

Chapter 42

Urban Housing in Nairobi: Expectations and Realities of Densification in the Middle- and Low-Income Sectors



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Abstract The population of Nairobi has grown 12-fold since 1963, when Kenya attained independence, and this has greatly spurred urban expansion. Much of this growth has taken place in the housing sector, which has witnessed increased and uncontrolled development that has become a challenge to the built environment. Much of this expansion has happened outside of formal development frameworks because of social, economic, and political factors in the housing processes. The case of Nairobi is used to explore housing densification in the middle- and low-income sectors through a review of the interests that shape this process. The aim is to explain how different interests converge to shape the housing sector in the middle- and low-income sectors, and to suggest possible interventions to manage urban densification and to develop safe and livable cities in Kenya and across Africa.

Keywords Densification · Urban planning · Housing · Interests · Housing investment

This chapter is a review of urban densification of housing in cities of developing countries, using Nairobi as a case study. The available literature on densification in cities of developing countries shows that it is informal and not homogeneous.¹ The debate on the *compact city* is generally in favor of densification based on the argument that it offers environmental, social, and global sustainability benefits.^{2,3} Proponents of this view make an argument from a sustainability perspective of resource conservation and waste minimization. Under this view, the concentration of urban activities in a compact city reduces energy consumption, contributes to conservation, and reduces waste mainly on matters related to carbon emissions.⁴ Globally, this view makes sense in terms of the benefits of densification, but from a more localized perspective, specifically that of developing countries, the justification for densification is based on urban demographics like economic, social, and political considerations, and less on other important factors such as the environment.

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Densification of urban areas has taken place either purposefully through planning strategies or spontaneously as a survival strategy or for profiteering. Models such as high-rise, high-density, (re)development, concentrated decentralization, and traditional infill have been deployed formally, but none of these has been identified as offering a perfect fit for a sustainable form of densification in developing countries.⁵ Factors such as the rate of demographic change, levels of economic and social development, and national and urban politics vary greatly in different countries and cities and thus differently influence the form of cities. Research on urbanization in Africa indicates the nature of urban growth in African cities; the processes, outcomes, and interests of the factors of urban density must be thoroughly understood within individual cities and state contexts because they are not homogenous.⁶

This exploration is designed as a case study that adopts a qualitative approach for data collection and analysis. Its presentation strategy is descriptive and explanatory. It uses three estates in the city of Nairobi as a detailed study area to explicate the diversity of densification in Nairobi. This chapter is organized in three parts, beginning with the contextualization of densification in African cities. It then reviews densification in Nairobi through an analysis of the history of development, changes in demographics, housing morphology, and socioeconomic activities of selected estates. Lastly, it discusses the underlying processes and interests that drive urban densification including social, economic, and political factors.

Densification in African Cities

Densification in African cities is happening rapidly due to fast-changing urban population demographics that has resulted in shifting forms and structures of cities. The trends of densification are not well clarified on the continent due to challenges of accessing reliable information and/or a lack of densification policies.⁷ In many African cities, densification happens outside of planning regulations, especially in low- and middle-income areas where a majority of urban residents live.⁸ It is estimated that about two-thirds of Africa's urban population lives in poverty in congested informal settlements. These numbers will increase substantially with projected population growth in the coming years.⁹ This will have negative effects on densification policies and the effectiveness of policy instruments. Urban densification will, therefore, continue to emerge spontaneously in many cities, leading to chaotic neighborhoods.¹⁰

Inadequate environmental infrastructure and services, along with the inability of governments to bring the majority of urban households into a range of effective demand which would be capable of improving the coverage and maintenance of urban infrastructure and services, remain challenges and consequently affect the densification of residential neighborhoods.¹¹ The nature of politics—its diversity and changes in ideological focus—has greatly influenced urban policy, planning, and management before and after independence in many countries. Some countries also suffered intermittent civil strife in the post-independence period, which has had

a substantial effect on the growth pattern of settlements in cities.¹² The adoption of neoliberal economics in the 1980s by African governments and the rise of powerful local and foreign private sectors further influenced the form and structure of urban densification.

