primeras posiciones dentro de las ciudades globales. Este estudio de caso analiza la trayectoria de la ciudad para arrojar luz sobre el proceso que está teniendo lugar. La investigación muestra la presencia de un proceso simultáneo y desigual de crecimiento y decrecimiento, bien diferenciado del city shrinkage, ya que no evidencia las implicaciones negativas del declive. No obstante manifestaciones de deterioro y vacío urbano son apreciables en el tejido de la ciudad.

ABSTRACT:

Post-Fordist production systems, defined by flexible and delocalized production, brought in a shift in the geography of production. In consequence, a new dynamic in urbanization processes was forged affecting many cities across the world culminating in two -a priori- antagonistic types of cities: shrinking cities and global cities. There is controversy in the definition of Tokyo, as some academic research point out the existence of the shrinking process whilst the city is consistently ranked at the forefront position within the global cities. Organized as a case study, this research analyses the city trajectory in order to shed light into the process taking place. The investigation shows the presence of a simultaneous, uneven process of growth and de-growth, well differentiated from city shrinkage as the negative

implications of decline and failure are not present. Nonetheless, some manifestations of urban deterioration are noticeable.

1 INTRODUCTION

The Second Industrial Revolution was manifested territorially through the development of highly specialized cities. Neoliberal policies leaning towards deregulation, relocation and flexibilization of work as well as favoring production and financial activities triggered a paradigm shift in urbanization. Most industrial areas were left to face severe shrinkage. These shrinking cities lost their competitive advantage to highly centralized metropolises capable of providing advanced services demanded by global capitalism.

Academically, a shrinking city is defined as an 'urban area that has experienced population loss, economic downturn, employment shrinkage and social problems as symptoms of a structural crisis (Martinez- Fernandez, 2012). The Shrinking Cities International Research Network has framed its research strategy on the assumption that urban shrinkage is a global process and measured the phenomenon by the use of indicators largely based on demographic parameters. Consequently, more complex urban dynamics were excluded from the analysis. Within the context of traditional industrial settings, such demographic parameters did condition the evolution of a city and its growth. However, with the current rate of technological development, it is unlikely that these parameters will continue to define the success of a city. Moreover with the current model swift towards scenarios in which maximal growth is not the final goal in the trajectory of cities, due to demographic, environmental or resource-related reasons; it seems feasible that population -based indicators will lose importance.

This investigation is concerned with the processes faced by consolidated post-industrial conurbations in their struggle to maintain relevance in the new era of global cities. To this end, Tokyo is studied in detail to explore the causes leading to the spatial manifestation of urban deterioration, empty housing and the population loss. All reasons for which Tokyo is considered a shrinking city. This classification is not widely accepted, and the surrounding controversy led us to understand shrinking also as a phase in the evolutionary trajectory of a city devoid of negative implications of decline and failure.

2 THEORETICAL BACKGROUND

Urban decline as a socioeconomic, demographic, environmental and geographical phenomenon is strongly related with post-industrialization, with succeeding cycles of urban growth and decline being the manifestation of the creative-destruction process of industrial capitalism (Pallagast, 2013). Post-Fordist production systems, defined by flexible and delocalized production, brought in a shift in the geography of production. In consequence, a new dynamic in urbanization processes was forged affecting many cities across the world culminating in two -a priori- antagonistic types of cities: shrinking cities and global cities.

Before the information age began, the most important cities in the world were shaped by the flow of people, goods and knowledge made possible by the improvement in transport means (Castells, 2004). Such varied contributions led to cities possessing unique identities, singularities and differences. These world-cities did not compete with each other a, by definition they were diverse and had their particular area of influence. They were innovation hubs, centers of power and exchange of products as well as information. These cities were independent economies with unique realities inscribed within diverse political and cultural systems. During the 1980s a new type of city, the global cities, emerged. Various authors (Castells, Sassen, Harvey and Soja) explain this phenomenon by the dispersion triggered by information technologies as well as the free circulation of capital and the delocalization of industrial production. These global cities function as centers of the coordination, control and service for global capital. They concentrate command functions, are production sites for the new leading industries (mainly financial and specialized services with the addition more recently of the knowledge economy, multimedia and creative industries).

Nevertheless, the appearance of these global cities came at a cost. As a direct consequence of this new economy, technological developments and changes to work processes, many of the large industrial hubs in developed countries suffered a severe process of decline. Impacts of new global dynamics are evident in urban areas with underutilized infrastructure, empty or abandoned residential areas and obsolete production spaces. The most significant examples of this process are cities of the American Rust Belt or German cities in the Ruhr Valley. A line of research defines these cities as shrinking cities.

The differences between the former, cities that 'have' and the latter, the cities that 'do not have' are obvious. Several authors (Scott and Storper, Sassen, Castells and Harvey) point out that inequalities are deepening between global cities integrated in dominant global networks and those that do not belong to such systems. These so-called 'losing' cities, despite being important conglomerations and local centralities, are relegated to a second-tier position. This relegation causes them to lose social capital making it difficult to revert the process. Shrinking cities resulting from this reorganization are not only the forgotten collateral effect of globalization but also its living image.

