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ANA ZAZO MORATALLA
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EDITORIAL

Editorial

ANA ZAZO MORATALLA 1, ALEJANDRO GUILLERMO ORELLANA-MCBRIDE 2

Deserts and food swamps, new concepts for urban planning in Chile

Contemporary Western urban planning is based on productivist logics, which seek the efficiency of the urban system in terms of displacement and compatibility of uses, and hygienist principles, which aim to safeguard the population's health and quality of life. Structured roadways are defined, space within the urban boundary is zoned, and land uses, densities, and heights are regulated based on these principles, alongside other variables that condition the growth and transformation of cities.

In Chile, the rapid growth triggered by metropolization and the development of a robust real estate industry that builds monotonous and extensive housing plots has made access to residential area equipment a relevant factor for urban planning and the sectoral planning of services considered fundamental. That is why the location decisions of public health and education services follow the logic of territorial coverage, as do, although lagging behind, the location of security services such as the Police stations or Fire Companies. However, from the perspective of the population, these coverage efforts are still insufficient.

In recent decades, the National Council of Urban Development (currently of Territorial Development) has promoted the Urban Development Indicators System (SIEDU, in Spanish) that measures and monitors the evolution of the quality of life of Chilean cities, seeking compliance with the National Urban Development Policy (2014). Among the indicators, innovative variables for the Chilean context stand out, such as the surface area of green areas per person, access to sustainable mobility, or proximity to soils of high agricultural value, among others.

Nevertheless, urban food supply remains outside the realms of public policy and urban planning. Throughout the 20th century, many Chilean cities developed municipal urban food infrastructure, such as food markets, but in the 1980s, with the implementation of economic liberalization policies, these structures were dismantled or privatized. In some cases, these structures maintained their use in the urban space; in others, the new owners could not assume the upkeep of the buildings, and they suffered degradation or disappearance.

Since then, urban food security has been in the hands of two major food systems. On the one hand, supermarkets that have just been installed in urban spaces, using market-based localization logic. On the other hand, the street markets, located mainly in the neighborhoods to provide a weekly proximity supply service, are regulated by municipal ordinances in terms of spatial distribution and number of stalls. While the former provides access to a greater variety and quantity of food needed for the shopping basket, the second mainly provides fruits, vegetables, and legumes, promoting a healthier diet.

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Figure 1, 2 Grupo de investigación interdisciplinar en Sistemas alimentarios Locales GISAL (IINES 23-19)

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In Chile, the **food deserts** can be assimilated with the urban residential areas not covered at a reasonable distance to access walking by either of these two food systems. This first analysis allows us to understand the spatial distribution that the two main food systems adopt in each city. Recent studies in Chile have identified two distribution patterns, one urban edge and the other interstitial, and the spatial distribution is homogeneous among the diverse socioeconomic groups.

However, these studies developed using spatial analysis tools should be complemented with fieldwork that allows for a deeper diagnosis of food environments in the areas identified as deserts. The evaluation of the availability, variety, and advertising offered by the neighborhood stores in these areas will allow us to determine whether they are indeed deserts if there are no supply points or, if they are not, the level of the healthiness of the food environment. When this level exceeds certain standards of access to unhealthy food, there is little diversity, and there is a lot of unhealthy food advertising, the area is categorized as **a food swamp.**

These two concepts, extracted from geography and used metaphorically, are very useful for diagnosing urban food infrastructure under the most current conceptual frameworks on which urban planning is proposed to be based, such as the "city of care," "the 15-minute city", or the "healthy city." Identifying and analyzing deserts and food swamps make it possible to focus decision-making and prioritize intervention in urban areas that may significantly impact urban and public health, i.e., in interstitial areas and categorized as food swamps. In this sense, the street market system, understood as food infrastructure managed municipally, is seen as a key element to promote healthy eating and contribute to urban food security.

However, the food approach should be framed in more than just local urban management. It should be incorporated as a strategic element in conceiving and applying territorial planning instruments. In this way, food access systems and, especially, street and local markets should be considered essential urban services, both to guide sustainable urban growth and to regenerate consolidated urban areas.

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WATER SCARCITY AND COVID-19 MORTALITY IN RURAL CHILEAN AREAS [1]

ESCASEZ HÍDRICA Y LETALIDAD POR COVID-19 EN ZONAS RURALES CHILENAS

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La pandemia de COVID-19, la cual fue provocada por la propagación a nivel mundial del virus SARS-CoV-2 en marzo 2020, ha impactado severamente en muchos ámbitos de la vida y la salud de las personas. Dentro de las principales formas de prevención de la propagación del coronavirus está el lavado frecuente de manos y alimentos, con jabón y agua. Este último es un recurso escaso en varios municipios de Chile, evidenciando dificultades en el abastecimiento de agua a nivel nacional. El presente trabajo indaga la relación entre los municipios decretados en situación de escasez hídrica por el gobierno y los niveles de letalidad al COVID-19 presentados en zonas rurales entre marzo del año 2020 y junio del año 2021. A través de datos estadísticos obtenidos de diferentes bases de datos se correlacionaron las tasas de letalidad con el nivel de desarrollo municipal y el acceso a la red de agua potable. Se obtuvo una correlación negativa entre la alta letalidad al COVID-19 y los bajos niveles de desarrollo comunal y conexión a la red de agua potable, por lo que se considera necesario contemplar las variables geográficas, tales como lo es la escasez hídrica, en la generación de políticas de salud pública y gestión de los recursos hídricos.

Palabras clave: abastecimiento de agua, gestión de los recursos hídricos, COVID-19, zonas rurales, sequía.

The COVID-19 pandemic, caused by the spread of the SARS-CoV-2 virus around the world in March 2020, severely affected many areas of people's life and health. Among the main ways to prevent its spread is by washing hands and food with soap and water. However, the latter is scarce in several municipalities of Chile, highlighting the difficulties of water supply at a national level. This work investigates the relationship between municipalities decreed by the government as being in a situation of water scarcity and the COVID-19 mortality levels found in rural areas between March 2020 and June 2021. Statistical data were used from different databases to correlate mortality rates with the level of municipal development and access to a drinking water network. A negative correlation was obtained between high COVID-19 mortality and low levels of communal development and connection to the drinking water network. As a result, it is deemed necessary to take into account geographical variables, such as water scarcity, in the generation of public health policies and water resource management.

Keywords: water supply, water resource management, COVID-19, rural areas; drought.

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I. INTRODUCTION

The emergence of the SARS-CoV-2 (*Severe Acute Respiratory Syndrome Coronavirus* 2) human coronavirus strain in March 2020, left the world facing a new pandemic. This virus is from a diverse group of coronaviruses that cause mild to severe respiratory infections in humans. In 2002, the SARS-CoV virus (*Severe Acute Respiratory Syndrome Coronavirus*) emerged, and in 2012, the MERS-CoV virus (*Middle East Respiratory Syndrome Coronavirus*), both highly pathogenic zoonotic origin viruses which generated severe respiratory diseases, creating a new public health problem (Cui et al., 2019; Hu et al., 2021).

The SARS-CoV-2 strain causes the COVID-19 disease (*Coronavirus Disease* 2019), whose transmission occurs by direct contact with an infected person through respiratory droplets and by indirect contact through fomites on surfaces located in the immediate environment around the infected person (World Health Organization [WHO], 2020a). In this context, one of the relevant prevention conditions to face the pandemic has been the frequent washing of hands and food using soap and water (World Health Organization [WHO], 2020b), which has increased demand for water to meet the sanitary needs of the population. For this reason, rural areas, threatened by periods of drought experience increased pressure on their water resources than urban areas, such as the case of Semarang in Indonesia, described by Dewi and Prihestiwi (2022).

Heidari and Grigg (2021) and Sivakumar (2021) mention that the availability and accessibility of clean water play a relevant role in the prevention and control of coronavirus in cities. Hence, those regions with water scarcity, high population density, and low availability and accessibility of clean water have a higher risk of contracting the COVID-19 disease. On the other hand, Yuan et al. (2006) commented that temperature, relative humidity, and wind speed influence the survival and transmission rates of coronavirus, so climate scenarios are also factors that can worsen the prevalence and spread.

Given the widespread infections and the novelty of the syndrome, there has been little research dealing with the impact of this pandemic on rural areas in climatic contexts of water scarcity and drought. In this vein, Antwi et al. (2021) analyzed the government response to COVID-19 in drought areas, while Bauza et al. (2021) referred to the practices and challenges regarding water, sanitation, and hygiene in the context of a pandemic in rural areas of Odisha in India.

This article analyzes the impact of the SARS-CoV-2 virus on the fatality rates of the population living in rural areas in Chile with water scarcity, correlating them with the communal development and drinking water access indices. In this way, it is hoped to contribute to the evidence-based debate on how geographical and environmental conditions impact the health of rural inhabitants, particularly under pandemic conditions.

II. THEORETICAL FRAMEWORK

Water scarcity, drought, and the hydrosocial cycle

Water scarcity and drought are two related but dissimilar concepts. Van Loon and Van Lanen (2013) define water scarcity as the overexploitation of a water resource that occurs when the water demand is higher than the availability, i.e., an imbalance between the availability/supply and demand for water. Meanwhile, scarcity is signaled by unsatisfied demand, tensions between users, competition for water, excessive groundwater extraction, and insufficient flows from the natural environment (Food and Agriculture Organization of the United Nations, 2012, p.6). In this context, drought, which is the result of a decreased availability of water resources, may be one of the causes of water scarcity (Pereira et al., 2009).

From this perspective, it is relevant to refer to the hydrosocial cycle as a socio-natural process by which water and society are made and remade in space and time (Guerrero Rojas, 2019; Linton & Budds, 2014). This theoretical representation mentions that water has been reconceptualized, from a purely material point of view, as tangible and observable, and that it can be quantified, exploited, and manipulated, to a socio-natural one (Budds, 2016). In this vein, water scarcity can be understood as the product of the complex relationships between diverse natural and social scenario elements. This is corroborated by Oppliger et al. (2019) who carried out work in the Bueno River basin in Chile, which alludes to the fact that the area's water shortage is not only due to physical causes, such as decreased rainfall, but also to anthropic causes. It refers also to that not all actors in the region suffer from water scarcity, which demonstrates the existence of social factors behind the availability of water sources.

Article 134 of the Water Code (Water Code, 1981) states that areas with water scarcity may be declared as such for a maximum period of one year, extendible successfully, in the face of a severe drought situation.

From 2008 to November 2021, a total of 189 water shortage decrees were ruled in Chile (General Directorate of Water, 2021). The research mentions that, in the studies on water resources and just as Swyngedouw (2009) suggests, it is relevant to explore the diverse ways in which social power, in its different economic, cultural, and political expressions, is fused with the principles of water management. In this regard, it is transcendental to study how these complex relationships allow responding or not to basic sanitation needs in rural contexts in the face of a pandemic threat, such as COVID-19, and how inequality in access to water can affect the life of the rural population.

Water and health

Stanke et al. (2013) refer to the effects of drought on health, highlighting impacts on nutrition, and increased infection rates related to water, air, biological vectors, and mental health. Likewise, Ebi and Bowen (2015) propose that the effects of drought on health depend on access to sanitary equipment, sanitation, and the individuals' and communities' socioeconomic conditions. For their part, Balbus and Malina (2009) point out that older adults are at risk of morbidity or fatality due to climate-related events, since they are more sensitive to extreme temperatures, given their pre-existing medical conditions and limited mobility. Moreover, Coêlho et al. (2004) and Berman et al. (2021) demonstrate that residents living in drought areas had significantly higher levels of anxiety and emotional distress than residents of areas without drought; there was also higher occupational psychosocial stress among farmers.

Drinking water or wastewater has not been reported as a route of COVID-19 infection (World Health Organization [WHO], 2020c). However, the fact that the SARS-CoV-2 virus can survive in fomites for hours or days suggests that it is a potentially transmissible pathogen through untreated sewage, untreated waste, and soil (SanJuan-Reyes et al., 2021). Both drought and water scarcity, enhanced by climate change, create a favorable scenario for the transmission of pathogens given the infrequent washing of hands and food in these areas, which increases the vulnerability of its inhabitants.

COVID-19 and water scarcity in Chile

Correa-Araneda et al. (2021) proposed that the transmission of the SARS-CoV-2 virus in Chile was mainly related to three climatic factors: minimum temperature, atmospheric pressure, and relative humidity. Transmission was higher in colder, drier cities and when atmospheric pressure was lower. Conversely, Jaque Castillo and Huaico-Malhue (2020) contextualized the situation of older people in the pandemic who were located in rural areas with water scarcity. In addition, the work of the Environmental Group of the United Nations system in Chile (2021) emphasizes the interrelationships between the COVID-19 pandemic and the lack of access to drinking water for thousands of people, which makes it difficult to comply with sanitation measures, since "they are not prepared for the effects of climate change on health [...] and this threatens to reverse years of progress in public health and sustainable development" (Romanello et al., 2021, p. 1620).

The challenge is to understand how the virus has affected Chile's regions, considering the role that environmental variables play in the dynamics of the disease. Similarly, the idea is to contribute more evidence, since this is still an open question that requires more information from all over the world (Correa-Araneda et al., 2021). Along with this, other issues are also important to analyze regarding the pandemic behavior caused by the COVID-19 disease. For example, to investigate its impact on rural and urban areas, health infrastructure, and access to drinking water. All these aspects, which have nothing to do with meteorological variables, present challenges for public management in the face of a climate change scenario and the appearance of new diseases.

III. CASE STUDY

An investigation is proposed regarding the rural and mixed municipalities, which cover 83% of the national territory (615,238 km^2). Of these, those that had water shortage decrees between March 2020 and June 2021 were considered (Figure 1), with a total affected population of 2,517,294 inhabitants.

At a national level, the country has a sanitary service coverage in cities that has reached levels comparable to that of OECD countries, with 99.93% in drinking water, 97.17% in sewage collection, and 99.98% in wastewater treatment with sewer coverage (SISS, 2019). In rural areas, the reality is very different, since this is mainly provided using Rural Drinking Water (RDW) systems, whose upkeep and operation are the responsibility of the State. In this case, drinking water coverage does not exceed 78% and, in terms of sanitation, this does not even reach 45% coverage in this sector (National Water Board, 2022).

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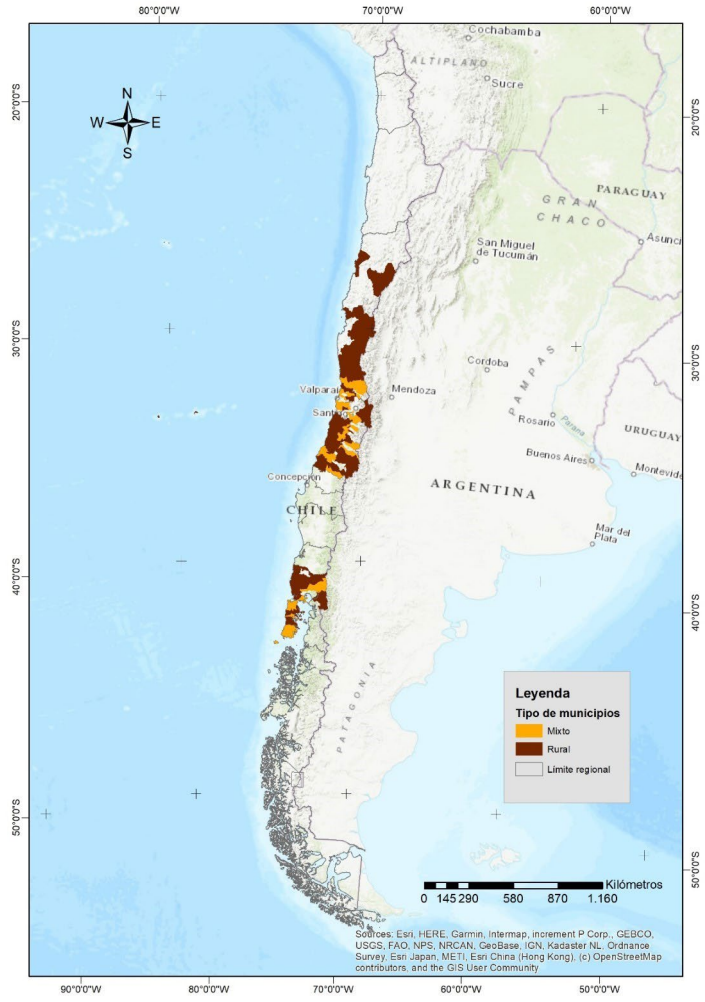

Figure 1. Map of Chile indicating the surface area of the country's mixed and rural municipalities with water shortage decrees until June 2021. Source: Prepared by the authors based on the General Directorate of Water [DGA] (2022).

Concept	Definition
Predominantly rural commune	50% or more of the population lives in census districts of less than 150 inhabitants per km^2, with a maximum of 50,000 inhabitants.
Mixed commune	25% to 50% of its population lives in census districts of less than 150 inhabitants per km^2, with a maximum of 100,000 inhabitants.
Predominantly urban commune	25% or less of the population lives in census districts of less than 150 inhabitants per km^2, with a minimum of 50,000 inhabitants. Apart from the maximum population criterion, communes that are regional capitals are included in this category.

Table 1. Conceptual definitions of municipal characterization associated with its rurality. Source: Preparation by the authors based on the PNDR (2020).

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IV. METHODOLOGY

For the municipal characterization, the classification proposed by the National Rural Development Policy [PNDR, in Spanish] in 2020 was used, which conceptually organizes the municipalities by their degree of rurality (Table 1).

Once this classification was obtained, the categorizations (rural and mixed municipalities) were analyzed and compared with municipalities that have water shortage decrees. Information was taken for the latter from the DGA website (2022), obtaining, in this way, the number of municipalities that had both particularities. Subsequently, the calculation of the fatality rate was made using a percentage, namely, "*the proportion of people with COVID-19 who die, relative to the total number of people who have contracted the disease... amplified to 100 inhabitants*" (Palacios Solís et al., 2021), obtaining the averages and standard deviations of the cases of deaths from March 2020 to June 2021 (Table 2). All this information was obtained from the COVID-19 database of the Ministry of Science, Technology, Knowledge, and Innovation (2021). The calculation of the fatality rate was obtained from the following ratio, which is the estimate used by the World Health Organization [WHO], (2020):

$$\text{Infection Fatality Ratio (IFR, in \%)} = \frac{\text{Number of deaths due to disease}}{\text{Number of people infected}} \times 100$$

Once the fatality rates by municipality had been calculated, they were fed into a geographic information system. Then, they were categorized by Region and Province to obtain a territorial vision of the indicator. The classification by fatality ranges shown in Table 2 was obtained using the natural breaks classification method (*Jenks*), provided by ArcGIS 10.4.1 software.

Fatality ranges	Categorization
2.4 - 3.10	Very high
1.81 - 2.39	High
1.31 - 1.80	Medium
0.59 - 1.30	Low
0.0 - 0.58	Very Low

Table 2. Calculated fatality ranges for COVID-19 in Chilean rural municipalities. Source: Preparation by the authors based on data from the Ministry of Science, Technology, Knowledge, and Innovation (2021).

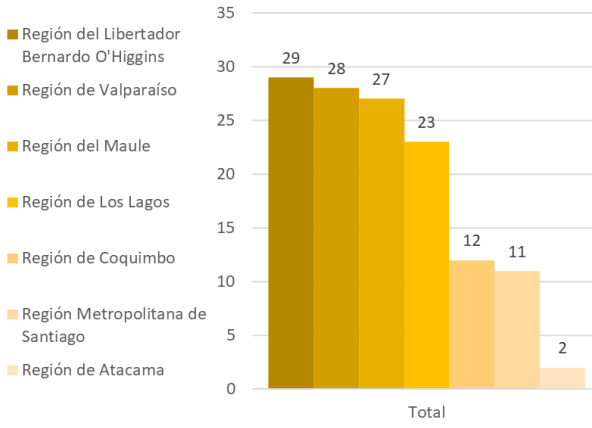

Figure 2. The number of rural and mixed municipalities with water shortage decrees between March 2020 and June 2021. Source: Preparation by the authors based on data from the DGA (2022).

The fatality rates of rural and mixed municipalities were then analyzed considering the Communal Development Index [CDI], obtained from the work of Hernández Bonivento et al. (2020). This is a municipal-level composite index created with data prepared by official Chilean State agencies that were downloadable for the public. In this context, the CDI synthesizes three dimensions, namely health and social welfare, economy - resources, and education. The authors have classified the communes of the whole country by development ranges: high, medium-high, medium, medium-low, and low.

Finally, the fatality data and the drinking water coverage were compared by municipality. The latter was obtained from the Rural Quality of Life Indicators System (2021), which has the percentage of dwellings connected to the drinking water network compared to the total number of dwellings for each commune.

V. RESULTS

Description of the municipalities by regions

There is a total of 167 municipalities affected by water scarcity in Chile, decreed by the Ministry of Public Works - General Directorate of Water (2022) in the analyzed pandemic period. Of these, there are 132 municipalities in the rural and mixed with water scarcity category, while the rest comprise urban municipalities. The three regions with the highest number of municipalities with water scarcity in rural and mixed areas were the Libertador Bernardo O'Higgins, Valparaíso, and Maule regions, while those regions with the fewest municipalities in this condition were the Atacama and the Santiago Metropolitan regions (Figure 2).

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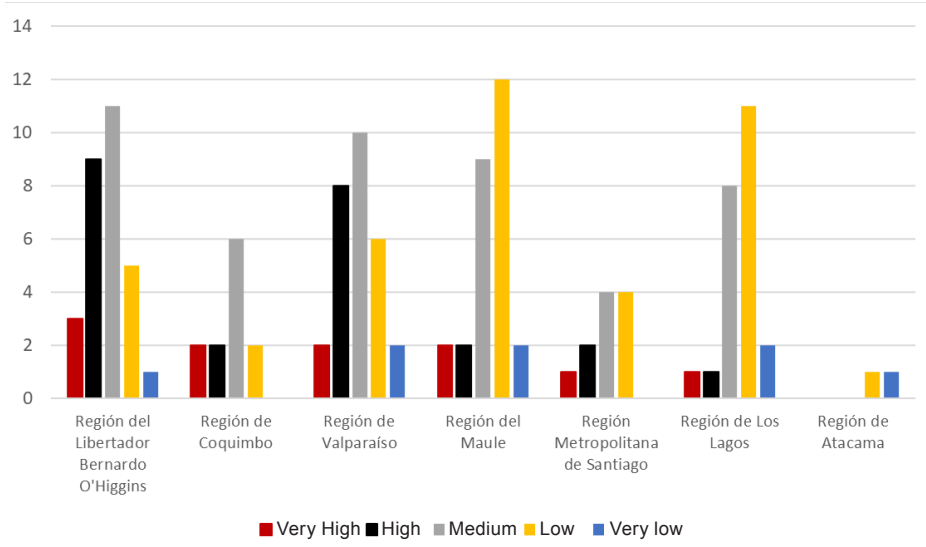

Figure 3. Number of municipalities within the fatality categories by region, organized from very high to very low, from left to right. Source: Preparation by the authors based on data from the DGA (2022) and MinCiencia (2022).

CDI/fatality	Very high fatality %	High fatality %
High CDI	9.1	0.0
Medium-high CDI	18.2	8.3
Medium CDI	9.1	16.7
Medium-low CDI	36.4	66.7
Low CDI	27.3	8.3

Table 3. Communal development index and percentage of municipalities that had very high to high fatality rates. Source: Preparation by the authors based on Hernández Bonivento et al. (2020) and MinCiencia (2021).

Fatality rates in rural and mixed communes in a situation of water scarcity

The average fatality rate for the country in rural and mixed communes, without and with water shortage decrees, was 1.3. On the other hand, the average for those rural and mixed municipalities in a situation of water scarcity was 1.51. In this context, 66 municipalities in a shortage situation are above the latter figure.

When making a regional analysis of fatality rates, the Libertador Bernardo O'Higgins Region has the highest number of rural and mixed municipalities in the very high and high fatality rates category (12 municipalities), followed by Valparaíso. Both regions are characterized by being located in the country's central area, an agricultural area that is currently experiencing a prolonged drought. On the other hand, the regions located towards the northern (Atacama) and southern (Los Lagos Region) extremes were the ones with the fewest municipalities in the "very high and high" categories (Figure 3).

Communal development index and fatality

At a national level, 69% of rural and mixed municipalities with water shortage decrees have a medium-low to low CDI (91 municipalities). Analysis was made, based on this information, comparing the total number of municipalities that had either a very high or high fatality rate and their degree of development. It was observed that there is a relationship between municipality development levels and fatalities, as more than 50% of the municipalities

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Commune	Classification	Drinking Water Network (%)	Fatality	Fatality level
San Juan de la Costa	Rural	15.9	2.7	Very high
Cochamó	Rural	34.1	1.5	Medium
Quemchi	Rural	41.8	0.5	Very low
Queilen	Rural	43.3	2.1	High
Puerto Octay	Rural	45.4	1.2	Low
Los Muermos	Rural	46.5	0.8	Low
San Pedro	Rural	47.2	1.4	Medium
San Pablo	Rural	51.5	1.7	Medium
Curaco de Velez	Rural	52.4	0.5	Very low
Canela	Rural	53.1	2.7	Very high
Chanco	Rural	53.5	2.1	High
Puyehue	Rural	54.1	1.6	Medium
Chonchi	Rural	54.4	1.3	Low
Quinchao	Rural	55.3	0.8	Low
Puchuncaví	Mixed	57.6	1.8	Medium
Average		47.1	1.5	
Correlation			-0.28	

Table 4. The fifteen Chilean municipalities that have a water shortage decree and the lowest percentages of homes connected to the drinking water service. The calculation of their fatality rates associated with COVID-19 (2020-2021) is also presented. Source: Preparation by the authors based on INE (2021a) and Min Ciencia (2021).

with high or very high fatality rates have medium-low to low communal development indices (Table 3). Hence, it is inferred that the health, social welfare, and economy-resources levels would significantly impact local capacities to face the pandemic, as there would be an inversely proportional relationship between the CDI of rural municipalities with water scarcity with medium-low and low development and higher fatality indicators.

Drinking water network and fatality

Regarding homes connected to the drinking water network variable, rural and mixed municipalities in a situation of water scarcity had an average of 76.74% with a connection, a lower percentage than the one presented by the country, which is 93% (National Institute of Statistics, 2018). Table 4 shows the 15 municipalities with the lowest connection percentages, whose average is 47.1%. These municipalities, in turn, have a negative correlation index of -0.28, which indicates that, as the fatality rate increases in the communes, the average connection of homes to the drinking water network decreases. Of these communes, three municipalities stand out from the list that have the highest fatality rates and whose connection percentages are well below the service connectivity averages seen nationally and within the same universe: San Juan de la Costa in the Los Lagos region (15.94%), Queilén in the Los Lagos region (43.33%), and Canela in the Coquimbo region (53.07%).

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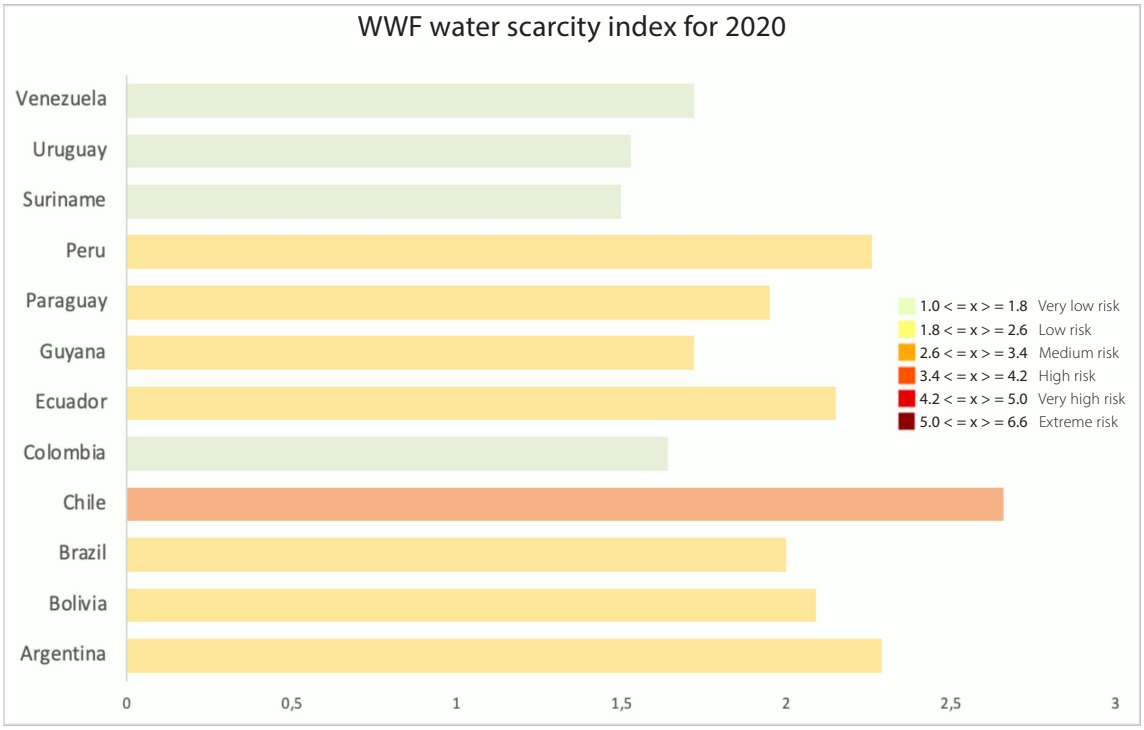

Figura 4. Graph showing the water scarcity index for 2020. Source: Preparation by the authors based on data from the*World Wildlife Foundation* (2020).

VI. DISCUSSION

The first positive case of COVID-19 in South America was confirmed on February 26, 2020, in Brazil. The second, three days later in Ecuador, and subsequently, the spread of the SARS-CoV-2 virus led to the simultaneous infection in countries such as Argentina, Chile, Colombia, Uruguay, and Paraguay, the latter with the first imported case from the same region, from a traveler from Ecuador (Del Tronco Paganell & Paz-Gómez, 2022). According to the latest report of the *Intergovernmental Panel on Climate Change* (2021), an increase in global temperature will increase the frequency and intensity of extreme heat events, heat waves, heavy rainfall, and droughts, namely, there will be "an incessant increase in the impacts of climate change on health and a delayed and inconsistent response from countries around the world" (Romanello et al., 2021, p. 1619). Balbus and Malina (2009) restate this by raising the existence of very few local studies that associate health risk elements and geographical factors, despite this being Sustainable Development Goal (SDG) number 6 of the United Nations.

Chile has one of the highest rates of water scarcity in South America according to the *World Wildlife Foundation* (2020) (Figure 4), which has increased due to the presence of a mega-drought since 2010 (Garreaud et al., 2020). Access to drinking water in Chile is no different from the rest of the continent. However, when the climatic and meteorological conditions and the frequent overexploitation of local aquifers are added, this scenario becomes relevant to face future pandemics.

The intersection between the health (Atzrodt CL et al., 2020) and climate crisis (*Intergovernmental Panel on Climate Change*, 2021) shows that more complex scenarios are generated in the rural areas of the country, as this rural water scarcity scenario reflects the complex dynamics between local actors and their disarticulation with state representatives at regional and national

levels (Oppliger et al., 2019). This demonstrates a greater vulnerability for these communities to the effects of the COVID-19 pandemic.

Finally, it will be advisable to move from a reaction approach to pandemics to one of prevention, since, in the fight against future pandemic crises, particularly considering the importance of frequent hand washing, on one hand, it is essential to correctly prepare food to avoid cross-contamination, and on the other, to have "household sanitary services connected to the public network" (Burstein-Roda, 2018, p. 300). Guaranteeing access to water in these areas as well as in rural environments, especially for women, also produces incentives that generate virtuous circles, since it is they who promote environmental awareness and education about water, make financial decisions at home, and suffer the most with domestic chores that involve water.

VII. CONCLUSIONS

The COVID-19 fatality rate was higher in rural-mixed municipalities with low communal development and access to drinking water percentages below the national average. All these municipalities are facing a situation of water scarcity, which has complicated compliance with health measures. In this context, the need to plan prevention strategies is once again evident, considering geographical and environmental conditions, to focus public policies and resources based on the data that this type of research can offer.

In public health studies on the COVID-19 pandemic, no territorialization has been used that considers the phenomenon's different multidimensional variables. This is not just an effect of the drought, i.e., the absence of water resources for basic preventive hygiene practices, such as hand washing, there is also a shortcoming when observing the morbidity indicators. Similarly, decisions made to reduce infections have not looked at public health policies and the effects of climate change in rural contexts, thus making them more vulnerable to the threat of this pandemic.

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PROYECTOS URBANOS, ESTIGMATIZACIÓN Y DISPUTAS TERRITORIALES EN LA COLONIA INDEPENDENCIA EN MONTERREY, NUEVO LEÓN, MÉXICO
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URBAN PROJECTS, STIGMATIZATION, AND TERRITORIAL DISPUTES IN THE INDEPENDENCIA NEIGHBORHOOD OF MONTERREY, NUEVO LEÓN, MÉXICO [1]

PROYECTOS URBANOS, ESTIGMATIZACIÓN Y DISPUTAS TERRITORIALES EN LA COLONIA INDEPENDENCIA EN MONTERREY, NUEVO LEÓN, MÉXICO

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La ciudad de Monterrey se ha desarrollado como espacio de grandes desigualdades y fenómenos socioespaciales cada vez más notorios. Sus distintas problemáticas han sido utilizadas por el gobierno y la iniciativa privada para justificar las intervenciones en barrios populares, como es el caso de la colonia Independencia. El objetivo de este artículo es el de analizar los aspectos que convierten a esta colonia en un espacio en disputa e identificar cómo esto se expresa territorialmente a través de las (in) acciones de actores públicos y privados. Se utiliza una metodología cualitativa apoyada por entrevistas, charlas informales y observación no participante realizadas durante el 2019 y el 2020. Se evidencia que el abandono y la falta de inversión por parte de los gobiernos hacia las colonias populares forma parte de un proceso de revalorización urbana que busca atraer inversiones privadas para acabar con la presencia de esos “otros” a quienes se les considera una amenaza para el orden urbano.

