

he Development in the Americas (DIA) series is the flagship publication of the Inter-American Development Bank (IDB). Each year the IDB presents an in-depth comparative study of an issue of concern to Latin America and the Caribbean. This year's edition, titled Room for Development: Housing Markets in Latin America and the Caribbean, asks a very basic question: Given their high home ownership rates and high average family incomes by developing world standards, why do so many Latin Americans live in relatively bad homes? To try to answer this question, the book begins by assessing the magnitude of the problem and looking at both the determinants and consequences of poor housing outcomes. It then examines, with new data sources and rigorous analytical methods presented in an accessible way, the main factors responsible for the region's poor housing. Finally, it reviews the role of government policies and regulations as well as public housing programs, both at the local and federal level, in shaping housing outcomes and considers policy options for dealing with the region's shortcomings in the financial, construction, and land markets that so greatly impact housing.

This executive summary describes the importance of good housing conditions for welfare, quality of life, and ultimately, development, which is the main motivation behind the IDB DIA series. It also presents the reach of the research behind the 2012 DIA and a summary of its findings. Together, this summary and the table of contents provide just a taste of the rich information and valuable policy implications that distinguish this year's edition of the DIA.

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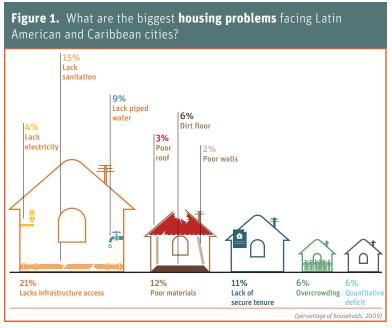
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Room for Development

Latin American and Caribbean countries are the most urban in the developing world, enjoy very high home ownership rates, and boast high average family incomes by developing world standards. Despite significant progress over the past two decades, many of the region's city inhabitants are still poorly housed. Of the 130 million urban families in the region, 5 million rely on another family for shelter, 3 million live in houses that are beyond repair, and another 34 million live in houses that lack either title, water, sewerage, adequate flooring, or sufficient space. Most of these dwellings and many more otherwise satisfactory homes are located in neighborhoods that lack basic urban amenities, such as public transportation, parks, and hospitals. Paradoxically, most families living in inadequate housing are not poor; rather they come from the lower middle-income sector.

Room for Development: Housing Markets in Latin America and the Caribbean looks at both the determinants and consequences of poor housing in Latin American and Caribbean cities. Even though some housing outcomes like access to potable water, sanitary disposal of household waste, and poor quality building materials are worse in rural areas, this book focuses only on urban areas (Figure 1). Urban and rural housing problems are quite different. In rural areas, precisely because the population is scattered and in some cases isolated, provision of basic infrastructure and access to social services is costly and sometimes not even feasible. Moreover, certain factors that are key to the functioning and outcomes of housing markets in urban areas are simply not relevant to rural areas. These include access to certain amenities such as open spaces and green areas or avoiding congestion. They also include so-called economies of agglomeration that come from the concentration of populations, such as links between public transportation and job opportunities, and the lower cost involved in providing basic services to a large number of people.



Source: Room for Development based on Rojas and Medellín (2011).

Note: Numbers in each category may not add up to the totals due to overlapping (e.g. some people who lack sanitation may also lack piped water).

Housing and neighborhood conditions strongly influence the health, nutrition, and education of the population, the environment in which they live, and therefore their access to economic opportunities and vulnerability to social ills.

Health Begins at Home

Living in a bad house is not good for your health, especially if you are a young child. Poor health is one of the most detrimental effects of poor housing. A bad house can become a breeding ground for disease and desolation instead of a nest of security and comfort.

In cities throughout Latin America and the Caribbean, millions of households still live in overcrowded houses with dirt floors and without sanitation, water, and garbage collection. Overcrowding increases the possibility that contagious diseases will spread within the household when one member falls ill. Dirt floors compound the problem as they help transmit parasitic diseases. Lack of water, electricity, and sanitation make it costly and difficult to obtain clean drinkable water, to prepare and store food safely, and to maintain good personal hygiene, compromising the health of residents and fostering the spread of communicable and food borne diseases. Other housing problems such as poor regulation of temperature and humidity can lead to respiratory disease.

