Urban Resilience and Sustainability

Urban Resilience Sustainability, 3(1): 26–56.
DOI: 10.3934/urs.2025002
Received: 23 October 2024
Revised: 24 January 2025
Accepted: 10 February 2025
Published: 24 February 2025

http://www.aimspress.com/journal/urs

Theory article

Erasing roots: The impact of urban development on historical memory and identity in San Juan

Maria Helena Luengo-Duque*

Department of Design, University of Puerto Rico, CX33+8P9, Av. Universidad, San Juan, 00925, Puerto Rico

*** Correspondence:** Email: maria.luengo@upr.edu; Tel: +5719191177.

Abstract: The rapid urban development in San Juan, Puerto Rico, initiated by Operation Bootstrap in the late 1940s, has profoundly impacted the historical memory and identity of its inhabitants. This study examines the socioeconomic and cultural effects of transforming the El Fanguito and Tokio slums into the financial hub of Hato Rey. Through a combination of existing interviews and new testimonies, the research explores how the displacement of long-standing communities disrupted residents' sense of belonging and continuity. The findings reveal patterns of exploitation, cultural imperialism, and persistent neglect by the authorities. Despite the challenges, the current residents of Caño Martín Peña have maintained resilience and a collective identity, advocating for their rights and working towards a better future. This study underscores the need for urban planning that balances economic growth with heritage preservation, ensuring that development policies do not erase the cultural and social fabric of the communities.

Keywords: urban development; cultural displacement; historical memory; community identity; heritage preservation

1. Introduction

Urban development in San Juan, Puerto Rico, has significantly reshaped the city. Historically centered on sugar production, Puerto Rico's economy transitioned to industrial manufacturing after the sugar industry declined. This shift from rural to urban living brought profound lifestyle changes, leading to overcrowded slums as rural residents flocked to cities in search of better job opportunities.

These informal settlements starkly contrasted with the agrarian communities left behind, altering the physical landscape and eroding Puerto Rican society's cultural and social fabric [1].

Many migrants from rural areas face challenges affording housing in established neighborhoods, which often results in the emergence of self-settlements in unsuitable locations. These slums, built on unpermitted land, lacked basic infrastructure and services. This process spanned over six decades, starting with the migration period in the early 1900s due to the decline of agriculture, and continuing until modernization and development policies eradicated the slums in the 1960s [2]. The borders between Tokio, other slums around the Martín Peña Channel, and El Fanguito (the mudhole) were often unclear, with the entire area commonly referred to as El Fanguito due to its muddy, marshy terrain.

In *The Crime of El Fanguito* [3], Foster described the dire conditions of El Fanguito. This slum emerged in the early 20th century as a settlement for the urban poor in San Juan, Puerto Rico. Located over mosquito-infested marsh-tide flats beside the Martín Peña Channel, it initially consisted of a few hundred squatter houses. However, by the mid-20th century, it had rapidly expanded, housing an estimated 75,000 to 100,000 people, approximately half of San Juan's total population at the time. This dramatic growth was driven by the influx of peasants and agricultural workers displaced by economic hardships and the exploitation of Puerto Rico by American sugar corporations.

This research investigated the impact of urban development on the historical memory and identity of San Juan's inhabitants, focusing on the transformation of part of the El Fanguito and Tokio slums into La Milla de Oro (Golden Mile), The Colosseum, and other modern developments. By examining this redevelopment's socioeconomic and cultural effects, the study explored how the erasure of historical neighborhoods affects residents' sense of belonging and cultural continuity. Understanding the implications of these changes is crucial to avoid repeating past mistakes, where many communities were eradicated, taking with them part of the culture of their people.

The study utilized various data sources, including interviews with former residents, archival records, maps, and photographs, to provide a comprehensive understanding of how urban development has affected the historical memory and identity of San Juan's inhabitants. By highlighting the ongoing challenges of balancing economic growth with the protection of community interests and heritage preservation, this research aimed to contribute to more inclusive and sustainable urban planning practices. The main objectives were to analyze the impact of urban development on historical memory, examine the displacement of communities, assess the disruption of community identity, apply theoretical frameworks to urban redevelopment, and balance economic growth with heritage preservation.

Specifically, the study investigated how the transformation of El Fanguito and Tokio into La Milla de Oro has affected the historical memory of its residents and the broader Puerto Rican community. It explores the socioeconomic and cultural consequences of displacing long-standing communities in San Juan through urban redevelopment. It evaluated how the erasure of traditional neighborhoods has disrupted residents' sense of belonging and continuity, impacting their community identity. The research applied Henri Lefebvre's "right to the city", Mindy Fullilove's "root shock", Escobar's "development and underdevelopment", and Lee's "gentrification" theories to understand the sociocultural dynamics of urban redevelopment in San Juan. Additionally, it assessed the ongoing challenges of balancing economic growth with preserving community interests and cultural heritage in contemporary development policies.

2. Theoretical framework

Cities are not just a collection of buildings, roads, and parks. According to Henri Lefebvre, every inch of the city is a product of social interactions, power struggles, and historical processes [4]. Lefebvre's *The Production of Space* is a journey to understand how space is created and transformed. Lefebvre argues that space is not a passive backdrop for human activities. Instead, it is actively produced by society. Think of it like a stage where every actor (people, institutions, businesses) shapes the scenery. This means that space is dynamic and constantly evolving, reflecting its inhabitants' changing needs, desires, and conflicts. To explain how space is produced, Lefebvre introduced a triad of concepts:

• Spatial practice refers to the physical and material aspects of a space—how it is used and experienced in everyday life. For example, the way people commute, the layout of neighborhoods, and the design of public spaces all fall under spatial practice.

• Representations of space: These are the conceptual and symbolic aspects of space, often controlled by planners, architects, and policymakers, such as the way space is planned, mapped, and organized. Think of city blueprints, zoning laws, and urban planning documents.

• Representational spaces: The lived experience of space, filled with meanings, memories, and emotions. It is how people perceive and interact with their surroundings. For instance, a park might be seen as a place of relaxation and community gatherings, imbued with personal and collective memories.

One of Lefebvre's most influential ideas is the right to the city. He believed that all urban inhabitants should have a say in how their city is shaped and developed. This right goes beyond mere access to urban spaces; it includes the power to participate in decision-making processes that affect the city's future. Lefebvre's vision was for a more just and inclusive urban environment where everyone has a stake in its production.

Lefebvre also delves into the relationship between space and power. He argues that those who control space wield significant power over society. This control can manifest in various ways, such as gentrification, where affluent groups reshape urban areas to their advantage, often displacing marginalized communities. By understanding the production of space, we can better grasp the underlying power dynamics and work towards more equitable urban development [5].

Henri Lefebvre's theories on the production of space offer a vital framework for understanding the impact of urban development on historical memory and identity in San Juan. Lefebvre's idea that space is socially produced highlights how urban development displaces poor communities, prioritizing economic interests over the needs of marginalized populations. This often leads to the erasure of their collective memories and community values. By applying Lefebvre's concept of the "right to the city", this research underscores the exclusion of slum residents from the decision-making processes, resulting in their displacement and the disruption of their historical continuity.

Mindy Fullilove's groundbreaking theory of "root shock" [6], delves into the profound psychological and social upheaval caused by urban displacement. She illustrates how tearing apart city neighborhoods not only disrupts physical spaces but also shatters the intricate web of social ties, cultural memories, and the deep sense of belonging that residents hold dear. Fullilove argues that such forced relocations inflict a collective trauma on communities, akin to the shock experienced when a plant is uprooted. Her work underscores the importance of mutual aid and community-driven solutions to rebuild and heal these fractured urban landscapes. By advocating for policies that prioritize the

preservation of social fabric and cultural heritage, Fullilove envisions cities where every resident can thrive and feel at home.

Fullilove's root shock theory explores several key themes:

• Psychological trauma: Root shock describes the profound psychological trauma experienced by individuals and communities when they are forcibly displaced from their homes. This trauma is akin to the shock a plant experiences when uprooted, leading to a loss of stability and security.

• Disruption of social networks: Displacement disrupts the intricate web of social relationships that provide emotional and practical support. This loss can lead to feelings of isolation, anxiety, and depression among displaced individuals.

• Loss of cultural memory: Forced relocation often results in the loss of cultural landmarks and community traditions that are integral to a community's identity. This erasure of cultural memory can weaken the sense of belonging and continuity.

• Economic hardship: Displacement frequently leads to financial instability, as individuals lose access to jobs, affordable housing, and other resources. This economic hardship can exacerbate existing inequalities and hinder recovery.

• Community resilience and mutual aid: Despite the trauma of displacement, communities often exhibit remarkable resilience. Fullilove emphasizes the importance of mutual aid and community-driven solutions in rebuilding and healing after displacement.

Fullilove's root shock theory provides a compelling framework to examine the transformation of Hato Rey into a modern district following the eradication of its slums. By exploring the psychological and social impacts of displacement, Fullilove's work highlights the profound disruptions experienced by communities uprooted from their homes.

This phenomenon is part of a broader trend in which global architectural practices overshadow local traditions and cultural expressions, resulting in a loss of diversity in the built environment. This homogenization diminishes the rich cultural heritage, as traditional structures are replaced with modern ones that lack historical and cultural significance. However, some architects challenge this trend by advocating for culturally sensitive designs. For instance, Diébédo Francis Kéré emphasizes the importance of respecting and incorporating local traditions. Kéré's work demonstrates that modern architecture can honor and preserve cultural heritage, offering a powerful counter-narrative to the homogenizing tendencies of global architecture [7].

Arturo Escobar [8] critiques development as a top-down, ethnocentric approach that marginalizes local communities and exacerbates inequalities. In his view, development is often imposed by external actors who prioritize economic growth over the wellbeing of local populations. This perspective is crucial for understanding the redevelopment of El Fanguito and Tokio into La Milla de Oro. Escobar argues that such development projects, driven by economic interests, often lead to the displacement of long-standing communities and the erosion of their cultural heritage.

Escobar's critique of development highlights the power dynamics at play in urban redevelopment. He emphasizes that development is not a neutral process but is deeply embedded in historical and cultural contexts. By imposing a one-size-fits-all model of development, policymakers often overlook local communities' unique needs and aspirations. This can result in the loss of cultural identity and social cohesion as communities are uprooted and dispersed. By applying Escobar's critique to the case study, this research aimed to shed light on the sociocultural dynamics of urban redevelopment and the need for more inclusive and equitable development policies.

Loretta Lees' work [9] on gentrification provides a crucial framework for analyzing the socioeconomic impacts of urban redevelopment. She identifies key elements, such as the reinvestment of capital, social upgrading by incoming high-income groups, landscape change, and the displacement of low-income residents. These dynamics are evident in the transformation of El Fanguito, where real estate pressures and economic interests led to the displacement of long-standing communities and the creation of a financial hub catering to wealthier populations.