In addition to these processes, when the growth machine is activated, cities become one more element of transaction and consumption for the rent seeking real estate market. This creative destruction process excludes, in addition to productive activities, the lower and disadvantaged classes. Such interventions, mostly mediated by private initiative, take place with public consent and usually are located in the brown fields generated by the shrinkage process. Hence, new sectors of growth, new organizational capacities of the companies and new technologies, all of them interrelated; contribute to produce not only a new geography of centrality, but also a new geography of marginality (Sassen, 1998).

The classic concept of urban decline was conceived within the context of the Fordist process of industrialization. Almost a century after its conception, this model

is of little relevance in today's globalised context, where cities have to face intense processes of restructuring and strategic positioning. Therefore the consideration of city shrinkage as the spatial manifestation of a global process that is accompanied by a new regime of accumulation that surpasses the explanation of cyclical processes seems to be more appropriate. Especially since the production system is being restructured generating spatial effects, promoted by the mobility and volatility of foreign investment for which cities today must compete (Martinez-Fernandez, 2012)?

The term shrinking cities describes, in general, densely populated urban areas that show a sustained loss of population and undergo economic transformations that denote symptoms of structural crisis (Oswalt, 2006). The Shrinking Cities International Research Network defines the process as the result of demographic, economic, social, physical and political transitions that occur simultaneously in a city. For the academic Karina Pallagst (2005) it is a multidimensional phenomenon, specifically local that is evidenced by the economic and social decline of cities. In most of the specific studies, the terms shrinking city and urban decline show strong correlations. However, in a case-study on Salamanca, shrinkage expands from the city-centre to its metropolitan area but the manifestations of urban decline are not perceivable (Riva de Monti, 2015). Reported cases in the literature where processes of decline and shrinkage are considered equivalent focus on old industrial cities from previous socialist regimes in Eastern Europe, the American rustbelt and mining cities of Australia and Spain. Urban decline reflects a city's inability to adapt to a new reality. When the trajectory of a city is analyzed from the perspective of the four stages of the product life cycle: introduction, growth, maturity and decline, the city's success is measured by its economic development linked solely to its growth and production patterns. A model based on this framework makes it possible for the city to be conceptualized as an obsolete commodity. In this scenario, shrinkage and decline are part of the same process as demonstrated by Detroit, the most renowned case of a shrinking city.

In the context of Tokyo's recent urban trajectory, two stages can be identified. The first phase occupies the time window from the early 60s until 1999, when many of the parameters that define city shrinkage were present. These include population loss, economic and political restructuring, deep changes to the labor systems, physical deterioration of the city core and deflation in land value. The second phase takes place from the year 2000 onwards. Then, the central area experienced a revival due to major urban regeneration projects. While residential properties in the suburbs have continuously been devaluated, housing investment has been intensified in the city core, increasingly leading to spatial fragmentation. However, this situation is not homogeneous within the urban fabric, as some inner suburbs are showing shrinking patterns while others suburban areas are not. These simultaneous processes cannot be encompassed within the traditional conception of shrinkage.