Furthermore, poor urban governance undermines efforts to implement government planning policies, which manifests in the physical and material city.¹³ It is suggested that the challenges of densification in African cities can be tackled first, with a thorough understanding of the nature of urban growth and its processes, outcomes, and interests within the context of individual cities and states.¹⁴

Densification in Nairobi

Urban planning for the growth of Nairobi dates back to 1906, when it was established as the capital of the new country. Zoning was introduced as an urban planning measure to manage development density. At the time, it was based on racial segregation and controlled urban migration.¹⁵ After four decades, Nairobi had developed substantially and required a new plan. In 1948, a comprehensive development plan was created with the intention of raising Nairobi's status into a modern and industrial city.¹⁶ It adapted a Garden City concept for residential zones using the neighborhood units planning principle.¹⁷ It designated low-density zones for Europeans, while Asians and Africans were assigned middle- and high-density zones, respectively.

When Kenya attained independence in 1963, the segregation policy and movement restriction were abolished.¹⁸ The city began to experience unprecedented growth, mainly due to rural-urban migration and natural growth. Population growth exceeded 4%, which led to several challenges such as insufficient infrastructure and services. This prompted the city to review its growth strategy, culminating in a new master plan in 1973.¹⁹

An analysis of reports of Kenya's population and housing census indicates that the population of Nairobi grew at the rate of more than 4% from 1963 until the end of the turn of the millennium. From then on, it has maintained an annual growth rate of more than 3.8%. The population of Nairobi has grown from 361,000 people in 1963 to 4,397,073 in 2019, and its population density has increased from 518 people per km² to 6317 people per km².

The city's rate of growth is faster than planning policies are capable of moderating, despite periodic revision of development densities in various planning zones. Impatient investors, aware of the varied potential for redevelopment of various city zones, have negotiated with planning authorities and have been allowed to vary development requirements. Others have taken advantage of lax enforcement of planning guidelines to define their own development agenda, defeating the intentions of the city's growth strategy and creating chaotic residential neighborhoods.

Densification in Residential Neighborhoods

Residential development in Nairobi across all income sectors faces a number of challenges that confound the growth of the city.²⁰ The residential sector has been noted as the underbelly of Nairobi's urban development. It is flouted by social, economic, and political interests, which has created uncontrolled densification in residential neighborhoods. This affects all income sectors but is worst in low-income areas. Developers have preconceived notions about housing forms suitable for urban residents, which they construct through negotiations, coercion, and other forms of manipulation to achieve their desired densities. However, in informal neighborhoods, densification is spontaneous, as most of these areas are considered to be outside the jurisdiction of formal planning control.²¹

Housing in Nairobi is substantially supplied by the private sector. The majority of city residents, 79%, live in private rental housing, 5% occupy their own houses, and the rest live in other forms of housing, such as institutional housing.²² The majority of renters, who are poor, live in low-income settlements and slums where housing is affordable. These areas are underserved in terms of infrastructure and services and consequently, the quality of housing is poor and congested. The city government lacks the moral authority to enforce building regulations in these areas because of the complexity of dealing with the urban poor. As a result, the private sector, out of the need to profit from the huge housing demand, has increasingly intensified housing development over time, making it impossible to achieve the sustainable densification envisaged in compact city debates.

To explicate the nature of residential neighborhood densification in Nairobi, three selected estates that have different income demographics are analyzed. Kilimani was once a high-income estate but has been downgraded into upper middle income because of the intensification of neighborhood developments and activities. Donholm and Pipeline are middle- and low-income estates, respectively (Fig. 42.1).

Kilimani Estate

Kilimani Estate covers an area of 1.2 km² (Fig. 42.2) and is part of the larger Kilimani administrative and electoral ward of Nairobi County, which is 9 km². It had a population of 5566 people and 1700 households in 2019. Its population density is 4638 people per km². The estate's history and development patterns are intertwined with the larger Kilimani, which was planned as a residential area during Kenya's colonial era. It was a European-only settlement, in conformity with the segregation policies of the colonial British administration. The typical residential building was a single-family detached dwelling with a stand-alone servant's quarters occupying three quarters of an acre.²³ After independence in 1963, the law on racial segregation was dropped, and well-resourced Africans and senior civil servants took residence