Access to safe water also has important consequences for health. Water-borne diseases such as intestinal diarrhea, cholera, typhoid fever, and dysentery, caused by contaminated water supplies, are linked to deficient or nonexistent sanitation and sewage disposal facilities. Safe water is especially important for child health. A number of studies point to access to safe water as a key to better child health (for example, Merrick 1985; Esrey et al. 1991; Lee, Rosenzweig, and Pitt 1997; Jalan and Ravallion 2003). Deficient child health, in turn, has a significant impact on how well a child fares in school.

The characteristics of neighborhoods also affect health in important ways, especially from the broad perspective of public health. Many neighborhoods in Latin America and the Caribbean spring up as informal settlements located on floodplains or hillsides on the periphery of big cities. Often, such neighborhoods are located

near sources of heavy traffic and pollution, industrial activity, solid waste dumps, or vector breeding sites. Living in a neighborhood without parks and places for outdoor recreation and leisure activities also negatively impacts mental and physical health, and may contribute to obesity.

A child's health is highly influenced by the house in which he lives. Consequently, the risk of illness and malnutrition during early childhood is high for low-income children, who tend to live in substandard housing. Many childhood diseases can be traced back to the lack of access to clean water and adequate sanitation, the prevalence of dirt floors, and the overall unhealthy homes in which these children were raised.

The effects of infirmity are hard to undo and likely to affect school enrollment and performance, even into adulthood. In fact, the damage from childhood diseases and malnutrition can be irreversible. Not only do children often miss school due to illness, they can permanently lose cognitive capacity from parasitic infections.

Sites that increase the risk of vector borne diseases: infections transmitted to humans and other animals by blood-feeding anthropods, such as mosquitoes, ticks, and fleas. Examples of vector-borne diseases include Dengue fever, viral encephalitis, Lyme disease, and malaria.

Housing and Education: A Two-Way Street

Housing also affects educational outcomes, although as in the case of health, measuring the direct effect is challenging given the interconnected variables that affect both housing and educational outcomes. For instance, families with higher incomes can afford both better housing and better education for themselves and their children. They can pay for higher quality schooling or out-of-school resources such as textbooks, supplementary materials, or tutoring. In addition, their children enjoy better diets which translate into lower rates of illness and better performance in school. Elite social networks such as those found in better neighborhoods, also place a higher premium on education and thus influence families to invest in more and better education. In other words, people who live in better homes tend to enjoy better educations but, how much of that is due to their incomes and what that can buy them?

Despite these complex interactions, housing does affect educational outcomes through several causal pathways—both direct and indirect. For example, lack of piped water supply and electricity effectively reduce the number of hours a child can study by forcing him to fetch water or limiting his work to daylight hours. Overcrowding creates distractions and thus limits the academic performance of students, as do low levels of sanitation (Goux and Maurin 2005).

Interestingly, the sword cuts both ways when it comes to housing and education. While housing conditions affect educational outcomes, school quality may affect the prices of homes in a neighborhood. Evidence from the United States and Europe shows that real estate (housing) prices are higher in neighborhoods with good public schools. Clearly, this pricing reflects demand for good schools (Black 1999; Figlio and Lucas 2004; Fack and Grenet 2010).

Poorly functioning housing markets and land markets may also lead to residential segregation. This in turn affects outcomes like education through peer and neighborhood effects. Peer effects in the context of education are the influence that classmates have on an individual student's performance and choices. Students who live in segregated low-income areas are likely to have peers who also live in inadequate overcrowded housing, and have few resources to invest in education. Having low-achieving peers decreases the academic performance of individual students and the cohort (Altermatt and Pomerantz 2005). Furthermore, schools in segregated areas lack resources to provide an adequate environment for learning, perpetuating the poverty cycle.

In addition, studies for developed countries show that moving to neighborhoods with a higher proportion of home ownership increases educational stability, with lower dropout and repetition rates. Not surprisingly, constantly changing houses or schools negatively affects student performance (Brennan 2011). Although more research is required in the context of Latin America to understand the relationship between housing, neighborhood effects, and education, research on public housing programs finds a positive effect due to home ownership, less crowding, and housing quality. However, no significant effects were found on educational performance as measured by school attendance. A possible explanation is that often public housing programs are built on the periphery of cities, leading to segregation of low-income families (Ruprah 2011).