Palabras clave: intervenciones urbanas, renovación urbana, desarrollo urbano, espacio urbano

The city of Monterrey has become a space of great inequalities and increasingly notorious socio-spatial phenomena. Its different problems have been used by the government and the private sector to justify interventions in working-class neighborhoods, as is the case of the “Independencia” neighborhood. This article looks to analyze the aspects that turn this neighborhood into a disputed space and identify how this is reflected in the territory through the (in)action of public and private actors. It uses a qualitative methodology supported by interviews, informal talks, and non-participant observations that were made in 2019 and 2020. The paper shows how abandonment and a lack of government investment in working-class neighborhoods is part of an urban revaluation process that seeks to attract private investment to these sectors and end the presence of those “others” who are considered a threat to the urban order.

Keywords: urban interventions, urban renewal, urban development, urban space

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I. INTRODUCTION

The shift towards a neoliberal model has caused the State to leave the provision of basic services for the population in private hands. This has made the social divisions of the space increasingly noticeable, producing housing, consumption spaces, infrastructure, and services in line with the socio-economic level of the population (Brenner et al., 2015; Duhau & Giglia, 2008). In this way, winning and losing spaces have been created based on the decisions of public and private actors. For Lefebvre (2013), the urban space is a social product reflecting the production relations, the historical context, and the practices and imaginaries of individuals in a given physical space, resulting in great inequalities that are manifested physically and symbolically in the territory. However, cities, apart from being ideal places for the concentration of wealth, are also places of resistance and political counterpower (Therborn, 2020), which makes them spaces in constant dispute between those who establish "the rules of the game" and those who do not adapt to these dynamics.

The conformation of the Monterrey Metropolitan Area grew in spaces with very noticeable contrasts between residential areas for the high-income population and working-class neighborhoods. The metropolization of the city began within an industrial boom for northern Mexico, which, due to its location, communication routes, and connection with the United States, facilitated investment. This allowed Monterrey to consolidate itself as a city of great economic development.

Many of the central neighborhoods and their problems have been used to justify interventions made through social programs or urban projects, whose interest has been to transform these areas. Some authors have analyzed the background and the eviction mechanisms in the city of Monterrey as a consequence of the urban projects that have taken place. In this sense, the analysis of José Manuel Prieto (2011) highlights the relationship that urban projects have in the media and political discourse, where they have sought to solve the problems of insecurity, deterioration, and road congestion in the city. Meanwhile, Rodrigo Escamilla (2014) and Jaime Sánchez (2019) have analyzed the path of the city of Monterrey toward the logics of modernization with the Gran Plaza, Fundidora Park, and Santa Lucía Riverwalk projects. Although it was possible to transform the urban order thanks to the government's ties with private initiatives for these projects, this modernization has also involved losses in heritage and the expulsion of inhabitants.

This article takes the Independencia neighborhood, located in the municipality of Monterrey, as a case study, as this was one of the first neighborhoods formed outside the foundational center, and given its land occupation characteristics. The goal is to analyze aspects that make the Independencia neighborhood a disputed space and to identify how this is expressed territorially through the action and inaction of public and private actors. The analysis revolves around two lines: social processes and urban renewal projects. The first explores the processes of social stigmatization and urban fragmentation. For the second line, two projects were analyzed: the "Monterrey-Valle Oriente road interconnection" and the "Mercy Memorial". Both lines were based on a qualitative methodology made using semi-structured interviews, informal talks, and non-participant observation techniques.

II. THEORETICAL FRAMEWORK

Elites, territorial stigmatization, urban fragmentation, and megaprojects

In all societies, the political, administrative, economic, religious, and military spheres are led by organized groups that make up a minority of the population (Bolívar, 2002). This dominant minority, namely, an elite, is the one who makes the decisions that affect the lives of the rest of the people or influences those who do. With this, they seek to promote their interests and obtain the support of the masses by using force, institutions, the media, or by appealing to sentimentalism (Bolívar, 2002; Therborn, 2020). The influence and power elites have within public affairs are accompanied by speeches that legitimize the decisions made by these minority groups. According to Janoschka and Sequera (2014), the power of one social group over another not only implies the control of the political and economic sphere but also that their ways of interpreting reality are accepted by the rest of the social groups as universal. That said, one can understand the power of the state in the construction of discourses or, as Robin (2009) mentions, in the creation of the objects of fear. Together with the State, elite groups and the media play an important role in creating and reproducing these narratives that guarantee society's functioning.

These narratives are also reflected in expulsions and evictions, making them the most violent and visible face of criminalization processes and the construction of territorial stigmas (Rolnik, 2017). Urban management and the policies implemented by public administrations have standardized practices and mechanisms that displace informal economic activities, low-income residents, and/or people living on the streets, turning spaces into exclusive and exclusionary places with a strong class connotation. As a matter of fact, it is the working classes that suffer the most displacements and expulsions from their territories (Janoschka & Sequera, 2014).

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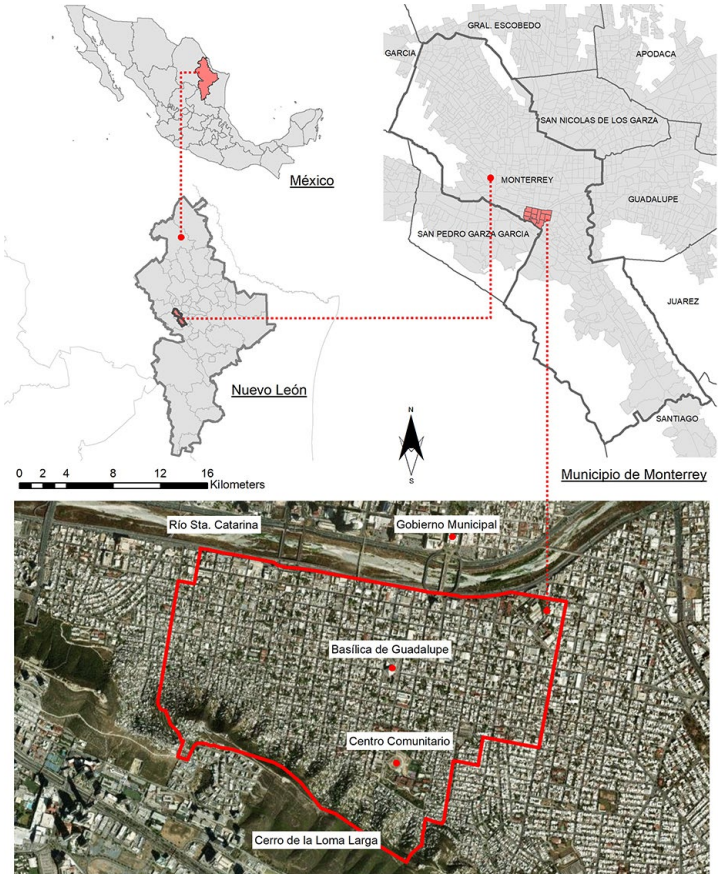

Figure 1. Location of the Independencia neighborhood. Source: Preparation by the author using ArcGIS 10.5 and Google Earth Pro.

Following Harvey (2007), urban transformations are characterized by what he calls "urban entrepreneurship", which are alliances between public and private sectors that seek to attract investment and speculative construction to trigger the city's economic development through public discourses about the benefits that such interventions will have for the population. This is related to territorial stigmatization processes which, in turn, accompany the metropolization of cities. This is how social groups in certain neighborhoods are marked, being attacked and recognized at a social and spatial level as a synonym for misery, crime, and moral degradation, which are, in themselves, the causes of the social ills that afflict cities (González, 2018).

In another aspect, megaprojects and the real estate market follow the same logic with "urban renewal" programs, which seek to transform areas that are "frowned upon" to give them a new image. Harvey (2007, p. 377) mentions that "the city has to seem like an innovative, interesting, creative, and safe place to visit". Such processes allow entrepreneurs and real estate developers to try to attract consumers through cultural innovation, the improvement of the urban environment, and attractions such as shopping malls, exclusive restaurants, and leisure options (Harvey, 2007).

This is related to the moments of destruction and creation that neoliberal urbanism has. In cities, inhabitants are increasingly familiar with the destruction of traditional neighborhoods and public spaces that are replaced by new places for the consumption of the elite. Likewise, the construction of megaprojects and gated neighborhoods that introduce new forms of surveillance and social control is commonplace (Brenner et al., 2015), opening a path to urban fragmentation associated with metropolization and globalization processes and the emergence of separation logics and new urban boundaries (Smith & Williams, 1986; cited in Prévôt, 2001). These divisions mainly manifest themselves in large walls, electrified fences, and security cameras, involve a social classification, and turn isolation, division, and surveillance into a status symbol (Caldeira, 2007).

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III. CASE STUDY

The Independencia neighborhood was the first real-estate development outside the city's foundational hub. It was formed with the arrival of migrants from several states of the republic who settled on the southern bank of the river. This group came to work in different trades such as laborers, artisans, carpenters, painters, shoemakers, and blacksmiths, among others, in search of better living conditions and attracted by the industrial boom (Palacios & Martínez, 2014; Zúñiga, 2010).

The neighborhood is bordered to the north by the Santa Catarina River and to the south by the Loma Larga Hill, which separates the municipality of Monterrey and the municipality of San Pedro Garza García. To the west, it adjoins the Pio X neighborhood, and to the east, the Nuevo Repueblo neighborhood (Figure 1). The total population living in Independencia according to the 2020 Population and Housing Census conducted by the National Institute of Statistics and Geography (INEGI) is 28,438 inhabitants.

The Independencia neighborhood is classified as a working-class neighborhood, as it is an area that has initial irregularity in land occupation and self-built housing (Duhau & Giglia, 2008). This is because, in 1960, neighborhood growth was based on clientelistic exchanges between the Institutional Revolutionary Party (PRI) and the inhabitants, allowing them to take land on Loma Larga Hill with the promise of regularizing their land and providing services in exchange for votes. In addition, it has a privileged location due to its proximity to the city center, important road arteries, public transport routes, metro lines, and access to many services such as hospitals, schools, government offices, etc.

IV. METHODOLOGY

This study was carried out using a qualitative methodology to obtain information on the possible aspects that could turn Independencia into a space disputed by the government, private initiative, and the inhabitants.

The fieldwork took place at different times of the year, starting in 2019 and ending in 2020. 15 semi-structured interviews were conducted with residents of the neighborhood who were involved in some kind of neighborhood organization (Table 1). The semi-structured interviews were divided into five sections, ranging from basic data of the interviewees, such as family members, occupation, age, place of birth, gender, and schooling, to their opinion on sociability between neighbors, perception of security, government action, and urban projects. In addition, specific questions were asked related to the

Name	Sex	Age	Occupation	Position in the neighborhood	Years living in the neighborhood
Interviewee 1	Male	25	Therapist	Neighbor	25
Interviewee 2	Male	45	Graphic designer	Member of "Neighbors in Resistance"	26
Interviewee 3	Female	40	Trader	Member of "Neighbors in Resistance"	30
Interviewee 4	Female	64	Housewife	Church Community	40
Interviewee 5	Female	44	Housewife	Church Community	29
Interviewee 6	Female	21	Student	Neighbor	21
Interviewee 7	Female	39	Employee	Church Community	39
Interviewee 8	Male	43	Cook	Church Community	43
Interviewee 9	Female	56	Employee	Church Community	29
Interviewee 10	Female	54	Housewife	Neighbor	----
Interviewee 11	Female	58	Housewife	Church Community	30
Interviewee 12	Male	50	Taxi Driver	Neighbor	50
Interviewee 13	Male	33	Designer	Member of "Neighbors in Resistance"	33
Interviewee 14	Male	35	Priest	Church Community	----
Interviewee 15	Female	61	Academic	Member of "Neighbors in Resistance"	----

Table 1. Characteristics of the people interviewed. Source: Preparation by the author

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threats they perceived in the neighborhood. The goal of the questions was to know the inhabitants' perceptions and whether they managed to identify any relationship between government actions and urban projects.

To analyze the fragmentation, the boundary concept was used to understand the divisions the space has beyond elements that can be physically perceived. Boundaries do not just represent physical obstacles that prevent or allow entry to certain places but rather affect the social and imaginary structures that separate and distance that which displeases, produces repulsion, or alters (Vergara, 2015).

Natural, physical, and symbolic elements were identified to reflect on what boundaries imply as articulating, connecting, or separating elements in a city's structure, taking data from the 2016 National Housing Inventory. Regarding the urban projects, the interviews had a section that sought to find out the opinion of the inhabitants about them, whether they knew them, and what their position was in this regard.

The interviews and informal talks were conducted individually and were recorded and transcribed for analysis. In addition, multiple tours and photographic records were made throughout the neighborhood. Finally, the internet portals of the "Mercy Memorial" project and the Strategic Projects Trust (FIDEPROES), in charge of the "Monterrey-Valle Oriente Road Interconnection", were used as sources of information since there was no response from the authorities to have a formal interview.

V. RESULTS

Social and territorial processes: territorial stigmatization and urban fragmentation

Stigmatization by the media has historically been constant, portraying the neighborhood as a violent and unsafe place. However, its inhabitants consider that crimes and violence in the area are greatly emphasized, but that the same approach is not taken for other areas of the city where similar or much more serious cases occur. Even less is said about these situations in the higher socioeconomic status neighborhoods. The inhabitants say that they have noticed actions by the government and the media that make them sense a struggle for the territory and the discredit towards those who live in the neighborhood:

> "... for me, it is a wave where they are fighting against us to get that land because it is valuable [...] I have always known these labels were intentional, because [...] you don't have to be so smart. I was looking at other neighborhoods and saying well that's uglier, why are they talking more about us than others..."**4**(Man, 33 years old, designer, member of "neighbors in resistance")

The inhabitants see that there are ties between the authority's abandonment of the neighborhood, the stigmatization of its inhabitants, and urban renewal projects, to justify interventions. They try to make it seen that the proposed projects are needed to end the place's problems, insisting that these will improve the inhabitants' quality of life, and bring economic, social, and cultural benefits:

> "... it's because of the location we have, it's very privileged in the city. So, it's clear to me that private initiatives through construction companies and real estate developers are disputing the territory [...] you see the things they do in the neighborhood [...] you no longer see it as a coincidence, like these constant smear campaigns in the media, because you are already beginning to notice that well, it's no coincidence, that they've permanently abandoned us ..."**5** (Woman, 40 years old, trader, member of "neighbors in resistance").

To the south of Independencia is Loma Larga Hill, a division between the municipality of Monterrey and San Pedro Garza García, known as the place where the city's elite lives. To the north is the Santa Catarina River, which separates the neighborhood from the center of Monterrey, a place where political, economic, social, and cultural life is articulated (Figure 2). These natural boundaries are used as social differentiators, a separation between classes. On one side, the working class, and on the other, the upper class. This is stated by one of the neighbors:

> "... here is Monterrey and over there is San Pedro. Here is the division [...] I am from Oaxaca and I met my husband here in the Del Valle neighborhood (San Pedro) where he worked on the construction site [...] I was working in Coatzacoalcos, Veracruz, and from there, my boss brought me here, I worked in a house, she brought me here to look after her children..." **6** (Female, 58 years old, housewife, church community).

One of the physical barriers that can be seen at the top of the Loma Larga Hill is the wall that separates the gated "Vista Real"

4 Interview conducted on January 16, 2020.
5 Interview conducted on January 13, 2020.
6 Interview conducted on July 2, 2019.

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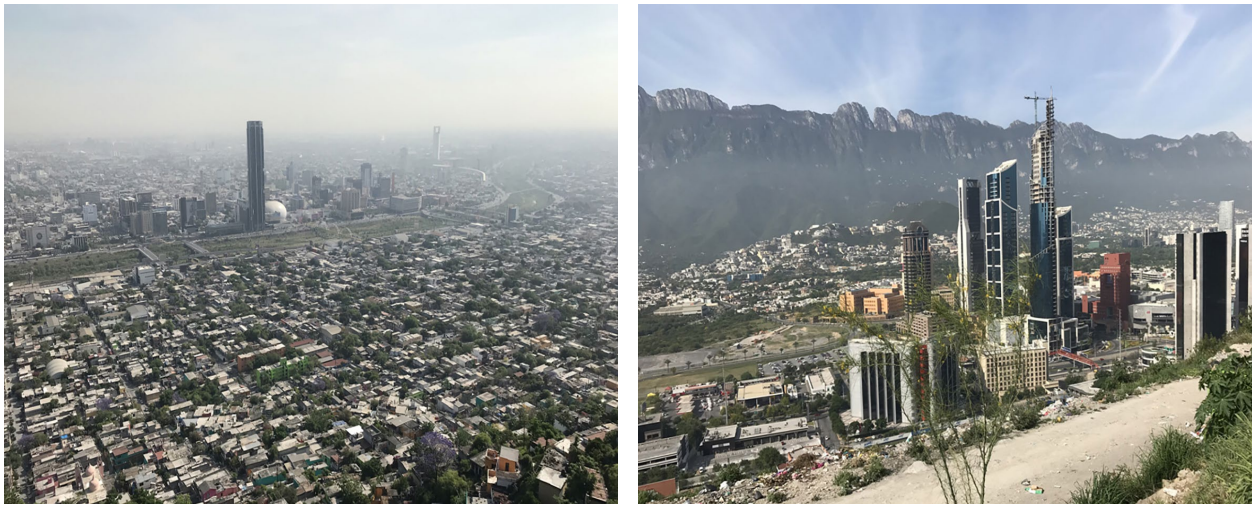

Figure 2. Natural boundaries. Left. View towards the Santa Catarina River. Right. View from the Loma Larga Hill towards San Pedro Garza García. Source: Own preparation by the author using fieldwork files.

Figure 3. Physical boundaries. Left. Stairs that lead to the top of the hill. Right. Dividing wall between the Independencia and Vista Real neighborhoods Source: Own preparation by the author using fieldwork files.

neighborhood, belonging to the municipality of San Pedro Garza García in the Independencia neighborhood. This neighborhood has all the security measures, with a guard house, electric fence, and cameras. Another example is the stairs that work as links to other parts of the neighborhood, which, given their topography, deny vehicle access. These stairs have a symbolic role that marks a difference between those above and those below, those who live in irregular and those who do so in regular settlements (Figure 3).

Urban renewal projects: Monterrey-Valle Oriente Road interconnection and Mercy Memorial

A popular practice in Mexico is the makeover of working-class neighborhoods through government-sponsored programs that offer to paint the facades of homes with striking colors, such as the "Transforming Monterrey" program. This program focused only on changing the aesthetics of the Independencia neighborhood and not on solving issues such as the lack of

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Figure 4. "Transforming Monterrey" Program. Source: Government of Monterrey and fieldwork files.

Figure 5. Monterrey-Valle Oriente Road Interconnection project. Source: Strategic Projects Trust (FIDEPROES).

basic services, insecurity in land tenure, or guaranteeing access to health, work, and education. In addition, there is no evidence that this program has reduced criminal activity, or improved the inhabitants' quality of life (Figure 4).

In addition to these programs, the neighborhood has sought to promote two projects in recent years. The first one with the support of the State Government, the municipalities of Monterrey, San Pedro Garza García, and the Strategic Projects Trust (FIDEPROES), called "Monterrey - Valle Oriente Road Interconnection[7], which looked to unite these two municipalities through a raised viaduct that would pass over Loma Larga Hill with four lanes in each direction, one exclusive lane for public transport and one for pedestrian access. According to what is mentioned on the project's website, the goal is "to improve the sector's economic, social, and cultural

7 On June 25th, 2019, the Secretary of Management for Environmental Protection in Official Document No. SGPA/DGIRA/DG/04855 denies the environmental impact authorization for the project.

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activities by regenerating the urban environment and solving the city's mobility problems" (Strategic Projects Trust, n.d.), in addition to generating an increase in the capital gains of the real estate equity (Figure 5).

The second project, called "Mercy Memorial", is led by the Banregio banking institution and the Archdiocese of Monterrey, with the aim of "transforming a memory of violence into a space of mercy" (Memorial de la misericordia, n.d.). This comprises building a community center and a 160-meter-high monumental cross on the top of Loma Larga Hill, as well as a 12-meter monument to the Virgin of Guadalupe on public land that was donated under commodatum to the trust.**8** (Figure 6).

It is worth highlighting the symbolic burden this project entails, as it shows that the problems are a matter of mercy and not of social justice. It is hoped that the monumental cross will inspire people to be better, leaving aside the shortcomings and lack of opportunities that they live day by day. This is what one of the neighbors says:

> "I don't agree, the neighborhood is one of the most representative of Monterrey and it cannot be destroyed for the interest of a few, you cannot remove that identity, nor evict the population [...] the neighborhood does not need a cross, besides what benefit does it have for the community, people need community centers, education, values, recreational centers ..." **9** (Male, 25 years old, therapist, neighbor)

The price they are offered for their homes is too low. It would not allow them to acquire a property in a location close to the city center, as the land is priced at around 30,000 pesos (approx. US$1,750). The justification for this low-ball offer is that these homes are in an irregular situation, which makes it impossible to offer a higher amount.

Since this area is where the inhabitants have their activities, maintain their social relationships, and have a history related to that environment, moving to the peripheral areas of the city would imply a deterioration in their quality of life:

> "... the big guys are going to resist, no one, not even those from below... tell your grandfather to sell his house, they have an incredible affection for their property that they won't want to [...] the key is the abuse they're doing with the payment [...] why don't they want to leave? because they say there... no way... it doesn't suit me, I'd better stay here because what do I buy with that, I can't buy anything, they go to Villa Juárez, Ciénega de Flores **10** with what they give [...] here the main excuse is urban development, that they want to help you with traffic..." **11** (Male, 50 years old, taxi driver, neighbor)

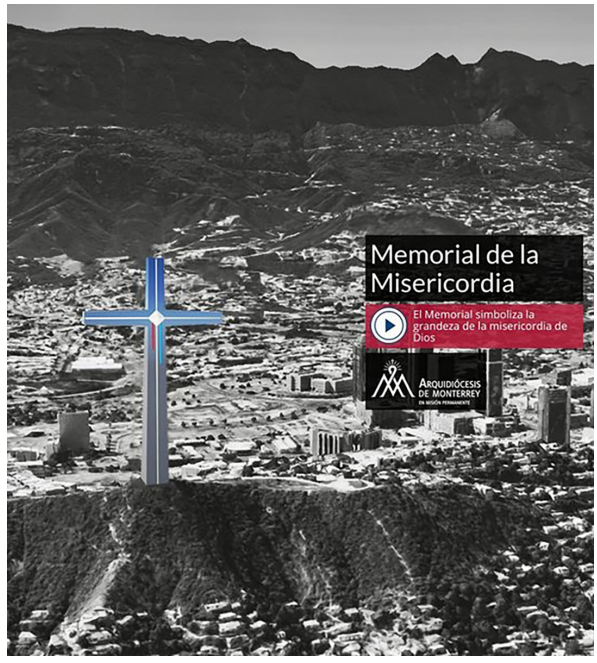

Figura 6. Mercy Memorial (Memorial de la misericordia) Source: http://www.memorialdelamisericordia.org/

The neighbors show a lack of clear information from the government and ignorance about these projects. There is also uncertainty about what there is and what it would imply for the community of Independencia. This is how they express it:

> "I don't know anything about the interconnection, I just know that they want to open it up, but I haven't paid attention to it, I think it's a very interesting topic for the neighborhood, but I've never focused on what they're really going to do, why they're going to do it,

8 The first plot of land is 33,292.437 m2, donated with an indefinite grant, and the second is 12,972.80 m2, granted under a 30-year trust to the "Cruz de Monterrey" Banregio Trust 851-01371. Published in the Official Gazette of the State of Nuevo León on May 21st, 2018, Decree No. 383, and in the Monterrey Municipal Gazette, Volume XXVII, February 2021, respectively.

9 Interview conducted on July 17, 2019.

10 Juárez and Ciénega de Flores are considered peripheral municipalities that have not been integrated into the Monterrey Metropolitan Area.

11 Interview conducted on January 24, 2019.

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for what purpose, how it's going to benefit us. I look at the newspapers, well not really. I've never focused on checking this out, I don't have time, because of work [...] de la Cruz, I didn't even know about that, what do they want to do?" **12** (Male, 43 years old, cook, church community).

"... (the interconnection) is an invasive, ecocidal project and an irruption in the tranquility of the community. It threatens the patrimony of all the neighbors, as well as their way of life [...] (the cross) is a vain and ostentatious project by the church that would only displace the people who live on Loma Larga to begin the imposition of real estate developments and to gentrify the area as a whole ..." **13**(Male, 45 years old, graphic designer, member "neighbors in resistance").

VI. DISCUSSION

Independencia neighborhood, conceived as a working-class neighborhood and located in the central area of the city of Monterrey, is, according to Rolnik (2017, p. 138), becoming "a reserve, susceptible to being occupied at any time by fractions of financial capital in its incessant search for new guarantees for its assets." This clearly turns the neighborhood into a space that is in dispute between real estate investors, the government, and residents, due to the economic interests at stake.

This 'urban entrepreneurship' strategy seeks to restore the flow of capital to the city centers through alliances between public and private sectors, in addition to creating favorable economic conditions to attract investment through different mechanisms, such as regulatory and management policies aimed at modifying land uses and the property system (Harvey, 2007; Salinas, 2014). An illustrative example of this approach is the donation of state land to the Banregio financial institution for the Mercy Memorial project.

In this context, as Harvey (2007) points out, improvements focus on physical aspects of the environment, prioritizing investment and economic development through speculative construction, rather than undertaking actions that contribute to improving the living and working conditions of the neighborhood's residents. It was seen that the inhabitants of the Independencia neighborhood have noticed that government actions and public speeches have not focused on addressing the real needs of the area, but rather have focused on the implementation of aesthetic improvement measures, such as painting facades with striking colors, or the implementation of urban renewal projects. This has contributed to reinforcing the social stigmas that justify these actions in terms of improving the urban image in low-income areas.

Urban fragmentation in the neighborhood can be perceived by the boundaries that, due to their daily use, seem to be invisible, since they work as a connection between the population and their sources of work and facilitate access to other places, but they are sometimes overwhelmingly palpable. In this case, Loma Larga Hill has a dual role of uniting and separating, reflecting the differences, conflicts, and inequalities that are closely linked to power relations (Jirón, 2019). In this regard, Alejandro García (2010, p. 33) mentions that "in the neighborhood, you go down to work and go up to the house, upstairs is rest, support, downstairs is discrimination, exploitation.

The lack of State intervention has led to the gradual deterioration of city centers due to the absence of public investment in infrastructure and maintenance. However, this situation lays the foundations for real estate investors and developers to acquire cheap land, plan urban renovations, and modify land uses (Contreras, 2017), which also justifies population evictions. Thus, areas such as the Independencia neighborhood meet the ideal characteristics to carry out urban renewal actions that mainly benefit private investment. Similarly, these initiatives involve diverse mechanisms of dispossession, which begin with a lack of information about the projects being provided, followed by intimidation and violence exerted by "pressure groups" that come to the houses to threaten their occupants. To this are added the "accidental" landslides or the isolation of the affected population, as has been seen in other areas of the city center, which leads to the inhabitants finally agreeing to negotiate for better payments for their homes (Sánchez, 2019).

In the Independencia neighborhood, the 'neighbors in resistance' group documented on their social networks that in 2018 "some people were tricked and sold their houses for ridiculous amounts" (Del mero San Luisito, 2023) and that with the authorization for the construction of the "Monterrey-Valle Oriente road Interconnection" being denied, they were left in ruins. However, in 2022,

12 Interview conducted on July 17, 2019.
13 Interview conducted on July 7, 2019.

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Figura 7. Protest of Independencia neighbors against the "Mercy Memorial" project on August 8th, 2021. Source: Facebook - Del Mero San Lusito.

given the housing and water crisis that the city of Monterrey is experiencing, new homes have been built in these spaces.

Therborn (2020) recognizes that cities become ideal places for the concentration of wealth, but also places of resistance and political counterpower. Thus, the urban projects presented here have raised diverse opinions, legal actions, and social mobilizations by the inhabitants, who seek to confront these processes of revaluation of metropolitan areas that follow capitalist logic (Figure 7).

VII. CONCLUSIONS

This article analyzed the stigmatization and urban fragmentation processes that have led the Independencia neighborhood to become a key point for intervention through urban projects, justifying these actions due to the deterioration and stigma suffered by its inhabitants. The findings presented show that the abandonment and lack of investment in infrastructure, equipment, and services by the government towards working-class and central neighborhoods are not a mere coincidence, rather they are part of a revaluation process that seeks to attract private investment to these sectors of the city. In addition, the power relations there are between the elites of the city and the rest of the population become evident, which not only have great weight in political and economic decisions but also influence public policies and urban development plans.

It is evident that the projects presented here, namely, the "Monterrey-San Pedro Road Interconnection" and "Mercy Memorial", are far from being the solution to the problems that afflict the city. Although they are posed as solutions to problems such as road congestion, insecurity, violence, and inequality, in reality, they become an excuse to end the presence of those "others" who are considered a threat to the urban order, leading to forced expulsions and evictions.

Some of the limitations encountered during this work are related to the lack of updated data and the limited availability of information for public consultation. It is necessary, based on this study, to ask new questions about what is currently happening in many Latin American cities concerning urban land revaluation processes through urban projects and real estate developments. This would provide the basis to talk about other phenomena such as the financialization of housing, real estate speculation, gentrification, and socio-spatial segregation.

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OUTSOURCING AND URBAN DECENTRALIZATION: [1]

SPATIAL ANALYSIS OF ADVANCED PRODUCER SERVICES IN THE METROPOLITAN AREA OF GUADALAJARA

TERCERIZACIÓN Y DESCENTRALIZACIÓN URBANA: ANÁLISIS ESPACIAL DE LOS SERVICIOS AVANZADOS AL PRODUCTOR EN EL ÁREA METROPOLITANA DE GUADALAJARA

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Mediante la adecuación del índice tradicional de Gini en modelos de autocorrelación espacial y el análisis de cartografía temática, este documento tiene como objetivo evidenciar que en el proceso de tercerización de las ciudades latinoamericanas existe una incertidumbre respecto de los patrones espaciales que presentan, entendiendo que ciertas actividades económicas en este sector rompen los esquemas típicos de centro-periferia y aprovechan capacidades territoriales para constituir entornos productivos autónomos. Al analizar diversos sectores de Servicios Avanzados al Productor en el Área Metropolitana de Guadalajara, en México, se evidenció que existe una reducida presencia empresarial de mediano y gran tamaño, condición que interviene en la limitada construcción de aglomeraciones productivas distintas a la centralidad principal de la ciudad. No obstante, un análisis relacional del espacio lleva a considerar que, además de mostrar predilección por el poniente urbano, existen servicios que en su papel de estratégicos se podrían posicionar como de futuro desenvolvimiento de conglomerados en esta ciudad.

Palabras clave: medio urbano, terciarización económica, aglomeración productiva

Using an adaptation of the traditional Gini index in spatial autocorrelation models and the analysis of thematic cartography, this article aims to show that there is uncertainty about the spatial patterns found in the outsourcing process of Latin American cities, understanding that certain economic activities in this sector break with the typical center-periphery layouts and take advantage of territorial capacities to establish autonomous production environments. When analyzing different Advanced Producer Services sectors in the Metropolitan Area of Guadalajara, in Mexico, it was seen that there is a reduced presence of medium to large-sized businesses, which leads to the limited construction of production agglomerations outside the main city center. However, a relational analysis of the space leads one to consider that apart from showing a predilection for the urban west, there are services that in their strategic role could provide the basis for the future development of clusters in this city.

Keywords: urban environment, economic outsourcing, productive agglomerations

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I. INTRODUCTION

As cities increase their dependence on global financial dynamics, it is evident that there will be a process of urban change as the tertiary sector positions itself throughout its surface area. In particular, the proportion and coverage that Advanced Producer Services or APS have, stands out, since, on being characterized for covering an intermediate demand before an end one (Waiengnier et al., 2020), these become representative of the level of specialization (Solo et al., 2022) and integration that a city has regarding everything related to the system of cities it belongs to. This contrasts to a greater extent if the secondary status of Latin American cities in this hierarchy is considered, since both their territorial extensions, as well as the inequality in their income distribution or historical processes of formation (Göbel, 2015), are presented as conditions for a representative development of these units.

This text aims to show that in the outsourcing process of these urban developments, there is an uncertainty of the APS services regarding their distribution and spatial behavior, a condition that is reflected in the unequal behaviors found, either through productive agglomerations in scenarios outside the main nodes, the concentration in the latter, or a total dispersion.

Taking the Guadalajara Metropolitan Area, hereinafter, GMA, as a case study, this work analyzes the spatial behavior and the distribution of the APSs by company size to determine whether they maintain trends not only towards urban decentralization but also towards the constitution of productive agglomerations capable of acquiring relevance as a strategic setting for territorial development. To do this, both the Gini traditional model and the econometric adaptation model, which refers to the autocorrelation demonstrated by each of the analyzed services, are used, together with a qualitative analysis focused on the relational vision of the space.

Among the main results, a relationship between the unequal proportion of company sizes and their behaviors in the city is demonstrated. This does not imply an increase in surface coverage, but rather a greater tendency towards centrality[4] and spatial continuity under the center-periphery logic. On the other hand, it is also seen that, although there is a greater balance between some of the APS, this does not necessarily constitute productive agglomerations.

