

20

SOCIO-SPATIAL

**SEGREGATION IN MACHALA- ECUADOR. AN ANALYSIS OF
INEQUALITIES AND POSSIBLE CHALLENGES**

SOCIO-SPATIAL

SEGREGATION IN MACHALA- ECUADOR. AN ANALYSIS OF INEQUALITIES AND POSSIBLE CHALLENGES

SEGREGACIÓN SOCIOESPACIAL EN MACHALA-ECUADOR. UN ANÁLISIS SOBRE LAS DESIGUALDADES Y LOS POSIBLES DESAFÍOS

Carolina Uzcátegui-Sánchez¹

E-mail: cuzcategui@umet.edu.ec

ORCID: <https://orcid.org/0000-0001-8960-4932>

Sadcidi Zerpa-de Hurtado¹

E-mail: zerpasad@gmail.com

ORCID: <https://orcid.org/0000-0002-5102-1210>

Adriana Santamaría-Mendoza¹

E-mail: adrianasantamaria@upvt.edu.mx

ORCID: <https://orcid.org/0000-0002-0151-7525>

¹ Universidad Metropolitana. Ecuador.

² Universidad de Los Andes. Ecuador.

³ Universidad Politécnica del Valle de Toluca. México.

Suggested citation (APA, 7th edition)

Uzcátegui-Sánchez, C., Zerpa-de Hurtado, S., & Santamaría-Mendoza, A. (2023). Socio-spatial Segregation in Machala- Ecuador. An analysis of inequalities and possible challenges. *Revista Metropolitana de Ciencias Aplicadas*, 6(3), 179-190.

ABSTRACT

This study evaluates socio-spatial segregation in Machala, Ecuador, analyzing socioeconomic and demographic factors that impact the quality of life of residents. It focuses on inequalities in access to basic services, urban dynamics, education, health and employment in different neighborhoods. The findings reveal a majority of young people, aged 10 to 39, with a low level of education, with only 10% having completed university studies. School dropout is mainly attributed to the need for employment. There are significant disparities in access to basic services, housing quality and urban infrastructure. These factors are evidence of segregation in social exclusion and lack of social integration. Machala faces challenges in terms of accessibility to quality services, which impacts the living conditions of residents in vulnerable neighborhoods. The study highlights the need to address these inequalities to ensure a more equitable and inclusive urban development, recommending the implementation of public policies to improve the quality of life and encourage social integration.

Keywords:

Socio-spatial segregation, urban inequality, access to basic services, vulnerable neighborhoods.

RESUMEN

Este estudio evalúa la segregación socioespacial en Machala, Ecuador, analizando factores socioeconómicos y demográficos que impactan la calidad de vida de los residentes. Se concentra en desigualdades en el acceso a servicios básicos, la dinámica urbana, la educación, la salud y el empleo en distintos barrios. Los hallazgos revelan una mayoría de jóvenes, de 10 a 39 años, con un nivel educativo bajo, siendo que solo el 10% ha finalizado estudios universitarios. La deserción escolar es atribuida principalmente a la necesidad de empleo. Existen disparidades significativas en el acceso a servicios básicos, la calidad de las viviendas y la infraestructura urbana. Estos factores evidencian la segregación en la exclusión social y la falta de integración social. Machala enfrenta desafíos en términos de accesibilidad a servicios de calidad, lo que impacta las condiciones de vida de los residentes en barrios vulnerables. El estudio subraya la necesidad de abordar estas desigualdades para garantizar un desarrollo urbano más equitativo e inclusivo, recomendando la implementación de políticas públicas para mejorar la calidad de vida e incentivar la integración social.

Palabras clave:

Segregación socioespacial, desigualdad urbana, acceso a servicios básicos, barrios vulnerables.

INTRODUCTION

Socio-spatial segregation is a distinctive phenomenon in Latin American cities, the result of the rapid and disorganized process of urbanization and urban growth. According to Janoschka & Sequera (2016), social segregation is perceived as a problem generated by the commercialization of urban space, which leads to segregation processes. There is a vast literature on socio-spatial segregation that has carried out significant studies for decades, being addressed by various schools of thought that analyze issues such as the marginalization of social groups, the relationship between population and environment, and geography (Vivas, 2013; Fonseca, 2020). However, most of the authors, such as Janoschka and Sequera (2016), focus on how the fragmentation of urban landscapes and class struggles occur through mechanisms such as the intervention of private capital in land use.

In Latin America, the urbanization process during the 20th century was characterized by accelerated growth, which intensified population concentration in cities as opposed to rural lag, with a high rate of both foreign and rural immigration to urban areas (Ziccardi, 2019). Almandoz (2018), argues that, during this period, the old colonial capitals and the new urban centers grew rapidly, coming to rival European and North American cities. The expansion of these capitals was due, in part, to an incipient industrialization process that accelerated urbanization and positioned these countries among the most urbanized in the world.

As for Latin American cities, the prevailing model of socio-spatial segregation in the last century was similar to the European model of the compact city. According to Hechem (2018), the central areas are home to the elite groups of society and, therefore, are urban areas with greater availability of infrastructure, better accessibility to goods and services, and higher-quality housing. As we move away from the commercial and financial center, cities experience both a social and physical decline towards the periphery, with the exception of a cone of upper-class expansion that extends linearly from the center to the periphery (Carrión, 2019). In addition, Jordán et al. (2017), argue that this situation resulted in an inequitable distribution of urban spaces and, consequently, in the phenomenon of social segregation, a concept widely used to identify and explain the different dimensions of urban exclusion and socio-spatial differentiation.