Clearly, living conditions and educational attainment are both critical ingredients of poverty reduction and economic growth in cities. Thus, policymakers and planners need to consider the positive spillover effects of housing improvements on education—and vice versa—and shape housing programs to jointly optimize their impact.

Segregation, Neighborhood Quality, and Social Ills

House surroundings and neighborhoods have an effect on the overall quality of life of families, for better or worse. Residential spillover effects are also important, with residents benefiting from or being disadvantaged by neighborhood effects² (Sampson and Raudenbush 1999).

Poorly planned, deteriorated, and unsafe residential areas negatively affect a range of social outcomes. Such areas usually lack adequate public services, parks, or playgrounds, and have been associated with an increase in obesity rates, poor cognitive development among children, and other social ills such as difficulties socializing.

Families living in "bad neighborhoods"—that is, neighborhoods that are run down, segregated, isolated, and typically characterized by violence or other social ills—are more likely to feel marginalized by society. People living in segregated, run-down neighborhoods are more likely to harbor feelings of insecurity and mistrust. Children growing up in distressed neighborhoods may lack access to good quality education and employment, and may be exposed to social risks such as drug addiction, idleness, and gang activities, among others.

Neighborhood characteristics, both physical and socioeconomic, play a key role in defining the opportunities available to individuals and their families. Certain amenities may directly affect education outcomes as well as health outcomes, such as obesity. Indirectly, the degree of social cohesion influences crime and psychological well-being.

Neighborhood effects are typically defined as community influences on individual social or economic outcomes.

During the last 50 years, the region has experienced a rapid process of urbanization, resulting in cities and megacities (those with 10 million inhabitants or more) that are characterized by high levels of income inequality and poor housing conditions. Economic growth has also fed an obviously segregated pattern of housing, with gated communities for middle-income and high-income families proliferating in the suburbs. Although gated communities promote the concentration of the poor in periphery neighborhoods that lack proper infrastructure and promote the formation of slums, some researchers argue that this phenomenon does not represent a major change in the current pattern of segregation in the region (Roberts and Wilson 2009);

Urbanization and population growth in Latin America has frequently outpaced the capacity of governments to provide public services that are crucial to development. Consider, for example, the range of negative spillover effects that a lack of quality public schools can perpetuate. Poorer households have no alternative but to send children to neighborhood public schools while more affluent families usually pay for private schools, even in far-away neighborhoods—what economists would call a substitute good. The children from poorer families not only suffer the consequences of a bad education, but the dangers of an unsafe, unhealthy neighborhood. The lack of adequate housing, together with low quality, or in some cases no public services in the neighborhood, perpetuates inequalities and hinders economic and social development.

Better Housing Markets, Greener Cities?

Housing and land markets matter for the environment in numerous ways. For example, the fuel residents use for cooking depends on whether a house is connected to the electrical grid or to a natural gas pipeline. The layout and insulation of the dwelling impacts energy use for heating and cooling. The density and location of neighborhoods and their access to roads and public transportation networks affects energy consumption for transportation.

In Latin America and the Caribbean, both the share and the absolute number of urban residents will increase dramatically during the next 40 years. Latin America is the only developing country region with high urbanization rates. The urban population in the region totals around 470 million people and is expected to exceed 680 million by 2050 (Angel 2011, p. 46).

As cities grow and households become wealthier, their energy consumption increases. Higher salaries allow people to buy cars, use less public transport, purchase larger homes, and consume more products, all of which lead to an increase in gas emissions (Wilbanks et al. 2007; UN-HABITAT 2011). Greenhouse gas emissions in Latin America and the Caribbean are growing rapidly. The region's carbon dioxide (CO₂) emissions per person increased from 4.6 percent to 5.9 percent from 1990 to 2007. The increase in CO₂ emissions per capita in Latin America was higher than the world's average (World Resources Institute 2011). High emission levels negatively impact the environment, and demand difficult trade-offs. Both governments and citizens should make an effort to reduce emissions. Even though Latin American cities are not big greenhouse gas emitters when compared to more industrialized cities, the region will likely have to share the global burden to curtail emissions in the future, and may benefit from global incentives to do so.