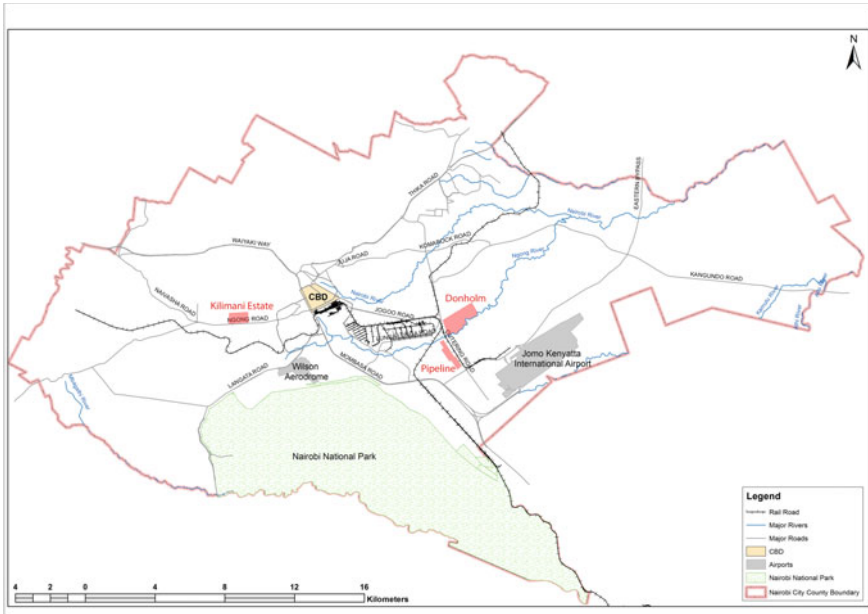


Fig. 42.1 Location of study sites in Nairobi. *Drawing* Edwin Oyaro Ondieki



Fig. 42.2 2020 Map of Kilimani. *Diagram* Edwin Oyaro Ondieki (over Google Maps, 2021)

in Kilimani, maintaining the historical character of these residential areas up to the turn of the millennium.

Thereafter, Kilimani gradually transformed into high-rise mixed-use developments such as apartment housing complexes and commercial blocks (Fig. 42.3). In the last decade, the densification of Kilimani has grown exponentially, mainly because of the introduction of liberal monetary policies in 2003 that spurred unprecedented growth in all sectors of the economy. Consequently, the middle-income class increased, and so did the demand for high-end apartments in close proximity to the CBD. Due to pressure from developers, the city government revised zoning regulations and allowed the development of apartments and other facilities in Kilimani as well as other high-income neighborhoods. There was also an opportunity for investors to seek preferential consideration to develop beyond the legal limits, which was granted to some developers under unclear circumstances. It is no wonder that later developments have exceeded the four-story limit, and some are currently at 16 levels.

Kilimani Estate is about 5 km from Nairobi CBD along major transport routes such as Ngong and Argwings Kodhek roads. The infrastructure and services are well developed. Residents rely on private transport, but many others who earn a livelihood from commercial activities in the area use public bus transport. Social and economic activities in the estate are distributed in various sections with different intensities. Most commercial developments that offer spaces for offices and retail are on plots that front the main transport routes. These include office spaces, car bazaars, retail, banking, hospitality, and education. Newer apartments and other forms of housing occupy the inner areas of the estate.



Fig. 42.3 Section of Kilimani area. *Photo* Edwin Oyaro Ondieki

Donholm Estate

Donholm Estate is part of the 18.4 km² Donholm Dairy Farm that was established at the turn of the nineteenth century by a British settler. The farm exchanged ownership through the law of compulsory acquisition after city boundaries were extended in 1963 to encompass the eastern sections of Nairobi. It was subdivided and allocated to various organizations and individual developers for the purpose of housing development. The allottees of Donholm, an area of 3.1 km² (Fig. 42.4), created a holding company, Continental Developers, with the aim of developing housing. This company has played a major role in the development of the Donholm area up to now.

Donholm Phase 1 (currently referred to as Old Donholm) was developed by Continental Developers as a housing scheme with the requisite infrastructure and sold off. They built bungalows on plots measuring 0.075 ha. Thereafter, development in Donholm was carried out by corporate organizations, which bought sizable blocks of land from Continental Developers and built low-rise and mixed type housing estates such as Greenfields, Sunrise, Green Span, and Harambee Sacco Society. In the other parts of Donholm, Continental developers subdivided the plots into much smaller parcels of about 0.025 ha and developed minimal infrastructure. They sold off these parcels to individual developers, most of whom overdeveloped them by building mixed developments against planning guidelines (Fig. 42.5). These areas include Donholm Phase 8, sections of savannah, and plots along the Donholm-Savannah Road spine. Here, developers have invested in high-rise blocks four to seven floors high that accommodate business premises on the ground floor and apartments on the other floors.