The phenomenon of social segregation refers to the inequalities that occur in urban spaces, and is characteristic of large cities. This phenomenon denies disadvantaged groups' access to infrastructure and services, limits job opportunities, and exposes these groups to stereotypes such as marginalization, deprivation, violence, and exclusion, which in turn reduces their interactions with other groups and isolates them (Goicoechea & Abba, 2020). Social segregation entails consequences such as social

inequality in the urban space, the gap between social classes, poor school performance, unemployment, early pregnancy, inequality in access to social security, environmental pollution and urban deterioration and housing. According to Ayala (2021), the cities of Ecuador, like the rest of Latin America, face this reality, with studies that highlight the existing social differentiation in the city of Quito between north and south.

In Guayaquil, socio-spatial segregation is manifested in the unequal distribution of the Afro-Ecuadorian population in the geographic area of the city, which has led to the emergence of marginal urban settlements with deficiencies in services, housing infrastructure and urban equipment (Ariza & Carrión, 2021). In the case of Cuenca, spatial segregation is observed both in socioeconomic groups with higher incomes and in those with more precarious living conditions, while the intermediate groups do not experience such deep segregation. This article analyzes socio-spatial segregation in the city of Machala, addressing the main currents of thought on the subject from the perspective of basic services in neighborhoods of the canton. Next, a non-experimental empirical study is carried out, using surveys and questionnaires applied to unplanned urban sectors with greater social exclusion.

Thus, in general terms socio-spatial segregation in the urban environment is understood as the organization of the city based on phenomena of social, economic, political, educational, cultural differentiation and level of crime to mention the main ones. Other authors such as Folgar (2019), and Segura (2019), also expressed that such segregation implied the division of the city into delimited units that house homogeneous populations and different from the surrounding ones. Therefore, urban segregation refers to the degree of separation between different groups in different areas of the city, which can manifest itself in various ways, being a complex and particular phenomenon.

In this same order, Dalmazzo (2017), alluded that segregation is the process of separation and distancing between groups. This unequal distribution of population groups in the territory can be manifested through the physical proximity between residential spaces, the social homogeneity of different territorial subdivisions, and the concentration of social groups in specific areas of a city (Peñalta, 2017).

For his part, Mendoza (2021), stated that segregation can be understood from three perspectives: differences or inequalities within a group, absence of interaction between social groups, and inequality in the distribution of social groups in physical space. But others like Sepúlveda (2019), to distinguish between geographic segregation, which refers to the unequal distribution in a physical space, and sociological segregation, which alludes to the lack of interaction and contact between groups. They recognize that, although both types of segregation are usually correlated, they do not necessarily imply the presence of the other. This coincides with a type of analysis through

approaches that according to Cruz (2021) mentions spatial segregation as unequal access to urban services and equipment, related to mobility, and the specialization of the social distance between groups, especially in terms of adjustments and social conflicts. This managed to establish in the analysis of the phenomenon of socio-spatial segregation analysis perspectives that suggest that geographic proximity does not necessarily imply interaction; just as physical distance does not guarantee isolation.

Residential segregation refers to the spatial distribution of social groups in an urban population, generating homogeneous areas due to social differentiation and systemic factors (Domínguez, 2017). It manifests itself in the grouping of families from the same social group, be it ethnic, age, religious or socioeconomic (Cruz, 2021). According to Segura (2017), disparities must be manifested geographically with different groups occupying differentiated locations.

Residential segregation is related to socioeconomic factors and social class location trends (Pérez, et al., 2019). Historically, we have moved from the "traditional" center-periphery model to the current "fragmented city", with peripheral social diversification and gentrification processes. Rodríguez (2018), identifies factors such as income inequality, history of physical separation, the search for added value, and social housing policies as influential in segregation.

Orellana & Osorio (2014), distinguish passive segregation, of less privileged groups, and self-segregation, of groups with greater resources that choose exclusive locations. Peñalta (2017), emphasizes that accessibility to basic services combats segregation and defines neighborhoods based on the comfort and travel times of the inhabitants.

The analysis of residential segregation can be three-dimensional: a) concentration of population with lower economic level in certain areas; b) influence of the housing market; and c) relationship between the labor market and segregation (Falchetti, 2019; Elorza, 2019; Goicoechea & Abba, 2020). Each perspective highlights key elements such as infrastructure provision, urban dynamics, and individual and social conditions.

Treuke (2019), emphasizes the importance of social differentiation mechanisms, which include socioeconomic, family, migratory, and ethnic aspects. Educational levels and professions create differences in income and socioeconomic status, leading to residential segregation. Family variations, such as the incorporation of women to work and changes in the family structure, influence the choice of lifestyle and spatial needs (Salinas & Rodríguez, 2019).

Migration flows and ethnic characteristics also affect residential segregation. Low-income immigrants tend to occupy less prestigious areas, and specific ethnic groups may seek concentration to offset disadvantages (Álvarez,

2019; Sautu, 2020). Residential segregation, in short, is a multidimensional and complex phenomenon that requires integrated approaches for its understanding and approach.