Based on the relational analysis of the space in the GMA and the coefficients from the proposed models, it is concluded that the APS categories such as legislative services and those for business support, given their strategic role in consolidating a city, could be suggested as elements of the future conformation of productive agglomerations that are an alternative to the main centrality, both for their dispersion around the constituent territories of the city and their conformation as basic needs elements in the production model focused on services and information.

II. THEORETICAL FRAMEWORK

Spatial inequality and agglomeration of Advanced Professional Services.

As cities have become the main focus of demographic, productive, and multicultural concentration, the speculations and modeling regarding their structure and internal distribution have been diverse and have been positioned as milestones. The truth is that, beyond the techniques that raise the ideal visions of the urban, the city has the particularity of becoming an element that finds the difference in its ontology, i.e., a social unit that in its constant struggle to consolidate itself as a setting of universal equality recreates landscapes differentiated from each other. This is mainly due to the processes of investment and restructuring of productive outlines as a result of both global structural changes and interurban dynamics (Torrado, Duque-Calvache & Palomares-Linares, 2020).

It is in the positioning of the tertiary sector where the current discussion is focused. This is mainly because the other components in cities become dependent on them (Harvey, 2021; Sassen, 2010). On one hand, the intensity and presence of this process depend on an urban role awarded by a new international division of labor (NIDL), and on the other, this dynamic is constituted as a limited element whose search for efficiency is recreated in advanced territorial environments.

The difference compared to the industrial sector in the city lies in that, tertiary services, essentially due to the ability information and communication technologies have to guarantee production without spatial continuity, rely on disruptive finite spaces of the center-periphery logic (Soja, 2008). This allows the city to be formed in a fragmented way through the use of strategic fixed capital - central communication routes, significant equipment - and territorial capacities[5] (Harvey, 2012; Harvey, 2021). This leads one to consider that, beyond an urban centrality that

4 For the purposes of the text, this refers to the location given “the supply of higher tertiary services that attract demand, namely, companies and the population” (Beuf, 2020).

5 Defined as the action of “determining what the physical capacities of a territory are to solidify the supply of a destination and thereby influence demand” (Fresnada, 2019, p. 237).

concentrates the tertiary production groupings within itself, there is a determining historical outline of territorial capacities in the city that makes it possible, or not, to organize productive agglomerations capable of sustaining the service sector and, consequently, that is representative of a decentralization.

By understanding productive agglomeration as a set of economic units characterized by geographical proximity and typified considering the form and intensity of relationships between them (Ayala-Durán et al., 2020), it should be noted that the possibility of the tertiary sector creating such environments depends on a spatial framework whose shaping process has positioned it as part of what is developed, modernized, and is strategic in the investment (Smith, 2020). In this sense, there will be specific activities of the sector that, as they become indispensable for the urban function, increase their probability of occurring.

In the heterogeneity of the tertiary sector, the role that Intermediate Services or APS can have in Latin America stands out. These services not only represent a specialized economy but also make use of inputs that require highly specialized workers, mainly in roles related to the organization (Gutiérrez, 2011, p. 169). However, despite this specialization and diversity, Latin America still faces challenges due to structural backwardness and its secondary position in political and financial affairs on a global level (United Nations [UN], 2005; Smith, 2020; Vargas, 2005).

The current discussion emphasizes that the agglomerations of Advanced Professional Services (APS) are considered successful in the Global North, which allows describing the cities of this region as decentralized (Gutiérrez, 2011; Landriscini, 2011). In contrast, in Latin America, these APS agglomerations face uncertain scenarios, mainly due to the impact of neo-extractivism (Svampa, 2019), export-oriented manufacturing policies (Arisa & Oliveira, 2014), and the growth of job insecurity (Bonet, 2006). In short, while productive success and decentralization are observed in the Global North, uncertainty prevails in Latin America due to economic and political factors.

In this sense, it could be considered that, although some APSs in the region guarantee an urban presence given their relevance in the productive chain, these would not necessarily be formed as agglomerations, since, beyond the existence of static elements representative of territorial capacities, the probability of constituting themselves as such is focused on a historical outline, i.e., a relational perspective that will determine a dynamic advantage (Fernández-Satto et. al., 2009).

III. CASE STUDY

The Guadalajara Metropolitan Area (GMA), which is the second-largest metropolitan area in the Mexican nation-state, was used as a case study (Figure 1). It comprises 10 municipalities — Guadalajara, Zapopan, San Pedro Tlaquepaque, Tonalá, El

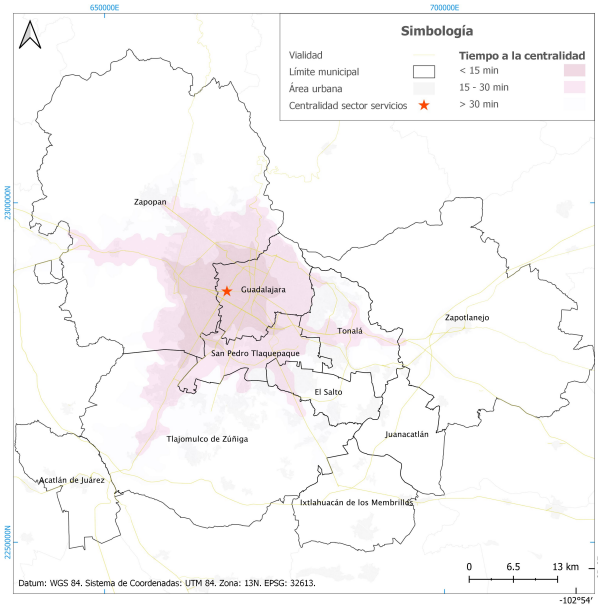

Figure 1. Guadalajara Metropolitan Area and its centrality in the service sector. Source: Preparation by the authors based on López-García and Gómez-Álvarez (2022) and INEGI (2021).

Salto, Juanacatlán, Tlajomulco de Zúñiga, Ixtlahuacán de los Membrillos, Zapotlanejo, and Acatlán de Juárez, in order of accession—. By 2020, the GMA had 7,069,000 km^2 of urban area and 5,117,370 inhabitants (National Institute of Statistics and Geography [INEGI], 2021).

What is sought to highlight in this analysis is that the position of the GMA as the second city gives it an important role regarding the financial dynamics of the federation and, consequently, the development of the APS sector infrastructure is also established as considerable (Table 2). However, typical of the marked structural inequality in Latin American cities, these develop based on the city's foundational ethnic-racial distinction processes and have been replicated in the residential or equipment's physical conditions. For the GMA, the largest companies, regardless of their economic line, are usually located in settings that have historically served as productive nodes, particularly in the municipalities of Guadalajara and Zapopan, contrary to the micro or small units positioned around them (Sevilla & Colmenares, 2022).

IV. METHODOLOGY

The methodological design focused on the APSs, as these show a true expression of urban outsourcing in Latin America

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APS Category	SCIAN Code
Legislative activities	931
Corporate	551
Insurance	524
Business support services	5611, 5612, 5613, 5614, 5615, 5616, 5619
Financial services	5211, 5221, 5231, 5239
Real estate and rental services	5311, 5312, 53212, 53221, 5323, 53241, 53242, 53249

Table 1. Database codes considered for the design of the APS categories. Source: Preparation by the author.

(Bonet, 2006). Based on the categories created for case studies in the Global North (Gutiérrez, 2011; Taylor & Derudder, 2016; Waiengnier et al., 2020) and publicly accessible geostatistical data for the study area (INEGI, 2022), a database of six categories alluding to this economic sector was established[6] (Table 1). The information created allowed analysis based on location and company size, in addition to the estimated number of employees in each of them.

The objective of this study was to statistically demonstrate the trend of the Advanced Producer Services (APS) categories to form productive agglomerations in areas other than the central core of the city. In addition, the authors sought to identify the diversity in which these units manifest themselves, considering the heterogeneity in company size. This exercise stimulated a discussion that, supported by cartographic tools, addressed the spatial distribution of productive units in these categories. The end goal was to understand the relational conditions that influenced the results obtained. For this, an analysis was made that compared the centrality and concentration of each APS category in the GMA, understanding that this allows deducing both the existence of concentrations that allow talking about agglomerations, as well as the intensity in the relations towards urban centrality.

For the centrality, the calculation of the Euclidean distances to the main productive node related to the branch was used, the latter detailed for 2019 (Figure 1) by López-García and Gómez-Álvarez (2022). From this, the optimal route of each business unit was established; so, the results show the average distances calculated for each of the categories.

The concentration was determined using the model proposed by Rey and Smith (2012) that seeks to integrate both the inequality of conditions of economic units — diversity in company sizes of a setting — and the tendency of the latter to create diverse groupings in a space. The model is based on the traditional Gini index (Equation 1), defined as:

$$G = \frac{\sum_{i=1}^{n}\sum_{j=1}^{n}(x_1 - x_j)}{2n^2\bar{X}} \qquad \text{(Equation 1)}$$

Where:
x = value of the variable x observed at location i = (1, 2..., n)
$\bar{X}$= (1/n)∑ixi

Integrating this function into a spatial autocorrelation model leads to the formation of the so-called ***Spatial Gini Index***, which the same authors express (Equation 2):

$$G = \frac{\sum_{i=1}^{n}\sum_{j=1}^{n} W_{ij}(x_i - x_j)}{2n^2\bar{X}} + \frac{\sum_{i=1}^{n}\sum_{j=1}^{n}(1 - W_{ij})(x_i - x_j)}{2n^2\bar{X}} \qquad \text{(Equation 2)}$$

Where:
Wij = Element of the matrix of spatial weights corresponding to
the pair (i, j)
x = value of variable x observed at location i = (1, 2..., n)

According to Waiengnier, Van Hamme, Hendrikse, and Bassens (2020), the model needs to be presented in two components: the spatial Gini and the non-neighbor Gini (Table 3).
The former is responsible for determining the degree of autocorrelation for each variable, while the latter allows the result to be interpreted in the same way as the traditional model, in that 0 would represent a total autocorrelation

6 The categorization was created from the *North American Industrial Classification System*, given the compatibility between the categories of external sources and existing geostatistical information.

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APS Category	Estimated jobs	Companies > 250 employees (%)	Companies > 250 employees	Total companies	Companies < 5 employees	Companies < 5 employees in the sector (%)	Percentage of companies in the GMA
Legislative activities	69,025	19.61	145	1,410	525	37.23	0.63
Corporate	420	0	0	29	16	55.17	0.01
Insurance	5,685	0.57	4	340	187	55.00	0.15
Business support services	79,455	26.68	195	1,858	1045	56.24	0.83
Financial services	35,375	2.36	18	3,835	3,051	79.56	1.71
Real estate and rental	10,925	0.39	3	902	611	67.74	0.40
Total	200,885	49.6	365	8,374	5,435	64.90	3.73

Table 2. Characteristics of APSs in the Guadalajara Metropolitan Area. Source: Preparation by the authors based on DENUE (INEGI, 2022).

between the units presented, as well as a symmetrical distribution between company sizes, while 1 is presented as a total absence of any type of relationship.

In the results process, the calculation of the spatial weight matrix was adjusted using the 70 nearest neighbors. This choice is based on the consideration that this methodology would make it possible to achieve statistical significance levels of p<=0.05. However, an exception is highlighted in the corporate sector, where the high number of units affected the feasibility of assigning the coefficient under the same consideration, as this would have implied an inappropriate restriction.

Finally, the discussion focused on the relational analysis of the results, understanding the relevance of the qualitative approach and the specialized literature regarding the territorial constitution processes of the GMA.

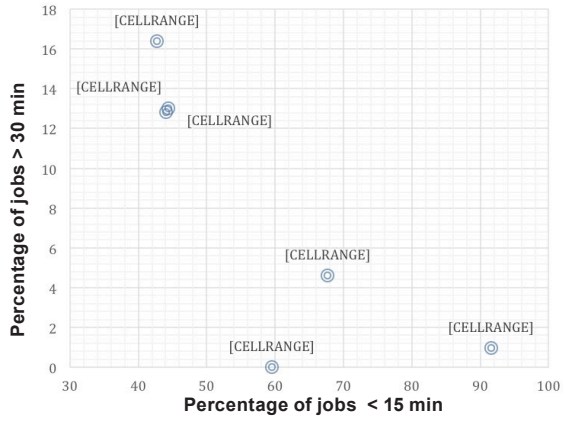

Figure 2. Percentages of APS jobs by time to the centrality. Source: Preparation by the authors based on DENUE (INEGI, 2022).

V. RESULTS

As shown in Table 2, APSs represent 3.73% of the companies in the GMA, with an estimated 200,885 jobs. Of these, business support services and legislative activities have a presence of over 18% for companies with more than 250 employees, while the rest do not exceed 2.5%. On the other hand, except for legislative activities, settings that employ less than 5 people have percentages greater than 55%, which accounts for the unequal distribution in terms of size.

In addition, the analysis of the fastest route to the main centrality in the GMA demonstrates differentiated results among the APS. As shown in Figure 2, there is a direct relationship between the growth of jobs more than 30 minutes from the center and a decrease in proportion for less than 15 minutes away. However, these proportions, for the former, do not exceed 17%, in contrast to what happens in the second case, in that these are always above 40%. It should be noted that the insurance, business support services, and corporate sectors show a significant concentration of jobs, exceeding 55%, at a distance of less than 15 minutes from the main node. In contrast, the proportion of jobs in the most remote peripheries is below 5% for these sectors. On the other hand, the other activities maintain a more equitable distribution, with percentages in the range of 40 to 45% for proximity and 12 to 17% for dispersed jobs.

APS Category	Gini	Spatial Gini	Non-neighbor Gini	Significance
Corporate	0.845	0.525	0.32	0.8
Real estate and rental	0.817	0.0377	0.7793	0.002
Financial services	0.804	0.00768	0.79632	0.00001
Insurance	0.694	0.122	0.572	0.05
Legislative activities	0.226	0.0316	0.1944	$2*10^{-16}$
Business support services	0.169	0.0262	0.1428	$2*10^{-16}$

Table 3. Index results for the APS. Source: Preparation by the authors based on DENUE (INEGI, 2022).

The results obtained reaffirm that the centrality condition is only a strategic one for a limited group of APSs. This condition is corroborated by the autocorrelation coefficients (Table 3). On one hand, real estate, financial, and insurance services were those that showed greater inequality and spatial fragmentation by presenting a non-neighbor Gini above 0.5, contrary to legislative activities and business support services which show coefficients below 0.2. This is indicative of a relationship between the disproportion in company sizes and the absence of productive agglomerations in alternative city settings. In this way, as the non-neighbor Gini shows a similarity to the traditional index and, the latter, approaches total inequality - equal to 1 — there will be a tendency to concentrate in the main centrality of the city. Corporate services deserve special mention, as their presence in the city prevented making significance estimates below 0.05.

In addition, Table 3 shows that, although the spatial Gini results reject the null hypothesis and resemble one another when positioned between 0.03 and 0.02, their incidence in the non-neighbor Gini evidences a differentiated spatial behavior. In particular, it is interpreted that, although there are productive agglomerations throughout the city, these are usually created between companies mainly comprising less than 5 employees. The main factors of this are the limited or zero presence of medium or large companies and their concentration in the main centrality of the GMA (Table 2).

On the other hand, Figure 3 demonstrates a relationship between productive inequality and the tendency to position in the city's main centrality, since, as the presence of companies with more than 250 employees increases in locations more than 20 minutes away from the aforementioned node, there is a tendency to reduce the Gini coefficient for each of the sectors, with business support services and legislative activities having a greater presence.

Likewise, the existence of spatial conditions related to a dissimilar and strategic distribution of the APS that affect the

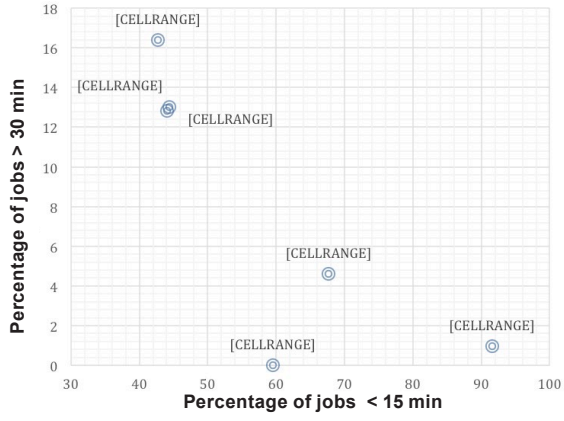

Figure 3. Relationship between the presence of companies with more than 250 employees and the Gini index. Source: Preparation by the authors based on DENUE (INEGI, 2022).

inequality expressed by the Gini coefficients is demonstrated. This could be considered as the reason why the Gini Coefficient was affected by the degree of dispersion of its medium and large companies, considering smaller-sized ones remain throughout the GMA. Finally, it is important to confirm a difference in the spatial behavior of the analyzed APSs, in the sense that it is understood that this encourages a discussion focused on territorial skills that affect said spatial behavior, rather than a total dependence on the ***free market***.

VI. DISCUSSION

There is a relationship between the hypotheses regarding the outsourcing processes of cities and the spatial behaviors of the APSs in the GMA. However, in consideration of the

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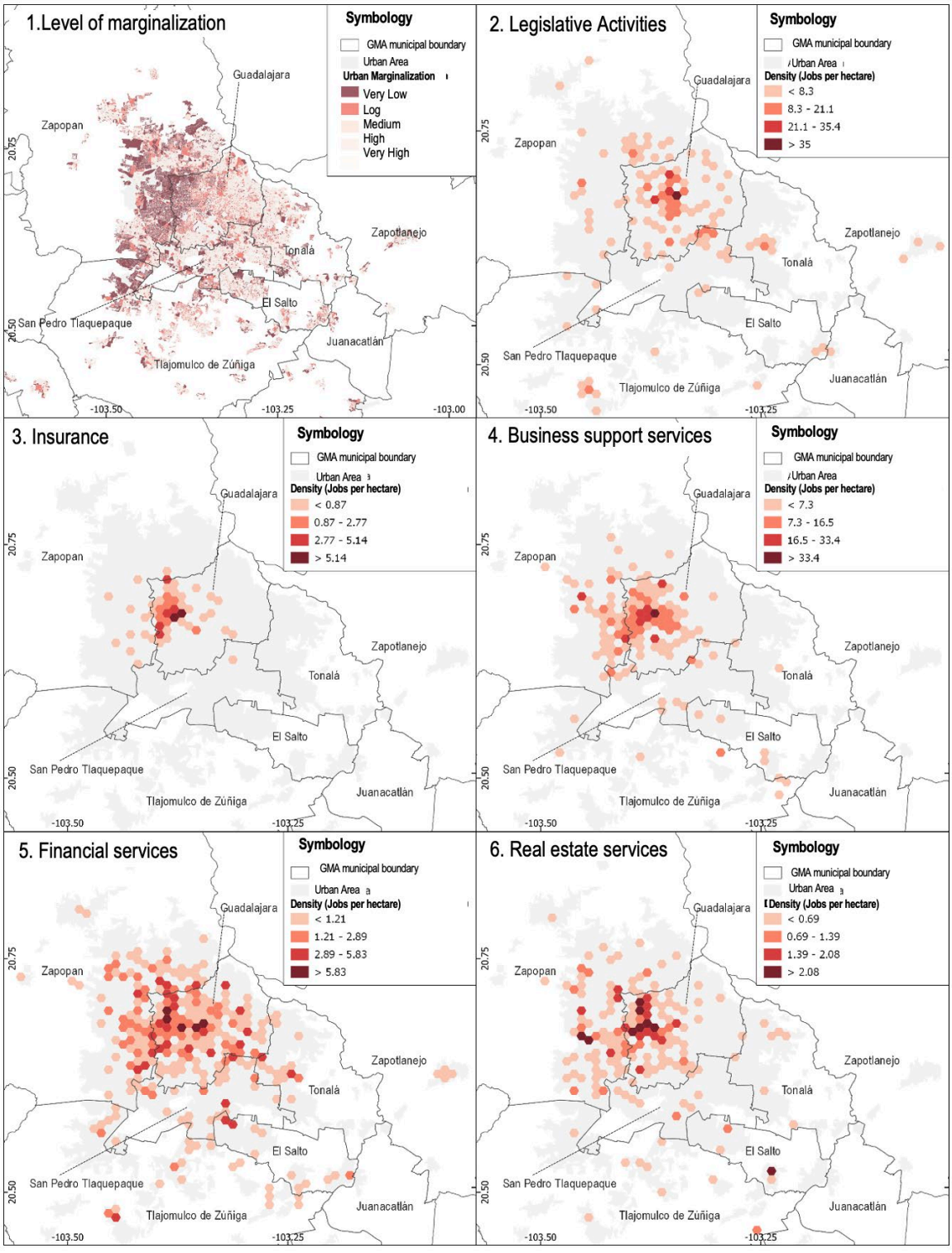

Figure 4. Level of marginalization and density of employees in the GMA for each APS. Source: Preparation by the authors based on DENUE (INEGI, 2022).

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indices shown for each sector, significant agglomerations are not yet expressed. This is because, unlike cities of the Global North characterized by greater historical and economic development and greater surface compaction, the GMA is undergoing a development of the APS sector as a result of its relative and recent involvement in the free market and globalization outlines in the second half of the nineties (Borja & Castells, 2002; Núñez, 2014). It is these processes that would allow characterizing the phenomenon as one that is in development and uncertain.

It is imperative to highlight, through the specific models of each APS, the territorial affinities demonstrated that not only condition, but could also ground future development. Figure 4, as is evident, illustrates a clear preference for the location in the western part of the city, particularly in the municipalities of Zapopan and Guadalajara. This inclination matches the Partida (2014) and Seville (2020) approaches regarding these environments, identified by the NIDL as areas of constant investment in fixed capital and as generators and residents of skilled labor. This condition, theoretically expressed as a territorial capacity and symbolic element linked to urban centrality, confirms and supports the aforementioned territorial preference.

Similarly, it can also be highlighted that the uneven spatial development demonstrated by each sector is closely related to the city's hierarchical position regarding its participation in the global economy. This is due to the understanding that this is a link in the financial dynamics that originates in the large cities of the Global North. In this sense, sectors such as corporate or insurance have a limited dispersion and agglomerations compared to essential activities of the contemporary life model, such as financial services, legislative, and even real estate[4] and rental, considered as basic needs for the population. Therefore, it would be possible to witness that, as the Gini spatial index grows, a sector will have a greater presence in areas of greater structural backwardness.

Finally, Figure 4 allows contrasting the spatial condition of the services, discriminating between those with Gini indices close to equality -in windows 2 and 4- and those that showed an inclination to inequality -in windows 3, 5, and 6-. Initially, the first group maintains the highest employment densities per hectare, which is directly related to the previously stated condition regarding a greater presence of units with more than 250 employees. In addition, these units are located in more restricted and distant locations from the city in contrast to the second group, thus manifesting in lower densities and continuously starting from the main urban centrality.

However, the fundamental point is linked to the city's participation in global economic dynamics. Although financial and real estate services - windows 5 and 6 - have greater coverage in the GMA, their calculated indices reveal that these do not form particular agglomerations in themselves. Even the persistence of the highest densities in the vicinity of the primordial centrality of the city confirms its spatial coverage as a condition rooted in the positioning of these sectors as essential elements of everyday life.

In contrast, and according to what can be seen in windows 2 and 4, the group of legislative and business support services are presented in a more fragmented way in the territories, which may seem counterintuitive. However, by accepting the idea of Guadalajara as an entity recently incorporated into the inertia of neoliberal capitalism, it is understood that these areas find structural conditions that allow their full development in the locations where they are positioned. Therefore, regardless of the low spatial indices expressed, they are positioned as the main sectors for the formation of significant agglomerations, which is corroborated by the low coefficients recorded by the non-neighbor Gini (Table 3).

VII. CONCLUSIONS

From what has been presented in this work, it is possible to mention that the APSs in the GMA maintain differentiated spatial behaviors, either depending on the historical-territorial peculiarities or the level of demand required by a certain category. In this logic, it is observed that while the insurance or corporate sector is concentrated around the main node of the GMA, financial and real estate and rental services have a more extensive coverage, which manifests a preference for environments with the best structural conditions.

The discussion raised here emphasizes the need to integrate complementary models that delve into the territorial peculiarities that encourage the formation of these distributions, either through affinity with particular economic corridors or through land rental and urban complexity outlines. However, the Gini spatial coefficient and the proposed relational analysis allow it to function as an exploration of future scenarios in the city, applicable in other productive sectors. In addition, it is necessary to consider as a future line of research, an analysis of the changes caused by the health crisis due to SARS-Cov-2, particularly due to the productive disruption this represented and the reaffirmation of the APS as protagonists and the future of societies.

7 The latter understood as a fundamental part of neoliberal capitalism (Harvey, 2021)

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TENSIONS IN THE WAYS OF INHABITING OF SEXUAL AND GENDER DISSIDENCES IN THE PUBLIC SPACE OF THE URBAN CENTER OF CONCEPCIÓN. [1]

TENSIONES EN LAS FORMAS DE HABITAR DE DISIDENCIAS SEXUALES Y DE GÉNERO EN EL ESPACIO PÚBLICO DEL CENTRO URBANO DE CONCEPCIÓN

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Enfocado desde el urbanismo con perspectiva de género, el artículo expone algunos resultados derivados de un estudio cuyo objetivo fue caracterizar las formas y tensiones del habitar de las disidencias sexo-genéricas en el centro urbano de Concepción y los elementos del diseño del espacio que inciden en estas. Para responder a este objetivo se realizó una investigación con enfoque cualitativo. Como técnicas de recolección de datos, se realizó un mapeo colectivo con las comunidades objeto de estudio para establecer con ellas lugares significativos del espacio público, seguido por una serie de entrevistas semiestructuradas, a partir de las cuales se realizó un análisis temático a fin de identificar vivencias compartidas entre quienes participaron. Los hallazgos evidencian que las diversas actividades y prácticas de los grupos de disidencias en el espacio público se realizan en un constante estado de alerta, modulado en gran parte por la percepción de inseguridad que se tiene de un lugar. También se lograron definir las tensiones percibidas en los espacios públicos del centro urbano. Las percepciones, prácticas y formas de habitar de las disidencias, así como las tensiones producidas en estos procesos, nos expresan la necesidad de abordar el enfoque de género y la diversidad en los procesos de planificación y diseño urbano para avanzar así hacia ciudades más inclusivas y equitativas para todos y todas.

Palabras clave: urbanismo, género y disidencias, formas de habitar, espacio público

Using urbanism with a gender perspective, the article presents some results from a study that aimed to characterize the forms and tensions sexogeneric dissidents live in the urban center of Concepción and the elements of spatial design that affect them. A qualitative research approach was used to respond to this goal. Collective mapping was carried out with the communities under study to establish significant places in the public space, followed by a series of semi-structured interviews as data collection techniques. After their transcription, a thematic analysis was made, identifying the shared experiences of those who took part. The findings show that the different activities and practices of dissident groups in the public space take place within a constant state of alertness, modulated, to a large extent, by the perception of insecurity in a place. It was also possible to define the tensions perceived in the public spaces of the urban center. The perceptions, practices, and ways of living dissidence, alongside the tensions produced in these processes, express the need to address the gender and diversity approach in planning and urban design processes to move toward more inclusive and equitable cities for all.

Keywords: urbanism, gender and dissidence, forms of inhabiting, public space

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I. INTRODUCTION

The problem of gender-based violence is quantitatively relevant in Chile and Latin America (ECLAC, 2015). Its occurrence in the public space is not only associated with quantitative victimization data but also with other structural factors. In this sense, urban socio-territorial segregation and, in the case of women and gender diversities, a patriarchal socio-cultural framework has permeated gender roles and the relationship between them (McDowell, 2000), as well as the modes of use, appropriation, and organization of urban space (ECLAC, 2015; Falú, 2014).

According to Gamboa Samper (2003), the public space makes it possible to meet and exchange, which is why it constitutes a collective space (Cerasi, 1990; OAE, 2013). It represents the setting for human beings, namely citizens, to live and interact in the city (Borja & Muxí, 2003). In physical-symbolic terms, urban public spaces constitute a continuous system of collective spaces, identified as streets, squares, parks, and public gardens, among others, which, in the words of Gamboa Samper (2003, p.17), "set up" the city, give it coherence as a whole, and make it recognizable.

Violence and sexual harassment, mainly experienced by women and gender diversities in the city, deteriorate the traditional notion of public space as a meeting space (Moreno, 2006). On the contrary, the urban public space becomes the place where different social exclusions unfold and reinforce themselves (Zúñiga, 2014). According to Falú (2014), Muxí Martínez et al. (2011), and Valdivia (2018), there are structural inequalities linked to gender that directly result in an unequal appropriation of public space for women, men, and sex-generic dissidence.

McDowell (2000), on the other hand, complements this, pointing out the existence of a diversity of groups and social actors left outside the public space, understood as a place "for everyone." For Rico et al. (2017), these processes influence the perception and use of inhabitants, permeating the construction of unequal gender relations in the city. That is why it is essential and urgent to "recognize that the way cities are built is not neutral" (Muxí Martínez et al., 2011, p.23). Hence, as Buckingham (2011) suggests, its analysis should consider all actors and functions that participate in the development of urban life.

Although feminist urbanism has made it possible to make gender issues visible and provide solutions for their equity (Amoroso, 2020), sincethe regulation of urban space use, sexual dissidence, which is understood as a group of people who identify outside the heteronormative and masculine perspective, i.e., "the common" (Soto Villagrán, 2018), has historically not been considered. As Revueltas (2021) expresses, very few studies address how these communities use and appropriate urban space. Giaimo (2021), through the analysis of the spatiality of the queer[6], outlines the absence of representativity for the transvestite-trans collective in habitat and housing policies. Although there are some experiences incorporating these groups into planning processes in Latin America, they are still very few and insufficient (Peraza, 2022; Kokalov, 2018)

According to the results of the 2017 CASEN survey, 1.98% (221,796 people) of people residing in Chile reported having a sexual orientation other than heterosexual. This number increased by 0.44% compared to the same survey conducted in 2015. It is also evident that 2.8% of the people surveyed do not identify with the gender given at birth. Another significant piece of information is that 13.7% of households where the head of household identifies as heterosexual, report that some member of the family nucleus has suffered discrimination or been mistreated due to the sexual orientation of the head of household in the 12 months prior to taking the survey. This percentage is significantly lower than that registered in households where the head of household identifies as homosexual, with 30.1%, and 36.5% in the case of those who identify as bisexual (Ministry of Social Development and Family, 2018).

In Chile, cases of assaults against sexual minorities have been progressively rising, with 14.7% more in 2020 compared to 2019 (MOVILH, 2022). Many have occurred in public spaces such as parks, squares, or streets, revealing a problem mainly in urban areas. In recent years, public policies have been implemented regarding sexual non-discrimination and laws that include the LGTBIQ+ collective, with the anti-discrimination law, also known as the "Zamudio Law" (Galaz Valderrama et al., 2018) and Law No. 21120 on gender identity, standing out. However, policies and research addressing discrimination suffered by dissidents in urban public spaces have not been implemented.

Focusing on urbanism from a gender perspective, this study seeks to visualize the tensions sexual dissidents face in the public space, specifically in the urban center of the city of Concepción, Chile. In 2020, the Biobío region had the third highest number of aggressions against LGBTIQ+ people (MOVILH, 2022), positioning Concepción nationally among the cities with the most cases of attacks on dissidents. The results and reflections presented here hope, by analyzing the case of Concepción, to contribute to knowledge on how sex-generic dissidents live and their associated tensions and meanings.

The research question sought to answer how sexual and gender dissidents live and what tensions they perceive when inhabiting the public space of the urban center of Concepción.

6 Groups designated by binary gender categories, thereby defining roles, modes, and uses that violate their identities that stand out from the hetero-linear, or intend to do so.

The general objective proposed was to characterize dissidents' forms and tensions of living in the central space of Conception and the design elements of the space that affect these. To respond, research with a qualitative approach was used. As a data collection technique, collective mapping was made to answer the first specific objective of establishing significant places in the public space of Concepción's urban center for sexual and gender dissidents' lives. A series of semi-structured interviews followed this to respond to the second and third objectives: to identify the tensions in dissidents' living and the design elements that enhance them, according to the variables considered, respectively.

Understanding how groups outside the binarism and hetero-norm framework inhabit urban spaces is an opportunity to recognize these excluded groups' problems of living, thus being able to start looking for ways to generate cities that genuinely respond to the needs of all their users and, therefore, to the heterogeneous needs of the population (Muxí Martínez et al., 2011)

II. THEORETICAL FRAMEWORK

Dissidence, public space and urban design

The urban space, according to Becerril-Sánchez et al. (2012), expresses social relations in the space (Becerril-Sánchez et al., 2012, p.147). This means that in a society marked by asymmetrical and unequal gender relations, these relations are expressed and configured in the urban space (Soto Villagrán, 2018). Therefore, it can be determined that gender relations transform space and incorporate it into the urbanization process. Shelly Buckingham (2011, p.7) states that urban space, on not being neutral, should be analyzed considering the different actors and functions that participate in creating urban life, which includes traditionally excluded groups and their way of living.

Within these groups, we can find sexual and gender dissidents, which are understood as the group of people who are outside the heteronormativity and gender binary rules (Soto Villagrán, 2018). Heteronormativity, according to Serrato Guzmán et al. (2015, p.165), is "the sexual ideology that approves and prescribes heterosexuality as a natural assignation and comes from the biological difference associated with the reproduction of the species," discarding sexualities outside this norm as valid or even possible. On the other hand, binarism is understood as this way of seeing the world based on dualisms and gender, pigeonholing people into two unique possibilities: being a man or being a woman (Medina, 2022). Butler (2007) points out that both gender and sex are performative; that is, they are a social construct, questioning the norms that govern gender and discarding the validity of the binary.