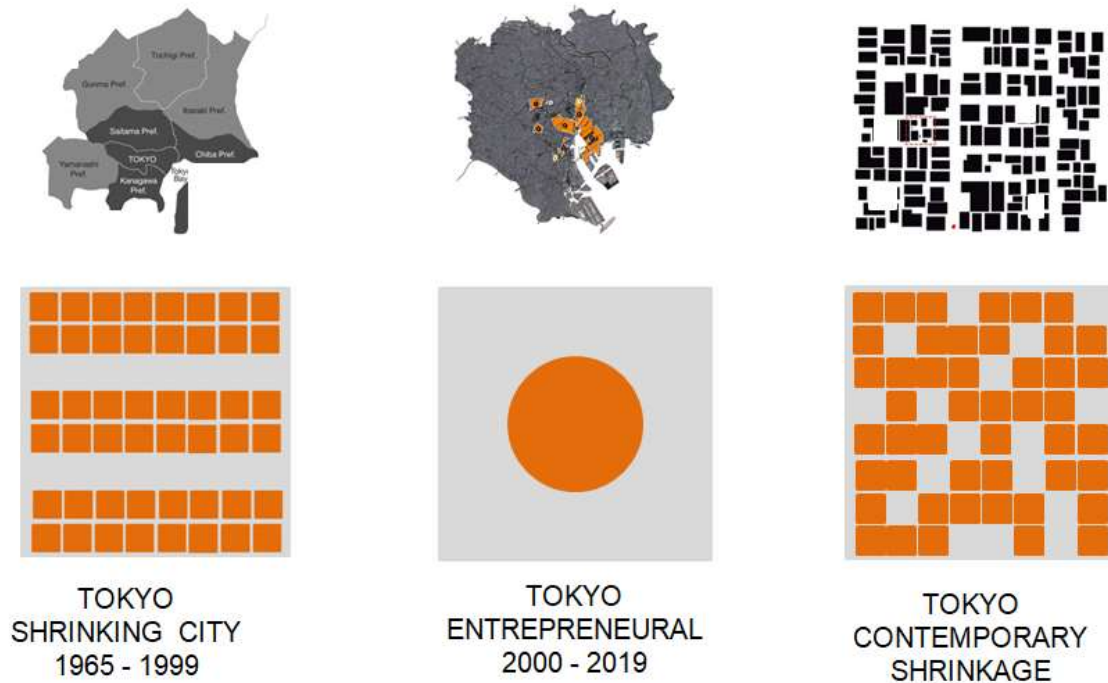


Figura 1. Conceptual framework.
Fuente: Own design

3 TOKYO SHRINKING CITY, 1965-1999

In order to validate the concept of city shrinkage at a global level, comprehensive comparative studies were carried out, including studies within the European (Mulligan, 2013; Wolff, 2010), American (Pallagst, 2005; Wiechmann, 2012; Beauregard, 2001), and Industrial (Cost-Sires, 2004) context. As well as studies encompassing entire countries and regions such a published study on Australia, Japan, Europe and the USA (Martinez- Fernandez, 2012). Furthermore, the Atlas of Shrinking Cities was published in 2006 (Oswalt, 2006) and included cities worldwide with more than 100,000 inhabitants, with 26 parameters organized in 4 sections demonstrated that 25% of cities globally present shrinking markers.

DESTRUCTION	LOSS	SHIFTING	CHANGE
War	Shrinking Countries	Migration	Economic Transformation (GDP)
National Disasters	Shrinking Cities	Suburbanization	G-7
Earthquakes	Unemployment	Push and Pull	Demographic Change
Environmental Disaster	Raw Material (Oil Reserves)	Fights	Aging
Epidemic	Water	Off-Shoring	Natural Population Grow
Death Toll		Mobility (Global)	Life Expectancy
		Global Integration	Political Transformation
			Transformation Countries

Relevant markers for Tokyo

Figura 2. Atlas of shrinking cites (2006)

Fuente: Own compilation from Atlas of Shrinking Cities

According to the study's findings, Tokyo was displaying a 'short term or ongoing population loss in the period 1965-2000 as the population of Tokyo's 23 special wards showed an 11.42% decrease during the period. For the base year 1965 the total population was 8.9 million. At the final year, 2000, the total population was 7.9 million. In this manner, the analysis reflects a population loss. However, in the same period the Tokyo Metropolitan Area population almost doubled from 17.8 million to 31.8 million.

During the same period, Tokyo entered the ranking of global cities (Friedmann, 1995; Sassen, 2013). This was a matter of controversy as some academics (Child Hill & Kim, 2000) highlighted that Tokyo did not fit the definition of a global city due to the local business practices, the policies preventing major foreign investments, the large input of industrial production in the economy and the lack of diversity and immigration. Other authors, defended its inclusion in the ranking based on Japan being, at that time, the second largest world economy and Tokyo the largest urban agglomeration (Waley, 2007).

Therefore, there was a dual perception of Tokyo: both as a shrinking city and as a global city. On each side of the argument, academics would only consider those input favorable to prove their hypotheses. When the discussion expands from solely demographic and economic parameters, a deeper understanding of the simultaneous and confounding processes can be achieved. For most of the 1980s, the government implemented policies towards making Tokyo an entrepreneurial and international city fitting the need of an information society by deregulating the urban property market, relocating government offices and stimulating the investment in Real Estate (Sorensen, 2005). These speculative investments on urban land were supported by the estate promoting the city as a commodity. The bubble economy fuelled an increase in land value in the city centre. Housing affordability became unmanageable leading to more intensified suburbanization, as residential areas were pushed further away from the centre.

This suburban Tokyo, mostly built by the railway companies doubling up as urban developers, was molded into a wide, homogeneous, horizontally spreading area. The product on offer was standardized units for nuclear families, in which husbands went to work and wives stayed at home. These residential units were, in most cases, provided by private operators under home-ownership scheme consisting of long-term bank loans supported by the Japanese Government.

Alongside with this suburbanization process, the change from an industrial-based economy to a financial-and service-based economy provided well located brown-fields in the city centre available for development.

