Right to the City and Removal Processes in São Paulo: Multidimensional Indexes of Access to Culture and Leisure

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Abstract. *Considering the unequal distribution of urban equipment in São Paulo, the main goal is to analyze the possible impacts resulting from the planned removal processes in São Paulo regarding the access to public culture and leisure equipment by the affected population. Therefore the proposed plan is the creation of "multidimensional indexes of access to culture and leisure". The index is the basis in which are analyzed the condition of the places of origin and destination of the removal processes that are in course or planned for the city of Sao Paulo. The analysis shows that the culture index decreases considerably while the leisure index slightly improves mainly by the presence of the Unified Center of Education (CEU).*

1. Introduction

Data from the last Census of Brazilian Institute of Geography and Statistics (IBGE) indicate that 6% of the Brazilian population, 11,4 millions of inhabitants, lived in slums in 2010. There are indications that the magnitude of the problem is bigger than what the Census shows. Many authors (Marques et al, 2008; Cardoso 2007) point out that the numbers generated from IBGE census, by its own limitation of methodology, still illustrate the phenomenon underestimated.

The dimension of this precariousness and illegality it is not only the result of the process of population growth or migratory movements. It is related to historical attributes by the development of capitalism in peripheral countries, not only including restrictions on access to proper and well situated land, but also with the State actuation on the production and reproduction of the urban space, which, over time, favored certain economics sectors (DENALDI, 2003).

The answer to that set of problems usually is based on large slum upgrading projects that seek improvement in infrastructure and habitability. In those processes, it is observed very often, a high number of removals from families living in precarious settlements. The removals, in turn, modify the access of these families regarding the opportunities available in the urban circuit.

Considering the reality of São Paulo, this short-paper starts from the hypothesis that the planned removals by the public power has made it difficult for families to access leisure and culture equipment. The distribution of such equipment - which are understood as fundamental to an individual and their feeling of belonging to the city - follows the unequal logic characteristic of the production process of Brazilian cities: large gifted centers endowed with infrastructure to the detriment of poor peripheries.

Aiming to analyze possible impacts arising from the planned removal processes in Sao Paulo, this short-paper proposes multidimensional indexes of access to culture and leisure and contrasts it with data of precarious settlements that will be totally or partially removed, including the location of these settlements (origin) and resettlements (destination).

The following analysis complements the look of SILVA and PINHO (2017) regarding the processes of removal, in which environmental vulnerability was addressed.

2. Multidimensional Indexes of Access to Culture and Leisure

For the construction of multidimensional indexes of access to culture and leisure we used data referring to the distribution of urban equipment in Sao Paulo, made available through the GeoSampa portal (PMSP, 2017). From the collected data, we generated kernel density maps (heat maps), in the QGIS software.

The culture equipment selected were the libraries, cultural spaces, museums, theaters and cinemas, and shows. The leisure equipment selected were the free Wi-Fi points, community club, Unified Educational Centers (CEU) and sports centers.

It is assumed that different equipment demands different levels of proximity to be considered accessible.

In order to represent these differentiations, an area of influence was established determined by the maximum distances of access in relation to each equipment (Table 1). It is estimated, for example, that access to community clubs (2 Km) is related to a shorter distance than access to museums (5 Km). It should be noted, however, that this representation is a simplification, since distance is not the only factor that determines the access to equipment. Other factors, such as transportation, cost of tickets and other social barriers of prominent complexity are also determinants.

Table 1. Influential Area of the Selected Equipment

Equipments	Distances
Libraries	2 Km
Cultural Spaces	3 Km
Museums	5 Km
Theaters and Cinemas	3 Km
Shows	7 Km
Wi-Fi Points	1 Km
Community Clubs	2 Km
Unified Educational Centers (CEU)	2 Km
Sports Center	2 Km

The density values resulting from the Kernel estimators were normalized in the range of 0 to 1, with 0 being equivalent to the total lack of access to the equipment and 1 the place with greater access in the municipality.

From the indexes obtained for each equipment *n* (I_n), the following synthetic indexes were generated.