From an anthropological point of view, the act of inhabiting is defined as the human capacity to interpret, recognize, and signify space (Giglia, 2012). Social and structural differences condition this act. This process is changing and differentiated according to the particularities of each context since everyday use practices are "taming spaces" (Giglia, 2012), making them meaningful places.

On the other hand, from the perspective of feminist urbanism, living implies the possibility of intensely and integrally developing the different spheres of life under equal opportunities (Muxí Martínez et al., 2011), for which urban design has an important role, as it either limits or enables this development. In this sense, shaping equipment, infrastructures, or the quality and quantity of public spaces guides or inhibits uses by different social groups (Col lectiu Punt 6, 2017; Muxí Martínez et al., 2011).

In this context, new urban design policies and elements could enhance and improve the use of public space for the benefit of the most excluded groups. However, urban design is generally based on gender stereotypes, ignoring the particular needs that women, men, or divergent groups may have in these public spaces. This lack of consideration generates conflicts, tensions, and violence toward bodies, marking the experience of living (Col·lectiu Punt 6, 2017). In this way, the violence experienced by women's bodies and other subjects of discrimination shows the unequal historical power relations, which are expressed in the domestic space and are transferred almost in a continuum to the public space (Falú, 2009).

The problem of gender-based violence and insecurity in the public space is not limited to quantitative victimization data but also involves additional structural factors. These include urban socio-territorial segregation and, in the case of women and diversities, a patriarchal socio-cultural framework that has permeated gender roles and the relationship between them (McDowell, 2000) and that, in turn, affects the modes of use, appropriation, and organization of urban space (ECLAC, 2015; Falú, 2014; Falú, 2015)

Considering the public space as the scenario that gives rise to social relations (Gamboa Samper, 2003), inhabiting cannot be separated from the experiences of those who inhabit it (Borja & Muxí, 2003). It is these social relations, which give rise to an understanding of public space as a collective space (Cerasi, 1990), that are shaping a city, making it recognizable and giving meaning to spaces that would otherwise only be physical places (Gamboa Samper, 2003)

When cities are formed based on living experiences, acts of violence towards certain inhabitants cause a break in the narrative of public spaces as meeting or collective spaces. Acts of harassment or exclusion in public spaces give the space negative connotations and social exclusion (Zúñiga, 2014). In the case of

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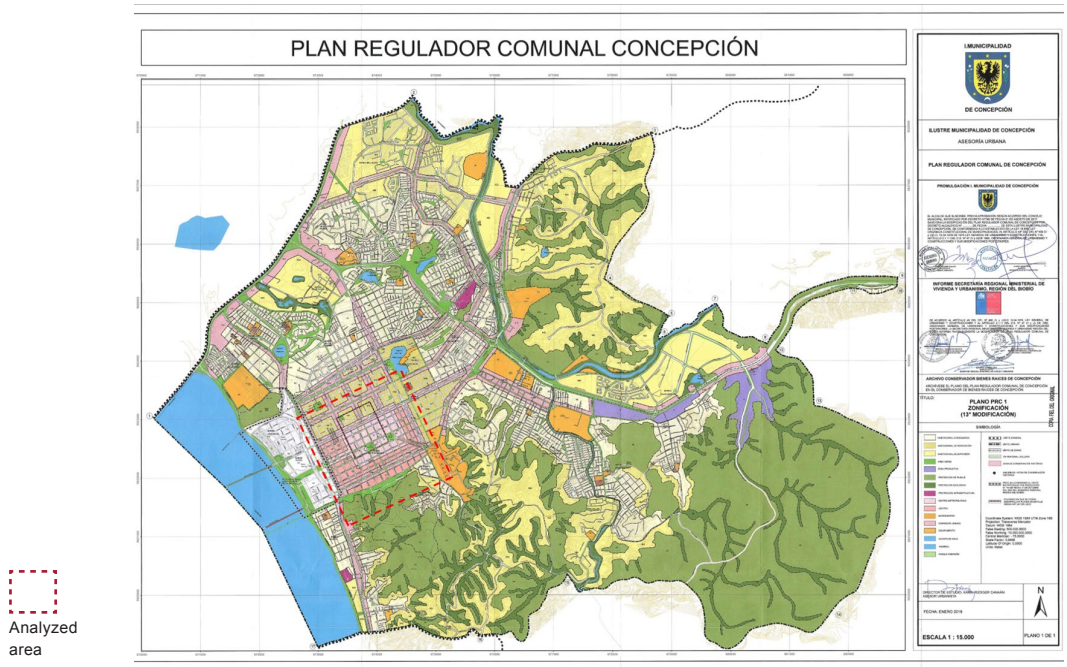

Figure 1. Concepción 2019 Communal Regulatory Plan with the study area. Source: Preparation by the authors using the Minvu file. (Plan Regulador – Municipalidad de Concepción, n.d.).

gender segregation, it is evident that inequalities between men and women and dissidents are rooted in long-standing cultural traditions (Falú, 2009), excluding certain groups of inhabitants from spaces that are supposedly for everyone (McDowell, 2000).

From this framework, Muxí Martínez et al. (2011) highlight six variables associated with the design of spaces that guide the perceptions and uses of public spaces from a gender perspective. The first four variables are public or relationship spaces, services/equipment, mobility, and housing, understood as physical variables. The other two variables are linked to the way of living: how women - in their case study - appropriate the space and influence it, understanding them as perceptual variables, and they are fundamentally safety and participation. These perceptual variables, mainly safety, provide a snapshot of how urban design elements stress different people's lives by limiting their ability to appropriate space (Muxí Martínez et al., 2011).

In the urban center, one finds the public spaces where diversity and the tensions associated with gender and diversity are best expressed due to their position and symbolic and historical value. They are also the spaces where statistics on harassment and violence towards women's and dissidents' bodies are concentrated. Recognizing this, they are also spaces usually chosen by excluded communities to make themselves visible as groups (Enguix, 2009). This study considers the urban center of Concepción as the study area to analyze the relationship of dissidents with the public space, understanding it not only as a location and geometric opposition but as that space "that concentrates, with the highest degree of density and diversity, populations, urban landmarks and symbols, uses, flows, exchanges" (Beuf, 2019).

It is also recognized that the urban center space contains a significant concentration of social interactions (Beuf, 2019). These interactions vary from person to person, which, in addition to being the container of the most significant public spaces in the city, makes it a practical scenario to identify dissidents' ways of living.

IV. METHODOLOGY

The research has adopted a qualitative approach to look closer at the experience of living in the public space of urban Concepción through the experiences of dissidents. The sample was obtained using the snowball technique, contacting key subjects from dissident groups or collectives who formally self-identify as such and expressed their interest in participating in the research. These people, in turn, facilitated contact with other participants, reaching an

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Sexual and Gender Dissidences in the Public Space:
Tensions and living in Concepción's Urban Center,

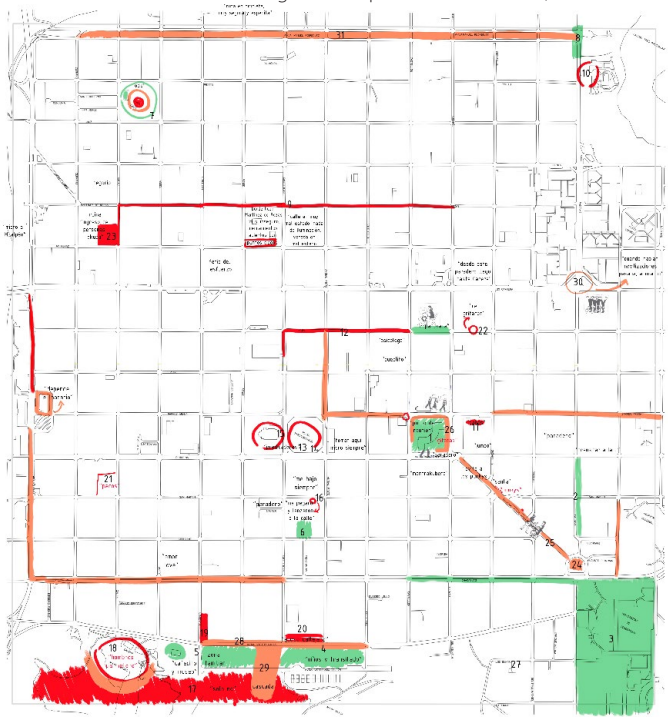

Figure 2. Mapping of "safe, unsafe, and dual" spaces. Source: Preparation by the author.

information saturation point. In total, collective mapping and semi-structured interviews were carried out with 14 people of sexual and gender dissidence.

Data collection procedure. The instruments used for data collection were, first of all, a collective mapping of a city center plan. This technique was used to identify significant public spaces in the center of Concepción, grouping them by a. most used spaces, b. spaces of tension, c. safety, and d. participation. Through dialog, personal experiences were associated to obtain a familiar story reflected on a map. The critical use of maps aims to generate instances of collective exchange to elaborate narratives and representations that dispute and contest those installed from diverse hegemonic instances (Risler & Ares, 2013); in this case, patriarchal and binary visions of the uses of urban space.

The urban center delimited in Concepción's Communal Regulatory Plan (PRC), in force when this study was made, was considered an area of analysis (See Figure 1). In addition, the semi-structured interview technique was used to characterize the way of living and tensions experienced in the public space of central Concepción.

Through a thematic analysis, the authors sought to relate these experiences with the design of public spaces, using the six variables of the study of reality disseminated by Muxí Martínez et al. (2011) as reference. These include four physical (public and relationship space, equipment and services, mobility, and housing) and two intangible (participation and safety) variables. In addition, the six safety principles of urban planning in the city proposed in the document "Tools for the promotion of safe cities from a gender perspective" (2006) were incorporated, which cover knowing where one is and where one is going, seeing and being seen, hearing and being heard, being able to escape and get help, living in a clean and welcoming environment, and acting together.

V. RESULTS

Significant living places of sexual and gender dissidents in the public space of the urban center of Concepción

The people interviewed recognized the daily spaces of use by dissidents in the city's urban center, classifying them into

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Category	Color	Spaces
Safe	Green	Within the Courthouse Square. Paicaví Street, from Cochrane to O'Higgins University of Concepción Campus. Ecuador Park, from Colo Colo to Anibal Pinto. Ecuador Park, from Angol to Rengo. Square in the Cochrane commercial building between Aníbal Pinto and Caupolicán. Perimeter of Cruz Square. Intersection Av. Manuel Rodríguez/Paicaví
Unsafe	Red	Martínez de Rosas Street, from Salas to Tucapel. San Sebastián University Access Square. The restrooms of Mall del Centro Barros Arana pedestrian walkway between Castellón and Aníbal Pinto. Independence Square. Restrooms of Independence Square. In front of the cathedral. San Martín bus stop on the corner with Aníbal Pinto Caracol Hill. Calisthenics sector, Skatepark, and courts in Ecuador Park. Corner of Lincoyán/Av. Victor Lamas. The path on Av. Víctor Lamas between Caupolicán and Aníbal Pinto. Police Station, corner of San Martin with Salas. The path on Maipu between Orompello and Tucapel. Abandoned structure, corner of Las Heras and Salas.
Dual	Orange	Plaza Perú. Diagonal Pedro Aguirre Cerda The perimeter of the courthouse square. Edge of Caracol Hill, between Salas and Angol. Section of Av. Víctor Lamas between Lincoyán and Colo Colo. Sector of the waterfall of the Ecuador Park. Roundabout of Paicaví and Los Carreras. Av. Manuel Rodriguez Square.

Table 1. Classification of urban spaces from user perception. Source: Preparation by the authors, own preparation based on the results of the collective mapping.

three categories of significant spaces: safe, unsafe, and dual (See Table 1 and Figure 2). Participants' perceptions of the spaces emerged and defined these three classification categories. Subsequently, a relevant space of each category was identified for in-depth analysis in the semi-structured interviews.

The first category was associated with safe spaces, defined as spaces they frequent regularly, where there is no significant perception of discomfort, fear, or insecurity, recognized as "comfortable" spaces. Unsafe spaces are defined as those that they avoid visiting, as they report perceiving insecurity and even fear; some elements or people could be a threat and/or are associated with violent experiences towards them for being part of sexual and gender dissidents. Finally, the third category was that of dual spaces, which were defined as spaces where the participants feel discomfort, i.e., their living is stressed by environmental factors, especially in the afternoon and evening, when it begins to get dark at certain times, but which they generally do visit. They report not perceiving a significant risk.

Analysis of the most significant living spaces of sexual and gender dissidents in each of the categories (safe, unsafe, dual)

Of the places the interviewees mentioned in the different categories, safe, unsafe, and dual, they were asked to choose the most relevant in each of them. Although the

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selection is associated with the personal experiences of those who participated in the research, it was associated with spaces whose design characteristics were relevant to their perception, maintaining the definitions above. The spaces selected for each case are the following:

Safe spaces: The campus of the University of Concepción was determined as the most significant, specifically the sector of the central axis and the forum. (Figure 3) This sector was chosen as most of the participants frequent it, even without being university students, mainly due to its large dimensions, the variety of activities that take place there, the diversity of people, and the good lighting.

Unsafe spaces: The Independence Square was determined initially, mainly by the type of public there is and the context in which it is located, in front of the cathedral and in points of preachers, factors not associated with the spatiality or design elements of the place. (Figure 4)

It is due to this that the calisthenics, skatepark, and court sector of the Ecuador Park were finally chosen (Figure 5) as, in this case, the perception of insecurity by sex-generic dissidents is associated with the spatiality of the place and its design elements.

Dual spaces: The junction of Plaza Perú and Diagonal Pedro Aguirre Cerda was chosen (Figure 6 and Figure 7) since although those who participated reported it is a frequent meeting and leisure space, after a certain time, lighting is scarce, which, added to other factors, such as the decrease in the traffic of people and the facades unrelated to the street after the closure of the premises, leads to possibly unsafe situations, having to stay alert and/or move.

Ways of living of sexual and gender dissidents in the public space of the urban center of Concepción.

The ways of living in the space are linked to the ability to appropriate spaces and their meanings. In the specific case of dissidents, this is closely related to the perception of safety. Another factor associated with the way of living is the activities carried out in the spaces, determined by different variables or conditions such as the length of stay, the number of participants, and the level of relationship with the elements of the space, among others. In the spaces analyzed, it was identified that the way of living by the sexual and gender dissidents participating in the research is in a constant state of alert and is mainly with the perception of safety that one has of a place, in addition to certain spaces, activities and positive and negative characteristics of the space (Table 2).

Figure 3. Central Pathway - University of Concepción campus. Source: Author's personal files, 2021.

Figure 4 y Figure 5. Plaza de la Independencia, Concepción / Calisthenics Sector, Ecuador Park, Concepción. Source: Author's personal files, 2021.

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Figure 6 y Figure 7. Plaza Perú, Concepción / Diagonal Pedro Aguirre Cerda, Concepción. Source: Author's personal files, 2021.

Perception	Significant spaces	Activities	Characteristics of the space	
Safe	Central axis University of Concepción.	- Getting together with friends - Having dates - Taking a walk - Dancing - Riding a bike - Eating - Killing time	Positive	- Open spaces - Green areas in good condition - Well-distributed benches and garbage cans - Allows having a wide visual field - The pedestrian is prioritized
			Negative	-Lack of public toilets and divided by binary genders.
Unsafe	Calisthenics zone Parque Ecuador	- Resistance meetings of dissident groups -Climb to Caracol Hill alone/ in a group - None	Positive	-Good sports equipment - Access to Caracol Hill
			Negative	- Away from the center. - Poor upkeep (Neglected vegetation) - Dirty (Trash)
Dual	Plaza Perú/Diagonal Pedro Aguirre Cerda	- Route to other places in the center - Going to restaurants and bars - Waiting for other people	Positive	-Central spaces - Good paving - The pedestrian is prioritized
			Negative	- Blind spots - Poorly lit sectors - Very exposed urban furniture.

Table 2. Significant spaces from the perception of the interviewees. Source: Table prepared by authors based on semi-structured interviews.

Tensions among sexual and gender dissidents living in the public space of the urban center of Concepción

All the participants expressed that they inhabit the public space in a constant state of alert, as being part of dissident groups automatically has the possibility of suffering violence and having no control over who the other users of the spaces will be. This alertness is increased or attenuated depending on the perception of safety and its design features. The more insecure the space, the more tensions begin to restrict the habitation of these groups. The most shared tensions were (Figure 8):

Limit the hours of use: Those who participated reported restricting their use of certain spaces after a given time due to an increased perception of insecurity and/or fear of possible aggression.

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Figure 8. Tensions in living for sexual and gender dissidents. Source: Preparation by the author

Fear of possible aggression: There is a familiar story shared among those who participated, associated with inhabiting public spaces, mainly unsafe ones, which reveals they had to be alert due to the fear of suffering acts of violence.

Feeling cornered: Those who participated acknowledge the importance of recognizing possible escape routes and remaining alert. It was also associated with the metaphorical perception of being trapped, unable to act with total freedom.

Limitation of expression: Associated with having to restrain, out of fear, certain attitudes, body expressions, and/or appearance, such as certain clothes, that are specifically associated with a gender other than the one that would be socially expected.

Discomfort due to looks: Participants report feeling stressed and their lives being limited due to the gazes of other users of the space, precisely due to the intensity and regularity of being objects of observation of the rest, or due to their gender and/or sexuality expressions.

Limitation of displays of affection: This tension is associated with having to restrain affectionate attitudes with other people and possible partners due to the fear of violent acts and/or as a form of protection.

Rejection by users: Those who took part reported using certain spaces with fear of being excluded or attacked by others, specifically those who are part of groups that could potentially mean some threat.

The main elements of urban design that stress living for dissidents

Lack of lighting: The participants perceive spaces with poor lighting as potentially more unsafe, having to remain even more alert since this makes it difficult to perceive an attacker in case of aggression and ask for help from third parties.

Prioritization of the car: The car has greater relevance on the streets than pedestrians because the more vehicles that circulate, the fewer people there are, and, as noted above, the flow of people through the spaces is a factor that provides safety if help is needed. (Figure 9)

Equipment divided by binary genres: This applies primarily to restrooms and is an element that increases tensions, as it pigeonholes those who use the facilities to two options that do not necessarily represent them and/or expose them to suffer discrimination or situations of violence for not fitting into traditional conceptions of who "should" use the space.

Blind spots on the routes: This feature stresses living mainly by providing spaces where attackers can hide and being unable to see if someone is approaching, increasing the difficulty of asking for help in time.

Neglected vegetation: This element increases tensions among the dissident people participating in the research by two factors. First of all, due to the fact of limiting their use by not being able to sit or stay in green areas. Secondly, having a poor image of the place decreases the number of people visiting. (Figure 10)

Equipment for a very hegemonized public: Refers to spaces whose equipment is limited and very specific, as is the case of the calisthenics bars in Ecuador Park, which covers only a specific audience, especially people who sometimes associate themselves with violent acts against dissidents.

Absence of services: This is a factor of tension of living, since by having less variety of services, there is a lower

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Figure 9. Prioritization of the car and lack of lighting. Source: Preparation by the author.
Figure 10: Blind spots on the routes and neglected vegetation. Source: Preparation by the author.

Space	Agents that stress living
Safe: Central axis University of Concepción.	- Homeless people, who are sometimes violent - Guards, mainly on motorbikes
Unsafe: Calisthenics zone Parque Ecuador	-Users of the calisthenics space - People in a state of drunkenness - People on drugs
Dual: Plaza Perú/Diagonal Pedro Aguirre Cerda	- More conservative senior citizens - Homeless people, who are sometimes violent - Some street vendors
Other spaces in the urban center	- Openly religious people, especially preachers - Police

Table 3. The users' perception of the space's activities and characteristics. Source: Table prepared by the authors based on semi-structured interviews.

circulation of people, which increases the perception of insecurity in the spaces.

Actors of the space as elements of tension for living by dissidents

This category refers to the actors with whom the causes of tensions are associated (Table 3), especially in spaces whose design could be considered appropriate for the activities of dissident groups.

"The thing about the public space where they attack you and everyone is watching and no one does anything (...) is like a double victimization. I usually don't go back to places, or I come back after a long time to places where I've experienced some aggression." - Cam, 23, non-binary.

They are spaces that, although they have good lighting, good visibility, concurrence of people, and proximity to access roads and relevant services in the city center, are at the same time the usual spaces for people who, according to the interviewees, are often associated with violent or aggressive situations against dissident groups.

The main stressors mentioned were (Table 3):

VI. DISCUSSION

The research has managed to identify the most significant spaces for dissidents within the center of Concepción, recognizing design and urban life elements that stress the lives of sex-generic groups in the city.

The results obtained coincide with what was proposed by Giglia (2012), in that living is not necessarily related to feeling sheltered but comfort. This is evidenced in the categories that emerged when establishing meaningful spaces for dissidents, where safe, unsafe, and dual spaces were identified, depending on the level of comfort or discomfort they generated.

Regarding the first specific objective proposed, spaces considered as safe, unsafe, and a third dual category were determined as significant for sex-generic dissidents. The significant spaces mentioned by those who took part in the research are mainly associated with those that host everyday activities due to their designs, with these activities and qualities of the space being a potential for people to use it or a factor that enhances certain insecurities. The urban design stands out then, as in other studies (Muxí Martínez, 2018), as having an important role in appropriating or excluding social groups from public spaces, as it limits or enables their development.

Regarding the second specific objective, it can be concluded that the ways of living of dissident groups are associated with their perception of security/insecurity. In some cases, certain spaces are even avoided, either due to perceived unsafe due to the characteristics of the place and its configurators or by other users who use the spaces, suffering urban exclusion. This story shares similarities with the one analyzed by the Exchange and Services Center Cono Sur, Argentina, CISCSA (2006), which focused mainly on the life of women in the urban space. In this research, it is recognized how the perception of insecurity forces these users to have continuous control and self-control over their behaviors (Centro de Intercambio y Servicios Cono Sur, Argentina, CISCSA, 2006), limiting the appropriation of urban space and autonomous living in the city by preferring, in several cases, to travel in the company of others through certain places. As in other similar studies, the experiences of harassment and threat guide and mark the practices and perceptions of the places limiting the development of urban living under equal opportunities for these groups (Muxí Martínez et al., 2011)

At the same time, this is associated with the third specific objective of research on the tensions that limit the living of sexual and gender dissidents. Seven tensions were identified that contribute to dissidents living in a constant state of alert in public spaces. These include the limitation of the time of use, fear of possible aggressions, limitation of displays of affection, and rejection by users, among others. Different study participants reported feeling more comfortable in unsafe spaces when accompanied by others, especially in activities associated with the appropriation of spaces by dissident groups or organizations. This is linked to what Enguix (2009) proposed regarding the appropriation of urban public space by dissident groups through demonstrations, which suggests that the perception of insecurity decreases when it is known that tolerant people with a common struggle are there.

As an answer to the research question, it can be concluded that sexual and gender dissidents inhabit the public space of the urban center of the city of Concepción in a constant state of alert, which decreases or intensifies given the tensions perceived in the different spaces, which restrict the expression and appropriation of space. Although there is still a long way to go to achieve cities that include all people, this research contributes to that great goal by making visible certain limitations in the living of sexual and gender dissidents in public space and the relevance of considering these dimensions in urban planning and design processes.

VII. CONCLUSIONS

This research aimed to characterize the forms and tensions of living and the elements of space design that affect these in the case of sexual and gender dissidence in the public space of the urban center of Concepción. To do this, narratives of the experiences of these excluded groups were collected to make existing problems visible and incorporate them into urban design in the future. The general objective of the research was fulfilled, as the results revealed both the ways of living and the different activities carried out in a constant state of alert and primarily associated with the perception of safety one has of a place. It was also possible to define the tensions perceived in urban center public spaces by sexual and gender dissidents, which were mainly limiting the time of use, fear of possible aggressions, feeling cornered, limitation of expression, discomfort by looks, limitation in displays of affection, rejection by other users. All of this makes it possible to show the different problems experienced by these groups and how urban design elements may or may not contribute to improving their experiences when inhabiting the city.

After the analysis, the question was answered optimally, addressing all the proposed objectives. The methodology used was suitable to obtain the expected information, as both the collective mapping and the semi-structured interviews provided relevant data for the analysis, prioritizing, at all times, the participants' experiences.

Two obstacles were seen throughout the research. The first related to collective mapping, specifically associated with its community character, since it was challenging to meet despite the motivations and interest of different people to take part due to the pandemic. The second obstacle or limiting factor was the difficulty of finding a bibliography or research background of the topic addressed mainly within the discipline of architecture and urbanism, which demonstrates a need to conduct more research that incorporates sexual and gender dissidents from urbanism while evidencing the value of interdisciplinarity, as a large part of the bibliography and references of this study are works and/or studies mainly from the social sciences.

Undoubtedly, the information collected is insufficient to measure the diversity of experiences of gender dissidence in urban public spaces. However, it opens up questions for further progress in incorporating these dimensions into the planning and design of our cities. The inclusive and caring city, proposed by feminist urbanism (Valdivia, 2018), challenges us to incorporate other dimensions, methodologies, and actors to achieve more inclusive and equitable cities.

One of the main questions arising from this research is: Is it enough to continue discussing urbanism from a gender perspective? Suppose the diversity of people who inhabit urban spaces every day is recognized. In that case, if their needs are becoming visible, and more and more progress is being made in the struggle for equity in all areas of society, it becomes imperative also to expand the frameworks for understanding and acting on them. Why continue to limit the discipline from linguistics? Perhaps it is time to talk about urbanism with a gender perspective or gender urbanism to accommodate, in the future, discussions that consider the possibility of queer or LGTBQI+ urbanism, maintaining the discipline as a tool capable of responding to the reality of one and all.

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INVESTIFICATION IN THE HOUSING MARKET: EXPLORATORY STUDY IN SANTIAGO DE CHILE.

INVESTIFICATION EN EL MERCADO DE LA VIVIENDA: ESTUDIO EXPLORATORIO EN SANTIAGO DE CHILE .

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El presente estudio aborda el fenómeno de la *investificación* en el mercado de arriendo del Gran Santiago. Para ello se utiliza un enfoque metodológico cuantitativo por regresiones geográficamente ponderadas. A través de la recopilación y análisis de datos de transacciones y de indicadores urbanos, se exploran los patrones de localización de inversiones residenciales con relación a funciones urbanas específicas a nivel de zonas censales. El análisis revela que la proximidad a instituciones de educación superior, la estabilidad en los precios de arriendo y la presencia de personas mayores son factores determinantes en la selección de propiedades para inversión. Estos hallazgos evidencian la transformación del paisaje urbano como espacios de renta para el capital y destaca la creciente segmentación socioespacial, subrayando así la necesidad de regulaciones que atiendan las implicancias del *investification* en la dinámica urbana del Gran Santiago.

Palabras clave: *investification*, arriendo, vivienda, Santiago de Chile, renta

This study uses a quantitative methodological approach with geographically weighted regressions to address the phenomenon of investification in the Greater Santiago rental market. Using the collection and analysis of transaction data and urban indicators, the location patterns of residential investments are explored for specific urban functions at the census tract level. The analysis reveals that proximity to higher education institutions, stability in rental prices, and the presence of older adults are determining factors in the selection of investment properties. These findings evidence the transformation of the urban landscape as rental spaces for capital and highlight the growing socio-spatial segmentation, thus underlining the need for regulations that address the implications of investification in the urban dynamics of Greater Santiago.

Keywords: investification, rent, rental, housing, Santiago de Chile, rent.

I. INTRODUCTION

The current Chilean housing model, despite supposedly successful policies, has not seen substantial changes over time and has strong similarities with the one seen in the dictatorship (Ducci, 1997; Greene & Lawner, 2022; Rodríguez & Sugranyes, 2005; Vergara-Perucich et al., 2020). In this sense, 38.5% of families still live in camps. This problem might be due to high rental costs (TECHO, 2023), with Greater Santiago having the highest vulnerability (Fuentes et al., 2020; Link et al., 2019), although it is evident that the housing shortage leads many to settle in camps since they do not have enough resources for other alternatives.

In this context, it is imperative to understand the underlying dynamics behind this situation since, in a privatized housing market, price is decisive in accessing housing in Chile (Mau, 2023). This link between price and access becomes clearer still when one considers that housing costs are rising faster than wages, generating a significant disparity, which, combined with the lack of transparency in the real estate sector (Vergara-Perucich et al. (2023), generates a favorable context for tacit price collusion (Vargas, 2016).

Another critical aspect of access to housing is the remarkable 70% increase in households in marginal neighborhoods. This phenomenon is attributed to several factors, such as migration, educational barriers, and economic factors (Vergara-Perucich, 2022b). As a result, it is clear to all that the housing crisis in Chile requires urgent solutions. Hence, there is a need to review the relationship between ownership and housing as a right (Hermida et al., 2018; IEUT, 2018; Vergara-Perucich & Nuñez, 2019).

Another aspect, the "investification" phenomenon proposed by Hulse and Reynolds (2018), analyzes how investors buy up housing in low-income urban areas to profit from the housing needs of less affluent classes, displacing households with fewer resources. In Chile, this strategy is known as "cash cows," which consists of buying inexpensive properties to rent them continuously and, in this way, capitalize and valorize the assets (Yaluff, 2016). This trend, which real estate agencies have promoted on social networks (López Morales & Orozco Ramos, 2019), is evidence of a little-studied social problem in the country.

Amid the housing complexities and the lack of studies on rentals in Chile, this article explores "investification" in Greater Santiago using advanced statistical techniques. A geographically weighted regression identifies factors such as proximity to universities and rental values that influence investification. The findings not only expand upon understanding of the phenomenon but offer insights into housing and regulation policies that seek to enrich the debate on urban studies (Hulse & Reynolds, 2018; López et al., 2019; Yaluff, 2016).

II. THEORETICAL FRAMEWORK

Critical characterization of the chilean real estate market

According to a recent study conducted by Alberto Hurtado University (2017), the security of housing tenure is a priority for Chileans. This has been strongly supported by policies that favor homeownership (Navarrete & Navarrete, 2016), leading to 62.9% of families owning or acquiring a home, while only 22% rent (Ministry of Social Development and Family, 2021).

After the 2008 crisis, credit regulations tightened (Harvey, 2012), housing prices rose, and real estate sales fell precipitously. Cummings and Di Pasquale (1997) argue that Chilean politics generates spatial distortions that benefit the richest in the rental market since the real estate market is oriented more toward profitability than housing provision. In addition, due to the constant demand and structural deficit (Vergara-Perucich, 2021), the market allows prices to be established due to poor competitiveness (Vargas, 2016).

Households allocate 56% of their income to rent, transport, and food, exceeding financial recommendations (Vergara-Perucich, 2019). Between 2009 and 2015, the households with the highest income derived from renting increased by a significant 22.98% (Vergara-Perucich & Aguirre, 2020). However, the literature warns about the growing difficulty in the Chilean housing market regarding the challenges of renting in terms of income and long-term sustainability (Herrera & López, 2021).

In this context, rental market challenges fall within stability and sustainability. In this vein, Pakhomova and Novikov (2019) mention problems in private-private relations, while Nthite (2005) highlights risks associated with income volatility and tenant variability. Contrary to the common belief of financial security offered by property investment, renting for income does not always guarantee stability. Safeguard measures often generate resistance, and according to the UN (2015), rent controls can discourage investment. Allen et al. (2009) find no evidence that an increase in supply reduces prices, while Appelbaum and Gilderbloom (1983) question the impact on supply and prices by deregulating land use. These

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Variable	Inclusion Criterion	Source of justification
Older people	Older people need more affordable spaces to live in life-long rental models after retiring.	Bates et al. (2020)
Universities and higher education institutions	People looking to live near where they spend much of their daily life.	Wilkinson & Greenhalgh (2022)
Established health centers and shops	People looking to live near where they spend much of their daily life.	Zhan et al. (2023)
Educational centers	Households with children who are looking for some proximity to quality educational centers.	Kuroda (2022)
International immigrants	People who come to live in a nation with no property and their only formal alternative is to rent.	Sharpe (2019) & Saiz (2007)
Public transport stations	Proximity to mass transport means to central spaces, with emphasis on metro typology.	Lin & Chung (2017). & Morawetz & Klaiber (2022). & Efthymiou, D., & Antoniou, C. (2015).
Rental prices in the sector	Attraction value of real estate capital investment and for those looking for rents with high capital gains.	Vergara-Perucich & Aguirre-Nuñez (2020)
Clustering and overcrowding	The strategy of reducing expenses by sharing with other people, households, or overcrowding a housing unit.	Bogolaski et al. (2021) & Toro et al. (2017) & Margarit Segura et al. (2022)

Table 1. Inclusion criterion of variables using the theoretical framework to develop statistical exploration and modeling. Source: Preparation by the authors.

findings raise the need to explore alternative solutions, an aspect little investigated in the Chilean context.

In Latin America, real estate markets face the challenge of having insufficient political and legal support for rental housing, prioritizing ownership over this (Blanco et al., 2014; Pomeroy & Godbout, 2011). This situation has resulted in an underdeveloped rental market, with limited financing and a lack of security for tenants (Ruiz, 2018). However, renting can satisfy diverse housing needs (Blanco et al., 2014) since financial capital plays a crucial role in housing (Aalbers, 2019; Farha, 2017). Linking financial capital with financing has exacerbated a crisis of tenure security (Rolnik, 2017), leaving tenants vulnerable to the interests of landlords focused on profitability.