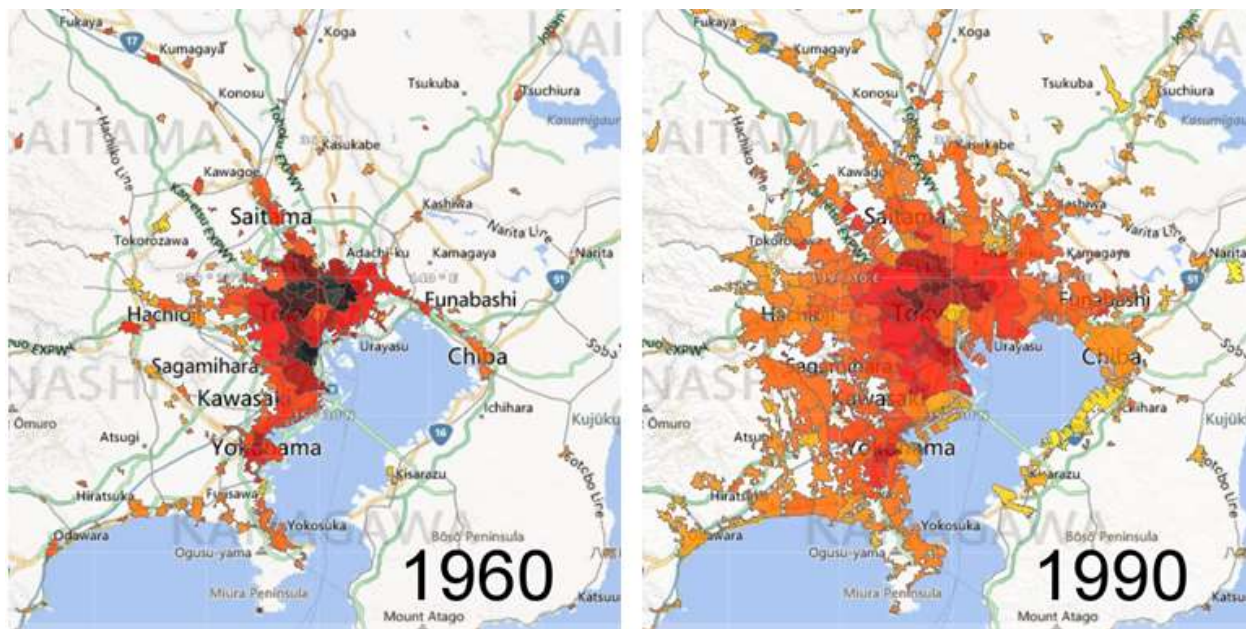


Figura 3. Metropolitan Expansion.

Fuente: <https://perihele.wordpress.com/2014/04/18/mapping-japanese-city-spaces-greater-tokyo/>

4 TOKYO ENTREPRENEURIAL CITY. 2000-2019

The entrepreneurial city, as an income creation instrument focus on rent-seeking activities, sets up strong marketing strategies and development schemes in order to maintain relevance when compared to other cities and economic spaces. Its main goal is to attract investment instead of wealth distribution. In these cities, the urban terrain is the space where the speculative development takes place in a process of fragmentation and re-territorialization.

As Peter Waley (2007:1466) points out, Friedmann and Sassen had deeply underplayed the role of the Japanese state in shaping the country's capital city. In this case, the government has a much more important role in modeling the city than in other world-class global cities. In order to achieve this position after the long economic stagnation period, deep transformations were put in place such as: the reorganization of the government body, the foreign participation in the economy, the reconfiguration of the economic fabric, the flexibilization of working conditions and the liberalization of urban policies and planning rules. The afore-mentioned policies were compiled under the Special Measures Concerning the Urban Reconstruction Act (2002) and the Special Urban Renaissance Districts promoting the renewal of the urban city centre through private intervention. The planning instrument made the transformation of the city tailored to the requests of the developers (Sorensen, 2010), reducing the role of the government to mere supervisor of how developers rewrite the urban terrain, exploiting the F.A.R. (Floor Area Ratio) to the maximum. This urban activity and the Tokyo Olympic nomination reflected in the increasing weight of the development related activities in the total GDP, surpassing 17% in the year 2018.



Figura 4. Development activities GDP.

Fuente: Own compilation from <https://www.toukei.metro.tokyo.lg.jp/keizaik/nenpou/kkne-index-en.htm>.

Approximately 40% of the total areas under the Special Urban Renaissance Districts were concentrated in Tokyo's inner area. Seven Urban Renaissance Urgent Redevelopment Areas (about 2,400 ha) were designated in July 2002 whilst the Tokyo Waterfront Area and the roadside area of Circular Road 4 Shinjuku Tomihisa district were partially expanded in July 2003. In December 2005, the area around Shibuya Station (about 139 ha) was added, as well as the Akihabara-Kanda district and Osaki Station district.