For years to come, housing researchers and policymakers working in the Americas will begin with this volume. It is an invaluable source of data, policies, and research ideas on, inter alia, housing market behavior, subsidy systems, financing options, and regulatory regimes. Whether you require an introduction to the subject, or are well schooled in housing and the development of cities, you'll learn from this book, as I have.

—Stephen Malpezzi Lorin and Marjorie Tiefenthaler Professor Graaskamp Center for Real Estate Wisconsin School of Business

Intermediate cities are growing faster than megacities, and density in cities is declining (Lora, Powell, and Sanguinetti 2008; Angel 2011). This is problematic because lower density cities have higher per capita energy consumption than higher density cities. How the housing market works, and in particular, how land is developed and how houses are built, are key factors that influence city emissions.

The shape of a city, the population density in its built areas, and its compactness represent key determinants of the energy consumption—and hence greenhouse gas emissions—of its inhabitants, particularly for transportation (Angel 2011). Urban sprawl boosts dependence on cars as households must commute longer distances for work and services.³

Urban sprawl refers to cities that are low in density and dispersed. They are usually organized in polycentric patterns that feature single uses for land. For example, zones for housing are separated from zones for retail, office, and other types of development.

High density cities have significantly lower greenhouse gas emissions than sprawling suburbia, on average (Glaeser and Kahn 2010). The closer households are to their work areas and the more efficient the public transport system, the less the emissions per person. Dependence on cars has other adverse affects on human health. For instance, it increases air pollution that affects the respiratory system, and increases automobile crashes, pedestrian injuries, and fatalities. Low density cities promote a more sedentary lifestyle, while higher density cities allow for a lifestyle that generates fewer emissions per capita (Frumkin 2002).

Dense urban settlements provide efficient and effective responses to climate change by reducing per capita greenhouse gas emissions, promoting economic growth, and improving standards of living. First, urban density reduces transaction costs; households and service providers are closer to each other. Thus, cities have the potential to coordinate transport and land use, thereby reducing the distance traveled per person. Mass transportation can use energy-efficient fuels, decreasing emissions, pollution, and congestion. An example is the Bus Rapid Transport (BRT) system implemented in Curitiba, Brazil during the 1970s, and now running in several cities in Latin America, including Bogotá and Mexico City, reducing auto use.

Second, there are benefits due to economies of scale in service delivery. High urban densities allow multiple households to be provided with networked services like water, transport, and electricity at a minimal incremental cost. Serviced urban land boosts real estate value. For example, in Curitiba, property values rose for real estate with access to the bus rapid transit system (FTA 2009).

Third, higher density cities can achieve economies of scope, reaping efficiency gains through joint production of some services, such as water and sanitation. Fourth, cities encourage innovation, thanks to additional benefits derived from knowledge spillovers. Fifth, agglomeration economies reduce production costs for firms because of the benefits of co-location of firms (O'Flaherty, 2005; Glaeser 2011).

Housing and the Quality of Life

Enjoying good health, having children succeed in school, not having to face very long commutes, living free from exposure to pollutants, and being able to relax at home and not worry about crime all contribute to a good quality of life. Thus, it is logical to conclude that housing quality should have a strong impact on how satisfied people are with their lives.

Life satisfaction can be broadly defined as a person's level of happiness with all aspects of life (Campbell 1976). It is natural that the houses in which people live and their neighborhood are major factors influencing their life satisfaction.

Surveys and studies reveal that in Latin America and the Caribbean people's satisfaction with their homes and the cities in which they live weigh heavily in their overall life satisfaction. Dwelling and neighborhood characteristics and urban amenities such as parks and cultural facilities have both direct and indirect effects on life satisfaction (through health channels, for example) (Lora et al. 2010). The influence of these factors on life satisfaction can be measured through an objective approach (by measuring their effect on home prices, gauging what housing amenities convey the highest prices) or by an indirect approach (measuring what housing amenities influence more self-reported life satisfaction). Through the life satisfaction approach, where individuals are asked to evaluate their own perception of a neighborhood amenity, multiple studies have shown that surroundings and access to neighborhood amenities are important determinants of the quality of urban life (Lora, Powell and Sanguinetti 2008).