Several studies have analyzed the relationship between rental profitability and socio-spatial factors in Chile. In Bates et al. (2020), it is suggested that, with aging, people migrate from their properties to renting smaller size and lower-quality alternatives. On the other hand, Wilkinson and Greenhalgh (2022) emphasize that the increase in university enrollment tends to boost rental markets close to such educational institutions. Along the same lines, research conducted in China and Japan has identified that proximity to health centers, shops, and schools influences rental prices (Zhan et al., 2023; Kuroda, 2022). In addition, proximity to public transport stations also affects rental prices (Efthymiou & Antoniou, 2015; Lin & Chung, 2017; Morawetz & Klaiber, 2022). Regarding the impact of migration on prices, research results show a mixed influence (Sharpe, 2019; Saiz, 2007). In this way, it is evident that all these variables are key factors for making location-based real estate investment decisions.

At a national level, it has been identified that the rental price in an area is fundamental for successful real estate

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investment (Vergara-Perucich & Aguirre-Nunez, 2020), as well as strategies that seek proximity to central urban areas, such as overcrowding or clustering (Bogolaski et al., 2021; Margarit Segura et al., 2022; Toro et al., 2017). In Chile, "clustering" refers to multiple households in a dwelling or additional people joining a family nucleus.

To summarize, Table 1 shows the variables of the study based on the literature reviewed.

In Chile, where free, deregulated competition governs social norms (McCawley, 2012), individualism prevails. The purchasing power of individuals defines the socioeconomic structure of neighborhoods, promoting financialization and prioritizing the commercial value of housing over its utility (Santana-Rivas, 2020). This impacts the perception of security, with private property essential to face a risky neoliberal financial environment (Brenner et al., 2012).

III. CASE STUDY

The study focuses on Greater Santiago, a city of 7 and a half million inhabitants, home to much of the Chilean population (National Statistics Institute, 2018). There are 34 communes, socioeconomically segregated by purchasing power, with autonomy in governance and resource management, which determines an ideal urban space to explore the contradictions of urban development in contexts of high socio-spatial inequality (Agostini et al., 2016; Figueroa et al., 2021). The context of Santiago, as the centrality of Chile's power, is added to in that it is the city that concentrates the most significant amount of real estate and financial activity in the country, along with the urban space with the largest aggregate housing deficit in the nation.

IV. METHODOLOGY

According to Hulse and Reynolds (2018), "investificated" refers to a property part of an owner's real estate investment portfolio. With this definition, this study categorizes housing investors as those who own three or more homes. The data collection was carried out using three sources. The first is the Santiago Land Registrar's Office, with information collected by InCiti SpA. This company has exclusive and detailed access to data on housing transactions, providing details about the type and the sale values. This way, buyers with three or more homes between 2009 and 2019 were identified.

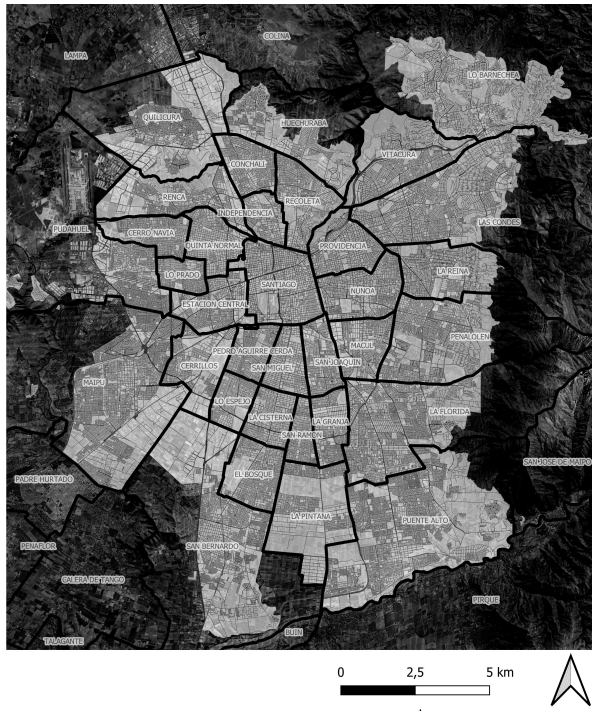

Figure 1. Greater Santiago. Source: Preparation by the authors with data from the National Institute of Statistics 2018.

The second source consisted of a set of properties offered for rent in 2019 through three real estate platforms: económicos.cl, portalinmobiliario.cl, and toctoc.com. This evaluates the ability of residents to pay the rental rate and the gap between this and the sale price. It also highlights the capital gains associated with investing in homes intended for rental, as it is assumed that people who buy three or more homes are looking for profitability, not residence. Based on this premise, individuals with "investification" characteristics were identified by their ID, resulting in, of the 49,914 transactions, 9,987 specific cases were located with owners who own three or more homes in 1,213 census tracts out of a total of 1,885 in the Metropolitan region.

Finally, the third data source was the CASEN 2017 survey, taking information that allowed calculating the average household income according to education by commune, which is related to urban uses and services, as shown in Table 2. Finally, these data were obtained from the walkability study in Greater Santiago (Correa-Parra et al., 2020) and are based on the matrix in Table 1.

The resulting model will identify sectors conducive to new investification processes based on current urban projects, summarized by census tract and commune. The data will be analyzed by a multiscale geographically weighted

regression using the MGWR software (Oshan et al., 2019), which analyzes how the relationship between a response variable and explanatory variables varies geographically. This technique models relationships at different scales, allowing variability in the relationship by geographical areas. The models are adjusted using optimization, selecting ideal coefficients for each area. The mathematical formula of MGWR is as follows:

$$Y_i = \beta_0(x_i) + \beta_{i1}(x_{i1})X_{i1} + \beta_2(x_i)X_{i2} + \ldots + \beta_k(x_i)X_{ik} + \varepsilon_i$$

Where Yi is the observed value of the response variable in i; β0, β1, ..., βk are regression coefficients; Xi1, Xi2, ..., Xik are values observed at point i; εi is the random error in i, and xi are geographical coordinates of i. In MGWR, the coefficients β0, β1, ..., βk are local functions of xi. Instead of global coefficients, MGWR estimates local coefficients for each point. Finally, a spatial Kernel function is used to assign weights to points based on distance.

V. RESULTS

After carrying out the data systematization stage in the analysis geographical matrix, the results indicate the presence of housing concentrations intended for investment in each census area. Their visual representation can be seen in Figure 2, where the intensity of the blue reflects the magnitude of the grouping of investification cases. A higher intensity of the color indicates a more significant concentration of such cases.

A more detailed analysis allows identifying the trend where the investification cases tend to be concentrated along the north-south axis of the city, formed by Avenida Independencia, San Diego, and Gran Avenida José Miguel Carrera. It is important to note that Metro Lines 2 and 3 are also located along this axis, which is a structuring transport reference. Another significant group of areas with investification is located around pericentral communes, within the Américo Vespucio ring road, which can also be seen in Figure 2.

Similarly, the patterns observed in Figure 2 do not suggest interactions between the urban economy, access to transportation, and residential preferences of different socioeconomic groups. However, areas with high investification near the metro lines raise the possibility of a correlation between transport accessibility and the perceived value of properties. In turn, this could influence the displacement of certain socio-economic groups and attract others. The study was conducted using MGWR to review the statistical weight of these spatial relationships.

Item	Values
Type of modeling	Gaussian
Number of observations	1635
Dependent variable	Cases of investification by census area
Number of co-variants	11
Covariants	Number of older people
	Proximity to universities
	Proximity to health centers
	Proximity to education centers
	Number of immigrants
	Number of clusters
	Number of overcrowded
	Proximity to metro stations
	Rental price (UF/m2)
	Proximity to street markets or supermarkets

Table 2. Descriptive summary of the dataset used for the MGWR model. Source: Preparation by the authors.

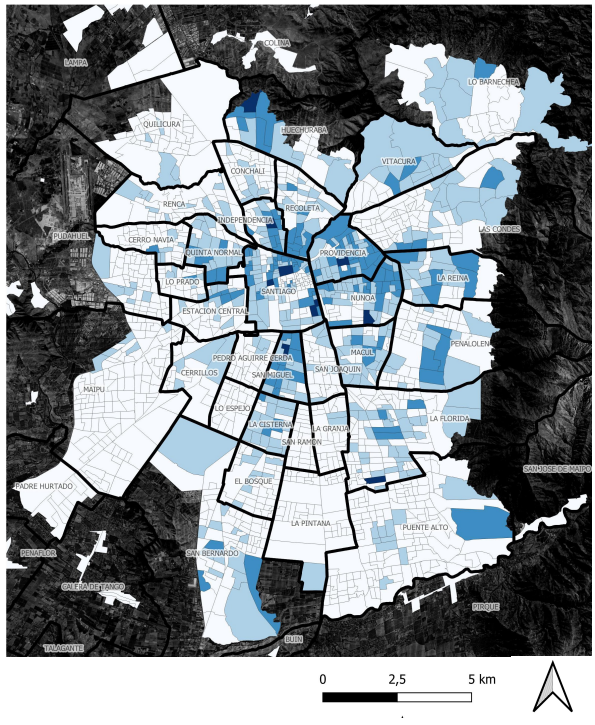

Figure 2. Concentration of investification cases in Greater Santiago. Source: Preparation by the authors

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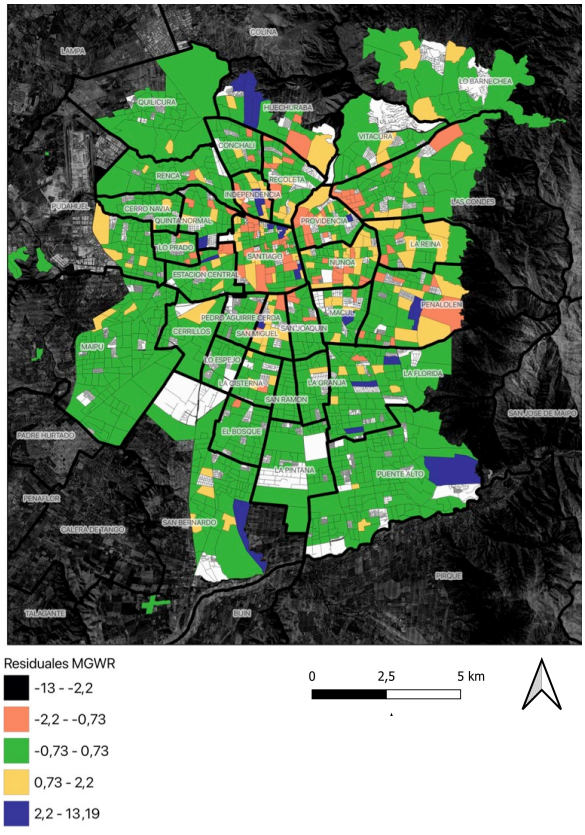

Figure 3. Residuals of the multiscale geographically weighted regression model. Source: Preparation by the authors.

Table 3 exclusively compiles the census areas organized by communes with the highest concentrations of investification cases. It provides detailed information, including the number of areas, number of investificated buildings, average household income, average rental price, the income-to-rent ratio, dominant socioeconomic group, presence of "clustering", number of inhabitants, and presence of international migrants. A potential interconnection between investification and the socioeconomic dynamics of Greater Santiago is highlighted.

In addition, Table 3 compares the results of a global regression and another geographically weighted regression. The geographically weighted regression shows a lower sum of squared residuals (765,754 vs. 938,689), a higher log-likelihood (-1699.86 vs. -1866.323), a lower Aikaike criterion (3495.364 vs. 3754.646), and higher adjusted R2 and R2 values (0.532/0.518 vs. 0.426/0.422). This indicates that the geographically weighted model provides a better fit and explanation of the data.

Tests	Global regression	Geographically weighted regression	Comparative variation
Residuals of the sum of the squares	938,689	765,754	18.42%
Log-likelihood	-1866.323	-1699.86	8.92%
Aikaike criterion	3754.646	3495.364	6.91%
R2	0.426	0.532	24.88%
R2 adjusted	0.422	0.518	22.75%

Table 3. Comparative table of statistical results between a global regression and a geographically weighted regression with the model's data. Source: Preparation by the authors

Variables	Mean Beta	Standard error	P-value (average)	T-statistic (average)
Interception	0.021	0.245	0.216819377	0.205794612
Proximity to universities***	0.433	0.002	7.645E-103	23.23671032
Rental price (UF/m2)**	-0.178	0.011	3.54681E-13	-7.725542281
Number of older people**	0.136	0.012	1.03202E-06	5.322046247
Proximity to health centers*	0.125	0.036	0.002289052	4.76068731
Number of clusters*	-0.113	0.007	7.14996E-05	-4.066670417
Number of immigrants*	0.056	0.007	0.016817447	2.476286388
Proximity to metro stations	0.038	0.003	0.083879771	1.74504804
Number of overcrowded	0.083	0.14	0.14532245	1.685832768
Proximity to street markets or supermarkets	-0.044	0.004	0.106232192	-1.635595853
Proximity to education centers	-0.005	0.014	0.665875336	-0.187710246

Table 4. Results of multiscale geographically weighted regression. Source: Preparation by the authors

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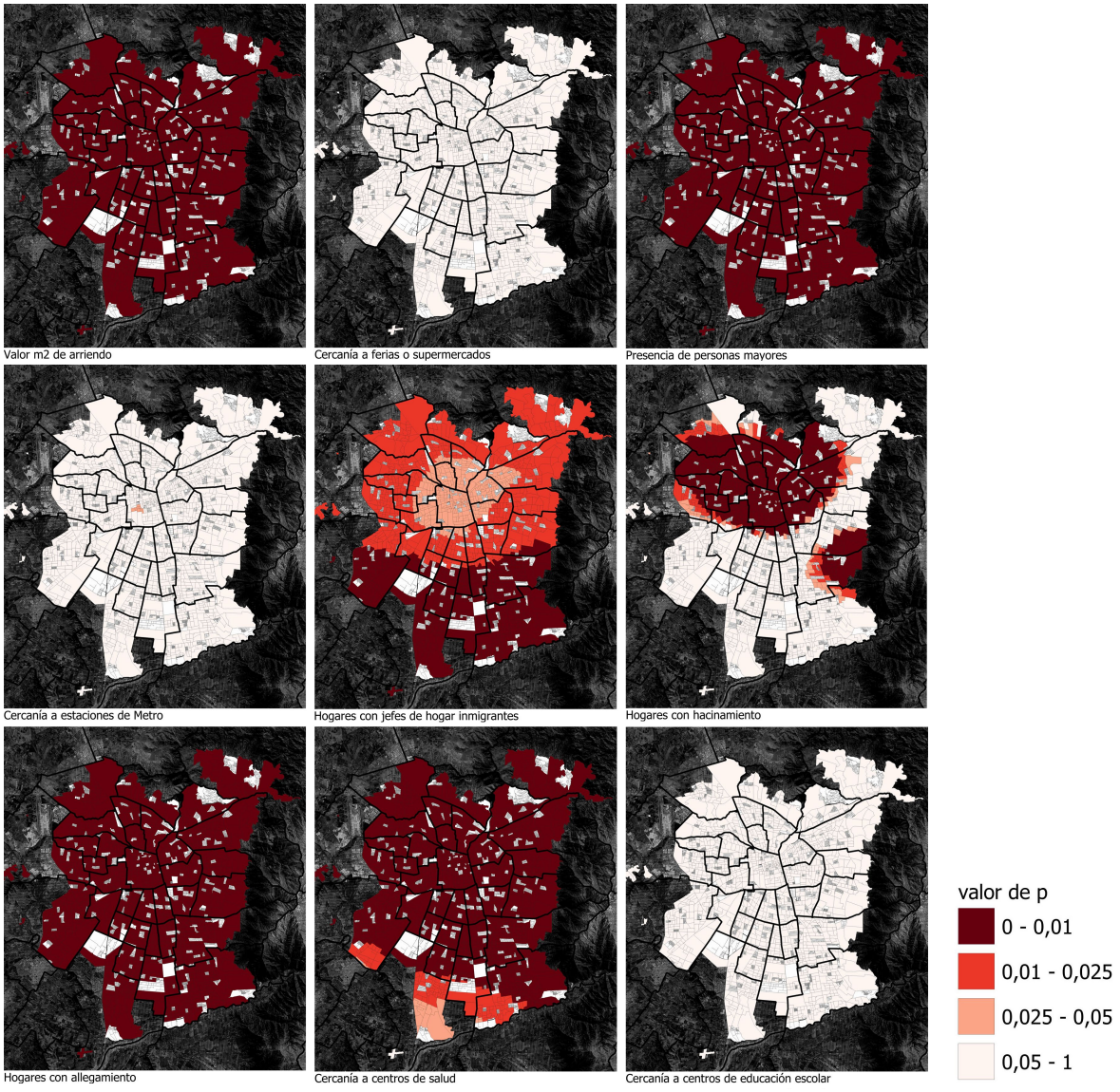

Figure 4. Representations of p-values for the statistical relationship between research cases and variables analyzed in the MGWR model. Source: Preparation by the authors.

Table 4 shows the results of the multiscale geographically weighted regression, including coefficients (Beta), standard error, p-value, and T-statistic. Among the results, the variables "Proximity to universities," with a positive Beta of 0.433, which indicates a positive correlation with investification, and "Rental price (UF/m2)", whose Beta is -0.178, which shows a negative correlation, stand out. Other variables, such as "Number of older people," "Proximity to health centers," and "Number of immigrants," have positive significant coefficients, while "Number of clusters" is negative. As for the variables such as "Proximity to metro stations," "Number of overcrowded," and "Proximity to street markets or supermarkets," no statistical significance was observed in their coefficients.

The geographically weighted regression's ability to fine-tune the metric interpretation, in contrast to the global regression, highlights the spatial heterogeneity typical of Greater Santiago, which is reflected in the variability of the local responses of the variables examined. Therefore, when formulating urban planning interventions, it is essential to consider this multiscale character. Thus, the policies developed based on these findings should be adaptive, recognizing the particularities of each area and avoiding

generalized solutions that do not consider spatial specificities.

In another aspect, Figure 3 illustrates the statistical significance of the model in much of the analyzed city. In general, the spaces with high residual values (those that are not green) are attributed to the low presence of investification cases, which is the variable to be explained. This was an expected result in some of these census tracts, as it underlines the importance of geographical variability in the interpretation of MGWR modeling results. In this sense, this mapping of residuals already suggests key areas for interpreting results.

Concerning Figure 4, the statistical weights of the variables are presented, measured spatially by their p-value. The darker areas on the maps indicate areas with greater statistical significance in Santiago, especially for variables such as the rental value per m2 and the presence of older people and households with clusters, evidencing a remarkable significance in extensive parts of the city. In this context, the application of the MGWR model is relevant. However, some variables, such as proximity to street markets, supermarkets, and educational centers, do not show consistent significance throughout the metropolis. These patterns of significance offer crucial insights for interpreting the results and their application in urban policies and decisions.

In summary, the study reveals specific geographical patterns in Santiago linked to diverse socioeconomic and urban variables. The areas with the highest statistical significance, represented by the darkest colors, show areas where the variables have a stronger relationship with the phenomenon studied. In particular, variables such as the rental value per m2 highlight the influence of the real estate market in certain areas. Likewise, the significant presence of older people in certain sectors may affect urban design and service planning. In addition, the significant importance of households with clusters highlights socioeconomic tensions and disparities in access to housing. These results are fundamental to guide urban policies and address the specific needs of different areas of Santiago.

VI. DISCUSSION

In this study, a socio-spatial characterization of the investification process in Santiago was carried out by analyzing census tracts and statistical variables. The analysis confirmed the existence of investification and its relationship with high rental values, aligning with the theories of Hulse and Reynolds for Australia. Among the main influences for this phenomenon is the location of higher education centers,

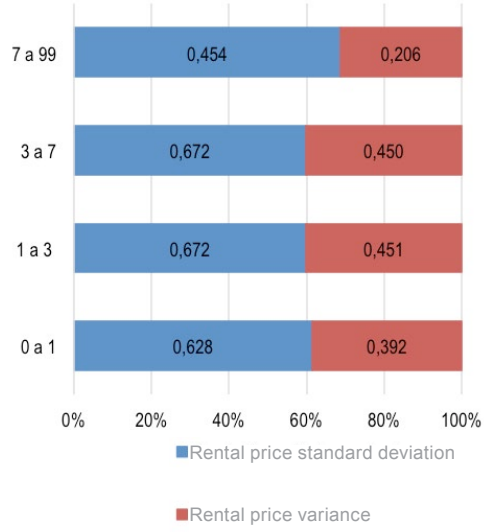

Figure 5. Investification case ranges and rental price variances of each indexed census area. Source: Preparation by the authors

which suggests that investors prefer university areas and that these areas attract complementary urban functions. The rental price is the second most important covariant, validating studies on rent and housing vulnerability, which is related to the increase of migrant households in camps, as the presence of immigrants is another significant covariant. Future qualitative research could explore the location of immigrants in investificated areas.

In the framework of the study on investification made by Hulse and Reynolds in Australia, some negligence of investors was observed regarding the spatial and housing quality of the purchased homes. In the case of Chile, this situation could be even more drastic considering the deregulation of the housing market. Namely, the existence of nano-apartments, as housing units of less than 20 m2 have been called, at a high price, could be explained by the presence of the investification phenomenon since it is possible that those who buy these homes do not live in them, but use them only to invest and extract income from lower-income households.

In areas with a high incidence of investification, a stabilization of the rental value can be seen. According to what is shown in Table 4, in a range of 7 to 99 cases of investification, the variability of the rental price decreases. On the other hand, the investification arises in response to an increased demand for renting, driven by the increase in the immigrant population and the rise in housing prices compared to family incomes. This could lead to a greater concentration of properties in the

hands of high-income investors, generating impacts on housing security for middle-income sectors or those who do not have access to credit.

The graph in Figure 5 reinforces the discussion on investification in Santiago, as it reflects a statistically relevant relationship between the presence of investification and stability in rental prices. The areas with more investification cases (7 to 99) show a lower variance in the rental price, which could be interpreted as stabilization or uniformity in prices. This is consistent with the idea that investification, as a phenomenon linked to real estate investment, seeks to stabilize and maximize returns. However, this stabilization does not necessarily mean that renting is affordable; in fact, the demand for renting is boosted by the increase in immigrants and housing prices compared to family income. This situation can favor owners with high incomes, as it would allow them to acquire multiple properties, while the middle sectors or those without access to credit face difficulties securing housing. This dynamic reinforces the need for more inclusive and equitable housing policies to counteract the adverse effects of investification.

VII. CONCLUSIONS

The objective of this article was to provide results that arise from the methodological proposal on the investification phenomenon by Hulse and Reynolds (2018). After performing the analysis and obtaining the results, its empirical applicability has been demonstrated in Chile. During this work, adaptations have been made using data and variables that are easy to find in Chile and allow replicability. In this sense, the characterization of Santiago in this interpretative framework of the rental housing market indicates that there is an investification process that deserves the expert world's attention to review how to cope with its potential social consequences. Therefore, possible future research can focus on comparing the spatial-specific effects between the cases of Greater Santiago and Sydney, the case behind the theoretical approach mentioned. Likewise, there are no studies in the literature that link the presence of higher education institutions and investors who buy housing to rent in Greater Santiago, which opens a specific research space.

Other studies can also be made from these results. On the one hand, it seems valuable to review the relationship between international immigration and housing rental prices, with special emphasis on the typological aspects against the demographic variables of such migration, to identify whether the available rental space for these migrants allows them to live following the parameters established in the international human rights treaties that Chile has signed. Another research possibility could be looking closer at the location patterns of these homes in the city, based on daily mobility, to generate an approximation from the dynamics of people flows in the city.

On the other hand, the role of higher education institutions in this process opens a new panorama of study. Traditionally seen as drivers of local development, these centers may inadvertently be contributing to real estate speculation and the displacement of low-income residents. It is essential, then, to review urban and housing policies concerning these urban functions, looking for ways to ensure that their presence benefits the surrounding communities equitably and sustainably.

Finally, the relevance of the investification process in Santiago lies not only in its identification but also in its social and urban implications. While investification may initially be seen as a simple market dynamic, its effects on a city's socio-spatial structure can be profound. As specific sectors become more desirable for investment, original residents may find themselves displaced or face increasing economic barriers to staying in their communities. This can lead to a more marked urban segmentation, where areas of high investification become inaccessible enclaves for the majority, altering the social cohesion and diversity that characterizes vibrant metropolises.

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INVESTIFICATION EN EL MERCADO DE LA VIVIENDA: ESTUDIO EXPLORATORIO EN SANTIAGO DE CHILE.
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SPATIALITY OF SOCIAL MEMORIES ASSOCIATED WITH THE DICTATORSHIP IN THE CONCEPCIÓN METROPOLITAN AREA (CMA), CHILE

ESPACIALIDAD DE LAS MEMORIAS SOCIALES ASOCIADAS A LA DICTADURA (1973 - 1990) EN EL ÁREA METROPOLITANA DE CONCEPCIÓN (AMC), CHILE

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ESPACIALIDAD DE LAS MEMORIAS SOCIALES ASOCIADAS A LA DICTADURA (1973 - 1990) EN EL ÁREA METROPOLITANA DE CONCEPCIÓN (ÁMC), CHILE
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El Área Metropolitana de Concepción (ÁMC) fue una de las zonas más golpeadas por la represión política y las violaciones de derechos humanos durante la dictadura. No obstante, el impacto de esta, el desarrollo urbano de las últimas décadas ha ido borrando la materialidad de las memorias vinculadas al periodo, emergiendo la necesidad de analizar y cartografiar su desarrollo en el territorio. El objetivo es dimensionar y comprender territorialmente estos lugares, utilizando una metodología cualitativa documental y de geolocalización para su identificación y catastro para, posteriormente, realizar un análisis espacial, de emplazamiento y distribución territorial. Al respecto, se identifica una amplia variedad de sitios que permanecen “enmudecidos”, mientras que los espacios que evocan la memoria son escasos. De hecho, se observa una desproporción entre la cantidad de eventos de violencia política y violaciones de los derechos humanos y la falta de visibilización de espacios públicos que den cuenta de estos acontecimientos. También, es relevante constatar la inadecuación de los espacios existentes para el desarrollo contemporáneo de prácticas de memoria, tanto en términos urbanos como arquitectónicos, abriendo interrogantes respecto de cómo se cristalizan actualmente las memorias sociales vinculadas a la dictadura.

Palabras clave: espacio público, cartografía, memorias, violación de los derechos humanos.

The Concepción Metropolitan Area (CMA) was one of the areas hit hardest by political repression and human rights violations during the dictatorship. Despite their impact, recent urban development has been erasing the materiality of memories linked to the period, highlighting the need to analyze and map their development in the territory. This article aims to dimension and territorially understand these places, using a qualitative documentary and geolocation methodology for their identification and listing, and then to conduct a spatial location and territorial distribution analysis. In this regard, a wide range of “silenced” sites are identified, while there are few spaces that evoke memories. A disproportion is observed between the number of political repression events and human rights violations and the lack of visible public spaces that account for these events. It is also relevant to note the inadequacy of existing spaces for contemporary memory practices, both in urban and architectural terms, raising questions regarding how social memories linked to the dictatorship are currently crystallized.

Keywords: public space, cartography, memories, violation of human rights.

ESPACIALIDAD DE LAS MEMORIAS SOCIALES ASOCIADAS A LA DICTADURA (1973 - 1990) EN EL ÁREA METROPOLITANA DE CONCEPCIÓN (AMC), CHILE
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I. INTRODUCTION

Fifty years after the Coup d'état, there is still a historical debt regarding what happened during the civic-military dictatorship, which was materially, intellectually, and politically responsible for one of the most aberrant acts committed by state agents in the history of Chile and what was the fate of thousands of detained missing persons. Moreover, there are still historical debts related to social justice, reparation, and memory.

Similarly, there are still historical debts in the disciplines dedicated to studying the territory – such as urbanism, architecture, geography, and territorial planning, among others - that in Chile, until recently, avoided topics related to human rights and social memories derived from the dictatorship. This research aims to contribute to filling the gap in disciplines that deal with space, just as both the maps of the memory of Greater Concepción (Olea et al., 2017) and the studies of Maturana and Domínguez (2011), who examined the interaction between the social memory of traumatic events and space, from an architectural perspective, considering the foundations of Vázquez (2018), have done. In particular, in the Concepción Metropolitan Area (CMA)**6**, the significant contributions come from alternative disciplines, such as social psychology, history, sociology, and political science, to mention a few, the most outstanding example being the academic research of Tesche et al. (2018; 2023).

The relevance of addressing the territoriality of social memory in the Concepción Metropolitan Area (CMA) is critical. First of all, it was one of the areas affected most by the political repression and human rights violations during the dictatorial regime in Chile, given its industrial character, the importance of the labor movement, and its political relevance. In addition, it is essential to know how the urban space and its different communes "communicate" the traumatic events of such an extensive period, marked by concentration camps, clandestine detention and torture centers, political prisons where torture took place, persecution of union leaders and unjustified dismissal of workers, among other severe violations of human rights. It should not be overlooked that one of the main socio-territorial consequences of the neoliberal experiment imposed during the dictatorship was the privatization of state-owned enterprises and the mass shutdown of manufacturing industries (Salazar & Pinto, 2002, pp. 148-150).

It is necessary to explore an urban space that, far from being neutral, acts as a field of discursive dispute for hegemony (Žižek, 1994). In this sense, from different social sectors, there is a need to territorialize memory to make history visible and understand the dimensions of the territorial scope of repression. It is also essential to understand how social memories linked to the dictatorship are currently crystallized in the CMA's urban spaces. For this, first, it is essential to identify and geolocate the different memory sites located in the study. Then, how they are spatially distributed in the metropolitan territory should be categorized and analyzed. This will facilitate building a map that details the political repression and generates new questions by crosschecking the elements of urban analysis and studying the spatiality and materiality of places of memory.

At present, there is a critical issue regarding the recent urban development of the CMA, which, far from preserving the materiality of memories linked to the dictatorship between 1973-1990, has contributed to their disappearance, either by demolishing significant sites, concealing them, or by installing plaques, stelas, or tablets. All these actions, in one way or another, demonstrate the dispossession that urban space has suffered vis-a-vis its intrinsic role as a depository and transmitter of social history to contain, produce, and communicate daily the testimonies that explain the historical and social evolution of the territory. In addition, these dynamic silencers have minimized the dictatorship's profound impact in the region, arbitrarily deciding what deserves to be remembered and what should be forgotten.

This situation has relegated these to social memory, to be kept alive mainly through the stories of survivors, human rights groups, and their protagonists. In contrast, this memory is systematically silenced in the public space and in urban historiographical discourses.

Therefore, it becomes imperative to examine the contemporary urban space with critical questions such as: Where is memory housed in the CMA today? In which streets, buildings, squares, and monuments? What does this say about a city whose image and urban spaces tend to hide the traces of the stories that happened there?

Faced with this context, this research aims to make visible the dimensions silenced in the social space to contribute to understanding how social processes and social memory are expressed materially in specific places. In this way, and by studying this interaction, the hypothesis is made that the environment's material characteristics can facilitate or

6 The CMA is understood as the conurbation comprising of Concepción, Coronel, Chiguayante, Hualqui, Lota, Penco, San Pedro de la Paz, Talcahuano, Tomé, and Hualpén.

hinder the configuration of identity spaces. At the same time, they can promote or inhibit relationships between groups and individuals and facilitate or put at risk the very capacity of the urban space to consolidate its historical-social dimension.

II. THEORETICAL FRAMEWORK

Conceptual Foundations of Memory and Space

The interaction between memory and space, which has been studied since the mid-twentieth century, finds its origin in the theories of Halbwachs (2004), who conceives the concept of memory as "*a reconstruction of the past*" (p. 210). This reconstruction is made based on the current needs of social groups and their relationship with the environment they inhabit.

In this context, memory acquires an eminently social character, delineated by reference frameworks that consider temporality and spatiality as fundamental coordinates. This integration results in a memory characterized by its diversity and capacity for change, reflecting the uniqueness of the subjects' experiences in space and time.

Lefebvre (2013) elaborates on this relationship, arguing that space is produced through spatial uses and practices, experiences, symbolism, individual and collective representations, and spaces of representation. These practices are imbued with power and domination, which suggests that, for a space to be a memory carrier, it must have been appropriated by social groups, i.e., it must be part of their social identity.

Physical and Symbolic Manifestations of Memory

Regarding the analysis of memory and its inscription in space, the contributions of Rebolledo (2022), who explores the spatialities of memory through objects that symbolize significant milestones for specific collectives, stand out. Meanwhile, Jelin (2021) elaborates on this idea, pointing out that such objects – plaques, stones, and murals, among others – can be inside or outside what is recognized as "memory sites." The latter are defined as physical spaces that witnessed situations where many victims suffered or resisted human rights violations. They are reclaimed to remember these events through the denunciation and political action of social groups actively seeking their visibility.

On the other hand, Nora (2009) introduces the concept of "places of memory," which encompass a wide variety of spaces and their material, symbolic, and/or functional dimensions, focused on commemoration. In contrast, the "sites of conscience" mainly have an educational role.

According to the approaches of Maturana and Dominguez (2012), the notion of 'place of memory' is defined as spaces lived collectively by the human experience, considering social, political, discursive, religious spaces, etc. These articulate the past and the future in the present, which is fundamental so that their spatial conditions can promote the appropriation and experience of memory by the community.

In the context of the Concepción Metropolitan Area (CMA), Rabé (2011) has pointed out some critical factors that affect memory spaces in the face of urbanistic changes. These spaces face the risk of physical deterioration, loss of meaning for social groups, and, ultimately, invisibility. On the one hand, the market logic and prevailing economic interests do not usually value these spaces in commercial terms. On the other hand, the daily and accelerated transit of people through urban spaces has been consolidating anonymous places that do not promote interpersonal relationships, weakening their historical dimension and meaning, what Augé (2000) calls "non-places."