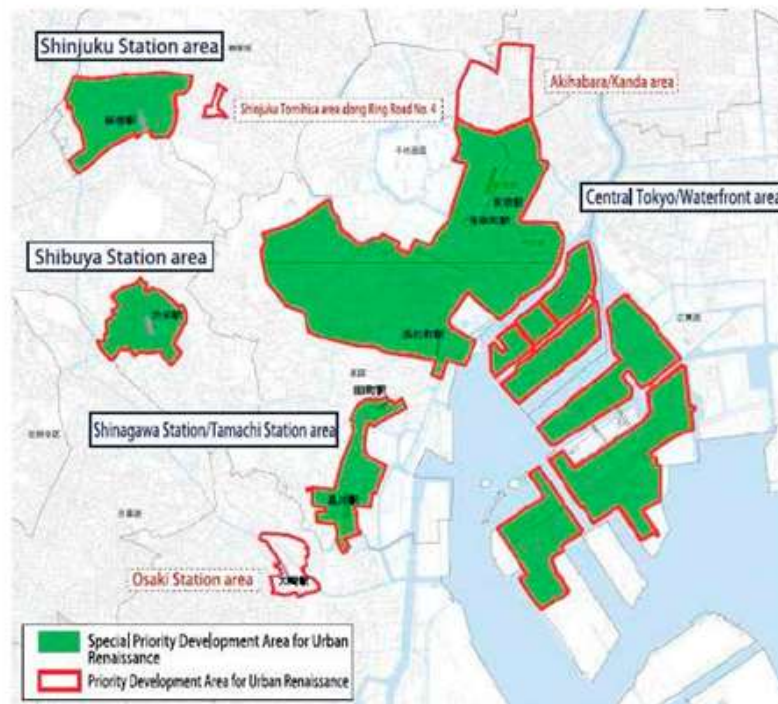


Figura 5. Special Development Areas for Urban Renaissance

Fuente: Tokyo Metropolitan Government. Urban Renaissance Districts. Access various dates 2019-2022. https://www.toshiseibi.metro.tokyo.lg.jp/pdf_e/015.pdf

These urban regeneration projects took advantage of the large public-owned brown fields from the privatization of national companies such as Japan National Railway 1987 and / or the rearrangement of government facilities, making the transformation process rapid and smooth. The sites were located in prime zones such as Akihabara (2004- railway yard and market), Shinbashi (2002- former freight yard), Shinagawa East (2003-railway yard), Roppongi (2007-Defense Agency Headquarters and the University Of Tokyo Institute of Technology) and the redevelopment of the Tokyo Water-front sub centre (1997). Large sites made redundant from the industrial relocation were also developed under this scheme like Shinagawa Sea-side Forest (2004-various factory sites) and Shinonome Canal (2005-Mitsubishi factory). Other particular cases include special development such as Roppongi Hills (2013) where over a period of 20 years Mori Building Corporation assemble the site by strategically incorporating privately owned plots, and Marunouchi District (2007), were the developers with Mitsubishi Jisho as the front company re-density the area near the Tokyo Central Station within the framework of the Urban Renaissance Act.

TOKYO 23 SPECIAL WARDS URBAN REGENERATION PROJECTS

TYPE	YEAR	NAME	GROUND AREA (Ha)	PROJECT DEVELOPERS	PREVIOUS LAND USE	PROJECT LAND USE
PUBLIC LAND GOVERNMENT RESTRUCTURING	2004	AKIHABARA	24	DAIBRU NTT KASHIMA	RAILWAY YARD WHOLESALE MARKET	OFFICE COMMERCIAL HOTEL RESIDENTIAL
	2004	SHINAGAWA EAST	16,2	CONSORTIUM OF COMPANIES LED BY MITSUBISHI	RAILWAY YARD	OFFICE COMMERCIAL RESIDENTIAL
	2007	TOKYO MIDTOWN	10,1	CONSORTIUM LED BY MITSUI FUDOSAN	DEFENCE AGENCY	OFFICE COMMERCIAL HOTEL RESIDENTIAL PUBLIC PARK
	2007	NATIONAL ART GALLERY	1,5	GOVERNMENT	TOKYO UNIVERSITY FACILITIES	CULTURAL RECREATIONAL
INDUSTRIAL BROWNFIELDS	2004	SHINAGAWA SEASIDE FOREST	9,6	KASHIMA CONSTRUCTION	FACTORIES	OFFICE COMMERCIAL HOTEL RESIDENTIAL
	2005	SHINONOME CANAL	16	MITSUBISHI GROUP	MITSUBISHI FACTORY	RESIDENTIAL SOCIAL WELFARE FACILITIES
LAND ASSEMBLAGE	2003	ROPONGI HILLS	11,6	MORI BUILDING	HOUSING COMMERCIAL OFFICE	OFFICE COMMERCIAL RECREATIONAL RESIDENTIAL
	2007	MARUNOUCHI DISTRICT	111	PRINCIPALLY MITSUBISHI JISHO	OFFICE COMMERCIAL	OFFICE COMMERCIAL
PUBLIC PRIVATE ASSOCIATION	2001	TRITON SQUARE	10	CONSORTIUM OF LAND OWNER SUMITOMO <i>Urban Renaissance Agency</i>	MIXED USE FACTORY WAREHOUSE HOUSING	RESIDENTIAL OFFICE COMMERCIAL RECREATIONAL
	2002	SHINBASHI SHIODOME	31	DENTSU KYODO NEWS AGENCY NIPPON TV MITSUI, MITSUBISHI, SUMITOMO, MORI <i>Urban Renaissance Agency</i>	RAILWAY YARD	OFFICE COMMERCIAL RECREATIONAL RESIDENTIAL
	2002	SHINBASHI SHIODOME	31	DENTSU KYODO NEWS AGENCY NIPPON TV MITSUI, MITSUBISHI SUMITOMO, MORI <i>Urban Renaissance Agency</i>	RAILWAY YARD	COMMERCIAL HOTEL RECREATIONAL RESIDENTIAL