Index of Access to Culture (IAC), formalized as:

$$IAC = (I_{LIBRARIES} + I_{CULTURAL\ SPACES} + I_{MUSEUMS} + I_{SHOWS} + I_{THEATERS\ AND\ CINEMAS})/5$$

Index of Access to Leisure (IAL) formalized as:

$$IAL = (I_{FREE\ WI\text{-}FI} + I_{COMMUNITY\ CLUBS} + I_{CEU'S} + I_{SPORTS\ CENTERS})/4$$

Index of Access to Culture and Leisure (IACL), formalized as:

$$IACL = IAC + IAL/2$$

3. The Removal Dynamics and the Access to Culture and Leisure

We used data from the online platform Habisp (PMSP, 2017b), of the Housing Secretary of Sao Paulo, to analyze the dynamics of removal, which provides records of precarious settlements that will be totally or partially removed, including information on the destination of the families removed. From the 824 removal flows identified by Habisp, 6 of these flows were selected for this short-paper, two for each of the following typologies: removal flows up to 5 kilometers, between 5 and 15 kilometers and of more than 15 kilometers. These typologies were necessary due to the impossibility of analyze the 824 flows case-by-case basis, thus determining three distinct types of removals in terms of the resettlement distance.

For each settlements (origin) and resettlements (destination) the indexes referring to the access to each equipment were obtained, as well as the synthetic indexes IAC, IAL e IACL. From the value of the indexes, maps, tables and radar graphics we generated to compare the situation before and after the removal of the communities.

At first, from the analysis of the kernel density maps produced for each selected equipment, it was possible to realize, taking as an example the figures 1a and 1b, the predominance of distribution, especially of the culture equipment, in the central region of Sao Paulo. However, when analyzing figure 1c, it is possible to perceive an inversion of the pattern in the CEU's distribution, located almost exclusively in the peripheral regions of Sao Paulo, since this equipment seeks to promote citizenship in territories of high social vulnerability. It is also worth mentioning that the green points arranged on the map are related to the settlements and the blue ones are related to the resettlements.

On Table 2, the values of the IACL obtained in the selected process of removal are presented and shown at figure 1.

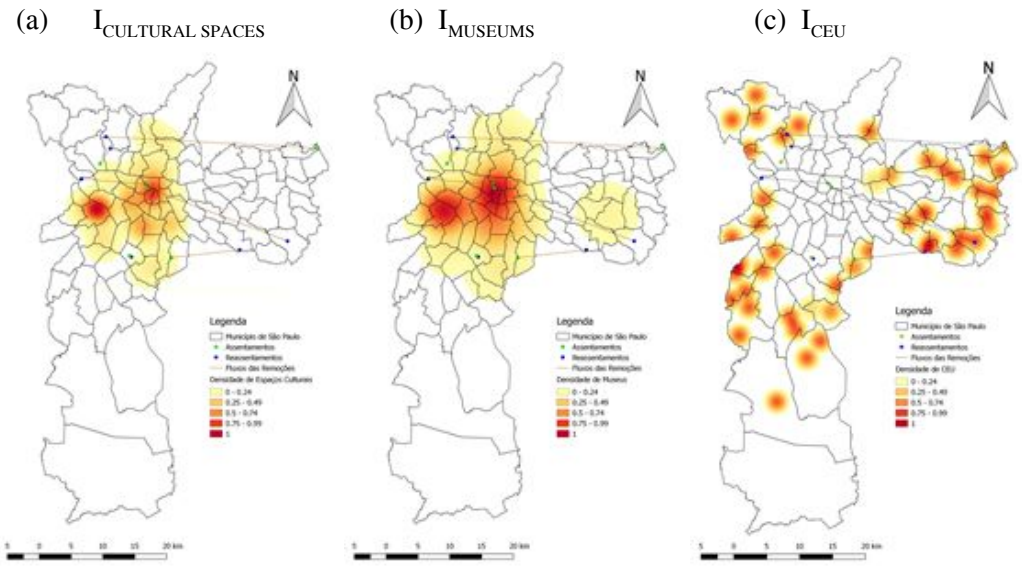

Figure 1 – Spatial distribution of the access to culture and Leisure indexes: (a) Cultural Spaces ($I_{CULTURAL\ SPACES}$), (b) Museums ($I_{MUSEUMS}$), (c) CEU ($I_{CEU'S}$).

Table 2. Access to Cultures and Leisure Index (ACLI)

	Settlements	Resettlements
Sônia Ribeiro --> Estevão Baião	0,05	0,064
Vila Bonilha --> Emplan Tupã	0,045	0,181
Moinho --> Ponte dos Remédios	0,327	0,046
Passagem III --> Atibaia I, II e III	0,089	0,122
Helvétia --> Sugoi - Bento Guelfi	0,351	0,111
Dom Bosco --> Encruzilhada do Sul	0,089	0,1
General Index	0,159	0,104

From the values of the created indexes of access to equipment obtained for the locations of the settlements and resettlements, the radar graphics were generated. The Figure 2 exemplifies the representation of the process of removal of the settlement Passagem III, localized in the Southern area of São Paulo, to the new resettlement, named Atibaia I,II and III, localized in the Eastern area of the city. In some cases, due to the fact of extremely low index values, in order to improve the visualization, it was made an amplification to illustrate the changes.