Urban socio-spatial segregation in Ecuador refers to the social division of space, which is manifested in patterns of organization of urban space (Canelos, 2019). Authors such as Link et al. (2015); Mendoza (2015); Gomezjurado (2019); Ayala (2021), have highlighted segregation through the center-periphery approach; therefore, there are differences in the city of Quito, between the north, which is inhabited by social groups with greater resources; and the south, inhabited by social groups with fewer resources. In this geographical space, segregation exposes the spatial proximity of families belonging to the same social group compared to the distance with other groups. Such distance is not only related to the socioeconomic situation, but can also be analyzed from the perspective of ethnicity, culture, migratory origin or other variables. However, in Latin America, segregation has been studied mainly based on socioeconomic differences, due to the inequalities present in the region (Link et al., 2015).

With what was mentioned for Ecuador, the segregation studies in Quito and Guayaquil stand out, as they include the largest cities in the country. In them they show an evident socio-spatial segregation as a result of different indicators such as socioeconomic, spatial areas, self-segregation, land market among others (Gomezjurado, 2019). In the case of Guayaquil Mendoza (2015), affirms that the housing segregation of the Afro-Ecuadorian population residing in the city is a detrimental phenomenon for this ethnic group. The Afro-Ecuadorian population experiences an unequal spatial location in the geographic area of the city, which results in the formation of marginal urban settlements with precarious housing conditions and a lack of urban equipment. Racial discrimination, both individual and institutional, and unequal access to mechanisms to overcome poverty have generated negative social and housing disparities that generally increase the segregation of the population and locate it in areas on the banks of the city's estuaries, far from the consolidated areas of Guayaquil (Ayala, 2021). While, in smaller cities such studies are absent.

In the case of Cuenca (Domínguez et al., 2019) an interesting phenomenon of spatial segregation of the population was identified according to deficiencies in living conditions. Spatial segregation is more pronounced in socioeconomic groups with extreme living conditions, while intermediate groups do not show deep segregation. The segregation process is located in specific areas of the city, observing a tendency for the more affluent groups to settle in areas along the banks of the Tomebamba River and the groups with lower living conditions tend to settle in the border areas north and west of the city. This spatial configuration could be related to factors such as urban

land speculation or rural-city migratory processes, which could trigger a social division of space and a breakdown of social cohesion (Orellana & Osorio, 2014).

In summary, urban socio-spatial segregation in Ecuador has manifested itself in different cities and has different effects. From this, it is important to consider that the analysis of the effects of designing public policies and intervention strategies seeks to improve the quality of life of the inhabitants and promote greater social cohesion in the urban areas of the country. Now, about socio-spatial segregation and urban precariousness in Machala Ecuador.

Macas (2022), pointed out that, for decades, the city experienced massive immigration that gave rise to extensive unhealthy areas, with problems in the provision of services and located in flood zones. Faced with this situation, local governments did little or nothing in a context marked by the absence of a culture of urban management. As a result, the city faces significant shortages that have exacerbated its problems.

Among the most notable difficulties is the lack of a water treatment and sewage system, which causes most of the houses to dump their domestic waste directly into the estuaries (small rivers that make up swampy land on which the city sits) and no street has an efficient water filtration system (Prada-Trigo, 2015).

Another problem lies in the presence of large residential areas, originated by invasions, which lack an adequate provision of basic services, generating spaces of urban and social precariousness. Macas (2020), reported that, in Machala, basic services are inefficient, with more than 250,000 people directly discharging their water into the estuaries, approximately 25% of homes without access to basic services, and the lack of paving on numerous streets in the area center.

In addition, commercial and residential spaces have been developed in regenerated areas and close to shopping centers, which are not accessible to all the inhabitants of the city, which generates internal spatial divisions. This model promotes “islands of investment” in Machala that coexist with large areas of poverty in the city’s suburbs, whose basic needs are neglected. In this sense, it has been oriented towards a model of large urbanizations, located next to shopping centers, with high prices and not accessible for people with an average salary, which results in an elitist housing approach in regenerated areas of the city (Prada-Trigo, 2015).

MATERIALS AND METHODS

Using the theoretical perspective of residential segregation, its concept, indicators and differentiation mechanisms from the perspective of human ecology. The present investigation follows a non-experimental analytical design based on the collection of information through a field of study. Consequently, the survey instrument or

questionnaire composed of polynomial questions was applied to a sample of 604 people for data collection during the last quarter of 2002. Therefore, the perspective of access to basic services in the field of urban socio-spatial segregation in neighborhoods of the Machala Canton. In this way, neighborhoods with greater residential segregation were selected, such as: 12 de Mayo, Bolívar, Florida II, Florida III, Luz de América, Nuevo Pilo, San Francisco, El Carmen and Santiaguito Bucarán. It is noted that also to understand segregation in Cantón Machala, residential mobility and housing production were analyzed as indicators of the scope of the land market, general spatial areas and urban areas, elements inherent to residential segregation.

Machala is located in the south west of the country, on the Ecuadorian coast, it is the cantonal head of the province of El Oro, being, therefore, the most populated city of the same and constituting its administrative, economic, financial and commercial, Figure 1.

Its geographical location and its expanded road network allow it to connect with other cities in the south and west of Ecuador such as Guayaquil (182 km), Cuenca (169 km), Durán (175 km), Loja (239 km), Pasaje (20 km), Santa Rosa (31 km), Huaquillas (74 km), as well as the cities of northern Peru.