Territorial Identity and Spatial Conditions in the Concepción Metropolitan Area

The places of memory studied in this research are part of the CMA's territorial system, considering its metropolitan nature, namely, urban spaces on the Bio-Bio's coastline, whose social geography is historically anchored in different labor, mining, and industrial productive activities (Santa Cruz, 2018), as well as trade unions and politics. The territory, as a social relations setting (Montañez & Delgado, 1998), includes the social, political, and cultural history of its inhabitants and their transformations, including the dictatorship. The Bío-Bío region was the second most repressed in the country, with 159 detention and torture centers (Valech Commission, 2004), although only one of them has been declared a Historical Monument and Memorial Site by the State: "El Morro" Fort.

The memory sites of the CMA have poor spatial conditions regarding their location, visibility, and forms of access (Tesche et al., 2018). Many of them are in a deteriorating state or disappearing in material and spatial terms, considering a lack of knowledge about them and their social and historical relevance (Tesche et al., 2023).

The need to make these spaces visible from the functional dimensions of memory is confirmed, considering the different and complex effects that the dictatorship still maintains in the region, such as the

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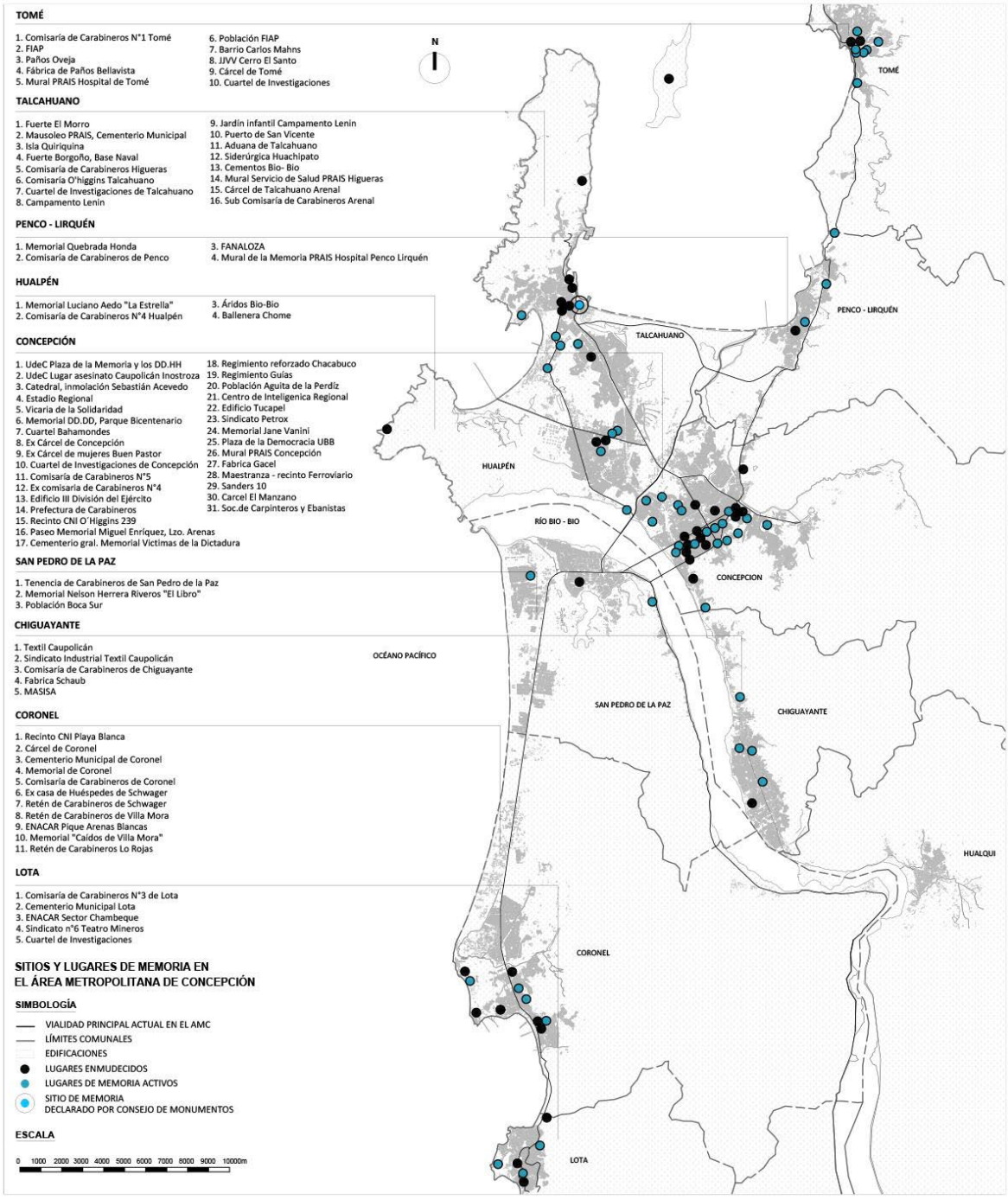

Figure 1. Sites and places of memory in the Concepción Metropolitan Area. Source: Preparation by the authors.

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denial of human rights violations, vandalism of memory sites, and lack of spaces for political action in the present with a future impact (Guglielmucci & López, 2019).

The situation of the CMA's memory-bearing spaces also shows a weakness in the interaction between the past and the future in the present by not maintaining the strength nor making visible the socio-political projects and/or the calls to attention that motivated their construction. In addition, it is necessary that they emotionally and mentally move the spectators in everyday life regarding the visions of the future that they project (Rabé, 2011). This means that they must not only have urban importance but also bear moving traces of the past, i.e., contain multiple historical and political meanings that are not reduced to events, and especially, be dynamic regarding their spatial messages and practices. Finally, they need the absence, disappearance, uncertainty, or questions to be integrated, looking towards life.

III. METHODOLOGY

Collection, Geolocation, and Analysis of Memory Sites in the CMA

The current investigation considers three phases of research. The first is the collection of documentary information contained in the public archives of the Human Rights Undersecretariat, Living Memory (*Memoria Viva*), and the Museum of Memory of Human Rights, in the Rettig (1996) and Valech (2004) reports, newspaper libraries, and photographic archives. Allusions to the different places of memory of the CMA were sought in these sources. The collected information was organized into index cards by place and commune, supplemented with current images and qualitative information (Flores-Kanter & Medrano, 2019) obtained through interviews with survivors. The intention was to compare the background information collected in the secondary sources with their stories to reconstruct the historical-social dimension of a selection of significant places where memory practices occur.

The second phase consisted of geolocating the identified sites and categorizing, mapping, and filtering the information to discard duplicate places, mislabeled and with inaccurate information about their location, to territorially locate the concept of "social memory" in the CMA.

Documentary information, maps, and satellite images were considered to find the exact locations. The memory sites found were analyzed using an open-access georeferencing program to generate maps. In this phase, 88 sites and places of memory were recorded, categorized, and geolocated: 31 in Concepción, 16 in Talcahuano, 11 in Coronel, 8 in Tomé, 6 in Lota, 5 in Chiguayante, 4 in Penco, 4 in Hualpén, and 3 in San Pedro de la Paz. From this process, the concept of "silenced place" arises, which is proposed to allude to those places that mention the events lived there (Figure 1).

The third phase was analysis and fieldwork. The case studies that will be examined in greater depth were carefully selected during this stage. The concept of "place of memory " was operationally adopted as an analytical category that encompasses different factors identified during the research, including the density of the memories they concretize, the characteristics of their location, the scale, origin, and spatial qualities, the activities carried out there, and their state of conservation. The sites chosen were then explored through visits and onsite urban and architectural analysis. The research team made these visits independently and together, accompanied by some external actors participating in memory practices. The findings were documented through observation guidelines and backed up with photographic records, which made it possible to determine the sites' material characteristics and spatial configuration, to what extent these places facilitate or not social encounters, and what kind of collective memory practices they promote.

Methodological Evaluation of Memory Sites in the CMA

To understand how the spatial qualities and characteristics of the location of memory sites influence memory practices, it is relevant to describe and analyze a selection of them to evaluate whether or not they contribute to the configuration of spaces with identity, whether or not they promote relationships between people, and whether or not these spaces have a "social-historical dimension."

In this context, to examine the hypothesis of this research, five emblematic cases were chosen: a) El Morro Fort and Memory Site, Talcahuano; b) Luciano Aedo Memorial, La Estrella, Hualpén; c) Square for the Memory and Human Rights of UdeC; d) Vicariate of Solidarity Memorial Stone; and e) Memorial of Human Rights and Executed Politicians of the Bio-Bio Region, the latter three in Concepción. As mentioned above, the selection criteria covered different aspects to reflect the diversity in the Concepción Metropolitan Area (CMA), such as the concentration of human rights violations materialized in them, the memories that they entail, their origin (i.e., who built them), their location and scale in the city, their physical characteristics and the qualities of the space they contain, and their relationship with the current memory practices carried out in them. Likewise, the state of conservation of

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these sites indicates the value of the attachment that communities give them.

Finally, it is essential to point out that although the testimonies are vital in rebuilding the "social memory" linked to these places, they are not used for the current spatial analysis. This distinction is crucial as it underlines the methodology used to address the historical and social dimensions in contrast to pure spatial analysis.

IV. RESULTS

Distribution and Characterization of Memory Sites in the CMA

The study of the 88 memory sites mapped reveals a distribution that covers the entire metropolitan territory. However, given its central position from its role as the capital, Concepción is the commune that hosts most of these sites, representing more than a third of these.

In parallel, 42 places where memory has been denied, suppressed, or ignored stand out, defined in this work as "silenced places" (Figure 1, in black). These "silenced places" are spread throughout the communes of the CMA, and, surprisingly, 29 of these continue today to have the same role as during the dictatorship - police stations, prisons, Investigation Police (PDI) barracks, or military compounds – with absolutely no reminder of the historical events that took place there.

On the other hand, 12 other buildings that once served as detention and torture centers have disappeared, leaving only the accounts of those who suffered mistreatment there. Significant examples include the former public prisons of Concepción and Talcahuano, as well as some residences that were used clandestinely by the CNI, such as the Bahamondes Barracks and the property located at O'Higgins 239 in Concepción.

Urban Transformations and Their Impact on Collective Memory

The review of the CMA's places of memory has revealed their diversity and spread and the frequent abandonment, ignorance, and collective oblivion to which many have been relegated. Before analyzing the social practices generated by these spaces, it becomes essential to consider each place's specific spatial and urbanistic qualities. In this sense, the first aspect considered was that each site's urban environment has changed considerably in the last 50 years. The gradual sprawl of the different communes has generated the current metropolitan urban continuum. Hence, the environments close to places of memory have been greatly affected, impacting their valuation or perception and how one interacts with the memory sites.

An example of this can be seen in the El Morro sector, a place that, despite its significant historical burden, has been neglected and abandoned for decades, relegating it to a residual space, often perceived as dangerous. In other cases, the normalization of the presence - or disappearance - of these sites, added to the lack of a space that dignifies memory and makes it present in everyday memory practices, has resulted in invisibility. This is evidenced by the discreet plaques of the former Regional Stadium, the cross that marks the site of Sebastian Acevedo's martyrdom, and the stone landmark that recalls where the Vicariate of Solidarity worked from. These elements condition how society appropriates these places beyond the social groups that carry out practices of memory, weakening their eventual ability to consolidate a collective memory.

Finally, spaces explicitly designed as memorials have been located in sites that do not always favor their recognition or valuation. Examples are the memorials of the Bicentennial Park or the General Cemetery. In contrast, there are sites of memory managed by groups or residents in the public space, such as the Paseo Miguel Enríquez by Lorenzo Arenas, who enjoy a greater visibility and symbolic load. However, it is necessary to ask the following questions: What happens to their spatial qualities? What kind of social practices do they promote? Analyzing these aspects is crucial to understanding their effectiveness as meeting points between the past and the present.

The following is a summary of the examples chosen (Figure 2):

A) "El Morro Fort and Memory Site

This is located in a central location, close to the Stadium and the main access road to the port of Talcahuano, and stands out thanks to its strategic location on the top of its namesake hill.

It was founded as a military fort, and despite its historical relevance, it is currently secluded, hidden, and isolated by the forest, which cuts off what is happening inside from public view. Local testimonies indicate that, although they live nearby and are aware of the events there, many have kept their distance, fearing suffering the same fate (Fritz, 2011).

In spatial terms, "El Morro" is currently the only site in the area that allows an adequate experience of historical

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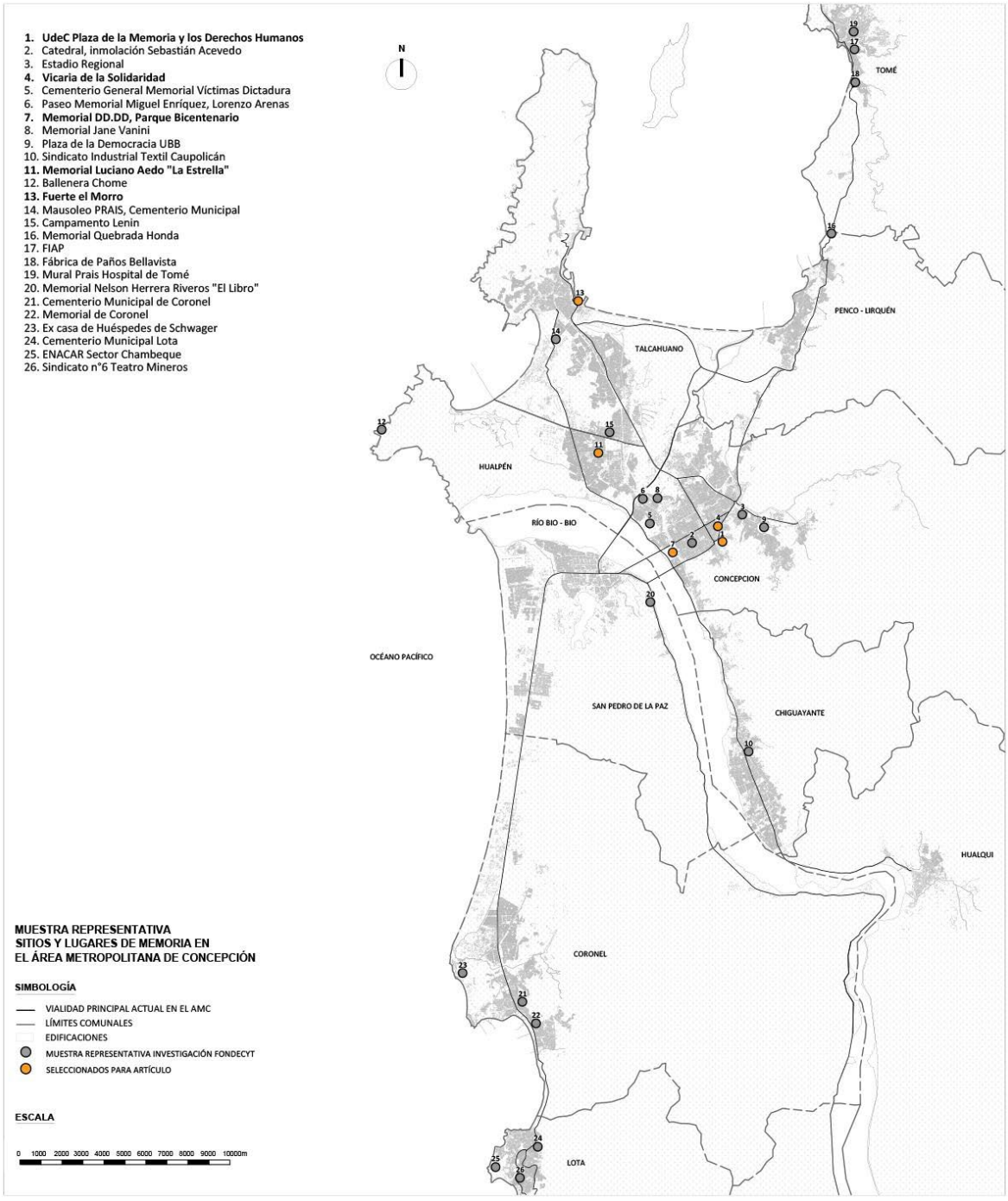

Figure 2. Sites and places of memory in the Concepción Metropolitan Area chosen as a representative sample for this article. Source: Preparation by the authors.

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Figure 3. Plan of the El Morro Fort and Memory Site, Talcahuano. Source: Preparation by the authors.

Figure 4. El Morro Fort and Memory Site, Talcahuano. Source: Preparation by the authors.

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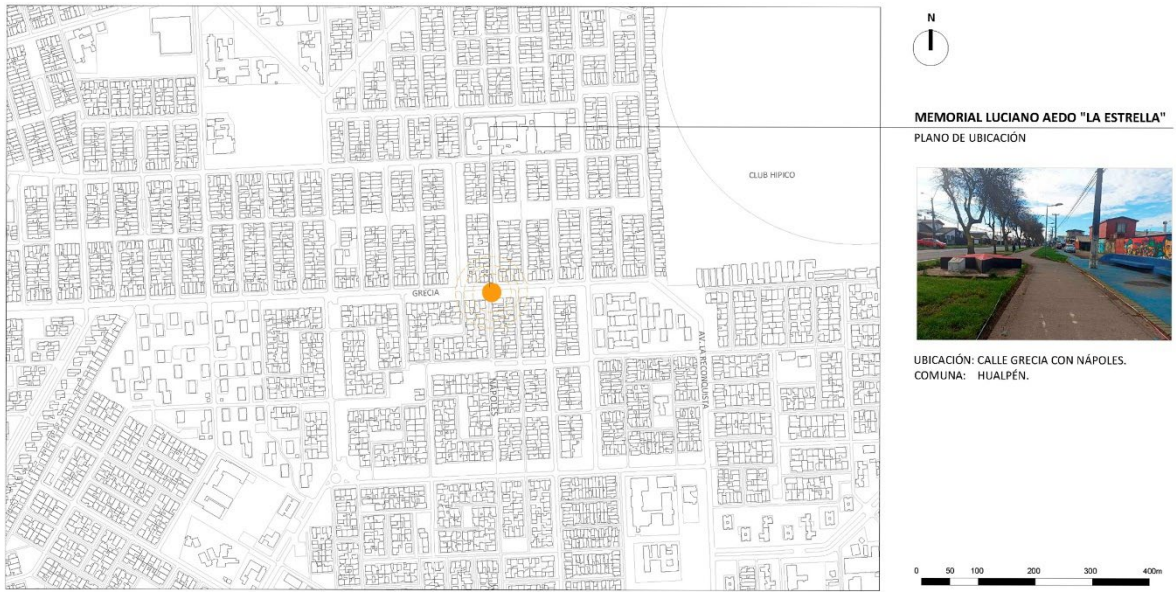

Figure 5. Plan of Luciano Aedo Memorial, La Estrella, Hualpén. Source: Preparation by the authors.

Figure 6. Luciano Aedo Memorial Mural, La Estrella, Hualpén. Source: Preparation by the authors.

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memory through a tour of its facilities. Despite being declared a Historical Monument in 2017, the place is in an advanced state of decay and abandonment, as the enclosure does not have a perimeter fence or controlled access, which has allowed the facilities to be vandalized and sped up their degradation.

The designation of "El Morro" as a Historical Monument, under the current terms of the Monuments Law, does not consider a budget that allows the Municipality of Talcahuano or the Navy, who are the owners of the declared site, to carry out the maintenance needed to preserve the site considering its status and dignify the memories that the declaration extols. (Figure 3 and Figure 4)

B) Luciano Aedo Memorial, La Estrella

This is located in the heart of Hualpén, in an area that has gone from being peripheral to becoming an essential communal center on a main street with significant vehicle traffic. The memorial is erected from memory, i.e., on the exact site where the murder of Luciano Aedo (1984) at the hands of state agents took place.

However, the design of the space has certain limitations—Grecia Street and a bike path fragment it. In addition, a permanent space between green areas does not allow people to meet without interfering with other roles of the public space. (Figure 5 and Figure 6)

C) Vicariate of Solidarity Memorial Stone, Concepción.

This memory object is located in the public space, marking where the Vicariate of Solidarity once stood at the intersection of Barros Arana and Ainavillo. This institution was a place of protection and resistance during the complicated years of the military dictatorship in Chile, offering refuge and support to victims of human rights violations. The area, which in the '70s was eminently residential, today constitutes a much busier neighborhood thanks to the presence of a university.

With the demolition of the building that housed the Vicariate, its physical presence had faded away with its transcendental symbolic load since, without an appropriate space containing the object, it undoubtedly becomes challenging for memory practices to take place and the original meaning to endure over time.

In this case, the memory object is not powerful enough to decisively visualize the memories it seeks to "enhance" because placing the object in an inappropriate public space does nothing more than hide the memories sought to be preserved. (Figure 7 and Figure 8)

D) Plaza of Memory and Human Rights of the University of Concepción

This space for memory was designed in 1993 and remodeled in 2019. In it is the concrete "Round of Unity" sculpture and a mosaic, forming a semicircle. It also has a plaque with the engraved names of 54 members of the university community – students, professors, and officials – who were murdered in Dictatorship. This memorial space is in a secondary campus area, away from the busiest and most hierarchical axis: Medical Arch, Forum, and Library.

The current design of the square does not facilitate connection between the space's different memory objects, nor does it allow memory practices to occur within it. The main sculpture is the only central element, without integrating other objects of memory or relating harmoniously to their surroundings. In particular, the mosaic mural is not spatially incorporated into the square's design nor into the pedestrian circulation circuit that allows it to be appreciated.

Even though its location is neither isolated nor marginal, the square fails to be a significant attraction point for pedestrians, allowing it to be the most visited place of memory outside the formal circuits. (Figure 9 and Figure 10)

E) Memorial of the Disappeared and Executed Political Detainees of the Biobío Region

This memorial, built at the end of the twentieth century, is located at the top of the Bicentennial Intersections of the University of Concepción campus with the Bio-Bio River. The socio-spatial fragmentation of the public space where the memorial is located makes it impossible for pedestrian traffic from the old part of the city to be continuous and fluid. On the one hand, the railway interrupts the continuity of the block and, on the other, the highway does not provide the appropriate accessibility conditions or the uses of the adjacent properties, such as the Mirador Bio-Bio Mall and Regional Theater, which do not provide public or pedestrian life to the public space, nor favor an adequate recognition of this space.

On the other hand, Bicentennial Park, where the memorial is located, is also used for events such as the REC Festival or International Craft Fair. Although these uses of space are essential for local culture and entertainment, they do not contribute to the upkeep of the place of memory or

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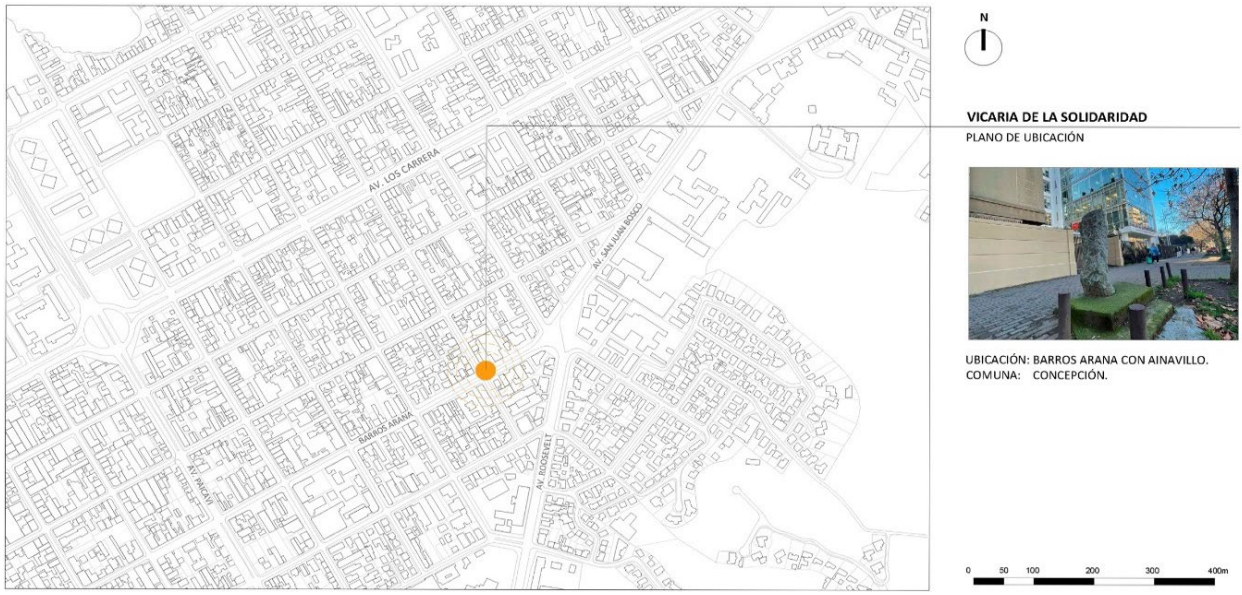

Figure 7. Location of the Vicariate of Solidarity Memorial Stone. Source: Preparation by the authors.

Figure 8. View from the pavement, Vicariate of Solidarity Memorial Stone. Source: Preparation by the authors.

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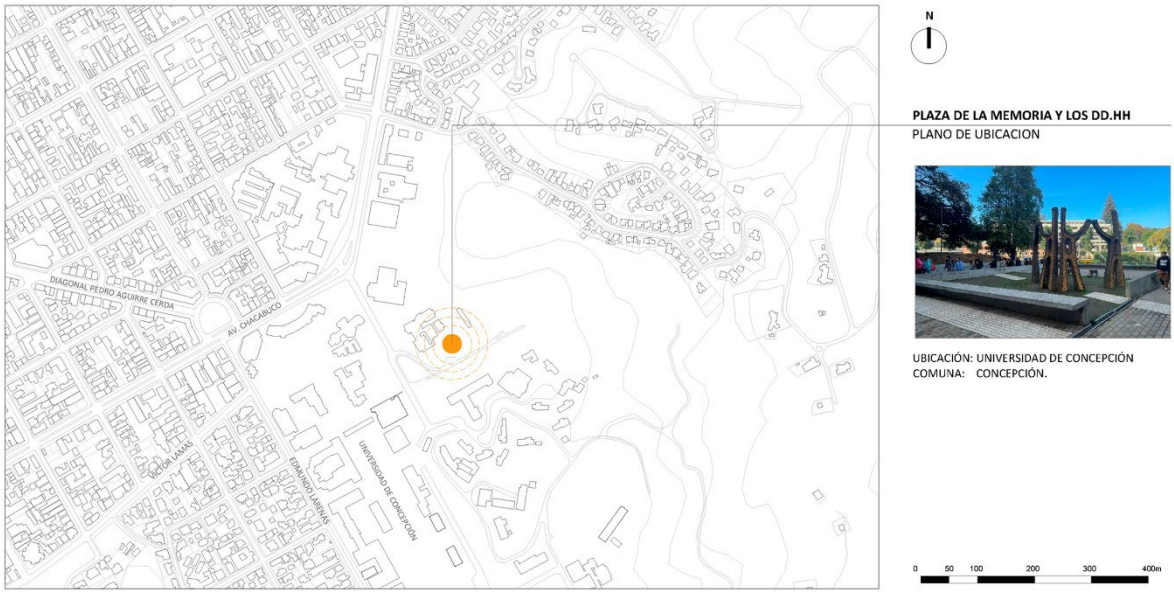

Figure 9. Location of the Square of Memory and Human Rights University of Concepción Campus. Source: Preparation by the authors.

Figure 10. Location of the Square of Memory and Human Rights University of Concepción Campus. Source: Preparation by the author.

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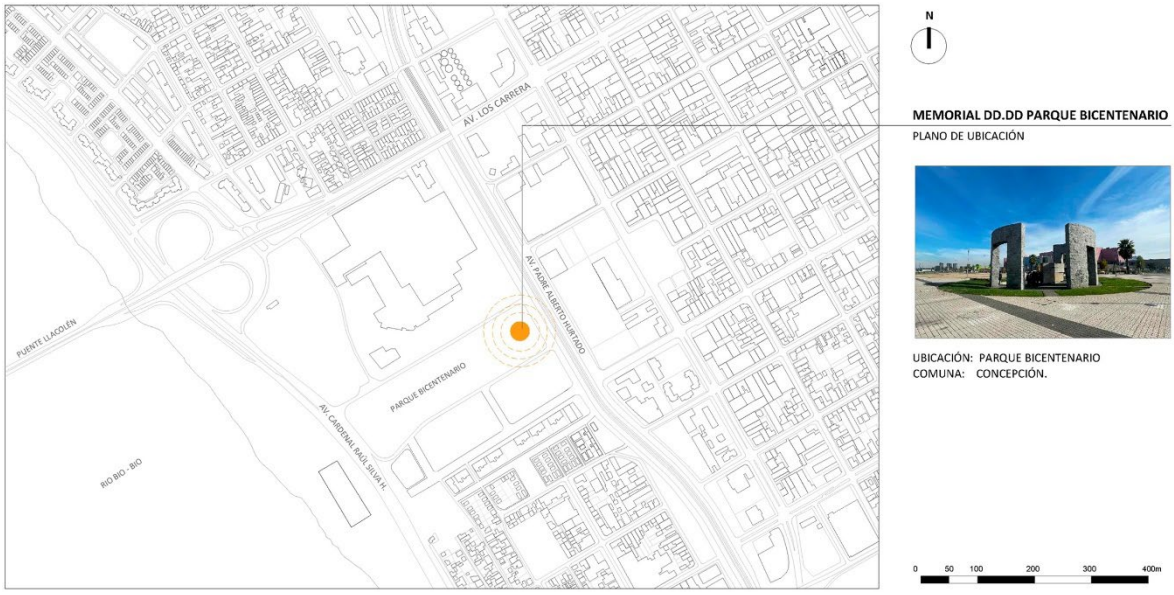

Figure 11. Location of Memorial of Human Rights and Executed Politicians and Bicentennial Park, Concepción. Source: Preparation by the authors.

Figure 12. Interior view sculptural complex - Memorial of Human Rights and Executed Politicians and Bicentennial Park, Concepción. Source: Preparation by the authors.

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preserve the symbolic load that the sculptural ensemble has. On the contrary, they have led to its vandalism, which undermines the integrity and original purpose of the memory site.

Although the space that makes up the memorial's sculptural ensemble can fulfill its designed purpose, its location within the urban fabric does not favor its proper citizen appraisal. (Figure 11 and Figure 12)

V. DISCUSSION

If you start from the premise that "social memory" is a reconstruction of the past in the present (Halbwachs, 2004), the lack of milestones, marks, and commemorative spaces that give an account of the human rights violations that occurred during the dictatorship in the CMA's urban space is worrying. This situation is partly a result of unregulated urban development and poor urban planning that has prioritized the city's physical transformation over the protection or enhancement of these places of memory. In this sense, it can be argued that a particular local "urban negationism "tends to erase what one prefers to forget or turns it into "silenced places."

However, given their status as the stage of a discursive dispute, this very public space allows different social groups to express themselves through memory practices, appropriation, and resignification actions, which give meaning to the sites. This constant tension between the "denialist" forces and those who resist forgetting materializes a particular spatiality and urban form that reflects the fragmented result of unresolved social conflicts. These express what is possible or desirable to communicate in a society at a given time and place, a dynamic exercise of power between those who can impose their narratives and those who lack them. Thus, the memory crystallizes in those interstices that result from this conflict.

For this reason, it becomes essential to define and implement public policies that protect these memory spaces, seeking to strengthen the capacity of places to "evoke" social memory because their safeguarding is a responsibility of the State.

It is essential to understand that the relationship between urban space and memories changes over time, just as the society that hosts them has transformed, and the meanings and forms of appropriation that different social groups make of them change (Rabé, 2011). In this sense, in the last decade, there has been a growing interest in territorializing memory with the inauguration of most of the CMA's spaces and objects of memory (plaques, milestones, mosaics, monuments). So far, it has been more relevant to point out the places that begin to question themselves regarding the spatial qualities they must have for proper memory practice.

This aspect is crucial for the development of social practices of memory. Material conditions and state of conservation can even take a back seat if the location and spatial conditions of memory sites and places combine the appropriate conditions, such as allowing gathering, remaining, and dignifying the memories they treasure through commemoration practices. It is relevant, therefore, to know how these memories materialize in the territory, their tangible expressions, their origins, urban characteristics, and spatial qualities, and their level of appropriation by society.

These aspects allow "symbolic learning" about cultural history, values, and beliefs to occur, facilitating the formation of subjectivities and identification with social groups in the territory.

VI. CONCLUSIONS

Taking into account the importance of memories for society, given that they promote the cohesion of the social group they emanate from, harmonize the symbolic valuations of the events, and allow the recreating of senses and meanings in the present, it is clear that the places of memory are fundamental as it is in these spaces that their meaning finally crystallizes.

However, the limited visibility of memory locations in the CMA, as well as the verification of a wide territorial distribution of sites and places where human rights violations and political violence associated with the dictatorship occurred, reveal a social phenomenon that has been underestimated and poorly studied by the disciplines that deal with space and territory.

Therefore, it is inescapable to note that almost half the individualized memory locations are characterized by being "silenced places "and that the spatial qualities of the CMA's most widely recognized places of memory are unsuitable for contemporary social memory practices. This highlights the need for a critical review and a more active intervention by authorities and civil society to preserve and revitalize these spaces, ensuring their visibility and relevance in the current social and urban fabric.