Fig. 42.4 2020 Map of Donholm. *Diagram* Edwin Oyaro Ondieki (over Google Maps, 2021)



Fig. 42.5 Section of Donholm Estate. *Photo* Edwin Oyaro Ondieki

Donholm is administratively known as Upper Savannah and forms part of Savannah Sub-location, and it is an electoral ward for Nairobi County. It is about eight kilometers from the CBD. It abuts Outer-Ring Road and Savannah Road traverses through it. In 2019, its population was 53,904 people, with a population density of 17,553 km² and 15,415 households.

Infrastructure in the older section is in good condition, while in the newer sections, it is under development. There are many formal and informal socioeconomic activities, with a greater concentration of commercial activities along Savannah Road. They comprise educational, wholesale, and retail, hardware outlets for building materials and equipment, second-hand goods, workshops for various trades, garages, eateries, bars, and green groceries.

Pipeline Settlement

Pipeline Estate occupies part of a colonial-era sisal farm that was taken over by the government of Kenya in the early 1970s for the purpose of expanding industrial production. The land was subdivided into portions of about 100 acres allocated to local industrialists that were interested in expanding their business. A number did not take up the opportunity, and the land lay idle for a long time. Part of it was encroached upon by squatters and became an extension of the Mukuru slums, and the rest was sold off to land speculators who subdivided it into plots measuring approximately 0.024 hectares and sold these off to individuals for residential purposes.

Pipeline Estate is characterized by tenement blocks that rise to nine floors. Their footprint exceeds provisions of planning guidelines by 100%. They mainly offer one-room accommodations with shared amenities such as toilets, showers, and water

points. They have maximized room provision per floor. For example, a typical tenement accommodates 14 rooms per floor, thus 14 households. Assuming an average of three people per household in Nairobi, each floor could accommodate about 42 people. The entire tenement with nine floors would house 378 people in 126 households. It is not a surprise that Pipeline is the most densely populated area in Kenya, according to the 2019 population census.

Infrastructure in this estate is poor, mainly because it came after the development of tenements through the investors' initiative. The area was not planned for residential development by the local government and was therefore excluded from its infrastructure development process for a long time. However, in the last five years, and following the changes in national governance structures after the 2010 constitutional changes, this has changed. In the immediate neighborhood of the settlement, roads and other infrastructure are in good condition, and some of these are accessible to the Pipeline Estate residents.

Pipeline Estate covers an area of 0.73 km² and is an electoral ward of Nairobi County. In the census enumeration, it was grouped together with *Kware ward*, which is indistinguishable from Pipeline. The two wards cover an area of 1.6 km² with a population of 166,517 people and 66,811 households; a population density is 106,445 people per km² in the 2019 national census. Through extrapolation, Pipeline Estate could have had a population of 76,000 people and 30,500 in 2019. Pipeline and *Kware wards* are the most densely populated neighborhoods in Kenya.

Pipeline Estate is located about 12 km from the CBD and a walking distance from Nairobi's industrial area, the national airport, and other business hubs (Fig. 42.6). Therefore, it is in high demand by the low-income class that desires to live in close proximity to their place of livelihood. There are numerous formal and informal social and economic activities in the estate. These include educational and health



Fig. 42.6 2020 Map of Pipeline Estate. *Diagram* Edwin Oyaro Ondieki (over Google Maps, 2021)



Fig. 42.7 Section of Pipeline Estate. *Photo* Edwin Oyaro Ondieki

(privately provided), retail, eateries and bars, metal and wood workshops, hardware shops, salons, and tailoring. Others are green groceries, hawking of new and second-hand goods, water vending, and food hawking. These businesses are carried out in premises, in makeshift structures, or laid out along the road (Fig. 42.7).

Issues and Interventions

The foregoing discussion of the cases has examined a number of issues under the following categories: population demographics, socioeconomic, and political and governance (Table 42.1). Based on different neighborhoods, an overview of the underlying issues causing disorderly densification are highlighted, and interventions that can create order in the city discussed.