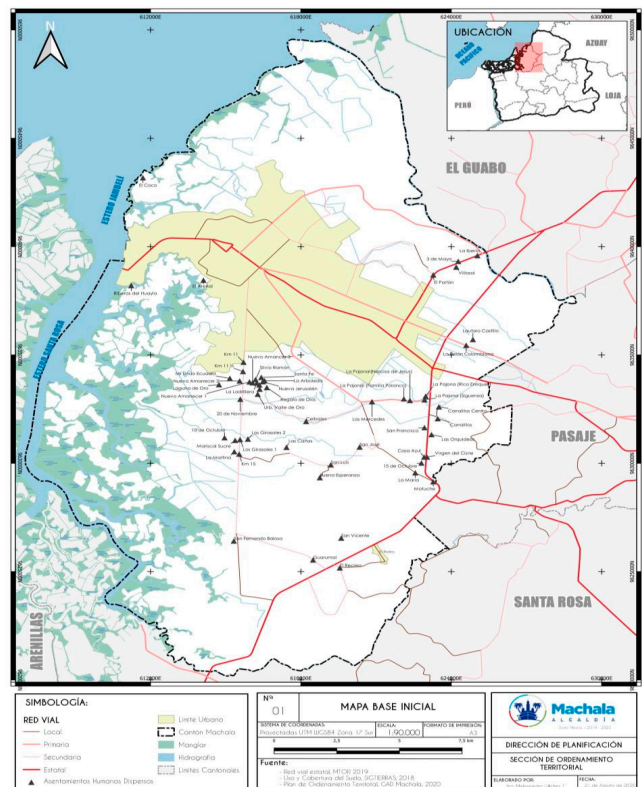


Figure 1. Geographic components of the Machala canton. It has an extension of approximately 37,275.24 ha, distributed in 7 urban parishes: Puerto Bolívar, Jambelí,

Machala, Jubones, La Providencia, El Cambio and 9 de Mayo, and a rural parish: El Retiro. Its population is detailed in Table 1.

Table 1. Population and territory according to the degree of urbanization.

Composition	Type	Population	Population %
Degree of Urbanization	Urban Area	277.575	96%
	Rural Area	11565	4%
Gender	Men	141.910	49,08%
	Women	153.013	50,92%
	Total	289.141	100%

RESULTS AND DISCUSSION

Housing plays a crucial role in the levels of poverty and in the quality of the habitat of its inhabitants. In addition, there is a general consensus that the dynamics of the housing market influence socio-spatial segregation. As shown in Table 2, 93% of the dwellings under study are houses or villas. Socio-spatial segregation is also characterized by the lack of access to basic urban services, including adequate access roads. However, 99% of the houses in the sample have access through cobbled and paved streets or roads.

Table 2. Type of dwelling and modality of road access.

External Features	Type	%
Type of housing	House/Villa	93,3
	Apartment in house or building	2,5
	Room(s) in rented house	1,2
	Hut	0,9
	Without housing	0,9
	Mediagua	0,5
	Covacha	0,5
	Other types of dwellings	0,2
Access road to the dwelling	Cobbled, paved street or road	99,7
	Ballasted or dirt street or road	0,3
	Other	0,0

If access to housing is directly related to access to the city, this limits the guarantee of the exercise of a set of essential rights for human development, such as education, rest and recreation, decent work and health. Domínguez (2017), explained that, until the middle of the last century, the predominant spatial pattern of residential segregation in Latin America was such that the upper social groups (high and middle-income) are located in the central part of the city, as well as in a sector that connected the center with the periphery.

This privileged sector, called “high-income neighborhoods”, housed the most important commercial and service activities, along with the city center. The less favored social groups were located on the periphery and in deteriorated areas close to the center of the city, which at that time was compact. In addition, the author highlights that the segregation of poor groups in Latin American cities has both urban and social impacts. Among the former are accessibility problems and the lack of quality urban services and facilities in their places of residence, and among the latter, problems of social disintegration. Spatial segregation makes the urban poor even poorer.

Thus, socio-urban segregation leads to precarious or low-comfort housing, related to the predominant materials in construction. In this regard, in the city of Machala, the materials for the construction of houses are characterized by the fact that 48% of the roof is made of concrete, but the remaining 48.9% uses materials such as asbestos and zinc, which are not of the highest quality. In relation to the floor of the houses, the variability of materials such as ceramic, tile, vinyl or marble, brick or cement indicate a lack of homogeneity in terms of quality and availability of materials, highlighting the significant percentage of houses with earthen floors, which shows levels of extreme poverty (see Table 3).

Table 3. Predominant materials on the roof and floor of the house.

Part of the dwelling	Material	%
Roof	Concrete Hormigón (slab, cement)	48,3
	Asbesto (eternit, eurolit)	28,9
	Zinc	20,0
	Tile	1,1
	Palm, straw or leaf	0,0
	Other materials	1,7
Floor	Floor Stave, parquet , plank or floating floor	0,46
	Untreated board	3,22
	Ceramic, tile, vinyl or marble	43,68
	Brick or cement	40,23
	Reed	0,92
	Earth	7,59
	Other materials	3,91