Lees emphasizes that gentrification is not merely about physical upgrades but also involves significant social and economic shifts. The influx of wealthier residents drives up property values and rents, often displacing lower-income residents and disrupting the social fabric. By applying Lees' framework to San Juan, this research highlights the need for inclusive and equitable development policies that balance economic growth with preserving community interests and cultural heritage. Understanding gentrification's dynamics is essential for addressing the challenges faced by displaced communities and ensuring that urban development benefits all residents.

The combined perspectives of Henri Lefebvre, Mindy Fullilove, Arturo Escobar, and Loretta Lees offer a comprehensive understanding of the multifaceted impacts of urban redevelopment. These scholars have highlighted the need to balance economic growth with the preservation of community interests and cultural heritage, ensuring that urban development benefits all residents and respects the historical and social fabric of the city. By integrating these theoretical frameworks, this research aimed to provide a nuanced analysis of the sociocultural dynamics at play in the transformation of San Juan, advocating for development policies that prioritize the wellbeing and identity of its inhabitants.

3. Methods and data sources

3.1. Study area overview and data sources

San Juan, the capital city of Puerto Rico, has undergone significant urban development, particularly since the mid-20th century. This study focused on the eradication of El Fanguito ("The Mudhole") and Tokio and their transformation into La Milla de Oro ("The Golden Mile"), a modern financial district in Hato Rey, San Juan. These areas were chosen due to their historical significance, the scale of displacement, and the profound changes they brought to the community's social fabric and cultural heritage. The transformation of these areas serves as a prime example of urban redevelopment's socioeconomic and cultural impacts, making San Juan an ideal case study for this research.

The historical context of slavery in the Americas, particularly in the Caribbean, plays a crucial role in understanding the socioeconomic dynamics of San Juan. The legacy of slavery, segregation, and systemic inequalities has deeply influenced the region's social and economic structures. This case study is critical because of the geography of color and the persistent racial and economic disparities. The exploitation relationship with external capital, as highlighted in *The Crime of El Fanguito*, underscores the historical and ongoing challenges faced by Puerto Rican communities. Understanding this past is essential to addressing the current issues of gentrification and preventing further displacement of vulnerable communities.

To comprehensively analyze the effects of urban development on historical memory and community identity, this study utilized a variety of data sources.

- **Documentary sources:** Historical records, government documents, and urban planning reports related to the development of La Milla de Oro.
- **Academic literature:** Books and articles discussing urban development, cultural displacement, and historical memory.
- **Interviews and anecdotes:** Transcripts of existing and new interviews with former residents of the Martin Peña Channel community (linked to El Fanguito and Tokio).
- **Maps and photographs:** Historical maps and photographs documenting the transformation of El Fanguito into La Milla de Oro.

3.2. Research approach

This research employed an in-depth qualitative case study approach to explore the socioeconomic and cultural impacts of urban redevelopment in San Juan. By examining the colonial and exploitation dynamics, this study highlights how historical relationships and power structures have led to the persistent discrimination and exploitation of the most disadvantaged groups in society. This exploitation has created a cycle of injustices, where the same communities that have suffered displacement for generations now face gentrification.

Through archival and documentary reviews, contrasted with interviews, this approach navigates the problem of displacement and its history, as well as the consequences on memory, identity, sense of belonging, and cultural damage. The voices of the people, captured through interviews, provide a deep understanding of the most important stages of the displacement process and its sociocultural impacts. This approach allows for a detailed examination of the specific context and its broader implications, providing a comprehensive understanding of the effects of urban development on historical memory and community identity.

By analyzing these patterns, the study aimed to illuminate the enduring impacts of colonialism and the ongoing challenges faced by marginalized communities in Puerto Rico. This comprehensive approach ensures a multifaceted examination of the socioeconomic and cultural impacts of urban redevelopment, offering valuable insights into the complex interplay between historical forces and contemporary urban dynamics.

3.3. Data collection methods

To comprehensively analyze the socioeconomic and cultural impacts of urban redevelopment in San Juan, this study employed a variety of data sources and methods. The focus on the transformation of El Fanguito and Tokio into La Milla de Oro provides a rich context for examining the historical and contemporary dynamics at play. By understanding the legacy of slavery, segregation, and systemic inequalities, as well as the ongoing exploitation relationships with external capital, this research aimed to shed light on the persistent racial and economic disparities in Puerto Rico. The following data collection methods were designed to capture the multifaceted nature of these issues and provide a thorough understanding of the impacts on community memory and identity.

- **Documentary sources:** Historical records, government documents, and urban planning reports related to the development of La Milla de Oro provide essential background information and a context for understanding the transformation of El Fanguito and Tokio. Additionally, documents that

highlight the colonial relationship between Puerto Rico and the United States, and its impact on urban development and displacement, were reviewed.

- **Academic literature:** Books and articles discussing urban development, cultural displacement, historical memory, and the legacy of slavery and segregation in the Caribbean. This literature helps frame the research within the existing academic discourse and provides theoretical foundations for the analysis. Special attention will be given to works that explore the colonial dynamics and their socioeconomic impacts on marginalized communities.
- **Interviews and anecdotes:** Oral histories collected through interviews with former residents of the Martín Peña Channel (linked to El Fanguito and Tokio), capturing their personal experiences and perspectives on displacement and redevelopment. These include existing interviews conducted by University of Puerto Rico students and the Puerto Rico Historic Building Drawings Society, and new interviews with residents of Barrio Obrero and Villa Palmera, and two architects and developers. These oral histories provide a rich, qualitative understanding of the human impact of urban redevelopment, with a focus on the historical and ongoing effects of colonialism.
- **Maps and photographs:** Historical maps and photographs documenting the transformation of El Fanguito into La Milla de Oro. These visual materials help trace the area's physical changes and provide a tangible record of the redevelopment process. Maps and photographs that illustrate colonial-era developments and their long-term impacts on urban planning were also included.
- **Comparative analysis of building typologies:** A comparison of traditional houses, slum housing, and public housing projects. This analysis highlights the architectural and social differences among various types of housing and their implications for community identity. The analysis also considered how colonial policies have shaped housing developments and contributed to socioeconomic disparities.

By integrating these methods and data sources, this study aimed to provide a comprehensive understanding of how urban development in San Juan has affected its inhabitants' historical memory and identity. The combination of documentary analysis, archival research, comparative analysis, and oral histories ensures a multifaceted approach to examining the socioeconomic and cultural impacts of urban redevelopment. Central to this approach is the examination of the historical colonial relationship between Puerto Rico and the United States, highlighting how this dynamic has perpetuated cycles of exploitation and discrimination. This focus provides a deeper insight into the enduring impacts of colonialism on marginalized communities and the ongoing challenges they face. Ultimately, this methodology offers a robust framework for understanding the complex interplay among urban development, historical memory, and community identity in the context of colonial legacies.

4. Historical context

In the mid-20th century, El Fanguito was a sprawling, mud-filled shantytown along the Martín Peña Channel, home to thousands of impoverished families living in dire conditions. El Fanguito was established by people migrating from the Puerto Rican countryside in search of jobs and better opportunities after the drastic decline in sugar cane production. These migrants filled the Martín Peña Channel with debris from the sugar cane fields, leading to the formation of communities such as Las Monjas, Buenavista 1, Buenavista 2, and Cantera, all located around the Martín Peña Channel. According to various sources, El Fanguito extended from Parada 22 in Santurce to San José in Río Piedras. The area now known as Hato Rey, including La Milla de Oro and Colosseum, was once part

of the slums of Tokio and El Fanguito. The government's urban renewal policies aimed to eradicate such slums. Hato Rey was targeted by urban planners and political forces aiming to modernize San Juan. The "Distritos M" or Rehabilitation–Conversion Districts was a key strategy. These districts were designed to stimulate economic growth and curb the spread of informal settlements. Hato Rey was envisioned as a commercial hub. The development plans included modern infrastructure, high-rise buildings, and business centers. This transformation was intended to attract investment and elevate San Juan's status as a modern city.

Figure 1 shows a map taken from the 1956 Regional Plan for the San Juan Metropolitan Area, highlighting El Fanguito and Tokio, marked as "District M." This designation identified areas for redevelopment to tackle problems like overcrowding and inadequate infrastructure.

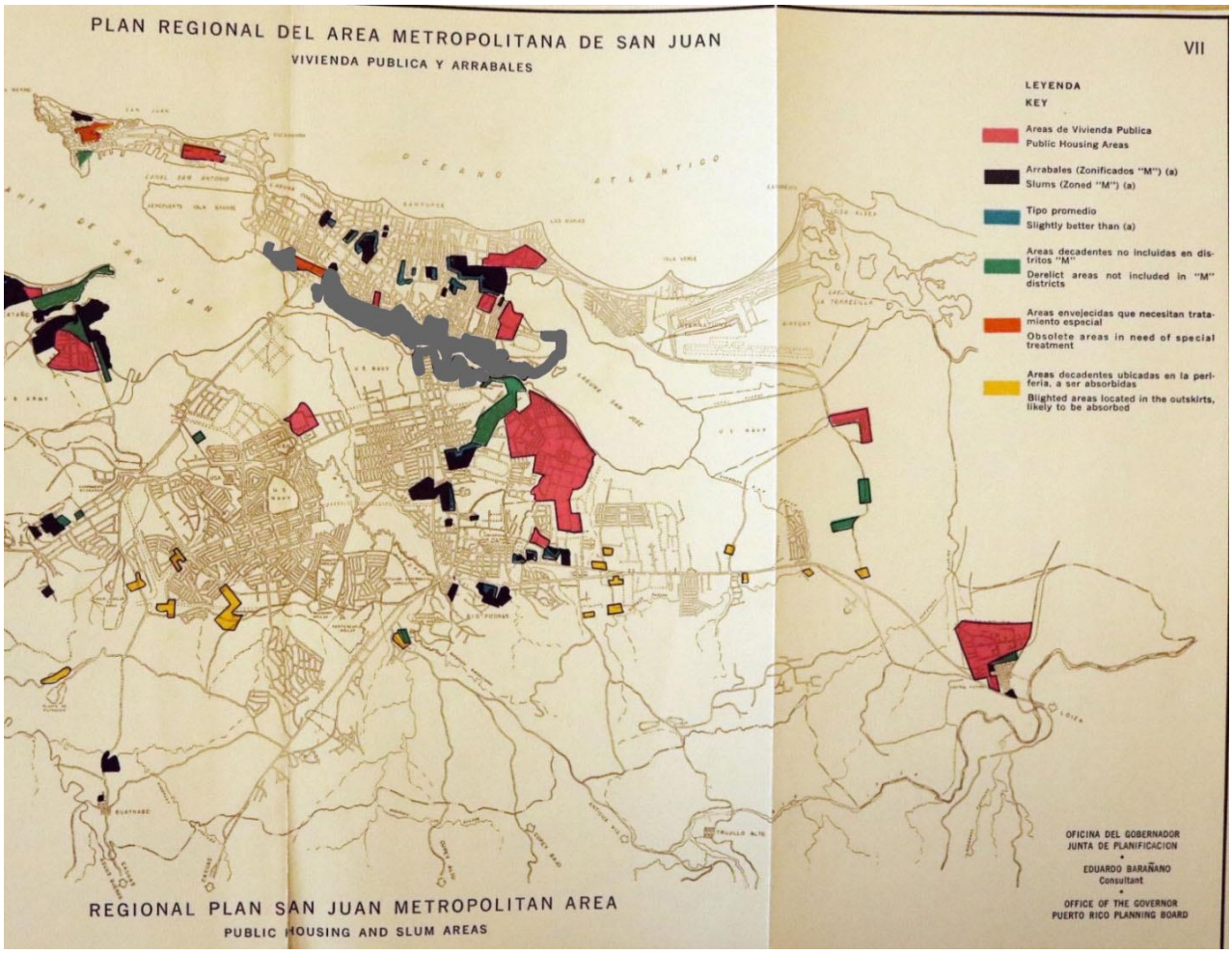


Figure 1. Regional plan of the San Juan Metropolitan Area [10].