Socioeconomic Factors

Densification in Nairobi has mostly been driven by economics (Table 42.2). First, the fast-growing urban population has raised the demand for housing in the middle- and low-income sectors. Second, the demand for housing has created a profitable housing

Table 42.1 Development morphology of estates

	Kilimani	Donholm	Pipeline
Development guidelines and realities	<p>Is within zone 4 of development regulations that provide for:</p> <ul style="list-style-type: none"> • Residential (four story apartments are allowed) • Ground coverage—35% • Plot Ratio of 75%. • Minimum allowable plot size—0.05 ha (0.25 acres) <p>Reality:</p> <ul style="list-style-type: none"> • Mixed use developments. Commercial and apartment blocks • Developments far exceed planning guidelines • Presently, it is common to find town houses, apartment blocks, and commercial buildings of various heights, forms and dispositions. Blocks with heights ranging from 12 to 16 floors are currently a common phenomenon 	<p>Is within zone 8 of development regulations:</p> <ul style="list-style-type: none"> • Mixed residential development • Ground coverage—50% • Plot Ratio—75% • Development type-mixed housing development; flats, maisonettes and bungalows <p>Reality:</p> <ul style="list-style-type: none"> • The estate is interspersed with a number of residential typologies: maisonettes, bungalows, apartment blocks, and mixed-use commercial buildings • Mixed-use development is predominated by residential high-rise apartments. This has happened in the past 20 years. It started with four levels, in keeping with residential height, and gradually rose to the current seven levels 	<p>Zone status is undetermined: initially industrial</p> <p>Reality:</p> <ul style="list-style-type: none"> • Mixed use tenement developments. Predominantly residential with the ground floor used for commercial purposes • The ground coverage is 100% with a light well at the center. The blocks are mainly one level walk-ups and abut each other, most have only one frontage to the main road on the narrow side of the plot

market that is operating at the fringes of fair economic practice. This has resulted in unplanned intensification in housing neighborhoods that is unsustainable. Essentially, this resulted from the country’s poor economic performance and subsequent neoliberal economic policies. These policies bolstered the role of the private sector in service provision, which it commodified for profit. Balancing the housing needs of the urban poor and the interests of private investment in a neoliberal economy is a challenge. It would require massive investment in infrastructure and housing in the middle- and low-income settlements, which is not feasible for Kenya’s government in the near future.

Densification within the middle-income housing sector is transforming fast in its typology mainly because of the value of land and the increased demand for housing. Accordingly, households cannot afford much space anymore, as exemplified

Table 42.2 Drivers of densification/intensification

Factors	Kilimani	Donholm	Pipeline
Social	<p><i>For the investors/buyers:</i></p> <ul style="list-style-type: none"> • Household income <p><i>For the residents</i></p> <ul style="list-style-type: none"> • High demand for exclusive housing from an increasing upper middle class • Lifestyle preferences • Population pressure—diminishing available land 	<p><i>For the investors/developers:</i></p> <ul style="list-style-type: none"> • Home ownership through self-building • Investment for household income. It is also a retirement income. Official retirement benefits are little and unreliable. Further, a majority of Kenya's workforce is in the informal sector and does not make savings in retirement schemes, opting instead to invest in housing and other businesses for retirement income <p><i>For residents:</i></p> <ul style="list-style-type: none"> • Growing demand for the type of housing offered by an increasing middle class. 	<p><i>For the investors:</i></p> <ul style="list-style-type: none"> • Source of household income and guaranteed income in retirement <p><i>For the residents:</i></p> <ul style="list-style-type: none"> • Location is a walkable distance to places of livelihood • Population pressure—rural to urban migration and natural urban population growth.
Economic	<p><i>For investors:</i></p> <ul style="list-style-type: none"> • Profit and reinvestment from both rental and sale income. • Intensification of developments to increase on profit margins due to high demand for prime area • Profiteering from land speculation and escalating land costs 	<p><i>For the investors:</i></p> <ul style="list-style-type: none"> • Profit and reinvestment from both rental and sale income. • Rental income mainly from apartments. Apartments are built outside development guidelines and cannot be sold to interested households under the sectional properties law 	<p><i>For the investors:</i></p> <ul style="list-style-type: none"> • Profit and reinvestment of rental income. Return on investment is higher than from other forms of housing <p><i>For the residents</i></p> <ul style="list-style-type: none"> • Affordable housing when considered against their income
Political and governance	<ul style="list-style-type: none"> • Easing of development regulations due to investors' pressure • Favored in public infrastructure and services • Inequity in development approval processes 	<ul style="list-style-type: none"> • Lax enforcement of development control due to political influence and monetary gain, among other vices, has allowed illegal development of apartments • Strategy of increasing housing stock to cater to increased demand 	<ul style="list-style-type: none"> • Lax enforcement of development control to allow the increase of housing stock in the low-income sector • Political influence • Maintenance of status quo for political advantage