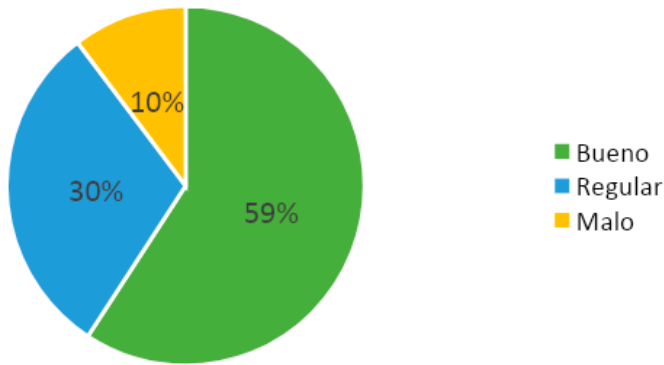
Regarding the access and availability of public services in the city of Machala, population growth has generated negative consequences in the supply of drinking water. Especially in the popular sectors, the aqueduct systems make evident the decades-old areas, to which is added the little maintenance. As can be seen in Table 4, 97% of those surveyed indicate that the drinking water service comes from the public network, although they express concerns regarding the quality of the water supplied.

Table 4. Access to basic services.

Access to public services	Where it comes from ...	%
Access to water	From a public network	97,79
	From a well	1,23
	From a river, spring, ditch or canal	0
	From a delivery car	0,74
	Other (Rain water/albarrada)	0,25
Access to sewerage	Connected to a public sewerage network	97,99
	Connected to a septic tank	1,51
	Connected to a cesspool	0,25
	With direct discharge into the sea, river, lake, or stream	0,25
	Latrine	0
	Does not have	0
Access to electricity	Grid public service electric company	98,27
	Solar panel	0,49
	Light generator (power plant)	0,74
	Other	0,49
	Does not have	0,00
Access to garbage collection	By collection truck	99,01
	They throw it on vacant land or ravine	0,00
	They burn it	0,99
	They bury it	0,00
	They throw it into the river, ditch or	0,00
	In another way	0,00

In addition to the supply of potable water, other basic services include access to sanitary sewer systems, electricity,

and solid waste disposal. It was observed that 90% of the homes have and have access to these basic services due to the provision by the State, which offers them to the population in equal proportion. But since these basic services are subject to evaluation of quality standards, they are considered between good and bad, as shown in Figure 2. 59% of those surveyed consider that it is good, while 41% think otherwise.

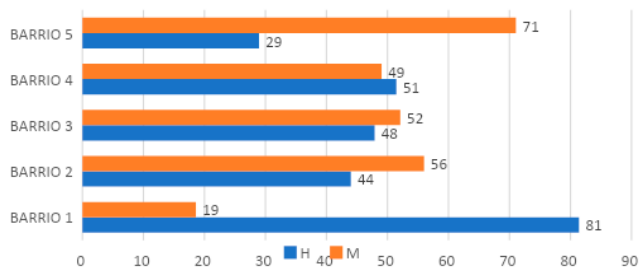


- Good.
- Average.
- Bad.

Figure 2. Quality of public services.

In recent decades, the city of Machala has faced significant challenges that affect the quality and living conditions of its inhabitants, including the absence of an adequate water treatment and sewage system. This situation causes homes to discharge their domestic waste directly into the estuaries or small rivers that form swampy land on which the city sits, to which is added that no street has an efficient water filtration system. The situation is dubbed realities of sociodemographic inequality that confirm the spatial segregation of Machala.

Poverty and gender difference are key factors in the configuration of socio-urban segregation, since there are high levels of inequality between the lives of the women and men. Figure 3 shows that the female population is mostly higher than the male population in almost all the cases analyzed.



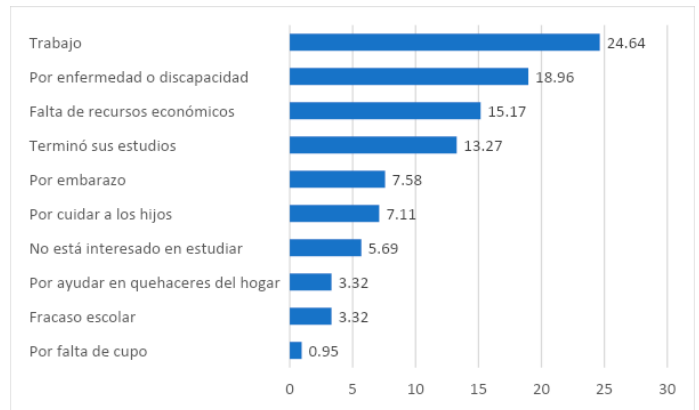
- Neighborhood 5
- Neighborhood 4

- Neighborhood 3
- Neighborhood 2
- Neighborhood 1

Figure 3. Distribution of the Population by Gender and Sector (Figures in %).

But in urban dynamics the levels of forms of social exclusion by gender are evident in which the fragmentation of the labor market by age and gender segregates the population. For example, the young people who live in these neighborhoods are not exempt to urban socio-spatial segregation, which is characterized by little access to the job market and with it the scarcity of economic resources that limit their access to higher education or the completion of higher education or the culmination of the first years of study.

However, access to education continues to be a problematic situation, since it contributes to the increase in social vulnerability. To the extent that people enter higher education, they will have greater possibilities of accessing a formal job that guarantees them social security. Nevertheless, it was appreciated that a high percentage of the population is not within the education system. In addition, the main reason why people drop out of the educational system is due to the need to enter a job to contribute or assume family responsibilities, as shown in Figure 4.