Figura 6. Compiled from Waley, P. (2007)

Fuente: Waley, P.(2007)Tokyo-as-world-city: Reassessing the role of capital and the state in urban restructuring

Global money and funds from local banks financed these interventions through real estate securitization (Aveline-Dubach, 2014) promoting the diversification of the urban space as well as the creation of a massive rental market. The strong government input in developing the central area as well as the consummation of a rental market near the place of work caused an increase in the population in central Tokyo. By the year 2020 the 23 special wards area had reach 9.7 million, almost 23% more than in the year 2000. As the THR (Total Fertility Rate) for Tokyo at 1.15 is the lowest in the country, this increase is due marginally to foreign immigration and mainly to internal migration from other regions of the country attracted by the vibrancy of the capital.

During this period the economic base of the city continued to increase the service sector growing form 76% of the GDP in 1990 to 84% in 2018. The net GDP growth showed positive figure, increasing 2% during the period 2006-20. As a result, Tokyo was successful in overcoming the lost decade maintaining its position within the five top global cities. The MORI Global Power City Index (2016) ranked Tokyo N°1 and the Global City Output-GCO index (2020) rank Tokyo at the 4th position after New York, London and Paris.

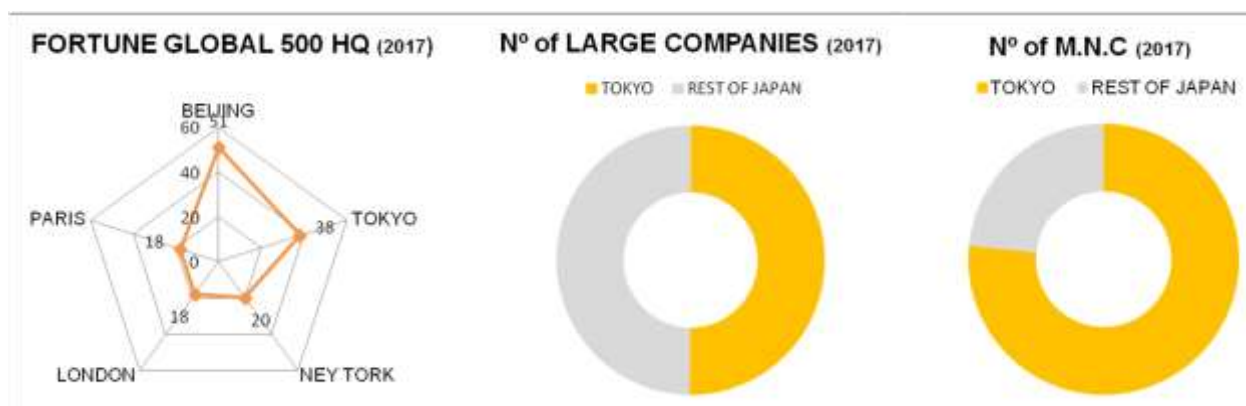


Figura 7. Compiled from Tokyo Office of Governor for Policy Planning

Fuente: Own elaboration <https://www.seisakukikaku.metro.tokyo.lg.jp/en/pgs/gfct/>

Along this process, with the incorporation of women to the work force, the family unit changed and with it its spatial requirements. Single women prioritized living near their place of work, as do the highly educated white-collar, single workers and professional couples without children. This diversified housing demands could not be satisfied by the horizontal expansion seen in the previous period, but instead by vertical density within the nuclear city areas triggering 'the end of suburbanization' (Koizumi, 2015). With this new social and demographic output, the homogeneous product of the peripheries render unattractive to younger urban professionals. As the real estate second-hand market has always been weak in Japan, the suburban type of housing stock is almost unsaleable and expensive to maintain as in many cases unoccupied units are charged extra taxes. In consequence, many of these suburban houses end up as vacant plots. In the Tokyo Major Metropolitan Area

(MMA)i the vacant dwelling rate has been around 11% for the last 15 years. According to the Housing and Land Survey, the vacant dwellings can be classified in four types: Second Dwellings or Villas, for Rental, for Sale and “Others” which refers to abandoned houses mostly located in the suburbs. The 2013 survey on Vacant Dwellings shows that 26.24% in the MMA area are among these “Others” dwellings type of vacancies.

Government policies aiming to make Tokyo a global city have been very successful. Other factors such as new demographics parameters; changes in housing preferences and the fine grain of the urban fabric implicate the presence of uneven manifestation of shrinkage simultaneously to the growth in total population.