Another question concerning life satisfaction and housing outcomes relates to the importance of home ownership. Are homeowners happier than nonhomeowners? From an individual perspective, the social impacts of homeownership are not clear. On the one hand, investments in one's home and neighborhood

The first step in solving a problem is understanding it fully. Although this may sound obvious, many decisions are made and public policies enacted without a solid understanding of the problem at hand. **Room for Development** provides a thorough analysis of the most important issues dealing with housing for the poor and, in particular, the functioning of housing markets. The meticulous description of the myriad initiatives and programs carried out for decades in Latin America and the Caribbean provides a rich, rigorous, and indispensable tool for anyone working on this subject. Don't miss it!

—Sergio Fajardo Valderrama Governor of Antioquia, Colombia Former Mayor of Medellin, Colombia

might boost life satisfaction by improving the social, psychological, emotional, and financial health of individuals. On the other hand, homeownership might lead to distress and lower levels of life satisfaction, negatively impacting psychological or physical health, as for example when homeowners live in distressed neighborhoods, face financial losses or simply cannot pay their mortgage. Using data for 17 countries in the region from the opinion survey Latinobarometer, Ruprah (2010) argues that homeowners are happier than nonhomeowners in Latin America.

⁴ The countries are Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru, Paraguay, Uruguay, and Venezuela. The data are for 2000, 2001, and 2003–07.

Finding the Keys to Better Homes in the Region

Unfortunately, while living in a good house built in a good neighborhood is very important for an array of development outcomes, for both individuals and society, a high percentage of families in many Latin American cities do not live in good houses or neighborhoods. How widespread are housing problems? Recent estimates indicate that housing problems affect more than one-third of Latin American and Caribbean families living in cities. Economic growth will likely help narrow the region's housing gaps, but not enough. By 2015, economic growth will have helped only 36 percent of the families currently living in substandard houses. Existing public housing programs will likely help only another 5 percent of families. With these projections, by 2015 about 36% of families—nearly 59 million people—in both urban and rural areas will still be living in inadequate houses, compared to 37 percent of households in 2009.

Some of the 18 countries studied in the DIA are doing better than others in improving housing conditions in general and for the poor in particular. Most countries have made significant progress in reducing quantitative housing shortages in urban areas. The record in reducing qualitative shortages has been less noteworthy. A housing report card for countries in the region in terms of both quantitative and qualitative shortages is presented in Table 1.

Why do so many Latin Americans live in relatively bad homes? In some cases, families cannot afford even a simple basic house. In other cases, even if they earn sufficient income to afford better housing, they cannot get a mortgage. In still other cases, no home is available for them to buy. Why don't private sector builders and developers offer good basic homes for these families? Such units are not as profitable as building homes for wealthier households, or they may not be sufficiently profitable if land or construction costs

Table 1. Urban Housing Deficits in Latin America and the Caribbean by Country, 2009 (percent of households)

				Qualitative shortages	hortages	
Country	Quantitative shortages	Total	Materials	Overcrowding	Infrastructure	Lack of secure tenure
Argentina	5	27	6	9	13	16
Bolivia	30	34	27	23	32	11
Brazil	9	25	2	0	22	7
Chile	3	16	1		2	14
Colombia	6	19	7	4	6	10
Costa Rica	2	10	5	1	₩	9
Dominican Republic	3	32	5	3	25	6
Ecuador	10	31	14	8	19	13
Guatemala	11	46	32	27	32	10
Honduras	2	41	18	14	26	12
Mexico	2	26	6	5	∞	15
Nicaragua	12	58	33	28	52	10
Panama	8	29	7	9	22	13
Peru	14	46	34	11	29	21
Paraguay	3	36	13	6	25	10
El Salvador	8	41	21	16	30	17
Uruguay	0	25	4	c	4	22
Venezuela	8	20	13	9	5	9

Source: Room for Development based on Rojas and Medellín (2011).

are too high, or regulations make them too expensive to produce in some markets. Finally, some families would not want a good home built by the private sector even if they could afford it if they think that they can get it more cheaply by obtaining the land from an illegal developer or by taking over (invading) and building the house themselves.

Gauging which of these factors is more relevant in explaining the region's housing gaps and identifying the policies and regulation changes that may ease them is pivotal for ensuring that Latin American children are well-educated and healthy, that they and their parents enjoy not only good shelter but also a good quality of life, that families are not vulnerable to natural disasters or pollution, that cities have cleaner air and less congestion, and that ultimately all city inhabitants can enjoy the economic and social benefits that urban life has to offer.