Work

- Due to illness or disability
- Lack of financial resources

Studies culmination

- Pregnancy
- Taking care of children
- Not interested in studying

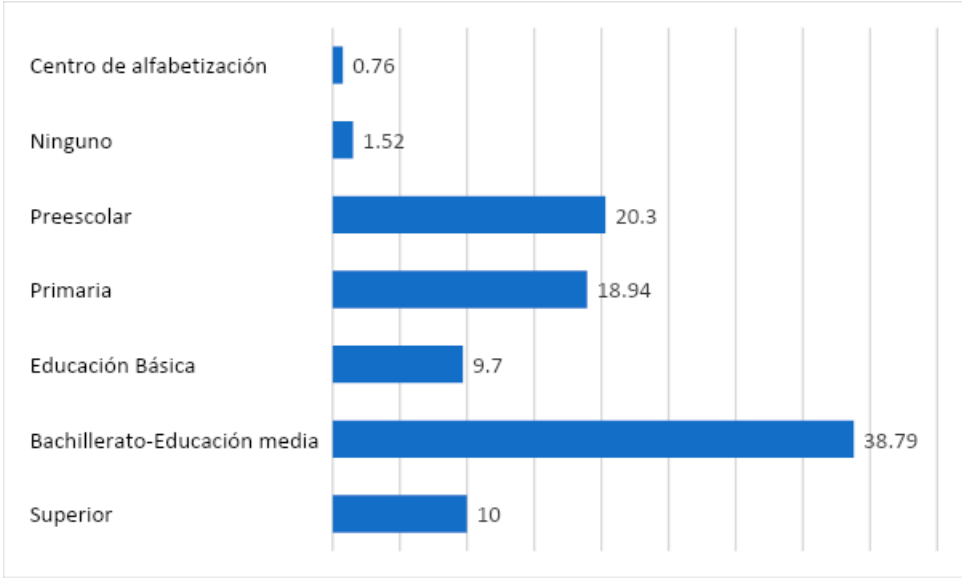
For helping with housework

School Failure

Due to lack of space

Figure 4. Causes of educational dropout in Machala (in percentage values %).

Educational desertion is not an exclusive phenomenon of Ecuador and the city of Machala, as a characteristic of Latin America. What is relevant is, in the high context of current globalization in the 21st century, education represents a central element to guarantee human development because it allows social integration and the construction of citizenship, as well as the generation of a potential tool to adapt to the constant changes that involve society connected by technology. As can be seen in Figure 5, the majority of the selected sample shows that almost 39% complete high school, however, the remaining 51% are below this educational level.



Literacy center

None

Preschool

Basic Education

Baccalaureate- Medium Education

Higher Education

Figure 5. Last Academic Level Achieved (Percentage Figures).

Situation that is even more problematic if one joins the age groups of the population in the city of Machala, which indicates that the largest number of population in the city is located in the age of professionalization in the range of 19 to 39 years of age. As shown in Figure 6.

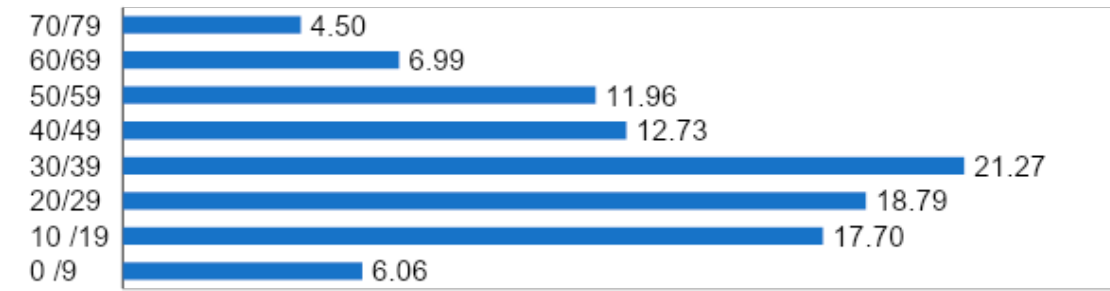


Figure 6. Age of the population in Machala (in percentage values).

Situation that does not occur with the illiteracy rate, which, according to the selected sample, shows a low level of illiteracy, since more than 90% of people know how to read and write, as can be seen in Table 5.

Table 5. Schooling.

	Can read and write		Schooled	
	Yes	No	Yes, has completed 10 years of basic education	No, is part of the formal education system
Neighborhood 1	94,8	5,2	53,1	77,1
Neighborhood 2	97,3	2,7	27,1	82,2
Neighborhood 3	98,3	1,7	27,1	93,8
Neighborhood 4	93,5	6,5	22,9	77,1
Neighborhood 5	95,8	4,2	17,8	82,2

Finally, and in relation to access to social security, Table 6 presents data that reflects significant differences in access to social security between the different neighborhoods, which may be indicative of socio-urban segregation. These disparities in access to social security are related to factors such as socioeconomic level, job quality, and educational opportunities in each neighborhood.

In Neighborhood 1, a relatively balanced access to social security is observed, with 49.1% of people with health insurance and 50.9% without it. However, in the other neighborhoods, there is a greater gap in access to social security, with a considerably higher percentage of people without health insurance. For example, in Neighborhood 2, only 14.7% have health insurance, while 85.3% do not have it. In Neighborhood 3, the proportion is 25.2% with insurance and 74.8% without it. In Neighborhood 4, 29.8% have health insurance and 70.2% do not have it. Lastly, in Neighborhood 5, only 13.5% have health insurance and 86.5% do not have it.