As shown on the map (Figure 1), in 1956, the metropolitan area of San Juan had many areas designated as "District M" or slum areas. These districts were in regions of high real estate interest. The purpose of District M was to completely redevelop these areas into financial, commercial, and residential zones for different populations. This redevelopment often displaced long-term residents, moving them to distant locations, far from their jobs and communities. Figure 2 shows the study area. On the right, there's a picture from 1966 with the Martín Peña Channel surrounded by slums. On the

left, a picture from 2024 shows that El Fanguito and Tokio have disappeared. The financial district, known as the "Golden Mile", now occupies the area where Tokio once was, and other developments and parks have replaced El Fanguito.

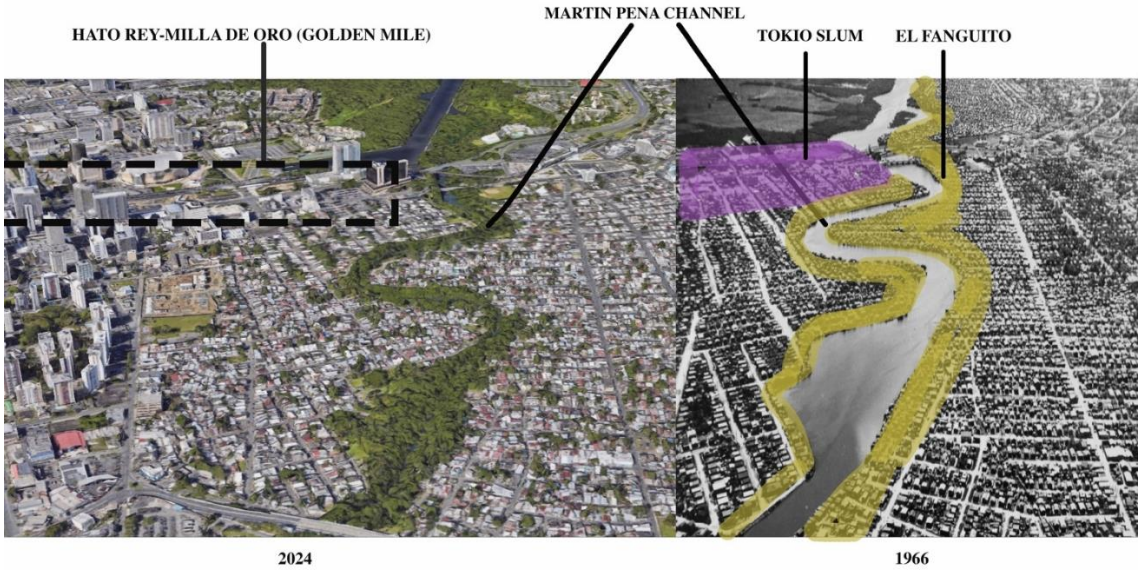


Figure 2. Photos of the study area in 2024 and 1966 [11,12].

El Fanguito and the slum of Tokio were among the first areas targeted for redevelopment under the "Distritos M" designation in the 1950s. This initiative aimed to clear slums and promote urban development, displacing approximately 3000 families. The designations of "Distritos M" and "Zonas de Arrabal" provided these displacements' technical and legal framework.

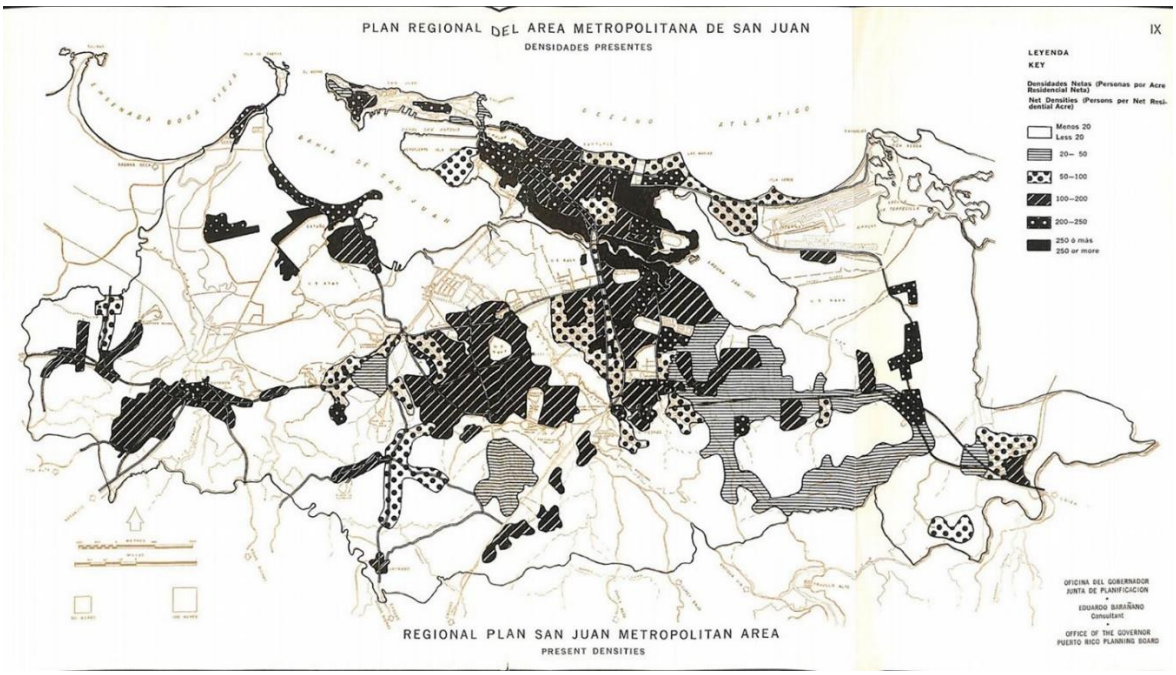


Figure 3. Net densities (persons per net residential acre) [10].

Figure 3, taken from the regional plan for the San Juan Metropolitan Area in 1956, shows the population densities. The area around the Martín Peña Channel had the highest population density.

The timeline (Figure 4) outlines the evolution of El Fanguito. It traces the settlement's growth from its initial formation in the early 20th century through to its peak population in the 1940s and to its eventual eradication. The timeline highlights key events and government actions that shaped the transformation of El Fanguito and its impact on the community. The timeline primarily refers to El Fanguito, but it should be understood as representing the main area of the slums surrounding the Martín Peña Channel, including Tokio.

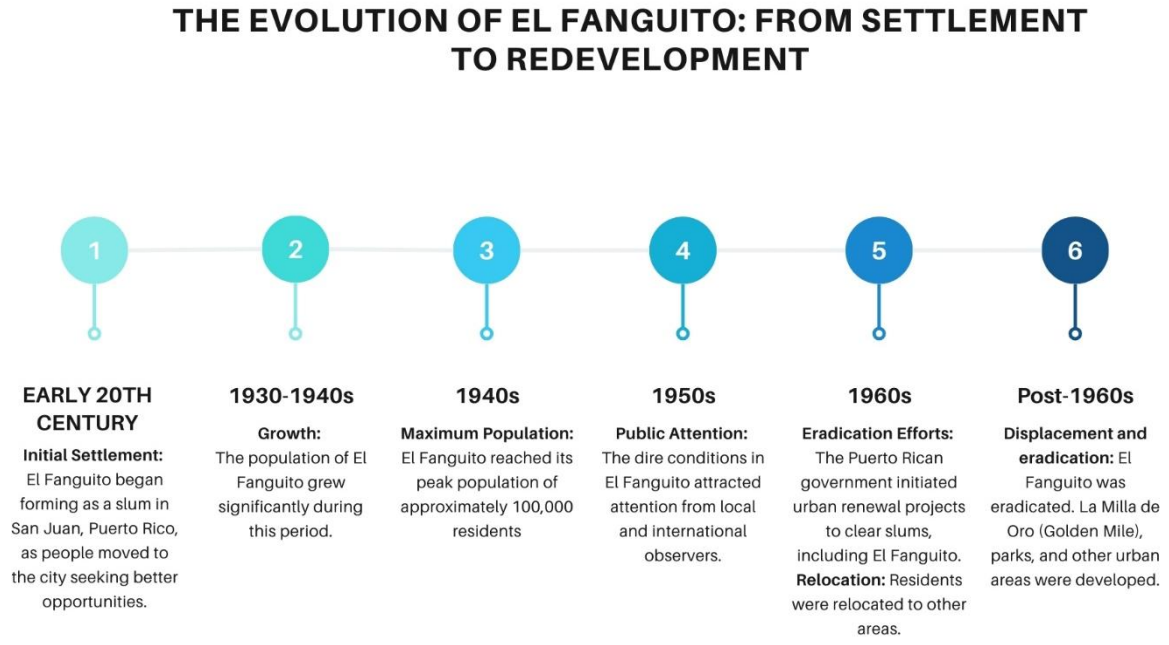


Figure 4. Timeline of El Fanguito [2].

This transformation raises a critical question: How can the replacement of Tokyo and El Fanguito with the thriving center of Hato Rey not be seen as a significant improvement for the city of San Juan?

El Fanguito, prone to flooding, had houses made from makeshift materials, lacking proper sanitation, garbage collection, and water supply, leading to severe health issues like tuberculosis and malaria. Despite these conditions, the residents showed resilience by improving their environment and maintaining community solidarity. However, they faced constant eviction threats and government neglect. The case of El Fanguito was not only denounced and analyzed but also spurred significant actions. In *The Crime of El Fanguito*, William Z. Foster [3] highlighted how US colonial policies and economic exploitation led to the creation of slums like El Fanguito. Lilliana Cotto Morales [13] further examined the dynamics and movements that emerged in response to the housing crisis of the late 1960s and early 1970s. In this context, the *rescatadores*, or land rescuers, took bold action by collectively occupying unused land to establish makeshift communities almost overnight.

Cotto Morales highlighted the strategic and morally driven efforts of the *rescatadores*, who, despite being labeled as "invaders" by the state and media, viewed their actions as rightful recoveries of land for the public good. Their organized occupations aimed to secure shelter and assert rights,

challenging systemic inequalities. The movements garnered broad support from professionals, students, and political parties but faced significant opposition from the government and private landowners. Cotto Morales illustrated how these land rescues marked the first significant urban poor movement in 20th-century Puerto Rico, emphasizing the power of collective action and community solidarity in the fight for social justice and housing rights.