5 CONTEMPORARY SHRINKAGE

The Special Measures Concerning the Urban Reconstruction Act favored large plots. Nonetheless, Tokyo presents land partition in a highly atomized form. The average individual owner plot size is 173 sqm, being half of these being less than 100 sqm.ii This situation is accentuated by planning strategies and improvements to Tokyo’s urban infrastructures such as road widening, minimum road frontage and set-back rules as well as succession divisions and the high inheritance taxes that, on many occasions, forced the partial sale of the site to pay the due fees. Many of the characteristics of these small plots of the Edo-Tokyo cannot be re-built within the economic logic of the Act; therefore the presence of considerable number of void spaces that remain vacant converted into parking lots. The resulting vacancies generate a sponge-like perforation of the urban fabric. Urban pontification is defined as a phenomenon inside cities by which underutilized spaces such as abandoned buildings and vacancy land occur randomly in small unit lots and in considerable quantities (Aiba, 2018). According to Tokyo’s Land Use Statistics for the year 2017, the amount of unused land in 23 special wards (including the “open air” category where parking lots are considered) is 6.54%.

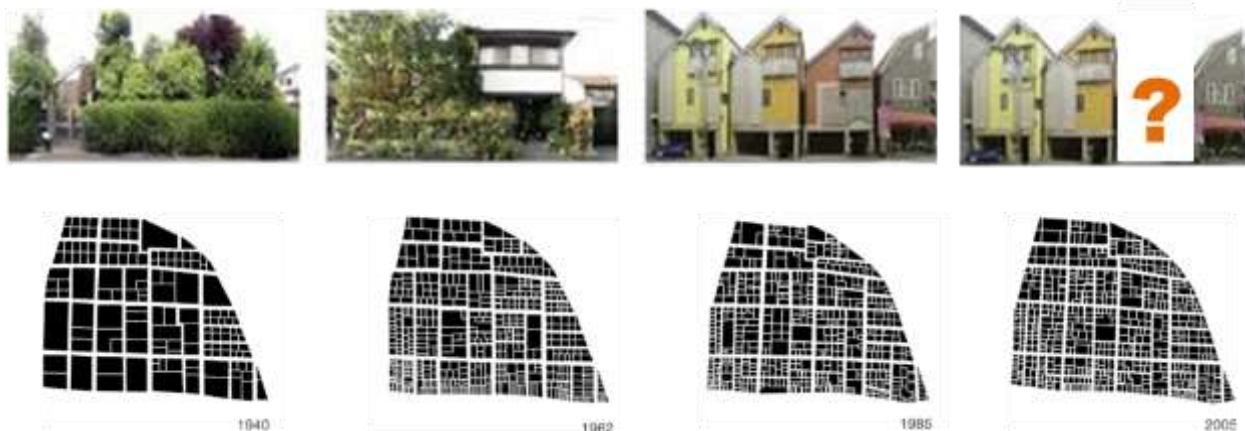


Figura 8. Land partition evolution.

Fuente: Koh, K., Yoshiharu, T., Ryue, N. Tokyo metabolizing. Toto, 2010.

Unlike many of the well-known examples of shrinkage in which the trajectory of the city was defined on economic grounds such as the oil production in Houston or the car industry in Detroit; global cities derive a large proportion of their value from the land and the urban rents obtained from it. This strategic valorization of the land and its dynamics of economic agglomeration are factors, which in Tokyos' case, made the presence of its dual and in principle antagonistic situation possible. Contemporary shrinkage is a simultaneous, uneven process of growth and de-growth. It is a process well differentiated from city shrinkage, as it does not visibly present the negative implications of decline and failure. Nonetheless, the manifestation of urban deterioration is present even in cities with favorable economic and demographic indicators.

For authors like Ferrari and Roberts (2004), the dynamics of the built-up environment is a crucial aspect of the shrinking concept and both the number of vacant houses and the amount of derelict land are vital when analyzing the phenomenon. In this theoretical framework, 'spongification' is the physical manifestation of urban shrinkage. In the case of Tokyo, statistical data on abandoned houses and on urban voids, i.e. unused land and open-air sites, are classified separately. This leads to an underestimation of the scope of the problem of spongification. However, given that both are different stages within the same trajectory of a city, they should be analyzed conjointly.