This book taps new data sources and applies rigorous analytical methods as it examines the three interrelated factors most often blamed for the region's poor housing outcomes: high housing prices relative to family income, lack of access to mortgage credit, and key factors influencing housing costs such as high land and construction prices. The book looks at the roles that the private sector and the construction industry play in serving—or underserving—low-income housing markets. It also explores the role of government policies and regulations, along with public housing programs, at both the local and federal level, in shaping housing outcomes in the region.

The book is based on the premise that a house is more than four walls and a roof. It focuses on individual home characteristics, including traditional housing inadequacies ("deficits") such as lack of access to piped water and sanitation. But it then expands that focus to examine the importance of neighborhood location, access to urban amenities, urban form, density, and segregation. These factors are a result of how well housing markets function—or fail to function—from how land is developed and serviced to the way homes are built. This approach departs from the traditional analysis of

housing issues that focuses mostly on the attributes of the house and leads to a more complete understanding of how housing influences the quality of life in an urban setting.

To sharpen understanding of urban housing in Latin America and the Caribbean, the book uses a variety of data sources, including the most recent household surveys, and new information on housing, land prices, and regulation for a sample of cities in the region. With these data, the analysis in the book goes beyond national indicators and focuses on housing indicators disaggregated for 41 cities in the region. The use of household surveys allows for the analysis of housing gaps by family income level and affordability.

Closing the region's current housing gap will require an investment of at least US\$310 billion, or 7.8 percent of the region's GDP. The investments needed to meet future housing demand will reach at least US\$70 billion each year. Families, businesses, and governments together must meet this challenge. The private sector must move down market and expand mortgage and micro financing for housing. Households need to mobilize savings, seek technical and public assistance, and inform themselves about the potential of new construction technologies. Municipalities must step up efforts to ensure the supply of neighborhood amenities; together with central governments and utility companies they are major stakeholders in enacting key regulation and providing basic infrastructure.

Policy change is necessary to enable families and the private sector to interact effectively in a healthy housing market and to help poor households meet minimum housing standards. This book revisits the old and traditional housing policies and programs enacted in recent decades to address quantitative and qualitative shortcomings in urban housing. These policies have clearly not been sufficient to close the housing gaps in the region, and a broader scope is needed.

The findings in this book point to some of the blueprints for policy change in housing programs and regulations in our cities. One of the key findings is that housing policies and regulations should

respect and enable household choice in the housing market. The bias in the region for home ownership and for new homes needs to be replaced by a broader vision that values the contribution of, and provides incentives for renting. Barriers to residential mobility need to be overcome to allow families to move rather than remain in substandard housing. Since millions of families in the region build their own homes slowly over time (in so-called incremental housing), improving this process is also important. However, it is important to recognize that families that build their homes themselves can build inefficiencies into their homes and end up in substandard dwellings. Even with government assistance, some of the savings, environmental efficiency, and innovation that come with industrialized construction by the private sector cannot be realized under the practice of "do it yourself" housing.

Providing more and better housing choices to low and middle income families necessarily implies increasing the incentives and easing the constraints to expanding the reach of the formal housing sector, especially those that limit land development, affordable home construction and long-term financing.

Expanding choice in housing markets requires policies and regulation to address the causes rather than treat the symptoms of poor functioning housing markets. This implies focusing on improving land and mortgage markets, ensuring an adequate regulatory framework for these markets to function properly, and providing infrastructure and subsidies to service land for poor households. These policies and regulations should also be retailored to encourage sustainable "green housing" by promoting land preservation, greater density of city populations, and green construction.

Finally, this DIA confirms that many housing programs and expenditures do not benefit the poorest households. This bias towards serving middle class and wealthier households should be redressed by rerouting direct housing provision and housing demand subsidies toward low income households. The oversight and advisory

role of housing ministries should be strengthened in order to control local regulations that discriminate against low-income housing development and mixed land uses. Tax incentives and subsidies should be put in place when appropriate, and public-private partnerships should be promoted to encourage land development and innovative construction technologies for low-income housing. With steps like these, the millions of people residing in cities across Latin America and the Caribbean—and their children—should be able to look forward to better homes, better neighborhoods, and better futures.

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