These differences in access to social security can contribute to socio-urban segregation, since people who do not have access to basic health services may face greater difficulties in terms of quality of life and well-being. In addition, the lack of access to social security can perpetuate and accentuate socioeconomic inequalities between different neighborhoods, which can lead to social exclusion and the fragmentation of urban spaces.

Table 6. Citizenship and health insurance.

Sector	Ecuadorian citizen		Health insurance	
	Yes	No	Yes	No
Neighborhood 1	99,2	0,8	49,1	50,9
Neighborhood 2	100	-	14,7	85,3
Neighborhood 3	100	-	25,2	74,8
Neighborhood 4	99,52	0,48	29,8	70,2
Neighborhood 5	100	-	13,5	86,5

CONCLUSIONS

Segregation in the big cities of Latin America is a determining factor for overcoming poverty. Urban socio-spatial segregation generates disparities in the provision of infrastructure, the deterioration of territorial units and access to public goods, which in turn imply weak social integration among the various groups in society, who are affected by problems such as accessibility and availability of basic services, the development of urban infrastructure, the low quality of public services available, little access to the formal job market, inability to start and finish a university degree.

In relation to the results obtained in the Machala neighborhoods analyzed, it was identified that the largest proportion of the population is between the ages of 10 and 39, which indicates a predominantly young population. However, a low percentage of people with university studies are observed, since only 10% of the population has completed this educational level. In most cases, educational dropout is explained by labor factors: young people enter the labor market and face difficulties in reconciling studies and work simultaneously.

This situation shows the need to address the problem of urban socio-spatial segregation, promoting public policies that guarantee effective access to goods and services to promote social inclusion and the integration of different social actors. In addition, it is essential to implement strategies to improve the quality of education and facilitate the access and permanence of young people in higher education, which will help break the cycle of poverty and generate development opportunities for the most vulnerable populations in the region.

REFERENCES

- Almandoz, A. (2013). *Modernización urbana en América Latina: De las grandes aldeas a las metrópolis masificadas*. RIL Editores. _
- Álvarez, L. (2019). *Derecho a la ciudad y acceso a los bienes urbanos en la ciudad de México. El movimiento urbano popular*. In, F. Carrión y M. Dammert (Ed.), *Derecho a la ciudad: una evocación de las transformaciones urbanas en América Latina*. (pp. 249-278). Espacio. _
- Ariza, P., & Carrión, A. (2021). *Ecología política urbana ante el cambio climático*. FLACSO. _
- Ayala, L. (2021). *Caracterización socio-espacial del plan de vivienda socio vivienda 2da etapa, cantón Guayaquil*. (Tesis de grado). Universidad de Guayaquil.
- Canelos, R. (2019). *La desigualdad espacial en Ecuador: un enfoque de brechas estructurales (2002-2017)*. (Tesis doctoral). Universidad de Alicante.
- Cruz, M. (2021). *Análisis composicional de la segregación socioespacial en la ciudad de Guadalajara, México*. (Tesis Doctoral). Universitat Politècnica de Catalunya.
- Dalmazzo, M. (2017). ¿Quién cuida en Bogotá, Colombia. In, M. Nieves y O. Segovia (Ed), ¿Quién cuida en la ciudad? Aportes para políticas urbanas de igualdad. (pp.281-312). CEPAL. _
- Domínguez, M. (2017). Las dimensiones espaciales de la segregación residencial en la ciudad de Mérida, Yucatán, a principios del siglo XXI. *Revista Península*, 12(1), 147-188.
- Domínguez-Valverde, K. S., Morejón-Ulloa, J. L., & Rodas-Beltrán, A. P. (2019). Segregación en los conjuntos habitacionales en la periferia de la ciudad de Cuenca, Ecuador. *Diseño Arte Y Arquitectura*, 1(7), 99–120. _
- Elorza, A. (2019). *Representaciones y prácticas en territorios urbanos segregados. Una mirada desde los pobladores de barrios de vivienda social en la ciudad de Córdoba (Argentina)*. In, J. Calderón y S. Aguiar (Ed), *Segregación socio-espacial en las ciudades latinoamericanas* (pp.53-70). TESEO. _
- Falchetti, C. (2019). *Inclusão social e expansão do mercado imobiliário na produção do urbano. Dilemas e contradições do Programa Minha Casa, Minha Vida*. In, J. Calderón y S. Aguiar (Ed), *Segregación socio-espacial en las ciudades latinoamericanas*. (pp.25-52). TESEO.
- Folgar, L. (2019). *Barrialidad costeña: comprender Ciudad de la Costa como realidad simbólico-ideológica*. In, F. Rehmann, A. Rodríguez, M. Viñar, A. Da Fonseca, M. Pérez, G. Machado, L. Bozzo, G. Pérez, G. Rivero, R. Yuliani, y D. Fagúndez (Ed), *Territorialidades barriales en la ciudad contemporánea* (pp.41-62). TEBAC. _
- Fonseca, C. (2020). *La selva de concreto: procesos de urbanización y planificación urbana en Florencia (Cauquetá, Colombia)*. (Tesis doctoral). Universidad Laval.
- Goicoechea, M., & Abba, A. (2020). *Geografías de la desigualdad en el nuevo milenio: los mapas sociales de la Buenos Aires metropolitana*. In, J. Martínez (Ed.), *Notas de Población*. (pp. 213-242). CEPAL. _
- Gomezjurado, C. (2019). *Modelo de desarrollo territorial: ¿Cómo revertir la expansión y segregación?*. In, G. Endara (Ed), *Quito: realidades, desafíos y alternativas*. (pp.141-170). PUCE y FES. _
- Hechem, A. (2018). El estado segregador: políticas públicas discriminatórias. *Risco Revista de Pesquisa em Arquitetura e Urbanismo (Online)*, 16(3), 27-44. _
- Janoschka, M., & Sequera, J. (2016). Gentrification in Latin America: addressing the politics and geographies of displacement. *Urban Geography*, 37(8), 1185-1192.
- Jordán, R., Rifo, L., & Prado, A. (2017). *Desarrollo sostenible, urbanización y desigualdad en América Latina y el Caribe: dinámicas y desafíos para el cambio estructural*. CEPAL. [s](#)
- Link, F., Valenzuela, F., & Fuentes, L. (2015). Segregación, estructura y composición social del territorio metropolitano en Santiago de Chile: Complejidades metodológicas en el análisis de la diferenciación social en el espacio. *Revista de Geografía Norte Grande*, (62), 151-168. _
- Macas, D. (2022). *Metodología para la planificación de espacios públicos en Corredores viarios urbanos que sean sostenibles para ciudades de hasta 300.000 habitantes*. (Tesis de maestría). Universidad Técnica de Machala.
- Mendoza, J. (2015). *Segregación habitacional étnica de la población afroecuatoriana en Guayaquil: 2001-2010*. (Tesis de maestría). FLACSO.
- Mendoza, O. (2021). *Morfología de bordes territoriales, segregación socioespacial e imaginarios urbanos: el caso de San Pedro Garza García, NL*. (Tesis de maestría). UANL.
- Orellana, D., & Osorio, P. (2014). Segregación socio-espacial urbana en Cuenca, Ecuador. *Analítica: revista de análisis estadístico*, (8), 27-38. _
- Peñalta, E. (2017). Crónicas de las ciudades intermedias. *Ángulo Recto: Revista de estudios sobre la ciudad como espacio plural*, 9(1), 60-64. _