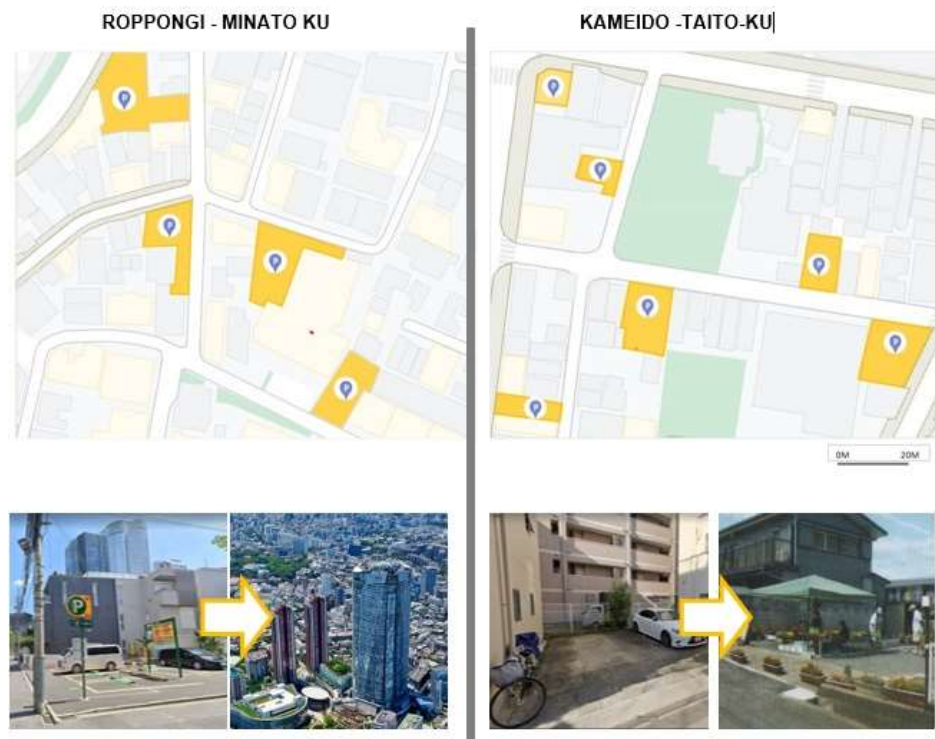


Figura 9. Compilation

Fuente:

Roppongi. Minato-Ku Google maps. Access on May 10th, 2022
<https://www.google.com/maps/@35.66312,139.7290332,19z>

Kameido.Taito-Ku. Google maps. Access on May10th,2022.
<https://www.google.com/maps/search/taito+station+taito+city+tokyo+japan/@35.7032998,139.826118,19z>

Central Tokyo, composed of 23 special wards, arrived at this period of post-growth with Edo-period urban pixel grain. Large parts of city are still shaped as an assemblage of small plots with highly atomized landownership. Given the average lifetime of a wooden house is 20 years, such a pixel like urban structure has been in continuous transformations. In the later years, this process of change affected by newly implemented planning rules and several generations of subdivisions, rendered plots so small that they are difficult to develop in economic terms. At the same time, due to the change in households and living preferences the ready available high-rise rental units near the workspace, the number of abandoned houses has been on the raise. Despite governmental efforts to ameliorate the situation through individualized interventions, this situation will deteriorate in the future. Therefore, is it foreseeable that spongification of the urban fabric will intensify.

Beside the physical conformation, there is a speculative reason to hold the plot vacant in order to be able to assemble in big enough areas to fully apply the benefit of the Urban Renaissance Act. As such, the vacant land might be scattered uniformly in the city fabric, but the location is relevant in the possibilities to overcome the situation. The real estate developments seek after zones are more likely to be built rather than the one located in the less attractive areas.

6 CONCLUSION

Innovation is the current Fourth Industrial Revolution. Driven by science and technology, it is expected to reduce the general stagnation of mature economies. Even if growth continues to be the paradigm, the true engine of it will be technical development and not labour, as in the former revolution (Lechevalier, 2019). Therefore, highly developed, matured societies are more likely not to be affected by bad demographic indicators such as aging population, low fertility rate or smaller family units.

The contemporary shrinking processes studied here reflect the dichotomous situation of Tokyo. Simultaneous processes resulting in co-occurrence of two antagonistic realities in the same city. While some central areas are scattered with large scale projects, at the smaller scale there are many vacant plots unable to be incorporated into development sites triggering a site-specific process of spongification. The findings of this investigation show that it is possible to consider shrinkage as part of the evolutionary pattern of a city without the negative implications of decline and failure, and at the same time play an important role in developing the city. On economic terms, unused land means negative equity as its best and most profitable use is unrealized. However, in terms of urban composition the physical aspects of de-growth coupled with otherwise positive urban and economic indicators provides a vital opportunity to reconfigure the city in a more sustainable way. More importantly, as demonstrated by the breadth of proposals put forward to assimilate this urban reality, the negative implications can be overcome. Examples of such proposals are the urban planning tools of the Tokyo Fiber-City, the “weak urbanism” strategies on neighborhood cohesion initiatives as the Hanare project where unoccupied small wooden house are rehabilitated as a

dispersed hotel rooms, the community-focused Machizukuri Hodokubo project and the recapture of rural land in the peripheries. As the planning laws promote the re-territorialization of the city with large scale urban intervention, is plausible to conclude that the spongification process will continue, even in the areas where the developers are active, as the process to assemble large sites is very slow. The associated risk to lay the development process in private hands is that less attractive areas of the city will have fewer possibilities to be regenerated triggering inequalities.

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i The Tokyo Major Metropolitan Area is a definition by the Japan Statistics Bureau that includes Tokyo 23 wards plus major cities of Chiba, Kawasaki, Sagami-hara, Saitama, and Yokohama.

ii Data from Housing and Land Survey, 2019.