Many free people of color played a significant role in developing the self-settlements initiated by freed slaves and cimarrones (escaped slaves) in metropolitan areas, particularly in Santurce, due to its proximity to various industries [14]. These settlers occupied mangrove areas because the land was cheaper and less desirable to others [15].

The abolition of slavery in 1873 freed around 29,000 slaves, about 5% of Puerto Rico's population. However, this newfound freedom came with significant drawbacks for the Black community, who faced systemic discrimination and limited access to resources. Despite the legal end of slavery, racial and social hierarchies persisted, impacting the socioeconomic landscape of San Juan [16].

Real estate practices and housing policies in the United States, including Puerto Rico, have historically segregated African American communities [17]. Redlining systematically denied mortgage loans and insurance to minority neighborhoods, cutting off access to homeownership and wealth-building opportunities. Restrictive covenants in property deeds prevented the sale of homes to Black families, maintaining racial homogeneity in white neighborhoods. Urban renewal projects, often labeled as "slum clearance," disproportionately targeted minority neighborhoods, displacing residents and prioritizing commercial development over affordable housing. These practices have long-term consequences on wealth inequality, perpetuating generational economic disparities.

Race and class discrimination were common in Puerto Rican newspapers for decades (as shown in Figure 5). Black people, rural inhabitants, and the poor were often mocked. These three qualities were combined in characters that highlighted their speech and manners to ridicule them.

Figure 5. Racism in Puerto Rico Newspapers comics [18,19].

The racial and class discrimination in Puerto Rican newspapers had several notable effects on society.

- **Reinforcement of stereotypes**: By ridiculing Black people, rural residents, and the poor, the media perpetuated harmful stereotypes. This led to a societal belief in the inferiority of these groups, fostering discrimination and social exclusion.
- **Social hierarchy**: The negative portrayal of these groups helped sustain a strict social

hierarchy. The correlation between darker skin and lower economic status, and lighter skin with higher status, reinforced racial and class divisions.

- **Psychological effects**: The constant mockery and negative depiction harmed the self-esteem and identity of the affected groups. Such media representation can result in internalized racism and feelings of inferiority among marginalized individuals.

Overall, the discriminatory practices in the media influenced the racial and social dynamics of Puerto Rican society, reinforcing existing inequalities while also sparking resistance and efforts toward greater inclusivity. The newspaper excerpts from "El Mundo" (1969 and 1971) clearly illustrate the racial geography of the time, associating people with specific places based on their skin color. Figures 6 and 7 provide evidence of this segregation.

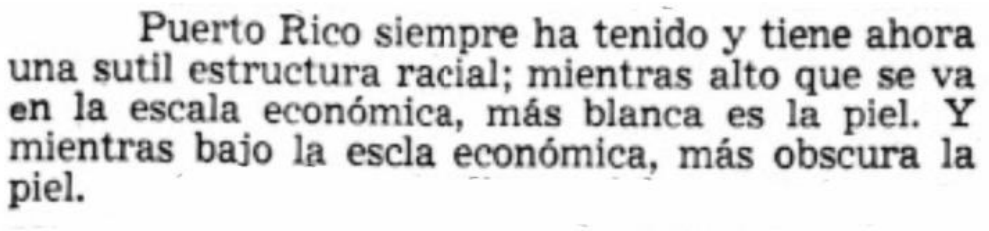
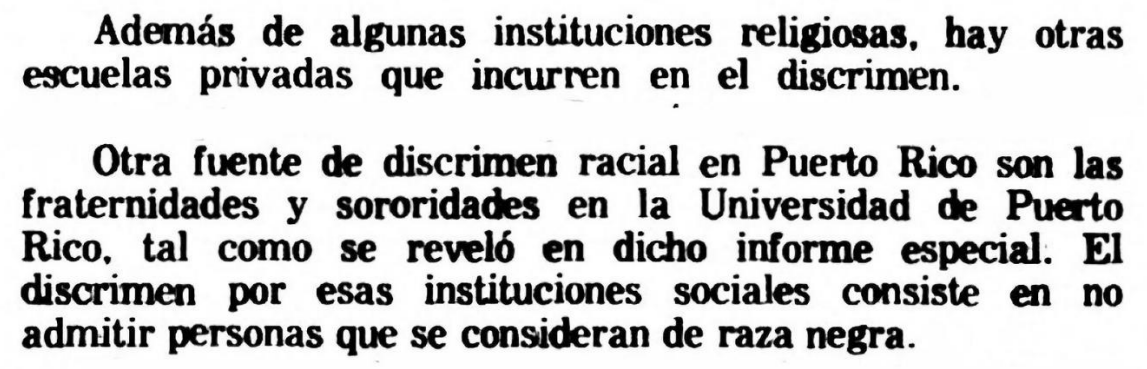

Puerto Rico siempre ha tenido y tiene ahora una sutil estructura racial; mientras alto que se va en la escala económica, más blanca es la piel. Y mientras bajo la escla económica, más obscura la piel.

Figure 6. Racial social structure in Puerto Rico [20].

"Puerto Rico has always had, and still has, a subtle racial structure; the higher one goes on the economic scale, the whiter the skin. And the lower on the economic scale, the darker the skin."


Además de algunas instituciones religiosas, hay otras escuelas privadas que incurren en el discrimen.

Otra fuente de discrimen racial en Puerto Rico son las fraternidades y sororidades en la Universidad de Puerto Rico, tal como se reveló en dicho informe especial. El discrimen por esas instituciones sociales consiste en no admitir personas que se consideran de raza negra.

Figure 7. Racism in Puerto Rico's institutions [21].

"In addition to some religious institutions, other private schools engage in discrimination… Another source of racial discrimination in Puerto Rico is the fraternities and sororities at the University of Puerto Rico, as revealed in the special report. The discrimination by these social institutions consists of not admitting people who are considered to be of the Black race."

Discrimination went far beyond mocking skin color or hindering socioeconomic advancement by denying access to education and jobs. It also included prohibiting cultural expressions, which even reached legal levels. These bans aimed to erase their roots and cultural legacy.

«Queda expresa y terminantemente prohibido el sacar el instrumento denominado "bomba" o algún otro semejante, así como cantar o bailar con dicho instrumento, en plazas, paseos o cualquier otro paraje público de la municipalidad».
–La democracia, 5 de enero de 1906

Figure 8. "Bomba" dance, Puerto Rico [22].

In the quote from the newspaper shown in Figure 8, it can be read that: "It is expressly and strictly prohibited to take out the instrument known as 'bomba' or any similar instrument, as well as to sing or dance with the said instrument, in plazas, promenades, or any other public places within the municipality." (*La Democracia*, 5 January 1906).

5. Urban displacement

Government policies aimed at urban renewal led to the transformation of El Fanguito and Tokio. Residents who had long endured inadequate housing and infrastructure were relocated to newly constructed public housing projects [15]. This move was not just a physical transition but a significant shift in their way of life. The new housing projects offered improved living conditions with better access to essential services and a more structured environment. However, this relocation also meant leaving behind a tight-knit community and adapting to a new social landscape.

Despite the US government's New Deal efforts to alleviate poverty in Puerto Rico during the Great Depression, the island's urban shantytowns continued to swell, revealing a stark contrast to the relative improvements seen on the mainland. *The New Old Deal: Colonial Social Welfare and Puerto Rican Poverty during the Great Depression* [23] delves into the paradox of Puerto Rican poverty amidst federal aid, highlighting how racial and class-based exclusions, coupled with local resistance and inadequate funding, perpetuated the island's poverty. While policymakers in Washington began to view Puerto Ricans as deserving "white" citizens, the reality on the ground was a persistent struggle against entrenched poverty and exploitation by the American sugar industry.

Vanasse Torres [2] examined how modernization efforts, driven by both governmental policies and economic pressures, led to the systematic eradication of slums and the forced displacement of marginalized communities. The narrative highlights the duality of progress, where the promise of modernity and prosperity often came at the cost of uprooting established neighborhoods and erasing

cultural identities. The drive for modernization often meant prioritizing infrastructure projects, commercial developments, and urban beautification, all seen as crucial for economic growth and aligning San Juan with global urban trends.

Helen I. Safa [24] challenged the "culture of poverty" theory, arguing that structural factors—such as economic policies and social inequalities—play a crucial role in perpetuating poverty. Through her ethnographic approach, Safa provides a comprehensive perspective on how these structural factors influence the urban population's daily lives and social dynamics and highlights how these structural issues create and sustain poverty rather than being a result of individual failings.

The once-celebrated development model that prioritized sanitizing and modernizing urban spaces by displacing communities is now under critical scrutiny. For years, San Juan's urban development projects, which enthusiastically promoted new roads, high-rise buildings, and the eradication of slums as symbols of progress and prosperity, lacked a thorough critical analysis. This oversight is now being addressed as the long-term impacts on displaced communities and the loss of historical memory come to light.

6. Sense of place and belonging: Stories of identity and loss

Based on the interviews presented in *Puerto Rican Houses in Sociohistorical Perspective* [25], several key points highlight the deep sense of community and cultural significance in El Fanguito:

- **Community design**: Houses with outward-facing windows and balconies maintained a connection with the outside world.
- **Communal spaces**: Corridors and open spaces were vital for gatherings, children's play, and social interactions.
- **Mutual support**: Despite lacking basic services, the community thrived on shared resources and mutual aid.
- **Sense of belonging**: Open spaces and walkable roads were integral to the social fabric, fostering a strong sense of belonging.
- **Parental oversight**: Home designs allowed parents to watch their children, promoting openness and community.
- **Impact of relocation**: Moving to new social housing projects without communal spaces led to feelings of isolation and disconnection from their vibrant community life.
- **Cultural practices**: Communal gatherings, festivals, and shared meals were hard to maintain in the new housing, affecting social cohesion and cultural practices.

In *Historia Oral del Caño Martín Peña* [26], residents of Caño Martín Peña, some of them former inhabitants of El Fanguito, highlighted the importance of their community. They expressed that their community is everything to them and they do not want to move, despite ongoing social and environmental problems. Some houses close to the channel are affected by flooding during heavy rains, and others are sinking due to the swampy terrain. However, they appreciate having everything nearby. The Martín Peña Channel is in the middle of San Juan City, allowing them to access everything they need without a car. They have lived there for several generations and have a strong sense of belonging. The government's options for them involve moving to isolated housing projects outside the urban area, which lack the benefits of their current location. Despite this, they continue to face neglect from the government.

Insights from a public Facebook page, Puerto Rico Historic Building Drawing Society [27,28] reveal patterns that closely mirror those observed in *Puerto Rican Houses in Sociohistorical Perspective* about El Fanguito.