- Pérez, G., Rodríguez, A., Ríos, C., y Recagno, M. (2019). *Emergentes de los momentos fundacionales de un centro cultural en el barrio Flor de Maroñas (Montevideo)*. In, F. Reherrmann, A. Rodríguez, M. Viñar, A. Da Fonseca, M. Pérez, G. Machado, L. Bozzo, G. Pérez, G. Rivero, R. Yuliani, y D. Fagúndez (Ed), Territorialidades barriales en la ciudad contemporánea. (pp.81-102). TEBAC. _
- Prada-Trigo, J. (2015). La regeneración urbana como solución a los problemas urbanos¿ solución real o espejismo? Algunas evidencias a partir de la ciudad de Machala. *Revista Anales*, 58.
- Rodríguez, M. (2018). Segregación residencial socioeconómica y fragmentación urbana: reflexiones, evidencias y propuestas. *Revista Iberoamericana de Urbanismo*, (14), 5-14. _
- Salinas, V., & Rodríguez, L. (2020). *Geografías de la desigualdad en el nuevo milenio: los mapas sociales de la Buenos Aires metropolitana*. In, J. Martínez (Ed.), Notas de Población. (pp. 77-104). CEPAL.
- Sautu, R. (2020). *Clases sociales en los cursos de vida*. In, R. Sautu, P. Boniolo, P. Dalle, y R. Elbert (Ed.), El análisis de clases sociales: pensando la movilidad social, la residencia, los lazos sociales, la identidad y la agencia. (pp. 77-104). Instituto de Investigaciones Gino Germani y CLACSO. _
- Segura, R. (2017). Desacoples entre desigualdades sociales, distribución del ingreso y patrones de urbanización en ciudades latinoamericanas. Reflexiones a partir de la Región Metropolitana de Buenos Aires (RMBA). *CS*, (21), 15-39. _
- Segura, R. (2019). *Barrio y ciudad, un viaje en dos direcciones*. In, F. Reherrmann, A. Rodríguez, M. Viñar, A. Da Fonseca, M. Pérez, G. Machado, L. Bozzo, G. Pérez, G. Rivero, R. Yuliani, y D. Fagúndez (Ed), Territorialidades barriales en la ciudad contemporánea. (pp.21-40). TEBAC. _
- Sepúlveda Morales, R. (2019). *Evolución de la segregación residencial: grupos ocupacionales y políticas de vivienda popular en el gran Santiago, 1960-2005*. (Tesis de grado). Universidad de Chile.
- Treuke, S. (2019). *A reprodução dos padrões de segregação residencial em Salvador (Brasil). Uma análise crítica das intervenções habitacionais do Estado ao exemplo de novos alagados*. In, J. Calderón y S. Aguiar (Ed), Segregación socio-espacial en las ciudades latinoamericanas. (pp.121-144). TESEO. _
- Vivas Pacheco, H. (2013). Persistencia de la segregación residencial y composición del capital humano por barrios en la ciudad de Cali. *Ensayos sobre Política Económica*, 31(70), 121-155. _
- Ziccardi, A. (2019). *Las nuevas políticas urbanas y el derecho a la ciudad*. In, F. Carrión y M. Dammert (Ed.), Derecho a la ciudad: una evocación de las transformaciones urbanas en América Latina. (pp. 61-94). Espacio.