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ESPACIALIDAD DE LAS MEMORIAS SOCIALES ASOCIADAS A LA DICTADURA (1973 - 1990) EN EL ÁREA METROPOLITANA DE CONCEPCIÓN (AMC), CHILE
PAULA TESCHE-ROA, JUAN CARLOS SANTACRUZ-GRAU, VERÓNICA ESPARZA-SAAVEDRA, JORDANA GARCÍA-HERNÁNDEZ
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MANZANEDA IN THE GENERATIONAL MODEL OF FRENCH ALPINE RESORTS: [1]

AN INTERPRETATION OF THE ONLY SKI RESORT IN GALICIA (SPAIN)

MANZANEDA EN EL MODELO GENERACIONAL DE ESTACIONES ALPINAS FRANCESAS: UNA INTERPRETACIÓN DE LA ÚNICA ESTACIÓN DE ESQUÍ DE GALICIA (ESPAÑA)

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El turismo se ha implantado en la montaña de múltiples formas y las estaciones de esquí son una de ellas. La mayoría de los trabajos realizados sobre el turismo de nieve en Europa se ha dedicado a los Alpes, donde se ha desarrollado académicamente un modelo alpino francés de generaciones de estaciones de esquí que utiliza el desarrollo urbanístico diferencial de cada generación como marcador. Se ha tomado dicho modelo como marco para este estudio con el objetivo de posicionar en el mismo a Manzaneda, única estación invernal de Galicia (España), la que, con más de 50 años de historia, parece tener un desarrollo turístico controvertido, problemático y ambiguo. Asimismo, el presente artículo analiza la gestión, los efectos del cambio climático y las visiones de futuro del complejo invernal por parte de sus principales actores y la población local de su entorno.

Palabras clave: turismo, montaña, urbanismo, nieve, esquí.

Mountain-based tourism has been established in multiple ways, and a ski resort is just one of them. Most European snow tourism research has focused on the Alps, where a French Alpine model of generations of ski resorts, which uses the differential urban development of each generation as a marker, has been developed academically. This model has been used as a framework for this study with the goal of positioning Manzaneda within it. However, Manzaneda is the only winter resort in Galicia (Spain), and with more than 50 years of history, it seems to have had a controversial, problematic, and ambiguous development. This article also looks into the management, the effects of climate change, and the future visions of the winter resort by its main actors and local population.

Keywords: tourism, mountains, urban planning, snow, ski.

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I. INTRODUCTION

Ski resorts are a characteristic modality of the tourism development of mountain regions. They are characterized by making significant urbanistic interventions that alter the landscape and the socio-economic structure of the area where they are established. A large part of the studies on them in Europe has focused on the Alps, a region that has hosted several types of ski resorts over time. Starting from this line of research, a French alpine model of successive generations has been consolidated academically since the 1970s, and despite being debated and criticized, it has had broad acceptance. **4**

Inspired by the work of López Palomeque (1996) when applying this model to the Catalan Pyrenees, the generational model of French alpine resorts has been adopted as a theoretical and conceptual basis for this research. In this way, the characteristics and the environmental, territorial, and socioeconomic implications of a specific resort can be analyzed from the general evolution of ski tourism.

The resort studied is Manzaneda, the only one in Galicia, located in the Sierra de Queixa, the westernmost range in Spain, and, together with the Serra da Estrela in Portugal, in all of Europe. This mountain area is an exceptional case in an extensive region that covers Galicia and Northern Portugal, with more than 6 million inhabitants and almost 10% of the surface of the entire Iberian Peninsula. Manzaneda, with more than 50 years of history, emerges as a relevant place to study due to its problematic and ambiguous evolution, which has been the subject of constant media controversies given its recurring problems. In short, this article aims to interpret the case study in light of the model of successive generations of alpine resorts in France. Finally, the aim is to provide a view of the Manzaneda ski resort in the context of international research in this field.

II. THEORETICAL FRAMEWORK

The generational model of French Alpine resorts

The French Alps stand out as the main focus of research in the field of ski resorts, as evidenced by studies by Merlin (2002, 2006), Woessner (2010), and Bouron and Georges (2019). These mountains constitute a preferred scenario to analyze the interactions between ski resorts and their surrounding territory and their evolution over time (George-Marcelpoil & Boudières, 2006; George-Marcelpoil *et al*., 2010). The development of these resorts generally follows planning that conforms to the canons in force at the time of their creation or reform (Fablet, 2013). However, "there is no ski resort that is the archetype of the others, but only highly personalized situations," **5** as pointed out by Préau (1968, p. 139). Therefore, it is argued that each resort has its characteristics (Dansero & Puttilli, 2012), which hinders both its analytical grouping and any form of proposed typification, as they will always be inadequate (López Palomeque, 1996).

In the same vein, different typologies have been explored over the years. Préau (1968), for example, proposed a classification based on different temporal stages. A similar logic is evident in the proposals of Lozato-Giotart (1990), Merlin (2002, 2006), Batzing (2007), and Delorme (2014), among others. Together, these studies have contributed to the configuration of the well-known generational model of ski resorts in the French Alps, whose approach makes it possible to synthesize this matter and compare individual cases.

The following are the four generations of the model, initially established by Knafou (1978), as explained by Delorme (2014). However, it should be noted that the fourth generation does not appear in this seminal work due to chronological restrictions, as it turns out to be later than it.

The first generation begins with Chamonix, recognized as the pioneer resort, and has been developing since the late nineteenth century when snow tourism was still a marginal activity (Préau, 1968; Knafou, 1978; Bouron & Georges, 2019). The creation of these resorts usually arises in pre-existing populations at low altitudes (not exceeding 1,000 m) that already had some tourism, in general, summer thermal centers that had evolved beyond agropastoral and forestry activities (Lozato-Giotart, 1990; Merlin 2002, 2006). According to Knafou (1978) and Delorme (2014), the urban setup of this generation is heterogeneous, highlighting the introduction of mountain chalets as a distinctive architectural type.

The second generation, which emerged between 1930 and 1975, was developed thanks to the boom in skiing-related sports tourism, which resulted in the massification of the mountain (Knafou, 1978; Lozato-Giotart, 1990). At this stage, *ex nihilo* urbanization occurred from the optimal level, starting at 1,500 m altitude and away from traditional settlements.

4 Recently,an informed balance of the research on French rural territories by Bouron and Georges has been used (2019, pp. 275-277).

5 Translation by the author

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According to López Palomeque (1996), this process was led by different promoters, with the participation of public-private joint ventures at local and regional levels being commonplace in France. Merlin (2002, 2006) highlights the exclusive dedication of these resorts to skiing, while Delorme (2014) points out a decontextualized urbanistic model for this generation.

The third generation refers to the resorts known as "integrated resorts" (*stations integrées*), which developed from the 1960s onwards as a result of the "snow plans (*plans neige)*." These plans are configured as a planning and management paradigm of the mountain in France in the context of a particular way of understanding the territorial planning à la française (Knafou, 1978; López Palomeque, 1996; Merlin, 2002, 2006; Woessner, 2010). These resorts have no relation to the surrounding territory, and their high degree of urbanization is planned by a single business developer who places them in large, quite snowy spaces at altitudes of 1,500-2,000 m, with pistes facing north and constructions on plains to the south. In addition, they are described as "Fordist ski factories" since they seek to maximize the number of skiers and practice total highly specialized urbanization, with strictly economic objectives to monetize and commercialize skiing full-time (Lozato-Giotart, 1990). Regarding landscape integration, both Woessner (2010) and Delorme (2014) clarify that the urban planning models implemented, despite their massive nature, also sought some degree of linkage.

The fourth generation, which took place between 1970 and 1990, emerged to improve the relationship between tourism and the mountain (López Palomeque, 1996; Woessner, 2010; George-Marcelpoil & François, 2012; Delorme, 2014). This period is characterized by developing urban developments that are more respectful of the environment and local culture (Vlès, 2012; Delorme, 2014), presenting a model that is perceived as a hybrid between the first and the third generation (Fernández-Trapa *et al.*, 1987). The fourth generation manifests itself in a return to the resort towns, establishing agreements with local administrations and showing an apparent commitment to respecting traditional architecture and promoting local employment (Delorme, 2014). In terms of size, these resorts are modest and located at medium altitudes (around 1,500 m). In addition, they seek to provide complementary activities to skiing, becoming multipurpose resorts, according to Lozato-Giotart (1990), which actively pursue being open throughout the year, beyond the winter season (Woessner, 2010).

Typological studies on ski resorts in Spain

Currently, there are about 30 alpine ski resorts registered in Spain. On the other hand, according to figures provided by Woessner (2010, p. 48), there are more than 350 in France. This significant difference could explain why there are few typological studies in Spain. Among the existing works, first of all, that of López Palomeque (1996) stands out, whose analysis classifies most of the Catalan Pyrenees's resorts in the second generation of the French alpine generational model, some in the third and does not register any in the fourth. On the other hand, Gómez Martín (2008) considers the emblematic Baqueira (commercial name of Vaquèira in Occitan, located in the Catalan Pyrenees) as a third generation, and Lasanta *et al.* (2014) do not hesitate to compare Valdezcaray (La Rioja) with Chamonix, placing it in the first-generation model.

Another proposal is that of Gómez Martín *et al.* (2016), who propose a second typology for the resorts in the Catalan Pyrenees regarding the distinction between extensive, medium, or small resorts. In this sense, Font *et al.* (2018) classify the Gúdar-Valdelinares and Javalambre (Teruel) resorts as small.

Font (2023), on the other hand, has recently contributed a third typology by establishing three generations of ski resorts in Spain. The first ones date back to the 1960s and are mainly related to the demand of Barcelona (in the Catalan Pyrenees, including several accessible by rail and/or funicular) and, to a lesser extent, Madrid in the Central System, plus some other pioneers in the Aragonese Pyrenees. Thus, a second generation developed in the 1960s-1970s is proposed, which consisted of an explosion of resorts in almost all mountain ranges, usually at low levels (around 1,500 m), some of which have closed over the years due to the decrease in snowfall. Finally, the third generation, the most recent, is located at much higher elevations (above 2,000 and even 3,000 m in the Sierra Nevada).

Font *et al.* (2018) and Font (2023) highlight that, regardless of their territorial impacts, the considerable investments made in Spanish resorts have generated controversies, as there are numerous cases of generous public capital contributions whose argument is to seek the development of mountain areas perceived as "in crisis," especially in recent decades. This way, an "obsession" with the resort-associated residential implementation is recorded, linked to the Spanish economic development model based on the real estate market.

III. AREA OF STUDY

The Manzaneda ski resort is located in the eastern part of the province of Ourense, in Galicia, Spain. It is located between the municipalities of Manzaneda and Pobra de Trives, with both hubs being the main access points. This winter resort extends along the northern and eastern slopes of the highest summit of the Sierra de Queixa, traditionally

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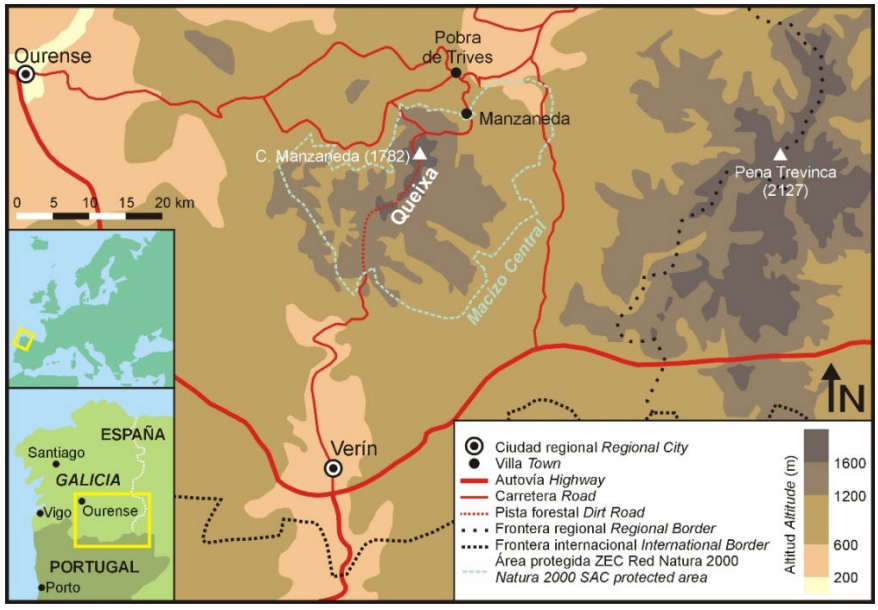

Figure 1. Location of the Manzaneda resort in the Sierra de Queixa (Ourense). Source: Preparation by the authors.

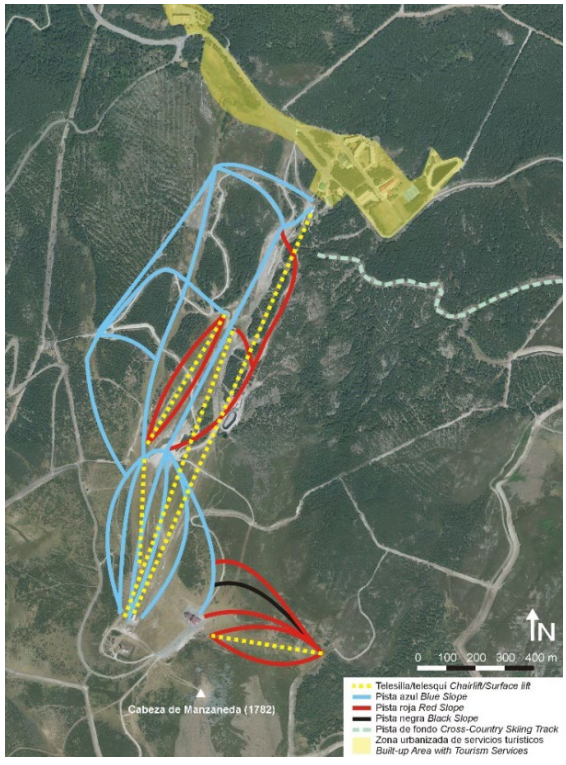

Figure3. Top Outline of the resort with slopes, accesses, and facilities. Source: Preparation by the authors using PNOA 2020 © National Geographic Institute.
Figure 3 y Figure 4. About is the is the upper area of the complex; below are the slopes, lifts, and chairlifts area. Source: Archive photos of the authors (10/12/2011, 16/04/2012, respectively).

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Figure 5. The urbanization in the lower area of the resort. Source: Archive photos of the authors (31/10/2020)

known as Cabeza Grande and currently called Cabeza de Manzaneda, with an altitude that reaches 1,782 m (Figure 1).

The Manzaneda resort is small in size and is located at a low-medium altitude (17.55 km spread between 1,500 m and 1,760 m; Figure 2). It is equipped with two chairlifts and four ski lifts, which allows moving 7,600 people every hour (Figure 3). For the 2022-2023 season, it had a total of 24 pistes (1 green, 13 blue, 9 red, and 1 black). There is also a 1 km long cross-country piste and a snowpark area. The slopes were located in the northern part of the mountain range (Figure 4), and the urban developments (Figure 5) were oriented to the south in the intermediate plain, with two clearly differentiated areas where the different tourist services are concentrated. The most urbanized area comprises a reception center, accommodation, and services in sunny areas at the foot of the slopes. There are 377 beds (apartments and hostels owned by MEISA) and 450 in its area of influence (mainly rural tourism accommodation).

There is no official statistical series for the ski resort. However, the documentation analysis has allowed obtaining two significant inferences about the scattered data collected for the decades of 2000 and 2010. Firstly, the seasons show a significant variability that depends on the differential snowmaking conditions of each year, with declared records ranging from 200,000 visitors in some seasons to others that do not reach 100,000. The beginning of some seasons is recorded in November, while for others, it is in February, and the closing is usually in April, although it is not uncommon for it to end in March. In any case, these are not continuous but somewhat intermittent. Secondly, for both decades, there is a general trend towards a decrease in the number of visitors, although the variability year after year should be considered.

IV. METHODOLOGY

This research adopts an approach consolidated in the Social Sciences in recent decades that seeks to understand the meanings that people attribute to specific social contexts, processes, or places (Jennings, 2005; Valentine, 2005). This approach is based mainly on analyzing the testimonies of different local actors, constituting the cornerstone of the results obtained. The main objective is to explore their experiences and subjective perceptions regarding the Manzaneda ski resort and, in this way, evaluate how this resort's characteristics can be aligned with any of the four generations included in the French alpine generational model. The mobilized methods include in-depth interviews and participant observation. Secondary sources are also included to contextualize the information, especially in the section dedicated to the study area.

As for the primary sources, a combination of participant observation, as proposed by Taylor and Bogdan (1984),

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was carried out in different field visits and semi-structured in-depth interviews. Based on a technique that encourages an open dialog between the interviewee and the researcher, these interviews systematically cover the aspects under study (Jennings, 2005). A total of 15 interviews were conducted between October 2018 and March 2019, lasting approximately one hour each. The aim was not to obtain a representative sample, neither from a statistical perspective nor in terms of territorial representation, but rather to reflect different actors with significant knowledge about the study area or maintain a relevant connection with it (Valentine, 2005).

A script has been developed for the interviews to obtain:

- the description of the person interviewed;
- their perception of the territory;
- their opinion on the role of public administrations in the past, present, and future;
- their assessment of the role played by local actors so that the governance that operates in the territory can be understood;
- the detection of innovative projects or initiatives developed in the territory; and
- his vision of tourism and, especially, the role played by the mountain resort of Manzaneda.

All the people interviewed have local roots and/or a relevant role in the resort's history. More specifically, they fall under the following profiles:

- businesspeople from the tourism sector (E7 and E11);
- public officials with an impact on the territory (E3 and E9);
- mountain resort managers (E4 and E15);
- expert researchers in the area (E2 and E14);
- members of environmental groups and organized civil society (E6, E12 and E13);
- mountaineers, members of the Manzaneda Alpine Club (currently, Club Alpino Ourensán) (E1, E8, and E10); and
- political representatives of the area (E5).

Some people interviewed could be from several established profiles, but they have been characterized according to their most representative role in the study territory. It should be noted that these interviews have been carried out within the framework of a doctoral thesis on the Queixa and San Mamede mountain ranges, in which more than thirty were made. However, only those who spontaneously mentioned the resort have been included here.

The "snowball" technique has been used so that the interviewees themselves can provide references about possible future people to be interviewed (Valentine, 2005). To guarantee anonymity, codes that protect the identity of the interviewees are used, represented by the letter E. Gender neutrality is always used. Recordings were made, with informed consent, and subsequent transcripts of the conversations were kept to work on the collected material. The translation from Galician to Spanish was made during the transcription of the interviews.

The interviews were treated using a semiotic coding and clustering exercise as per Crang (2005) and Cope (2010). 13 *live* (2 are repeated) or *emic* codes, strictly related to the ski resort, have been obtained, which are considered relevant to this research. These have been grouped into three *etic* macro-codes. The results section is structured following this organization.

Secondary sources have been used to obtain information complementary to the interviews, enrich the research, and support the description of the study area. In this context, documents from the Ourense Deputation archive stand out, some of which are restricted and were consulted in 2018-2019 to understand the involvement of this institution in the resort. Also, press releases have been used, mainly from the Deputation above of Ourense and the Xunta de Galicia, as well as newspaper libraries of *La Región* and *La Voz de Galicia*. These sources have helped get an insight into the annual figures that the resort managers did not provide despite requests. Finally, the resort's institutional website (https://www.ocahotels.com/hoteles/estacion-montana-oca-manzaneda, consulted in 2018), as well as the website https://www.infonieve.es/ (consulted in 2023), have also been helpful in this regard.

V. RESULTS

From the analysis of the conversations, three sets of topics are derived that articulate the exposition of this section. The purpose of this is to provide the perspective transmitted about the Manzaneda mountain resort, addressing the following aspects: (1) the origins, (2) the management of the winter resort, and (3) the future. Figure 6 presents the base codes that support these three sections.

The origins of the ski resort

The Sierra de Queixa had never been a winter destination for the Galician urban population, who used to head to other mountains in search of snow. In the mid-1960s, the Manzaneda Alpine Club (CAM) was born, and the idea of creating a ski resort in that location arose. According to the testimonies collected, CAM's members are the pioneers of skiing in these mountains. E8 states that "with the creation of the Alpine Club, people started to

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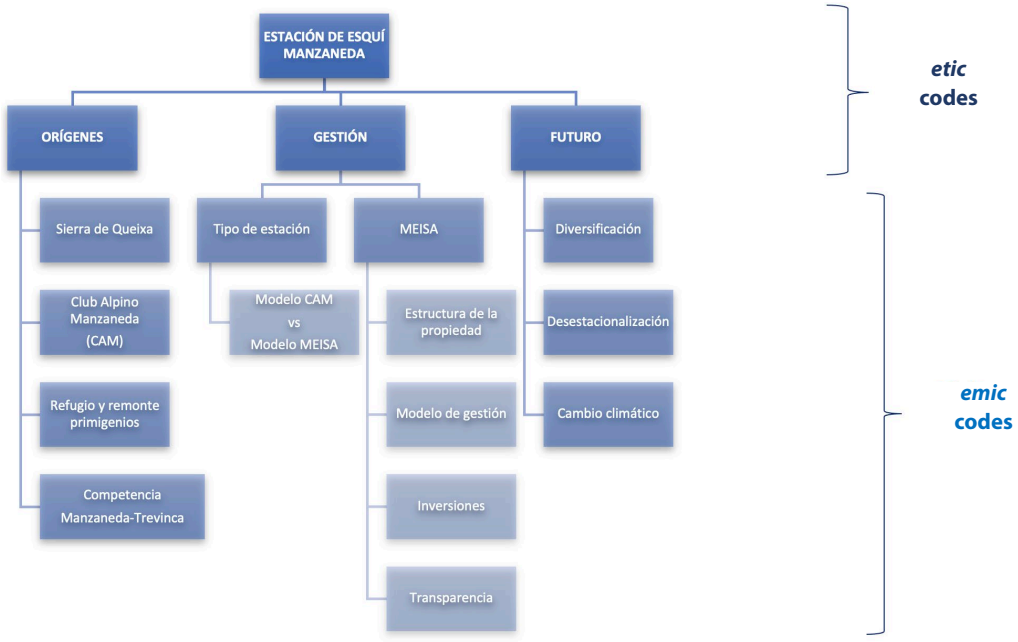

Figure 6. Outline of the main events the interviewees (emic) and researchers (etic) indicated. Source: Preparation by the authors.

look at Queixa" and, according to E1, "the first people to go skiing in those mountains, when there was no resort, were the CAM members."

In a place where there was no previous tourist infrastructure, the interviewees refer to a CAM lodge that is still standing today (built between 1968 and 1969), located at 1,550 m, as well as a small ski lift (also acquired in the late 1960s), as the embryo of the current winter season (Figure 7). This is reflected by E7, who highlights that "before... there were no ski lifts or anything... they built the lodge, bought a small ski lift, and then another. That was all from the Alpine Club... who started that." Moreover, for E8, "[the lodge and the ski lift] are the starting point of the resort... [And] skiing in Galicia is born from this Club".

Figure 7. CAM Lodge, considered the embryo of the current ski resort. Source: Photo from the authors' files (31/10/2020).

The management of the winter resort

Manzaneda Resort began its development in the 1970s. The low-impact project initiated by the CAM is surpassed by the Galician Ski Federation, which supports and promotes a more far-reaching model. For E8, "the Club was seen as a competition... Those of the [urban development] project dreamed of the entire northern slope of Manzaneda full of Alpine-style chalets." This second option prevails, driven by the real estate interest of the local public sector, some private investors, and the bank, which then had significant resources from emigration.

The institution that allows the resort to be implemented is the public limited company MEISA (Manzaneda Estación de Invierno), which was created in 1972. Initially, its ownership structure was predominantly public, with the participation of several local and regional administrations and private companies. Over time, it has evolved towards a mixed model, where private management has become more relevant. As E5 indicates" "there have been different changes and ... today it is a private company that manages something public."

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Regarding MEISA's management, several interviewees highlight that it has focused on directing investments made with public funds, generating widespread criticism. There is consensus that considerable public funds have been spent during the more than four decades of the resort's life, mainly receiving unfavorable evaluations. E5, for example, indicates that management irregularities have been committed since "many investments were made ... [but] I disagree with how things are done. The [clientelistic] fingerprinting of the company, with a 99% public participation, is illegal." The idea is repeated that the considerable public money spent on Manzaneda has allowed a structurally deficient project to be kept afloat. This is the case of E10 when indicating that "the resort lives on subsidies and there is no interest in it stopping to live from that... The resort is not managed... Everything works terribly".

The decades between the inauguration and the 1990s are perceived as the "golden era" of Manzaneda. According to E15, "it [then] had a significant boom." New accesses were even being proposed from the south to facilitate the arrival of Portuguese tourists. For some, it would be something positive, as "the asphalting of the track [...] created in the mid-1980s ... [could be] a development asset for the area," says E9, referring to a never paved forest track that runs over 24 km along the peaks of Queixa (Figure 1).

On the other hand, a perception of crisis has enveloped the resort since the 1990s, which leads to a primarily skeptical and pessimistic view. For example, E1 refers to the current resort as "decadence," and E14 highlights that "15 or 20 years ago, there was an attempt to do things that have now disappeared". In a revealing phrase, E2 feels that "Manzaneda is nothing now." In the words of E15, the resort "was very decadent [...]. Important investments were made... It was a lot of money." These have focused exclusively on tourism, as indicated by E14, for whom "everything has been focused and channeled to the resort, solely and exclusively." The expenses are considered disproportionate and unnecessary: "[today] the chairlifts for the resort are oversized" (E5). Therefore, it is perceived that with the new century, the problems have increased, and the demand has decreased.

The current debate about public investments revolves around artificial snowmaking by installing snow cannons (Figure 8), which generates different appraisals. In their favor, it is considered necessary for the territory, as E7 indicates: "They have realized what the ski resort means for the area." In contrast, E8 points out that "they have to be worked on." At the same time, for E11, it means "a lot of money, and let's see how it works." It makes no sense if "the resort is totally unviable" (E6). As E1 evaluates, "no matter how many cannons they put ... you can feed a couple of kilometers ... but not below 1,800 m"; for E14, in short, "the purchase of the cannons is wrong."

Figure 8. Snow cannons installed in 2018 and 2019. Source: Photo from the authors' files (16/08/2019).

Visions of the future

There are different perspectives on the future of the resort. Some advocate abandoning the current resort model and "relating to the territory" (E11). More professional managers are also being requested for MEISA since "as long as they don't change [...], it won't be different" (E15). The interviewees highlight diversification as a critical element. One of them mentions that Manzaneda offers activities other than skiing: "Regardless of the snow, there are activities and tourism options" (E4). However, most believe that "the mountain resort continues to pivot 90% in the snow" (E11), which is seen as a mistake. Thus, the need for readaptation to new alternatives, especially other sports tourism practices, is raised. For E1, Manzaneda "has to rethink itself as a ski resort. Diversify or disappear."

Other comments highlight the need for the resort to interact with the medium in which it is inserted: "It should be oriented more to a mountain resort" (E7). This would imply transforming it towards conservation and environmental valuation. As E3 indicates, the complex could be "a Nature Center ... a dynamizer of the territory". Another interviewee even suggests it should be used to "enhance the massif as a whole" (E6). Additionally, deseasonalization emerges as another central element linked to future management. According to E5, it is necessary to overcome the "problem [of] supporting so many skiers on a single day

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(between 7,000-8,000)" since, beyond the few winter weekends with snow, the resort is practically empty the rest of the year.

Finally, climate change is considered an essential aspect of future viability. The unanimous perception is that it is snowing much less. According to E6, "It's not snowing. There is a clear climate change." In the same vein is E1, for whom "climate change and other factors are causing the resort to have fewer and fewer skiable days per year." Some even remember the best years in terms of snowfall, with E9 highlighting "1964 as the year of the Big Snow. It snows much less now than before. The last big snowfall was in 1992." Some say these heavy snowfalls were "half a meter, and sometimes they reached almost a meter in some areas" (E14).

VI. DISCUSSION

The introduction of tourism in the highest part of the Sierra de Queixa in the early 1970s occurred with a delay of about twenty years compared to the first Spanish Pyrenean resorts and at least about fifty years compared to the Alps (Knafou, 1978; Lozato-Giotart, 1990; Lasanta *et al.*, 2007; Fablet, 2013; Delorme, 2014; Bouron & Georges, 2019), although it coincides with the time of development of the vast majority of Spanish resorts (Font, 2023). Therefore, it can be described as late compared to alpine or Pyrenean tourism and contemporary with the development of the Spanish resorts.

Thus, and in general terms, this research supports what was stated by both Fernández-Trapa *et al.* (1987) and Font (2023), who argue that in Spain, ski resorts can be considered an extension of the alpine model, although later. In the case of this study, no evidence was found regarding the first generation of the model proposed by Knafou (1978). However, there were only mentions regarding the alpine chalet with the initial developments. This construction, popularized with this first generation (Delorme, 2014), has become an urbanistic symbol of their establishment in a given place.

The will to establish a ski resort in the Sierra de Queixa starts from a local mountain association, the CAM. This club was founded simultaneously with the proposal for the resort and is separate from its parent organization, the Club Peña Trevinca-Mountaineers of Galicia, mainly due to the internal conflict between the resort's supporters in Trevinca and those of Manzaneda (Paül *et al.*, 2018; see Figure 1 for the location of both). Although mountaineering is the foundation of Manzaneda's initiative, it is marginalized in favor of other interests and the excessive presence of the public sector. Although mountain sports associationism can be considered crucial in the first steps of this season, in line with French alpine trends (Knafou, 1978; Delorme, 2014; Bouron & Georges, 2019), in the case study, there is an abrupt transition toward other dynamics led by MEISA. In this way, one quickly passes from a moment prior to the generational model proposed by Knafou (1978) to the second or third generation, as will be discussed later. MEISA appropriates the initial idea and aligns itself with a unique, hierarchical promotion-management model, with little or no participation of local actors and, therefore, with a total absence of territorial governance, following what was stated by López Palomeque (1996), Macchiavelli (2009), or Lompech & Ricard (2019), in the context of other ski resorts.

Until the 1990s, Manzaneda seems to have experienced its best moment, coinciding with skiing becoming a mass activity in Spain (Font, 2023). However, the interviewees unanimously pointed out the negative influence that climate change has had on skiing in Manzaneda around the turn of the century. This local perception corroborates global trends regarding the decrease in snowfall (Vlès, 2012), where it is no longer a sufficient guarantee to ensure tourism in Manzaneda. Without going any further, the installation of snow cannons at low levels is presented in Manzaneda as a short or medium-term strategy, which is considered economically unsustainable and questionable from the ecological point of view, where its low altitude, orientation, and very open slopes limit its usefulness during the winter season, according to what is evidenced in the interviews.

Font (2023), on the other hand, provides other Spanish cases where this same process has been recorded, which is also noticeable in French resorts located in the Massif Central or the Vosges (Bordessoule, 2018; Lompech & Ricard, 2019). This evidence shows that ski resorts located on mountains that do not reach a sufficient altitude to be considered properly alpine but follow the alpine trail have a compromised future.

The analyzed resort, although it could be classified within one of the generations established by the model used as a reference, requires careful consideration due to the warnings of López Palomeque (1996) and Dansero and Puttilli (2012) about the typecasting difficulties. Manzaneda could be described as a resort conceived but not strictly planned because, despite there being an unpublished plan that placed it in this location in Galicia, which was found during the archival work of this research[6], such a plan was probably not the optimal one nor did it place the resort at the best possible location. Therefore, it can be said that Manzaneda is ambiguously classified between the second and the third generation.

In terms of the second generation, Manzaneda emerges as a speculative consequence of the rise of skiing and the massification of the mountain tourist space, according to the approaches of Knafou (1978) or Lozato-Giotart (1990). On the other hand, regarding the third generation, the resort incorporates an urbanized, isolated, independent area close to the ski domain, as described by Merlin (2002, 2006) or Delorme (2014), among others. Consequently, this study confirms the observations of López Palomeque (1996) and Gómez Martín

6 MEISA (1973). *Cabeza de Manzaneda: present and future of the high mountain and ski tourist-sports complex*. La Región.

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(2008) by indicating that the general pattern of ski resorts in Spain can be placed between the second and the third generation of the French alpine model.

In any case, Manzaneda never managed to become a third-generation destination. The total urbanization project of the mountain in Manzaneda was left incomplete, so the resort is limited to being a kind of family snow destination of Galicia and Northern Portugal for certain weekends. Even in the urban infrastructures developed in Manzaneda, Lompech and Ricard's (2019) considerations about the excessive and failed ambitions of skiing in Auvergne resonate. On the other hand, the excessive emphasis on real estate in Manzaneda, identified in this research, confirms the speculative construction nature of skiing in Spain (Font *et al.*, 2018; Font, 2023).

The alternative development model advocated by the CAM could have been a more respectful option with the nature of the Sierra, according to Vlès (2012), given that the vision of this club could be considered more aligned with the fourth generation (López Palomeque, 1996; George-Marcelpoil & François, 2012; Delorme, 2014). In any case, it is surprising to find this advanced perspective in an outermost region and the 1970s, possibly influenced by the trips of its members to areas of the Alps or the Pyrenees or simply as a rejection of the appropriation practiced by other actors. In short, Manzaneda is still far from integrating the local population, proposing greater protection over the surrounding mountain space, or offering a combination of activities that positions it as a fourth-generation multipurpose complex (Lozato-Giotart, 1990; Woessner, 2010; Vlès, 2012).

Finally, it is pertinent to point out that Manzaneda mainly resembles mid-mountain resorts, whether they are Spanish (Font *et al.*, 2018; Font, 2023) or French (Bordessoule, 2018; Lompech & Ricard, 2019; Font, 2023). A limitation of this study has been to have directed the similarities to the French alpine model. However, it is essential to emphasize that this model continues to dominate the current literature, even that developed in Spain (López Palomeque, 1996; Gómez Martín, 2008). Even in Font's work (2023, p. 90-92), there was no explicit generational model of ski resorts in Spain.