- **Nostalgia and connection**: Commenters frequently expressed a deep sense of nostalgia and connection to El Fanguito, highlighting its vibrant community spirit despite challenges.
- **Community spirit**: Users noted the "tight-knit community" and "sense of belonging" that prevailed despite the difficult living conditions.
- **Cultural richness**: Reflections on the "cultural richness" and "unique traditions" that were integral to daily life.
- **Loss of history**: Many felt their history was erased after the community's displacement.
- **Changing society**: Some noted that today's society feels more egocentric, with less care and awareness for others.
- **Oral traditions**: The community was rich in oral traditions, with stories, folklore, and communal knowledge passed down through generations.
- **Communal spaces**: Emphasis on the importance of spaces for communal activities, gardens, and architectural elements reflecting cultural heritage.
- **Impact of relocation**: Relocation fragmented these communities, leading to a decline in the transmission of oral traditions and communal knowledge.

6.1. Media and visual evidence of community voices

The media of that time captured the voices of the community, who strongly opposed being displaced from their homes. An extract from *El Mundo* newspaper from 1949 (Figure 9) indicates that "Mayor Rincón had to intervene to organize the discussion about the declared area in the slum zone. The petition of the Housing Authority to the Planning Board to declare El Fanguito a slum was ardently fought yesterday during the notable public meeting by more than 800 residents who attended it.

Alcaldesa Rincón Tuvo que Intervenir Para Organizar la Discusión Sobre Declaración Area en Zona de Arrabal

Por S. Gálvez Maturana

La petición de la Autoridad Sobre Hogares a la Junta de Planes para que la zona de El Fanguito fuera declarada zona de arrabal, fué combatida arduamente ayer, durante la vista pública celebrada, por más de 800 residentes que asistieron a la misma.

Figure 9. Protest by residents of El Fanguito against declaring the area a slum zone [29].

Figure 10 (from the report) highlights the efforts of the G-8, a group of eight communities currently residing in the Martín Peña Channel, dedicated to preserving the communities around the Martín Peña Channel, emphasizing the importance of community participation and awareness in preventing displacement. It details the social injustices faced by residents of El Fanguito and Tokio, who lived in inadequate conditions and were eventually displaced without efforts to preserve their

community bonds. Despite these challenges, the inhabitants of the Martín Peña Channel maintained a strong sense of belonging and resilience, with deep-rooted connections and a collective identity that empowered them to advocate for their rights and work towards a better future.

Figure 10. Protest by communities currently placed in the surrounding of Martin Peña Channel against displacement [30].

6.2. New testimonies

Interviews with the residents of Barrio Obrero and Villa Palmera, located in the Martín Peña Channel and closely linked to El Fanguito and Tokio due to their proximity and shared roots, revealed a deep connection to their community. These communities were intertwined through family ties, friendships, and shared services such as schools and churches. The interviews highlighted that people from El Fanguito and Tokio came from different parts of the island but had to fight for their lives together, ultimately becoming like family in the process. These quotes from the interviews provide a better understanding of the thoughts and feelings of the people about the eradication of the slums and the ongoing challenges they face.

- "Life was not easy for my parents, but everyone was in the same condition. Neighbors took care of each other, shared resources, and fought together for their needs and rights."
- "Employers gave us materials to fill the channel but no help with basic services."
- "Music was a way to cope with the difficulties. There are a lot of plenas and bombas (typical Puerto Rican music with African roots) that were used as a way of communication, to preserve history, to protest, and to remind us of our needs and roots."
- "We went through systemic exploitation, treated as a necessary evil, providing cheap labor but not considered visually acceptable."
- "My dad was Black and my mom white. He was never accepted by my mom's family. That was the story of a lot of families in the Channel."

- "Black workers had a path to take merchandise from the port to the city, and the path had a gate to prohibit Black people from entering the city. Black people faced a lot of racism, and the church played an important part. The government had a plan to turn the population white and moved Black people away from Santurce [part of Martín Peña Channel is in Santurce], so the church received help to buy land here."
- "My community means everything to me. I was born here, like my mom, and my grandma moved here as a child."
- "We grew up as a family, knowing and caring for each other, sharing both difficulties and happy moments. We belong to this place and deeply feel the loss and void of those who had to move. Some even passed away, likely due to the sadness and difficulties they faced, which aren't reflected in the statistics."

Patterns identified through existing and new interviews included the following.

- **Exploitation**: When residents moved from the countryside to the city, industries needed cheap workers and hired them without considering their needs, leading to systemic exploitation.
- **Displacement without consent**: Residents built strong bonds with their community and surroundings. They lived close to their workplaces, but when real estate developers became interested in their areas, they were forced to move without participating in the decision-making process.
- **Neglect by authorities**: Despite having strong communities and gaining national and international recognition through community projects, residents still suffer from government neglect. When they need more power lines, water pipes, or other services, they do not receive them. In contrast, nearby housing projects receive more attention, creating resentment and division, which affects the community and potential alliances.
- **Racism**: Many residents faced racial discrimination, both historically and in contemporary times. This included segregation and systemic efforts to marginalize Black communities.
- **Cultural imperialism:** People relocated to the housing projects were forced to abandon their traditional lifestyles and cultural practices. They were prohibited from practicing their religion, such as lighting candles, setting up sanctuaries, and other syncretic religious manifestations rooted in African traditions. They could no longer grow crops or keep chickens, activities that had been part of their way of life for generations.
- **Resilience**: Despite these challenges, the residents demonstrated remarkable resilience, maintaining strong community bonds and continuing to advocate for their rights and better living conditions.

7. Transforming tides: Gentrification at Martín Peña Channel

The maps (Figure 11) illustrate significant changes in the Martín Peña Channel and the surrounding areas from 1940 to 2024, highlighting the growth of slums like El Fanguito and Tokio, and the consequent reduction of the channel due to land occupation and infilling. The 1940 map shows the initial state before urban encroachment, the 1965 map shows substantial portions filled in, and the 2024 map reflects urban developments like La Milla de Oro. This progression underscores the impact of informal settlements and the subsequent urban redevelopment efforts.

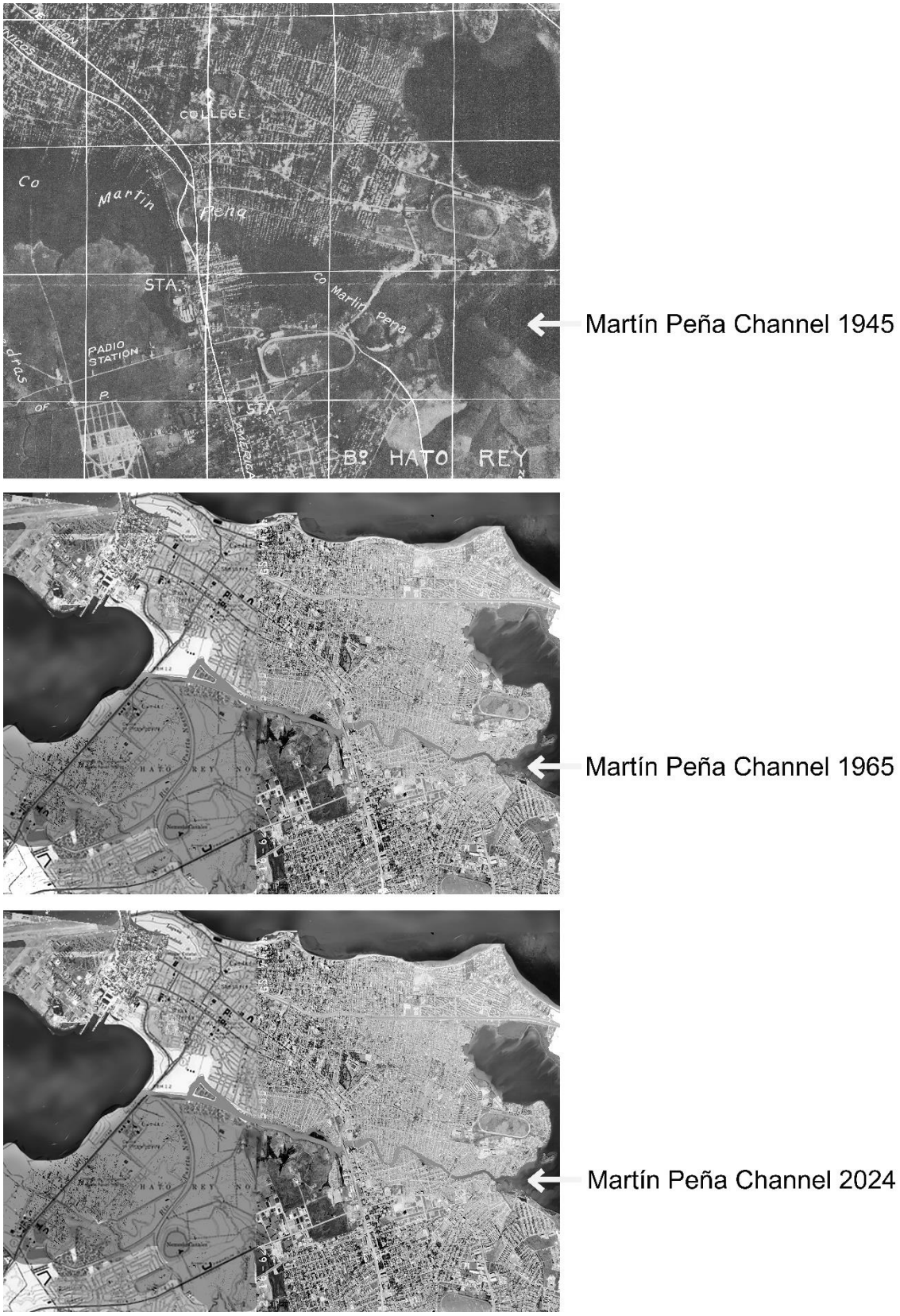


Figure 11. Transformation of Martin Peña Channel over time [31,32].

7.1. The shift in building typologies: From community-oriented to isolated designs

7.1.1. Traditional Puerto Rican housing

Traditional Puerto Rican homes are architectural marvels and embodiments of community-centric design. These homes, blending indigenous Taíno, African, and Spanish colonial influences, reflect the island's complex history and cultural heritage. Beyond their structural elements, such as verandas and courtyards, these homes fostered strong community bonds [25]. The design facilitated social interaction, with outdoor spaces serving as communal areas where neighbors gathered, shared stories, and supported one another. This integration of architectural and community design created resilient neighborhoods that thrived on mutual aid and cultural continuity, illustrating the profound connection between built environments and social cohesion (Figures 12 and 13).

Figure 12. Taino House (Bohio) and Spanish Style in Puerto Rico [33].

Figure 13. Traditional house [34].

7.1.2. Slum housing (El Fanguito)

Slum housing in areas like El Fanguito emerged as rural migrants moved to urban centers searching for work. The houses built on the filled areas of the Martin Peña Channel were often self-built using whatever materials were available, such as scrap wood, metal, and other salvaged items. But not all of them were like that; those built on the mainland had similar characteristics to traditional houses, balconies were always present, they had a climatic purpose and a social relationship with the exterior, and there were also small cultivation areas. Jopling [25] highlights how the houses in El Fanguito were not just shelters but symbols of the community's identity and heritage.

Figure 14 shows part of El Fanguito. The houses, built on the muddy ground, required elevated walkways for residents to navigate the area.

Figure 14. El Fanguito [35].