Still analyzing the removal in Figure 2 - "Passagem III → Atibaia I, II and III -, it is possible to notice that the value for the equipment CEU is really expressive, and has a major influence in the resettlement Index of Access to Leisure. It is also expressive the worsening scenario concerning the access to culture.

In the example of Figure 3 - "Helvétia → Sugoi - Bento Guelfi" -, a slight improvement on the access to leisure can be perceived, due, again, to the equipment CEU, while the access to culture equipment is remarkably worse.

Figure 2 – Removal Passagem III → Atibaia I, II e III: Radar Graphic for (a) leisure equipment and (b) culture equipment.

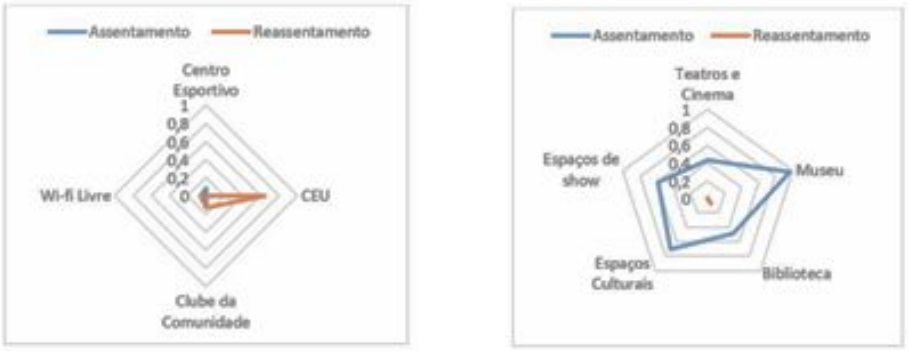

Figure 3 – Removal Helvétia → Sugoi - Bento Guelfi: Radar Graphic for (a) leisure equipment and (b) culture equipment.

Table 3 shows separately the calculated IAL and IAC indexes for the settlements and resettlements already indicated in Table 2. From this, it is possible to conclude that there is an improvement in the IAL index, from approximately 0,11 to 0,18, while the IAC index decreased from 0,20 to 0,02. The analysis of this short-paper indicates that the improvement of IAL index is related to the presence of the CEUs, that according to its original conception, is a locus that articulates several urban public equipment dedicated to education, sports, recreational and cultural practices, promoting the integral development of children, youth and the community, concentrating, mainly, in the periphery of the city.

Table 3. Access to Culture and Leisure Index (ACLI)

	Settlements	Resettlements
IAL	0,11	0,18
IAC	0,2	0,02

Therefore, when dealing with the analysis of equipment distribution, the CEUs represents a public policy of major relevance for the low income population. The resettlements, however, distances itself from the other equipment of culture and leisure, which are concentrated in the center. In order to analyze the relevance and the influence of CEUs, the ICLA index was recalculated disregarding the CEUs and then compared to the index originally computed. The results are presented in Table 4.

Table 4. Comparative table of the ACLI with and without the CEU

	Settlements	Resettlements
ICLA (With CEU)	0,16	0,1
ICLA (Without CEU)	0,21	0,08

The table 4 reveals how important are the CEUs on the resettlement locations. Considering the CEUs, it is observed that the removal processes are accompanied by a decrease of ICLA index from 0,16 to 0,10. By discounting the presence of CEUs, this difference in access between the localities is further accentuated, from 0,21 to 0,08.

4. Final Considerations

As final considerations, this short-paper discussed the removal processes and the location of culture and leisure equipment, followed by the elaboration of corresponding indexes with the objective of analyze how these removals affects the access of low income populations to those equipment.

It was concluded, especially from the analysis of the indexes, that the removals are being responsible for diminishing the access of the populations involved, to culture and leisure equipment. As highlighted above, the distribution of equipment is unequal and is mainly concentrated in the center of the city. It was pointed out only one exception: the CEUs distribution, which reverts then, the prior logic. Thus, it is necessary to recognize the significant importance of public policies aimed at a fairer access of urban equipment in the periphery of Sao Paulo.

5. References

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