The only ski resort in Galicia still considers alpine skiing as a central axis, despite its efforts to diversify, whose evaluation is insufficient according to interviews. The resort has tried to break with the image of a closed resort and is nestled, hidden from the territory. However, it has not stopped persisting in monofunctional investments, such as the multimillion-dollar acquisition of artificial snow cannons. The resort continues without finding its own identity. It prolongs a long period of stagnation in winter sports tourism that, according to Batzing (2007) or Font (2023), began in the 1980s and came to Queixa to stay.

VII. CONCLUSIONS

The future of Manzaneda should be conceived as a transition towards governance models that facilitate its territorial integration (George-Marcelpoil & Boudières, 2006). In recent years, the exclusive dependence on snow has persisted, so it is imperative to transform a strongly seasonal tourist space into a complete destination following the fourth generation of the alpine model. The resort must be redefined and assume territorial leadership through its development model because its mountain environment has an important natural and cultural heritage alternative to snow tourism, which is in decline. Given the irregular snow in the Iberian mountains below 2,000 m, aggravated by climate change (Font, 2023), high investments in winter sports infrastructures, such as those studied in this article, are risky and sometimes destined to fail.

The economic and environmental unsustainability of Spanish mid-mountain resorts described by Font (2023), mainly due to the continuous dependence on public aid to survive, finds in Manzaneda a new example that this author does not explicitly mention. Ultimately, Manzaneda must deseasonalize and diversify to attract new market segments and become a tourist center that covers the entire mountain environment where it is located, with the collaboration of the local population and not behind their backs. Ironically, during the analysis of the documents, a plan from more than 40 years ago pointed in that direction was found, but it was never implemented[7].

In short, it is crucial to set up Manzaneda in Queixa, as suggested years ago, for another "enclave" managed isolated in this mountain range, the Invernadeiro Natural Park (Paül, 2009). Only in this way can it be avoided that the ski resort becomes a colossal ruin, as suggested by the shocking current state analysis of its Auvergne counterparts, carried out by Lompech and Ricard (2019).

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PUBLIC INTERVENTION IN INFORMAL SETTLEMENTS. NEW SCENARIOS, NEW CHALLENGES[1]

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INTERVENCIÓN PÚBLICA EN ASENTAMIENTOS INFORMALES. NUEVOS ESCENARIOS, NUEVOS DESAFÍOS
MARCO ROJAS-TREJO, GUILLERMO VILLAGRÁN-CAAMAÑO
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Los asentamientos urbanos informales son parte del paisaje urbano en latinoamérica. Para abordar este problema de política pública, los estados han implementado diversas estrategias que han transitado entre la radicación y erradicación habitacional, asumiendo que la primera presenta ventajas significativas respecto de la segunda. El caso chileno no escapa de aquello. Para someter a discusión estas ideas, se analizan dos proyectos habitacionales ejecutados por el Ministerio de Vivienda y Urbanismo en la provincia de Concepción, Chile. La discusión se plantea a partir de los resultados de un estudio cuantitativo, con diseño probabilístico y muestreo aleatorio simple, con una muestra de 1.130 familias. Los resultados indican que, con independencia de la estrategia de operación de los proyectos, las familias presentan alto grado de satisfacción con la vivienda, al mismo tiempo que expresan una evaluación negativa de los vecinos y una percepción de heterogeneidad que deviene en distanciamiento social frente a relaciones sociales dentro del espacio barrial. Los resultados abren nuevas interrogantes respecto de la integración social en conjuntos de vivienda social.

Palabras clave: asentamientos precarios, gestión urbana, erradicación de asentamientos.

Informal urban settlements are part of the urban landscape in Latin America. To address this public policy problem, states have implemented diverse strategies that have transitioned between housing settlement and eradication, assuming that the former has significant advantages over the latter. The Chilean case is no different. To discuss these ideas, two Ministry of Housing and Urban Planning projects in the province of Concepción, Chile, are analyzed. The discussion is based on the results of a quantitative study, with a probabilistic design and simple random sampling, with a sample of 1,130 families. The results indicate that, regardless of the project's operation strategy, families are highly satisfied with their homes. However, they express a negative evaluation of neighbors and a perception of heterogeneity, resulting in social distancing regarding social relations within the neighborhood space. The results open new questions regarding social integration in social housing complexes.

Keywords: precarious settlements, urban management, settlement eradication.

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I. INTRODUCTION

Informal urban settlements represent a widespread phenomenon in Latin America (Fernandes, 2011). Although different expressions of urban informality can be traced back to colonial times (Abramo, 2012), irregular land occupation for housing only became a widespread phenomenon and public policy problem in the region during the first decades of the twentieth century. As a result, Latin American states have implemented diverse intervention strategies, mainly aimed at solving the problem of land ownership, the provision of essential services, and their socio-spatial integration (Clichevsky, 2007, 2009; Fernandes, 2003, 2008). In the Chilean case, the first actions appear in the mid-twentieth century. From that moment until today, the actions have been channeled through ad hoc programs that, in a substantive sense, alternate between housing resettlement and eradication.

For decades, the idea has prevailed that housing resettlement has significant advantages over eradication, conserving networks, community support, social capital, and the community identity (Elorza, 2019; Matus et al., 2019, 2020; MINVU & PUC, 2018; Sabatini & Vergara, 2018; Tironi, 2003). However, if we consider the changes in social housing complexes in contemporary Chile (Ibarra, 2020; Márquez, 2003; Márquez & Pérez, 2008; Salcedo et al., 2017; Salcedo & Rasse, 2012; Salcedo, 2010); it is worth asking, at the beginning of the third millennium, whether housing resettlement projects still have comparative advantages regarding strengthening social integration processes in social housing complexes over those using eradication.

In this sense, the study's objectives seek to know how the beneficiary families of two housing projects evaluate them vis-a-vis social relations and social integration in the new neighborhood. The working hypothesis points to whether resettlement projects positively impact the dynamics of social integration compared to eradication ones.

This work, therefore, looks to submit these ideas for discussion by analyzing the evaluation made by some of the beneficiaries of two projects implemented by the Ministry of Housing and Urbanism (MINVU) in the province of Concepción, Chile. The projects under study sought to solve the housing problems of 4,140 families living in informal settlements using opposing strategies: resettlement and housing eradication. The discussion is based on the results of a quantitative study, with probabilistic design and simple random sampling, carried out through a household survey of 1,130 families.

The results indicate that, regardless of the project's strategy, families are highly satisfied with their housing. However, they express a negative evaluation of neighbors and a perception of heterogeneity, leading to social distancing within the neighborhood space. The results open new questions regarding social integration in social housing complexes.

The article addresses some conceptual aspects of informal urban settlements and regularization strategies used in Chile and Latin America before presenting the study's methodology, main results, discussion, and conclusions.

II. THEORETICAL FRAMEWORK

Theoretical background information

Irregular land occupation for housing is a historically constant phenomenon in Latin America (Abramo, 2012; Fernandes, 2011). Informal urban settlements only became widespread in the region during the first decades of the twentieth century, turning them into a relevant public policy problem.

The origin and growth of these settlements are linked to typical processes in the region. In a context marked by inequality and poverty, the processes of urbanization, internal migration, and demographic growth seen at the beginning of the twentieth century exceeded the available housing and the capacity of the State to respond to the growing demand (Clichevsky, 2009; Di Virgilio, 2015; Fernandes, 2011). During this period, the housing needs of new urban dwellers begin to be solved through self-managed strategies located outside the formal market and legality. In this way, the new urban lower classes began to occupy, without authorization, land on the urban periphery to build their homes.

The informal settlement phenomenon is associated with interrelated factors (ONU-Habitat, 2015). However, this work has coincided with Fernandes (2003, p. 6) in that, in the substantive sense, the problems of access to housing and the emergence of informal settlements would be the result of "an exclusionary pattern of urban development, planning, and management, whereby land markets, political systems, and legal systems do not offer suitable and reasonable conditions of access to land and housing for the lower classes."

Informal settlements, which have different names, are part of the region's urban landscape. Beyond local particularities, they are understood as areas or neighborhoods where inhabitants do not have the

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security of land tenure, do not have essential services and infrastructure, housing does not comply with urban planning regulations, and, in addition, are usually located in geographically and/or environmentally dangerous areas (UN-Habitat, 2015). Therefore, the informal condition is determined by the transgression of legal regulations that define the right to property and/or by non-compliance with urban planning regulations (Clichevsky, 2007, 2009; Di Virgilio et al., 2014). However, stating its inhabitants on the margins of society or assuming the existence of an "informal city" is problematic. On the contrary, what happens are interrelationships and couplings between formal and informal sectors (Di Virgilio et al., 2014) and dialectical relations between formality and informality (Fernandes, 2008). Informal settlements do not arise outside the law and institutionality but are somewhat related. Informal settlements and their residents are a constituent part of the city and of the social, economic, and cultural processes that sustain the reproduction of Latin American societies.

Informal settlements and regularization programs

Both policies and programs for the regularization of informal settlements have a long history in the region. The strategies implemented have varied and evolved (Fernandes, 2008), but generally, these interventions have been organized around three fundamental objectives. First, solving the problem of land ownership; second, access to essential services; and third, socio-spatial integration (Fernandes, 2003, 2008). Over recent decades, more complex objectives have been added, such as reducing poverty and socio-urban exclusion (Clichevsky, 2009; Fernandes, 2008).

All these interventions have a "corrective" nature (Clichevsky, 2007; Fernandes, 2003). In this sense, an essential condition for any regularization program is recognizing what exists and, depending on that, establishing the action plans that solve the urbanistic/ownership shortcomings (Clichevsky, 2007, 2009). Likewise, the rights acquired by residents over time should not be lost sight of, as well as the subjective aspects involved in the intervention (Fernandes, 2008, 2011). Therefore, regularization programs must respond, at a general level, to the legal regulations and, at a specific level, to the particular characteristics of each settlement (Fernandes, 2011). Such requirements complicate any intervention process (Clichevsky, 2007).

The programs generally respond to three typologies: those that seek to regularize property, those that aim at urban-environmental improvement, and comprehensive programs (Clichevsky, 2007, 2009; Fernandes, 2003, 2011). In the first, the intervention is limited to regularizing the property according to legal provisions and urban regulations. On the other hand, urban-environmental improvement programs have a range of possible interventions, such as access to essential services, community equipment, and, in some cases, housing improvement and/or construction. Finally, the comprehensive programs, besides solving ownership informality and urban-environmental shortcomings, include social accompaniment actions, training, and employment generation (Clichevsky, 2007, 2009).

Chile and informal settlements

In Chile, irregular land occupation for housing can be traced back to the late nineteenth century (Hidalgo, 2019). However, it only became a recurring matter in the late 1930s. Until the mid-'30s, the housing needs of the poorer population were channeled through legal instruments such as renting, letting, and other similar measures (de Ramón, 1990). From the end of the '30s until 1945, irregular land occupations appeared as a phenomenon characterized by individual actions and a lack of organization (de Ramón, 1990; Espinoza, 1998). In practice, low-income families and rural migrants settled on land alongside urban centers, gradually forming informal settlements.

Between 1945 and 1973, irregular occupation increased significantly. This stage involved previously organized collective action that surprisingly occupied urban land (Angelcos & Pérez, 2017; de Ramón, 1990; Espinoza, 1998). In this period, irregular land occupation and the settlers' movement were characterized by substantial organization and the progressive incorporation of political parties (Ibid). In this way, the residents' movement and the struggle for housing leave their claims behind to assume a robust political significance (Abufhele, 2019; Espinoza, 1998).

With the 1973 coup d'état, the movement of settlers and irregular land occupation were violently interrupted. However, repressive state action did not eliminate the problem. The search for alternative housing solutions significantly increased "clustering"**4** (Angelcos & Pérez, 2017).

After the return to democracy (1990) and until the first few years of this century, land occupation was more sporadic. However, informal settlements and their

4 Clustering refers to people or families living in houses of third parties, either within them or the lot, but who maintain an independent budget.

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families have grown over the past decade. According to the National List of Camps conducted by the MINVU (2011), 657 camps were identified nationwide, with 27,378 families. By 2018-2019, there were 802 informal settlements, with 47,050 families. The National List of Camps 2020-2021 of Fundación TECHO-Chile (2021) identified 969 settlements with 81,643 families. The last period, 2018 to 2021, saw an increase of 20.32% in the number of settlements and 73.52% in the number of resident families.

Informal settlements and public policy

Historically, Chilean housing policy has been characterized by a "provisionist" strategy, which sought to solve the housing deficit through a sustained increase in housing production (Hidalgo et al., 2016). However, the strategy failed to effectively address informal settlements, as poverty levels and the complexities of life in an informal settlement constituted a barrier to the conditions established by the public offer. As a result, in the middle of the twentieth century, the first State-led actions to address informal settlements emerged through ad hoc programs that, in the substantive sense, alternated between housing resettlement and eradication.

Eradication outside the city's walls was inaugurated during the government of Gonzales Videla (1946-52) (de Ramón, 1990). The formula consisted of transferring irregular occupants to sites allocated and urbanized by the state on the urban periphery to build new housing.

A different strategy was "Operation Site" (***Operación Sitio***). In this case, the state regularized property, delivered urbanization works, and, in some cases, basic sanitary units for each family to self-build. In practice, Operation Site privileged access to land more than to housing. Between 1965 and 1970, about 71,000 solutions were delivered nationwide (Hidalgo, 2007, 2019).

During the military dictatorship (1973-1990), through the National Urban Development Policy in 1979, a massive eradication of informal settlements towards social housing complexes in the urban periphery was initiated. Between 1979 and 1984, 78,820 families were eradicated (Hidalgo, 2019).

After the return to democracy, to size up the problem of informal settlements, the Faculty of Architecture of the University of Chile made, in 1996, the "National List of Camps and Precarious Settlements" commissioned by the MINVU, identifying 972 settlements in the country, with 93,457 homes and 445,943 people. 53.1% of the national total was concentrated in three regions: Bío Bío with 298 settlements, Los Lagos with 114, and the Santiago Metropolitan Region with 113.

As a result, an intersectoral program aimed explicitly at informal settlements was created in 1997, called the Chile-Barrio Program (1997-2005), which the MINVU coordinated. This program emerged to address housing precariousness and strengthen the socio-labor insertion of families in the identified settlements. During its implementation, the program delivered 113,806 housing solutions: 61.7% through resettlement, 23.7% through eradication, and 14.5% through mixed solutions (Raczynski et al., 2007).

Subsequently, the informal settlements are again handled by the regular offer of the MINVU. However, given its limitations, the Camps Program was implemented in 2011 and operated through three strategies: settlement based on a housing project, settlement with an urbanization project and neighborhood consolidation, and relocation (Matus et al., 2019, 2020). Of the 655 settlements registered in 2011, 55.1% were closed between 2011-2018 (Matus et al., 2019, 2020); of these, 6.1% were for housing projects, 8.5% were urbanizations, and 40.5% were relocations.

III. CASE STUDY

Between 1995 and 2005, the MINVU developed two housing projects in the Province of Concepción**5** to solve the housing problems of approximately 5,000 families living in different informal settlements. The "Urban Recovery Program of the North Bank of the Bío-Bío River" (hereinafter Ribera Norte) and the "San Pedro de la Costa Comprehensive Plan" (hereinafter San Pedro de la Costa) follow alternative strategies to address the housing problem. While Ribera Norte built a housing settlement project in the city's central areas, San Pedro de la Costa used eradication in the urban periphery. According to the type of intervention, both projects are defined as comprehensive programs since, along with housing provision, they considered social accompaniment, training, and labor activation actions (Clichevsky, 2007, 2009; Fernandes, 2003, 2011).

The Ribera Norte Program represents an urban recovery intervention of 140 hectares in front of the city center of Concepción, in whose intervention area there was

5 The Province of Concepción is one of three provinces that make up the Bio Bio Region. It comprises twelve communes, with Concepción as the provincial capital.

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Sample size Ratio 0.5 Maximum error 0.05. Confidence interval - 95%	RIBERA NORTE	SAN PEDRO DE LA COSTA	TOTAL
Total Families	1,426	2,714	4,140
Total Sample	310	820	1,130

Table 1. Population and Sample Size. Source: Preparation by the authors.

an old informal settlement with approximately 2,000 families. For this reason, the intervention proposal had to reconcile the urban development objectives and solve the resident community's housing problems, constituting the program's feasibility. Based on this, between 1998 and 2004, a 15-hectare neighborhood was constructed, including community facilities, a health center, and 1,426 housing units.

For its part, San Pedro de la Costa arises within the framework of the Chile-Barrio Program. In 1998, several informal settlements in the Province of Concepción had to be relocated totally or partially due to technical and regulatory constraints. Based on this, the MINVU launched the "San Pedro de la Costa Comprehensive Plan" in 2003 to solve the housing deficit of 3,222 families living in 70 informal settlements.

This plan consisted of two projects. The first one, located in the commune of Chiguayante, contemplated 500 houses. The second, San Pedro de la Costa, built between 2003 and 2006, built a new neighborhood of 73 hectares in the commune of San Pedro de la Paz with community facilities, educational services, health, public security, and 2,714 homes for families from 59 irregular settlements in the communes of Concepción, Talcahuano, and San Pedro de la Paz.

IV. METHODOLOGY

This quantitative study worked with primary sources through a non-experimental design. The population under study was represented by the dwellings attached to the housing projects of Ribera Norte (1,426) and San Pedro de la Costa (2,714). Work was done with a probabilistic design and simple random sampling. The sample size was defined with a ratio of 0.5, a maximum error of 0.05, and a confidence interval of 95%, yielding a total sample of 1,130 families (Table 1). A table of random numbers was used for the selection of the cases. The observation unit was the household, represented by the heads of household or their spouses.

The information collection process was done through a home survey during the second semester of 2009. The survey comprised 160 questions, distributed in seven sections: identification of the family group, education, health, occupation, housing, and neighborhood evaluation, evaluation of the origin program, and pre/post housing evaluation.

The analysis considered an exploratory and descriptive statistical analysis to later move on to comparing relevant variables and dimensions between both projects. In the first stage, an exploratory and descriptive analysis differentiated by project was made, where the unit of analysis was housing. In the second stage, a comparative analysis was made between both projects based on relevant variables and dimensions. The SPSS software assisted with the statistical analysis.

V. RESULTS

Although the housing programs of Ribera Norte and San Pedro de la Costa shared similar objectives in solving the housing problem, they adopted different strategies. Ribera Norte focused on constructing a neighborhood that would allow former residents to stay close to the city center of Concepción. On the other hand, San Pedro de la Costa, conditioned by technical-regulatory aspects, opted for an eradication approach, moving the inhabitants to the urban periphery.

It is widely recognized that housing resettlement projects have significant advantages over those that use eradication in conserving networks and social capital, thus preserving the sense of community identity. In contrast, housing relocation projects usually have a negative impact on community identity and integration, as they represent a break in pre-existing relationships and social networks (Elorza, 2019; Matus et al., 2019, 2020; MINVU & PUC, 2018; Sabatini & Vergara, 2018; Tironi, 2003).

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Items	Mean	Stand. Dev.	No. valid	Lost	Mean	Stand. Dev.	N° valid	Lost
Quality of housing	5,749	1,2828	309	0	6,059	1,0963	819	1
Size of the home	5,214	1,6902	309	0	5,654	1,3450	820	0
Number of rooms	4,947	1,8668	309	0	5,159	1,6064	820	0
Equipment of the neighborhood	5,359	1,7936	308	1	4,792	1,8919	817	3
Location of the neighborhood	6,063	1,4618	308	1	5,292	1,7486	819	1
My family is happy in this neighborhood	5,45	1,761	308	1	5,43	1,716	820	0
Neighbors of the neighborhood	5,178	1,9467	309	0	5,202	1,7422	818	2
Neighbors are united	4,13	2,084	309	0	4,31	1,970	816	4
There are good relations between neighbors	5,17	1,863	307	2	5,11	1,798	814	6
Most of the neighbors are willing to help when needed	4,84	1,915	306	3	4,63	1,958	812	8
You can trust the neighbors in the neighborhood	3,81	1,988	307	2	4,14	1,940	816	4
This neighborhood is safe	3,68	2,046	309	0	3,61	1,888	817	3
I feel safe walking around the neighborhood	4,63	2,024	308	1	4,17	1,957	820	0
I feel safe in my house	5,59	1,849	309	0	5,36	1,847	820	0
Living in this neighborhood makes me feel proud	4,91	2,051	309	1	4,90	1,873	820	0
This neighborhood has a good image	3,74	1,998	309	0	3,93	1,881	817	3
Access to public transport	5,968	1,5115	309	0	5,827	1,4226	820	0
Access to schools and health facilities	5,748	1,5742	308	1	5,659	1,4892	815	5
* Likert Scale: 1 means very dissatisfied, and 7 very satisfied.								

Table 2. Degree of satisfaction with the new neighborhood*. Source: Preparation by the authors.

If you compare your life in this neighborhood with the neighborhood you lived in before, you would say that…	Has Worsened		Stayed the same		Improved		Total	
	N	%	N	%	N	%	N	%
My family's quality of life	28	9.1	60	19.4	218	70.6	306	99.0
The pride of living in this neighborhood	50	16.2	115	37.2	141	45.6	306	99.0
The image of the neighborhood	73	23.6	93	30.1	139	45.0	305	98.7
The integration of the neighborhood into the city	42	13.6	107	34.6	157	50.8	306	99.0
The neighbors of the neighborhood are well-received everywhere	70	22.7	164	53.1	71	23.0	305	98.7
The security of the neighborhood	115	37.2	116	37.5	76	24.6	307	99.4
My family's involvement in community organizations	53	17.2	215	69.6	39	12.6	307	99.4
The trust between neighbors	81	26.2	150	48.5	75	24.3	306	99.0
Solidarity between neighbors	62	20.1	148	47.9	94	30.4	304	98.4
Relations between neighbors	69	22.3	149	48.2	86	27.8	304	98.4
The neighborhood participation	85	27.5	156	50.5	62	20.1	303	98.1
Access to health facilities	72	23.3	106	34.3	128	41.4	306	99.0
Access to educational establishments	40	12.9	144	46.6	116	37.5	300	97.1
The job opportunities	70	22.7	183	59.2	52	16.8	305	98.7

Table 3. Comparative Evaluation of Housing and Neighborhood Ribera Norte. Source: Preparation by the authors.

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If you compare your life in this neighborhood with the neighborhood you lived in before, you would say that…	it has Worsened		Stayed the same		Improved		Total	
	N	%	N	%	N	%	N	%
My family's quality of life	82	10.0	187	22.8	550	67.1	819	99.9
The pride of living in this neighborhood	175	21.3	296	36.1	346	42.2	817	99.6
The image of the neighborhood	296	36.1	280	34.1	243	29.6	819	99.0
The integration of the neighborhood into the city	229	27.9	356	43.4	232	28.3	817	99.6
The neighbors of the neighborhood are well-received everywhere	269	32.8	404	49.3	136	16.6	809	98.7
The security of the neighborhood	377	46.0	263	32.1	177	21.6	817	99.6
My family's involvement in community organizations	53	17.2	215	69.6	39	12.6	307	99.4
The trust between neighbors	232	28.3	363	44.3	221	27.0	816	99.5
Solidarity between neighbors	226	27.6	358	43.7	232	28.3	816	99.5
Relations between neighbors	212	25.9	381	46.5	222	27.1	815	99.4
The neighborhood participation	232	28.3	422	51.5	160	19.5	814	99.3
Access to health facilities	177	21.6	316	38.5	323	39.4	816	99.5
Access to educational establishments	146	17.8	330	40.2	333	40.6	809	98.7
The job opportunities	286	34.9	406	49.5	119	14.5	811	98.9

Table 4. Comparative Evaluation of Housing and Neighborhood San Pedro de la Costa. Source: Preparation by the authors.

Although the initial study hypotheses predicted different results, especially regarding social relations and community integration, the data analysis indicates another scenario. According to the findings, there is a generally positive perception regarding the housing in terms of quality, size, and aspects such as access to public transport and services in both projects. However, the evaluation of other elements related to the social fabric and the quality of life in the new neighborhood is not so positive. Aspects such as the evaluation of the neighbors, the security, and the neighborhood's image do not show favorable results. In particular, the low levels of trust toward the neighbors of the neighborhood in both projects are paradoxical (Table 2).

The results of the comparative evaluation between the old and the new neighborhoods, reflected in Table 3 and Table 4, indicate that the quality of life of the family group has improved significantly in both projects, which is a positive aspect. However, there are differences in the perception of other vital elements.

In Ribera Norte, the image and integration of the neighborhood in the city, as well as access to services, are evaluated positively. On the other hand, in San Pedro de la Costa, although access to services has improved considerably, the image of the neighborhood and its integration with the city have not experienced significant changes. However, in both projects, there is a diminished perception of security within the neighborhood. This is a worrying aspect as it directly affects residents' well-being and quality of life.

The most paradoxical finding is the negative evaluation of relations with neighbors and social cohesion in both projects. A negative evaluation in San Pedro de la Costa was expected due to the effect associated with housing eradication. However, finding a similar negative evaluation in a housing project such as Ribera Norte is unexpected since it would be anticipated that housing close to the city center would favor community integration and social relations.

The fact that there has been a negative evaluation in terms of relations with neighbors in a resettlement project demonstrates a departure from the results as to what could be expected based on the nature of each project. This suggests that other factors influence how social relationships are formed in these new neighborhoods. This trend aligns with the horizontal integration indicators of the Guttman scale. According to Table 5 and Table 6, in both projects, social distancing increases to the extent that the bond implies greater closeness. In practice, there is resistance to establishing relationships with an "other", who is perceived as different.

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Regarding your neighbors…	YES			NO			TOTAL		
	N	%	% valid	N	%	% valid	N	%	% valid
You know them, at least by sight.	289	93.5	93.8	19	6.1	6.2	308	99.7	100
You go to their house or invite them to yours	71	23.0	23.1	236	76.4	76.9	307	99.4	100
You share celebrations with them	68	22.0	22.1	240	77.7	77.9	308	99.7	100
They support each other when facing traumatic events	212	68.6	68.6	97	31.4	31.4	309	100	100
You are willing for your children to spend time with them	163	52.8	61.7	101	32.7	38.3	264	85.4	100
You would be willing for one of your children to marry one of your neighbors	101	32.7	39.5	155	50.2	60.5	256	82.8	100
You would be willing to marry one of your neighbors (single)	20	6.5	16.3	103	33.3	83.7	123	39.8	100

Table 5. Guttman Scale Ribera Norte. Source: Preparation by the authors.

Regarding your neighbors…	YES			NO			TOTAL		
	N	%	% valid	N	%	% valid	N	%	% valid
You know them, at least by sight.	779	95.0	95.1	40	4.9	4.9	819	99.9	100
You go to their house or invite them to yours	265	32.3	32.4	553	67.4	67.6	818	99.8	100
You share celebrations with them	204	24.9	24.9	614	74.9	75.1	818	99.8	100
They support each other when facing traumatic events	499	60.9	61.4	314	38.3	38.6	813	99.1	100
You are willing for your children to spend time with them	456	55.6	65.0	246	30.0	35.0	702	85.6	100
You would be willing for one of your children to marry one of your neighbors	249	30.4	36.7	430	52.4	63.3	679	82.0	100
You would be willing to marry one of your neighbors (single)	20	2.4	12.4	141	17.2	87.6	161	19.6	100

Table 6. Guttman Scale San Pedro de la Costa. Source: Preparation by the authors.

Concerning the neighbors of the neighborhood, you would say that:	NOTHING		LITTLE		A LOT		NK/NA		TOTAL	
	N	%	N	%	N	%	N	%	N	%
There are economic differences between neighbors	20	6.5	119	38.5	134	43.4	36	11.7	309	100
There are differences in education levels	22	7.1	113	36.6	137	44.3	37	12.0	309	100
There are differences in the type of work they do	21	6.8	106	34.3	136	44.0	46	14.9	309	100
There are differences in their customs	33	10.7	94	30.4	151	48.9	31	10.0	309	100
There are differences in religious beliefs	18	5.8	112	36.2	131	42.4	47	15.2	308	99.7
There are differences in political preferences	23	7.4	66	21.4	107	34.6	111	35.9	307	99.4

Table 7. Perception of Homogeneity Ribera Norte. Source: Preparation by the authors.

Concerning the neighbors of the neighborhood, you would say that:	NOTHING		LITTLE		A LOT		NK/NA		TOTAL	
	N	%	N	%	N	%	N	%	N	%
There are economic differences between neighbors	71	8.7	300	36.6	373	45.5	73	8.9	817	99.6
There are differences in education levels	67	8.2	267	32.6	382	46.6	97	11.8	813	99.1
There are differences in the type of work they do	68	8.3	276	33.7	368	44.9	103	12.6	815	99.4
There are differences in their customs	63	7.7	212	25.9	478	58.3	61	7.4	814	99.3
There are differences in religious beliefs	65	7.9	261	31.8	328	40.0	156	19.0	810	98.8
There are differences in political preferences	68	8.3	162	19.8	264	32.2	314	38.3	808	98.5

Table 8. Perception of Homogeneity San Pedro de la Costa. Source: Preparation by the authors.

In addition, as shown in Table 7 and Table 8, both projects present a perception of homogeneity that differs from the objective conditions. On the other hand, the evaluation based on the characteristics, habits, and customs has a perception of significant heterogeneity.

Finally, the consistency between the negative evaluation of neighborhood relations and the horizontal integration and perception of intra-neighborhood homogeneity indicators confirms that the results do not align with what would be expected based solely on whether the project is for resettlement or eradication.

VI. DISCUSSION

The study reveals a paradox in the inhabitants' perceptions of their housing and social environment in two housing projects. Both projects show a high degree of satisfaction with the housing and the quality of life of the family group. The positive evaluation of life "inside" differs from the evaluation of other components. Both projects have an unfavorable evaluation of the neighbors and a perception of heterogeneity, leading to distancing regarding significant social relationships.

This dissonance is expected in relocation contexts such as San Pedro de la Costa, but it is surprising in Ribera Norte, where such a result was unexpected. Equivalent results indicate that the evaluation of the subjects is decoupled from the project's nature and is based on other elements.

The explanation for these contradictory results can be found in the transformation processes of identity references in urban space. Within this record, we see that daily relationships and practices in social housing complexes are progressively distancing themselves from the trends observed during the twentieth century.

The social housing complexes of contemporary Chile show great socioeconomic, cultural, and identity diversity, expressing themselves in changes in values and practices (Salcedo et al., 2017; Salcedo & Rasse, 2012). Proof of this is the privatization of everyday life, the withdrawal from public space, and decreased contact between neighbors (Ibarra, 2020; Márquez, 2003; Márquez & Pérez, 2008; Salcedo, 2010). Such changes would be associated with status conflicts, such as the emergence of differentiation practices within the same social housing complexes (Márquez, 2003; Márquez & Pérez, 2008; Rojas & Silva, 2021; Salcedo, 2010).

Fear is omnipresent in working-class neighborhoods (Ibarra, 2020; Márquez, 2003; Márquez & Pérez, 2008). In this context, social relationships arise from low levels of trust (Ibarra, 2020), with the consequent weakening of the social organization (Ibarra, 2020; Márquez, 2003; Márquez & Pérez, 2008; Salcedo, 2010; Salcedo et al., 2017; Salcedo & Rasse, 2012).

On the other hand, due to the changes registered in contemporary societies, social relations within the urban space are woven, considering diverse variables, which can act as a mechanism of identification and/or social differentiation (Márquez, 2006; Soja, 2008). The variables that structure social categories have diversified, redefining social boundaries. Therefore, the subjects can appeal to different criteria to establish hierarchical distinctions and symbolic borders within the neighborhood space (Soja, 2008). In this way, social identification and/or differentiation practices acquire greater complexity, resulting in a polymorphic and fractured social geometry (ibid).

Along these lines, the study's results suggest the existence of symbolic intra-neighborhood boundaries. Boundaries in social housing complexes have been seen previously (Márquez, 2003; Márquez & Pérez, 2008; Matus et al., 2020);

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however, these boundaries referred to housing complexes with a social mix, where families of diverse origin and socioeconomic status converge. Again, this would explain the San Pedro de la Costa results but not Ribera Norte.

VII. CONCLUSIONS

The analysis of the results in both projects indicates that the evaluation of the residential habitat made by the families is disassociated from the nature of the housing project and, instead, is associated with other elements. The negative evaluation of the neighbors and a perception of heterogeneity that turns into social distancing versus social relations in both cases are highlighted in both cases.

Historically, the idea has prevailed that housing resettlement has advantages over eradication projects since they conserve networks, supports, and community identity, facilitating social integration processes. However, at the beginning of the third millennium, this idea seems to be losing strength or beginning to relativize its weight within the equation.

Strictly speaking, the distinction between effects associated with housing resettlement and eradication projects seems insufficient to explain the findings of this study. Together with the differentiated effects generated by one and the other, the transformation of the identity references within the urban space invites the expansion of the analytical framework. In particular, the emergence of social distinction and differentiation practices in social housing complexes is a fact that we cannot ignore.

Therefore, the study's results raise new questions regarding intervention strategies with informal urban settlements, where the variables traditionally considered should be extended to the forms of relationships and social practices prevailing in contemporary Chile, as there we find new challenges for management and social research. The possibilities of strengthening social integration in social housing complexes are not only involved in the housing project alternative used; it will also be necessary to analyze further the dynamics and forms of relationship that occur within the urban space, as both dimensions have particular conditioning factors and challenges in the perspective of strengthening integration in social housing complexes.

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