Figure 15 offers a different perspective of El Fanguito. The layout of the houses fostered mutual help and solidarity among residents—values that disappeared with the urban sprawl that transformed San Juan following the eradication of areas designated as District M.

Figure 15. El Fanguito, Santurce [36].

7.1.3. Public housing projects

Housing projects, or *caseríos*, were designed to provide affordable housing for low-income families, offering stable, sanitary environments with better access to essential services. However, their structured, isolating layouts hindered social interaction and communal activities. Typically consisting of multistory apartment buildings with standardized layouts, these projects in Puerto Rico exemplify Diane Davis's theories [37] on architecture and violence. Modernist urban planning practices, intended to impose order, often contribute to urban violence. Fences around public housing serve as police control but also facilitate gang control, reinforcing social fragmentation and exclusion. This dual function of architectural elements highlights the complex interplay among urban planning, social inequality, and violence, exacerbating social divides and fostering environments where violence can thrive. Figure 16 illustrates a typical housing project. Residents who relocated from the slums had to adapt their diverse lifestyles to conform to the uniform layouts. The imposition of various restrictions, such as prohibitions on religious celebrations, keeping chickens, growing vegetables, and even playing and dancing to Bomba and Plena music, significantly altered their way of life. These restrictions were easily enforced in these housing projects, which were surrounded by fences.

Figure 16. Housing project [38].

8. When moving is a must: The complexities of relocation

Relocating settlements and houses is sometimes necessary due to unsafe soils, environmental impacts, or poor sanitary conditions. This issue transcends socioeconomic boundaries, affecting all types of communities. However, low-income communities often lack the opportunity to participate in these decisions alongside other societal stakeholders.

For instance, in San Juan, the displacement of El Fanguito and Tokio was driven not just by economic and humanitarian interests but also by real estate interests. Many homes were in ecologically sensitive areas, on unstable mud or water. Instead of ecological restoration, the community was displaced for a financial center and lucrative residential developments. A portion of the area was also designated for a central park with some installations and buildings.

This scenario highlights a critical issue: While relocation can be essential for safety and environmental reasons, it must be handled equitably. Regardless of income, all community members should have a voice in the process to ensure fair and just outcomes.

People do not build homes in muddy, unsuitable places because they want to live in miserable conditions. They do so in search of accommodation close to jobs and better opportunities. These individuals contribute significantly to society with their hard work and deserve equal treatment and inclusion in decision-making processes.

9. Post-displacement struggles

Housing projects intended to enhance social mobility for former slum residents often fail to achieve their goals. These projects are stigmatized due to associations with poverty, drugs, and violence, which isolate residents and perpetuate social problems. Zaire Zenit Dinzey-Flores [39], discusses how gated communities in Ponce, Puerto Rico, reinforce social inequality and segregation, reflecting broader trends in public housing across the island.

Despite providing stable living environments, housing projects often exacerbate the issues they aim to resolve. Gentrification remains a significant issue, displacing slum residents like those from El Fanguito and Tokio. The influx of Americans, attracted by economic incentives, has driven up property prices and living costs, further impacting communities.

Gentrification has led to the elimination of essential services in the affected areas. Residents of Llorens Torres, a large housing project, are particularly affected. The Department of Education has closed many public schools, while private schools remain largely unaffected [40]. Act 60, aimed at stimulating economic growth, often benefits larger businesses and wealthy investors, sidelining smaller local enterprises.

Residents from El Fanguito, Tokio, and other slums were relocated to housing projects to improve their quality of life and social mobility. However, those who were relocated continue to face ongoing struggles with poverty, crime, and educational attainment in these redeveloped areas.

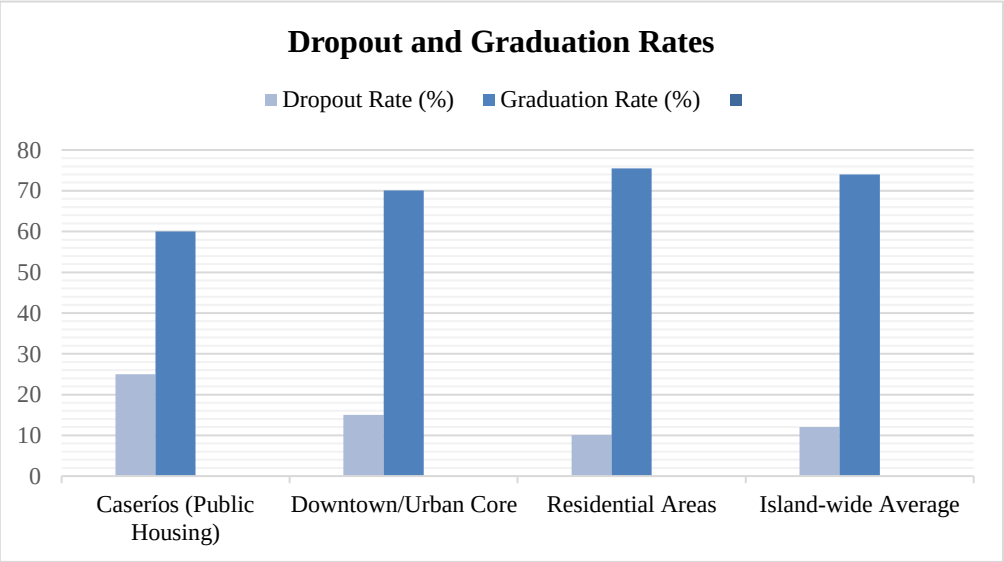


Figure 17. Dropout and graduation rates [41].

Comparing dropout and graduation rates across different areas of San Juan highlights significant educational disparities (Figure 17). *Caseríos*, or public housing projects, exhibit the highest dropout rates and the lowest graduation rates, while residential regions perform significantly better. This disparity underscores the long-term socioeconomic challenges faced by residents of public housing projects.

Crime rates are significantly higher in public housing projects in Puerto Rico. This prompted initiatives like the 1993 "Firm Hand Against Crime", which increased police presence and employed militarized strategies [42]. Figure 18 shows the significant disparities in crime rates across different areas, highlighting ongoing socioeconomic challenges in public housing. Elevated crime rates are linked to economic deprivation, social isolation, and inadequate policing, which compromise residents' safety and contribute to negative perceptions and stigmatization. The design and management of these projects have led to increased crime and social isolation, supporting Davis's [43] argument that built environments can perpetuate systemic issues and violence.

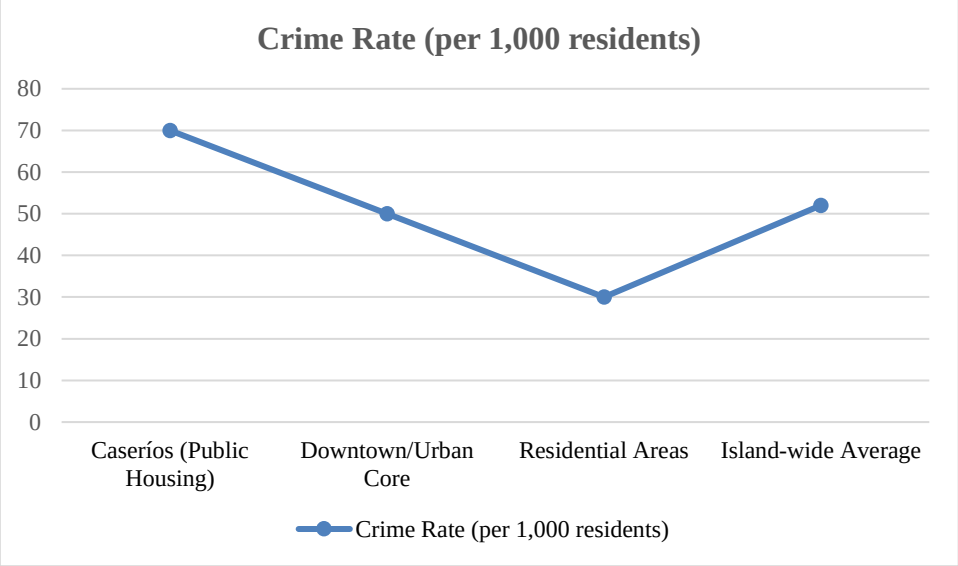


Figure 18. Crime rates [44].

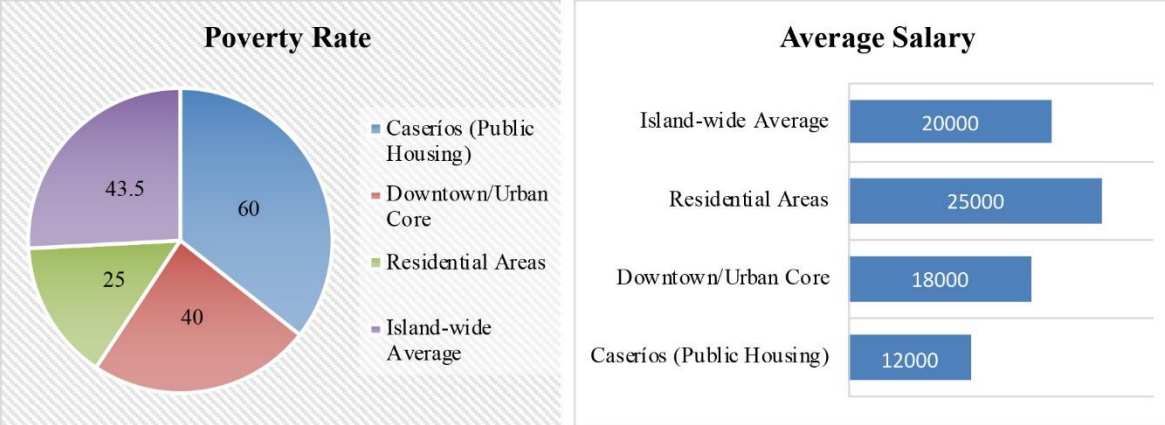


Figure 19. Poverty rates and average salaries [45].

Housing projects in Puerto Rico face significant economic challenges, with the highest poverty rates and lowest average salaries (Figure 19). In contrast, residential areas have the lowest poverty rates and highest average salaries, indicating better economic conditions. Limited access to employment opportunities and social services exacerbates the economic hardship in public housing, creating environments where residents struggle to break the cycle of disadvantage.

The stigma associated with living in *caseríos* acts as a significant barrier to social mobility. Unemployment rates are generally higher in these areas due to a lack of job opportunities in the vicinity, inadequate transportation options, and the negative perception of public housing, which can affect residents' chances of securing employment. This high unemployment further exacerbates the economic challenges faced by these communities (Figure 20).