by the high-rise housing blocks. For example, new apartment blocks are filling in old low-rise housing in the middle-income suburbs, while in other cases these new apartments are replacing them, resulting in increased housing density. Due to the tacit embrace of free-market enterprise, the private sector negotiates and is granted favorable terms for housing density in high-income neighborhoods. This practice is exacerbated in neighborhoods that are close to the CBD, such as Kilimani. In low-income neighborhoods, densification is at the whims of developers. In all these cases, the underlying motivation is capital gain. Other factors, such urban order and environment sustainability, are not a consideration.

Overall, the trend in housing has been the rapid increase of densification in various forms to accommodate as many housing units as possible to maximize on profit. Most neighborhoods that are close to the CBD and other places of income-generating enterprise have witnessed increased land value, making it economically sensible to increase the number of households to achieve value for investments.

Within the city of Nairobi, and as affirmed with the three cases, forms of neighborhood densification can be diverse within the same—and even among different—demographic groups. There is a need for scholars and African policymakers to develop their own understanding of urban densification because theories from elsewhere will not explain African urban development paradigms.

The poor performance of Kenya's economy is a reflection of Africa's economies, which are similarly witnessing an increasing poor, urban population, which can only be accommodated within informal settlements that are experiencing great intensification. Africa's economies need to grow, creating more and better-paying jobs and opportunities for formal investments, while enabling the state to intervene in urban housing, especially in the low-income sector.

Politics and Governance

Nairobi has been unable to meet the housing needs of a majority of its residents because this is perceived as a lower priority within the city's hierarchy of development needs. This can be attributed to the fact that the low-income population cannot assert effective influence on the city's leadership and that of the country at large. Both at the national and city level, political will has been lacking in terms of the plight of housing and infrastructure investment for low-income populations. There is always the excuse that other extraneous factors impede any such effort.

As noted in urban literature, solutions to unregulated densification in neighborhoods can be sought from the enforcement of urban planning mechanisms through adherence to principles of good city governance such as accountability, transparency, responsiveness to public needs, effectiveness, efficiency, and observance of the rules of law. There should also be increased and more equitably distributed resources for infrastructural investment, especially in poor and congested neighborhoods. An inclusive urban planning process that seeks the broad participation of the urban

community should be encouraged. Policies drawn from such an engagement will offer opportunities for urban sustainability gains.

Conclusion

The uncoordinated densification experienced in Nairobi is set to continue for the foreseeable future. The growth in urban population, mostly of the poor, is not in tandem with economic performance, meaning that the urban majority will continue to be preoccupied with the struggle of meeting basic needs and will not be concerned with sustainability issues in the urban environment. Further, weak urban governance, ineffective planning policies, and underfunding of infrastructure development, especially in poor neighborhoods, is leading to environmental degradation, impeding any efforts toward sustainable densification.

The Nairobi situation is in line with forecasts on urbanization trends and population growth in African cities. It indicates that the densification of urban settlements will keep rising in the coming decades, and the focus of policy should turn to how this will be managed in order to guarantee planned intensification of neighborhoods. It has been observed that the benefits of urban densification are a central attribute of sustainable urban development, and as such, should be pursued through sustainable urban development mechanisms. This will include greater investment in environmental infrastructure and services, effective and inclusive urban planning and management, promoting economic development through industrialization and commerce, effectively managing the private sector's influence, and lastly, encouraging greater participation of the public in urban planning and development matters. Attention to these matters will be key in creating orderly, livable cities in Kenya and in Africa in general.

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