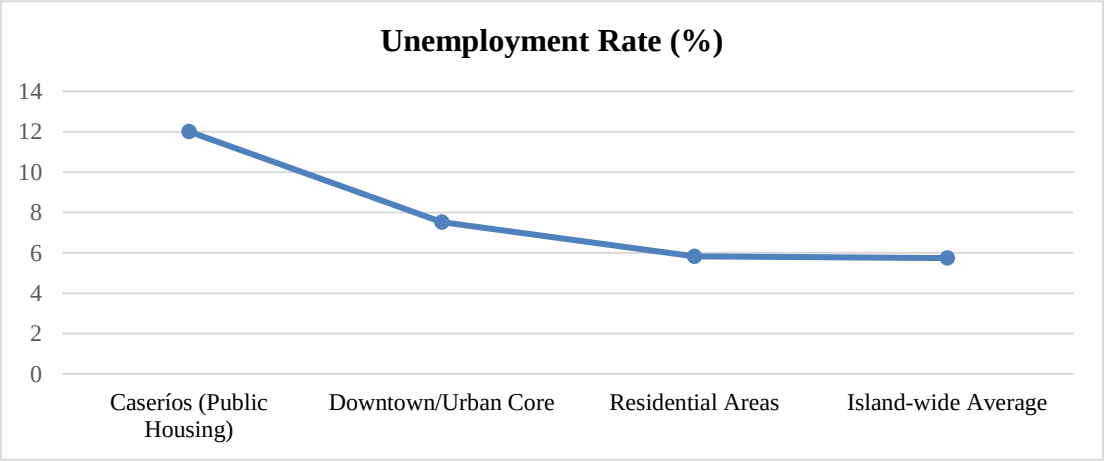


Figure 20. Unemployment rates [46].

Beyond education, poverty, crime, and unemployment, public housing developments in Puerto Rico face issues like social stigmatization, health and wellbeing, and disruption of community networks:

Social stigmatization: Public housing projects are often stigmatized as areas of poverty, crime, and dysfunction, leading to social exclusion and discrimination. The design of gated communities and fenced areas reinforces isolation and segregation.

Health and wellbeing: Residents' physical and mental health can be adversely affected by overcrowding, poor maintenance, and limited access to healthcare. Stress from living in high-crime areas and economic hardship further impact mental health. Poorer residents suffer more due to restricted access to healthcare [47].

Community and social networks: Relocating from slums to public housing disrupts social networks and mutual aid systems, leading to isolation and loss of support. The stigma and architectural isolation of *caseríos* reinforce a sense of "otherness" and limit access to opportunities.

These patterns highlight the need for inclusive and equitable urban planning. The socioeconomic, psychological, and cultural impacts of urban displacement emphasize the importance of community-driven solutions and preserving cultural identity. Displacement policies often lead to further marginalization and socioeconomic stagnation, underscoring the need for a holistic approach to urban development.

10. Humanitarian approaches to slum evolution: Global and local perspectives

Slums, often seen as symbols of urban decay and poverty, are also places of resilience, community, and potential. Around the world, various approaches have been taken to transform these informal settlements into vibrant, sustainable neighborhoods. Different perspectives and strategies have successfully addressed the challenges faced by slum communities, with both global and local examples. By examining these case studies, we can gain insights into how thoughtful, community-driven initiatives can lead to meaningful improvements in living conditions while preserving cultural heritage and fostering social cohesion.

For instance, the Albaicín in Granada is a notable example. Originally a Moorish quarter, it was once plagued by overcrowding and poor living conditions. Over time, however, it transformed into a vibrant neighborhood and is now a UNESCO World Heritage Site [48]. Albaicín's journey shows how historical areas can improve and integrate into the urban fabric while preserving their cultural heritage. However, it is important to address the ongoing issues related to capitalism in heritage, such as gentrification and the commercialization of historic areas, which can displace long-term residents and alter the social fabric. Additionally, social conflicts intertwined with religion continue to pose challenges, highlighting the need for a more holistic approach that considers both physical and social dynamics.

Other well-known examples include the Kampung Improvement Program in Surabaya, Indonesia, and Makoko in Lagos, Nigeria. The Kampung program was launched in 1969, and this initiative significantly improved living conditions in traditional neighborhoods by involving residents in upgrading the community. Despite its initial success, the program faced post-programme challenges such as a lack of monitoring and the failure to integrate the social aspects as originally intended. These issues underscore the importance of continuous oversight and community engagement to sustain improvements.

The Makoko project emerged as a result of substantial informal development and expansion, showcasing organic improvement over time. While it is often cited as an example of successful development in slums, it is also important to include criticisms that highlight its perceived shortcomings, such as inadequate infrastructure, environmental concerns, and the precarious legal status of residents. These criticisms provide a more balanced view and emphasize the need for comprehensive planning that addresses both immediate and long-term needs.

As a local reference, the Caño Martín Peña Community Land Trust (CLT) serves as a powerful example of how community-led initiatives can protect vulnerable populations from displacement and promote sustainable urban development. By securing land tenure and involving residents in the planning process, the Caño Martín Peña CLT has helped to preserve the cultural and social fabric of the Martín Peña communities while addressing environmental challenges [49]. However, the execution and outcomes of the project remain somewhat vague, necessitating a clearer articulation of its achievements and ongoing efforts to ensure its success.

La Perla, Puerto Rico's most famous informal settlement, is known for its rich history and vibrant community. Located just outside the walls of Old San Juan, a UNESCO World Heritage site, La Perla symbolizes resilience and cultural heritage. Despite its reputation as a slum, it is celebrated for its unique blend of formal and informal architecture, reflecting themes of modernization, poverty, and self-organization. Various improvement and preservation efforts have aimed to balance modernization with preserving the community's distinct cultural identity. La Perla's picturesque location and historical

significance have earned it a worldwide reputation, emphasizing the need for its preservation [50]. Over the past century, La Perla's development has showcased a mix of formal and informal elements, challenging traditional urban planning distinctions. This blend of styles and strong community spirit make La Perla an intrinsic part of San Juan's historical narrative. Its story is a testament to the resilience and resourcefulness of its residents, who have continuously adapted and thrived despite numerous challenges. However, providing more details about the conditions and context of La Perla could bring additional depth to the case study, illustrating the complexities and nuances of its development.

These examples demonstrate that with the right intervention and active community involvement, slums can transform into better living environments while maintaining a sense of belonging, preserving cultural identity, and honoring their historical roots. Creating more inclusive and sustainable communities requires a holistic approach that addresses both the physical infrastructure and the social fabric of urban development.

11. Discussion and conclusion

The findings of this research on the impact of urban development in San Juan align with several key themes identified in the existing literature. Previous studies have highlighted the detrimental effects of rapid urbanization on historical memory and cultural identity. For instance, Cerreta and La Rocca [51] discussed how urban redevelopment often leads to the erasure of historical neighborhoods, resulting in a loss of cultural heritage and social cohesion. This is consistent with the observations in San Juan, where the transformation of El Fanguito into La Milla de Oro has disrupted the community's historical continuity.

Similarly, Jorge Duany's work [52] on the fluid and hybrid identities of Puerto Ricans emphasized how migration and urban development undermine conventional definitions of the nation based on territorial and cultural continuity. Duany's analysis of the persistent colonial relationship between Puerto Rico and the United States, and the resulting cultural dislocation, resonates with the experiences of displaced communities in San Juan.

Atlas of Informal Settlement [53] is a groundbreaking exploration into the world of informal urban design. This book maps and analyzes the evolution of urban forms in 51 informal settlements across Asia, Africa, and Latin America. It challenges the conventional view of these areas as chaotic and unplanned, revealing a sophisticated and self-organized urban logic. This atlas highlights how informal settlements are shaped by a complex interplay of factors, including the political economy, topography, culture, and climate. The book also delves into the roles of various actors, from settlers and states to land mafias and pirate developers, showing how these interactions influence the development of these vibrant urban spaces. By presenting informal settlements as dynamic and evolving entities, the atlas highlights the importance of recognizing and harnessing the productive capacities of these communities to guide future urban growth.

Pojani's "The self-built city" [54] delves into the often overlooked world of informal settlements, setting forth a conceptual framework that examines the context of informality, the settlements themselves, the houses within them, and the residents who shape these spaces. The paper highlights how these self-built environments are not just temporary solutions but permanent fixtures in the global urban landscape, growing in scale and significance. Pojani argued that understanding the spatial qualities and the organic urban vernacular of these settlements is crucial for developing sustainable improvement strategies, which stand in stark contrast to the often sanitized and uniform designs of

modern urbanism. By exploring the dynamic process through which informal settlements are designed and transformed over time, the paper underscores the importance of recognizing and valuing the contributions of the residents themselves.

These studies, along with the reflections from Mindy Fullilove, Liliana Cotto Morales, and Zaire Zenit Dinzey-Flores, provide a comprehensive understanding of the socioeconomic, psychological, and cultural impacts of urban displacement. They underscore the importance of community-driven solutions and the preservation of cultural identity in the face of rapid urbanization and economic development.

This research provides a comprehensive understanding of the socioeconomic challenges faced by the residents of public housing projects in Puerto Rico. It emphasizes the impacts of urban development on historical memory and identity in San Juan. The integration of personal narratives, qualitative insights, and detailed analyses of urban transformations offers a unique perspective on these issues.

11.1. Practical recommendations

1. **Inclusive urban planning**: Urban development policies should prioritize community involvement and ensure that the voices of displaced residents are heard. This can help preserve historical memory and cultural identity while addressing the socioeconomic challenges.
2. **Support services**: Implement support services such as job training programs, educational initiatives, and mental health services to assist residents in public housing projects. These services can help mitigate the negative impacts of displacement and improve the residents' quality of life.
3. **Affordable housing**: Develop affordable housing initiatives that prevent the displacement of low-income residents. Policies should aim to balance economic incentives with the need to maintain affordable living options for vulnerable communities.
4. **Community networks**: Strengthen community networks and mutual aid systems to support residents in public housing projects. This can help reduce social isolation and foster a sense of community.

11.2. Limitations of the research

1. **Sample size**: The research is based on a limited number of interviews and case studies, which may not fully represent the experiences of all residents in public housing projects across Puerto Rico.
2. **Geographical scope**: The focus on specific areas within San Juan may limit the generalizability of the findings to other regions with different socioeconomic and cultural contexts.
3. **Temporal scope**: The research captures a snapshot in time and may not account for long-term changes and trends in urban development and socioeconomic conditions.

11.3. Further research avenues

1. **Longitudinal studies**: Conduct longitudinal studies to track the long-term impacts of urban development on residents' socioeconomic conditions, historical memory, and cultural identity.
2. **Comparative studies**: Compare the experiences of residents in different regions and types of housing projects to identify common challenges and effective solutions.

3. **Policy impact analysis**: Investigate the effectiveness of various urban development policies and initiatives in addressing the socioeconomic challenges faced by displaced residents.

4. **Interdisciplinary approaches**: Incorporate interdisciplinary approaches that combine urban planning, sociology, psychology, and public health to develop comprehensive solutions to the challenges identified in this research.

In conclusion, this research underscores the importance of a holistic, community-centered approach to urban development that addresses poverty and inequality while preserving historical memory and cultural identity. By integrating personal narratives, qualitative insights, and detailed analyses of urban transformations, this research provides a more comprehensive understanding of the socioeconomic struggles faced by public housing residents in Puerto Rico. These findings highlight the need for inclusive and equitable urban planning to mitigate the negative impacts of urban displacement.

Use of AI tools declaration

The author declares she has not used artificial intelligence (AI) tools in the creation of this article.

Conflict of interest

The author declares no conflicts of interest in this paper. The research was conducted independently, and no financial or personal relationships influenced the outcomes.

References

1. Caban PA (1989) Industrial transformation and labour relations in Puerto Rico: From 'Operation Bootstrap' to the 1970s. *J Lat Am Stud* 21: 559–591. https://doi.org/10.1017/S0022216X0001854X
2. Torres EV (2023) Obligados a olvidar: Settlement and Displacement in 20th Century San Juan, Puerto Rico. *Centro J* 35: 7.
3. Foster WZ (1948) *The Crime of El Fanguito*, New York: New Century Publishers. Available from: https://www.redstarpublishers.org.
4. Molano Camargo F (2016) El derecho a la ciudad: de Henri Lefebvre a los análisis sobre la ciudad capitalista contemporánea. *Folios* 1: 3–19. http://dx.doi.org/10.17227/01234870.44folios3.19
5. Lefebvre H (1984) *The Production of Space*, Cambridge: Library of Congress.
6. Miller LL (2005) Root shock: How tearing up city neighborhoods hurts America and what we can do about it. *J Health Polit Policy Law* 30: 985–990. https://doi.org/10.1215/03616878-30-5-985
7. Francis D (2022) Diébédo Francis Kéré: How first Black winner of architecture's top prize is committed to building 'peaceful cities'. Available from: https://theconversation.com/diebedo-francis-kere-how-first-black-winner-of-architectures-top-prize-is-committed-to-building-peaceful-cities-179483.
8. Escobar A (2011) *Encountering development: The making and unmaking of the Third World*, Princeton: Princeton University Press.
9. Lees L, Slater T, Wyly E (2008) *Gentrification*, New York: Routledge. https://doi.org/10.4324/9780203940877

10. Barañano E, Board PRP (1956) Plan regional del area metropolitana de San Juan. Available from: https://issuu.com/coleccionpuertorriquena/docs/plan_regional_san_juan_-_bara_ano_1956.
11. Google Earth. Available from: https://earth.google.com/web/@18.44669323,-66.04436965,11.84919169a,0d,60y,13.03335891h,94.52861367t,0r/data=CgRCAggBOgMKATBKDQj_____8BEAA.
12. Archivo Virtual del Instituto de Cultura Puertorriqueña. Available from: https://www.archivoicp.com/cronicas-agpr-final.
13. Cotto L (1990) La ocupación de tierras como lucha social: Los rescates de terreno en Puerto Rico: 1968–1976. *Revista de Ciencias Sociales* 408–428. https://api.semanticscholar.org/CorpusID:185039175
14. Scarano FA (2010) Spanish Hispaniola and Puerto Rico, In: *The Oxford Handbook of Slavery in the Americas*, Oxford University Press, 22–45. https://doi.org/10.1093/oxfordhb/9780199227990.013.0002
15. Sepúlveda-Rivera A, Carbonell J (1988) Cangrejos-Santurce: Historia Ilustrada de Su Desarrollo Urbano (1519–1950), Viejo San Juan P.R.: Centro de Investigaciones CARIMAR Oficina Estatal de Preservación Histórica. Available from: http://www.worldcat.org/title/cangrejos-santurce-historia-ilustrada-de-su-desarrollo-urbano-1519-1950/oclc/26398917#.W0kXfKpqg5g.mendeley.
16. Acosta I (2013) *Abolition of Slavery (1873)*, Choice Reviews Online.
17. Taylor KY (2018) How real estate segregated America. *Dissent* 65: 23–32. https://doi.org/10.1353/dss.2018.0071
18. Puerto Rico Ilustrado—Digital library of the Caribbean (1936). Available from: https://dloc.com/es/AA00098206/01212/images/22.
19. El Mundo 1945.02.04—El Mundo Digital Archive. Available from: https://gpa.eastview.com/crl/elmundo/?a=d&d=mndo19451103-01.1.21&e=------194-en-25--1--img-txIN-enver+azizi----1945---es--.
20. El Mundo 1969.06.06—El Mundo Digital Archive. Available from: https://gpa.eastview.com/crl/elmundo/?a=d&d=mndo19690606-01.1.7&srpos=1&e=-------en-25--1--img-txIN-puerto+rico+siempre+ha+tenido+y+tiene+ahora+una+sutil+estructura+racial-----1969---es--.
21. El Mundo 1971.06.11—El Mundo Digital Archive. Available from: https://gpa.eastview.com/crl/elmundo/?a=d&d=mndo19710611-01.1.41&srpos=1&e=-------en-25--1--img-txIN-adem%c3%a1s+de+algunas+instituciones+religiosas+hay+otras+escuelas+privadas+que+incurren+en+el+racismo-------es--.
22. 80grados+ (2020) Bomba, prohibiciones y discurso racial en los albores del siglo XX. Available from: https://www.80grados.net/bomba-prohibiciones-y-discurso-racial-en-los-albores-del-siglo-xx/.
23. Brahms DP (2024) The New Old Deal: Colonial Social Welfare and Puerto Rican Poverty During the Great Depression, 1928–1941. Master's thesis, University of Maryland, College Park, 2024.
24. Duany J (2010) Anthropology in a postcolonial colony: Helen I. Safa's contribution to Puerto Rican ethnography. *Caribbean Stud* 38: 33–57. https://doi.org/10.1353/crb.2010.0054
25. Jopling CF (1988) *Puerto Rican Houses in Sociohistorical Perspective*, Knoxville: University of Tennessee Press.
26. YouTube Historia Oral del Caño Martín Peña. Available from: https://www.youtube.com/playlist?list=PLMJGEVe252Ekrwl_XJi756WoKgGyplPWF.

27. Puerto Rico Historic Building Drawings Society (2024). Available from: https://www.facebook.com/PRHBDS.
28. data.pr.gov, 2018. Available from: https://data.pr.gov/en/Transportaci-n/Annual-Average-Daily-Traffic-AADT-Transito-Promedi/7kaq-zyym.
29. El Mundo 1949.05.07—El Mundo Digital Archive. Available from: https://gpa.eastview.com/crl/elmundo/?a=d&d=mndo19490507-01.1.1&srpos=1&e=-------en-25--1--img-txIN-%22alcaldesa+rinc%c3%b3n+tuvo+%22---------.
30. Raíces del Caño (2012) En Peligro la Salud de la Gente del Caño. Available from: https://g8pr.org/wp-content/uploads/2017/05/raices-web-vol-1.pdf.
31. UWM Libraries Digital Collections (1940) Puerto Rico aerial survey/Army Map Servic. Available from: https://collections.lib.uwm.edu/digital/collection/agdm/id/12469.
32. EarthExplorer. Available from: https://earthexplorer.usgs.gov/.
33. Wikipedia, la enciclopedia libre, Centro ceremonial indígena de Tibes. Available from: https://es.wikipedia.org/wiki/Centro_ceremonial_ind%C3%ADgena_de_Tibes.
34. 80grados+ (2019) Casas jíbaras: Anotaciones sobre arquitectura y tradición. Available from: https://www.80grados.net/casas-jibaras-anotaciones-sobre-arquitectura-y-tradicion-en-puerto-rico/.
35. San Juan, Puerto Rico. In the huge slum area known as “El Fangitto”. Available from: https://www.loc.gov/item/2017798491/.
36. Moscioni A (2005) El Fanguito, Santurce. Available from: https://upr.contentdm.oclc.org/digital/collection/Moscioni/id/1234/rec/1.
37. Davis D (2016) The production of space and violence in cities of the global south: Evidence from Latin America. *Nóesis: Revista de Ciencias Sociales y Humanidades* 25: 1–15.
38. Currie LJ (1951) Housing, Puerto Rico. Available from: https://jstor.org/stable/community.16799280.
39. Dinzey-Flores ZZ (2013) *Locked in, Locked out: Gated Communities in a Puerto Rican City*, University of Pennsylvania Press.
40. Agencia EFE (2023) La gentrificación avanza a toda velocidad en Puerto Rico. Available from: https://www.primerahora.com/noticias/gobierno-politica/notas/la-gentrificacion-avanza-a-toda-velocidad-en-puerto-rico/.
41. E-Data—Departamento de Educación de PR. Available from: https://de.pr.gov/academico/secretaria-auxiliar-de-planificacion-y-rendimiento/edata/.
42. Dinzey-Flores ZZ (2011) Criminalizing communities of poor, dark women in the Caribbean: The fight against crime through Puerto Rico’s public housing. *Crime Prev Community Saf* 13: 53–73. https://doi.org/10.1057/cpcs.2010.18
43. Davis DE (2018) The routinization of violence in Latin America: Ethnographic revelations. *Latin Am Res Rev* 53: 211–216. https://doi.org/10.25222/larr.425
44. Instituto de Estadísticas de PR (2024) Violent deaths reporting system Puerto Rico. Available from: https://estadisticas.pr/files/Publicaciones/Informe%20PRVDRS%202021%20English%20version.pdf.
45. Data USA (2019) Puerto Rico. Available from: https://datausa.io/profile/geo/puerto-rico/.
46. U.S. Department of Commerce (2018) U.S. Census Bureau QuickFacts: Puerto Rico, 2018. Available from: www.census.gov/quickfacts/PR.

47. Mattei J, Tamez M, Ríos-Bedoya CF, et al. (2018) Health conditions and lifestyle risk factors of adults living in Puerto Rico: A cross-sectional study. *BMC Public Health* 18: 1–12. https://doi.org/10.1186/s12889-018-5359-z
48. Coleman D (2008) The persistence of the past in the Albaicín: Granada's New Mosque and the question of historical relevance, In: *In the Light of Medieval Spain: Islam, the West, and the Relevance of the Past*, New York: Palgrave Macmillan, 157–188. https://doi.org/10.1057/9780230614086_8
49. Algoed L, Torrales MEH (2019) The land is ours. Vulnerabilization and resistance in informal settlements in Puerto Rico: Lessons from the Cano Martin Pena community land trust. *Radical Hous J* 1: 29–47.
50. Urban F (2015) La Perla—100 years of informal architecture in San Juan, Puerto Rico. *Plan Perspect* 30: 495–536. https://doi.org/10.1080/02665433.2014.1003247
51. Cerreta M, La Rocca L (2021) Urban regeneration processes and social impact: A literature review to explore the role of evaluation, in *Computational Science and Its Applications—ICCSA 2021*, Cham: Springer, 167–182. https://doi.org/10.1007/978-3-030-86979-3_13
52. Duany J (2000) Nation on the move: The construction of cultural identities in Puerto Rico and the diaspora. *Am Ethnol* 27: 5–30. https://doi.org/10.1525/ae.2000.27.1.5
53. Dovey K, van Oostrum M, Shafique T, et al. (2023) *Atlas of Informal Settlement: Understanding Self-organized Urban Design*, Bloomsbury Publishing.
54. Pojani D (2019) The self-built city: Theorizing urban design of informal settlements. *Archnet-IJAR* 13: 294–313. https://doi.org/10.1108/ARCH-11-2018-0004

AIMS Press