Addis Ababa City Government Plan & Development Commission | The London School of Economics and Political Science | LSE Cities | Alfred Herrhausen Gesellschaft | giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Policy Brief 1 | Urban Housing and Retrofitting

The Addis Ababa City Block

A high-density, mixed-use and inclusive housing solution for the urban core

A Policy Brief by the Addis Ababa Urban Age Task Force | July 2022

Key messages

- The City of Addis Ababa has set out to build about 650,000 housing units over 10 years (by 2027) in the inner city, about 35% for low-income groups. At the same time, it is demolishing large tracts of informally built, government-owned *kebele* housing to enable commercial development, and rehousing people elsewhere.

- Recognising that displacement harms the poor, disrupting their livelihoods and social networks, the City has recently endorsed a new approach, "co-development," that would allow *kebele* residents to get new homes in the urban core. The City also wants future housing development to be mixed-use, aiming for an appropriate balance between housing, economic activities and infrastructure.

- To meet these objectives, the Addis Ababa Urban Age Task Force has proposed a new approach: the Addis Ababa City Block, made up of buildings with minimal setback from the street, with narrow vertical units at street level topped by several storeys of horizontally oriented space, including housing for middle-income people, collective living areas and commercial space.

- The street-level units would be tailored to the livelihood needs of low-income people, with flexible spaces to accommodate home-based enterprises and the option to sublet extra rooms. The City Blocks would also support liveable density better than individual high-rise buildings, while creating clearly delineated shared spaces for socialising and recreation, with potential for further densification.

- The mixed-use and mixed-income approach would also facilitate cross-subsidies – within individual buildings or blocks, or across blocks – that can reduce the cost to the government of providing units for low-income people. Rough estimates for the Urban Age Task Force still indicate large financing needs, as few Ethiopians can afford unsubsidised units, but the current high-rise model, commonly known as condominium housing, is also heavily subsidised.

- The Task Force also examined the potential for a variety of sustainable materials to be used in large-scale housing construction, to reduce carbon emissions and other environmental impacts as well as the costs associated with material imports. Some options considered, such as straw bale construction, may not be viable (mainly due to social acceptability), but further research is recommended; it is also crucial to adopt circular design principles to reduce waste, and to ensure that materials are sourced sustainably.

Addis Ababa Urban Age Task Force

The purpose of the Addis Ababa Urban Age Task Force (AAUATF) is to support the City of Addis Ababa in advancing its strategic development agenda. The Task Force's work builds upon the Addis Ababa City Structure Plan (2017 -2027), exploring opportunities for compact and well-connected urban growth that can be delivered through integrated city governance.

In addition to advisory activities and capacity building, it identifies strategic pilot projects to address complex urban challenges around housing, urban accessibility, green and blue infrastructure, and urban governance.

The AAUATF is a partnership between the Addis Ababa City Plan and Development Commission (AACPDC), LSE Cities at the London School of Economics and Political Science, the Alfred Herrhausen Gesellschaft and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

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Addis Ababa Urban Age Task Force

Founding Partners

The Task Force is a partnership between the Addis Ababa City Administration Plan & Development Commission (AAPDCo), LSE Cities at the London School of Economics and Political Science, the Alfred Herrhausen Gesellschaft and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

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1. Context

Addis Ababa needs vast amounts of new housing — both to keep up with rapid population growth, and to improve living standards. The population, estimated at 3.7 million as of 2018, is growing by about 3.8% per year,[1] and much of the existing housing is substandard, including the informally built, government-owned rentals, known as *kebele,* where many of the poor live.

The Ethiopian capital faces a serious housing shortage, especially for low-income households, who make up 80% of the population.[2] Through the national Integrated Housing Development Programme (IHDP), 314,000 new units were built between 2006 and 2018, but demand far exceeds the new supply.

In an effort to close that gap, the Addis Ababa City Structure Plan (2017–2027)[3] aims to build another 650,000 units, with about 35% set aside for low-income groups. Although to date, a large share of new housing construction has occurred in the suburbs, the plan calls for using 43 km^2 of inner-city land. In central areas that are redeveloped, the City is committed to rehousing people locally. It is also aiming for development is to be mixed-use, balancing the need for housing, economic activity and infrastructure.

This briefing paper, based on research conducted by Ethiopian and international experts for the Addis Ababa Urban Age Task Force, presents a new concept for housing development in the urban core: the Addis Ababa City Block, made up of buildings that combine narrow vertical units at street level with several storeys of mixed-use, horizontally oriented space above.

After providing some context, the paper lays out the key elements of the City Block, including its main advantages and potential variations. Another section examines the broader issue of housing affordability in Addis Ababa and the fiscal sustainability of current approaches to housing provision. Preliminary estimates of development costs are then presented, along a brief discussion of the potential for public-private partnerships in which private developers subsidise affordable housing with the profits from market-rate projects. A final section briefly explores options for making large-scale housing construction in Addis Ababa more sustainable, including through alternative materials.

2. Housing and livelihoods in Addis Ababa

All across Addis Ababa, hundreds of thousands of low-income people live in tight clusters of tiny, single-storey houses — built informally, but owned and rented out by the government for an average of about 20 Birr per month (about US$0.41).[4] Domestic life spills out onto public spaces, with people cooking, doing laundry, selling items and socialising at the same time.

Many *kebele* residents make a living through home-based businesses: selling food and drinks, providing services, raising small animals, renting out spare rooms. In front of the houses, rows of makeshift shops, built out of sheet metal and topped with blue tarpaulin, line the streets.[5]

Kebele residents live in poverty, but they have access to prime urban spaces where they can generate income. That land is in high demand, however, and large tracts of *kebele* housing have been demolished in recent years, replaced by modern commercial development. Even if the displaced *kebele* residents are rehoused, it is typically in high-rise condominium complexes on the outskirts of the city. Though the quality of the housing is better, livelihood opportunities can be scarce, and social networks are broken. As a result, people have struggled, and many have rented out their units and returned to the inner city.[6]

Recognising the problem, Ethiopian policy-makers have decided to shift away from this type of urban redevelopment, and instead favour projects that allow people to keep living in the inner city, an approach dubbed "co-development". At a media briefing in June 2021, an official from the Addis Ababa Housing Development and Administration Bureau explained that the goal of the new approach is to provide residents access to more modern housing and amenities while protecting their safety and maintaining their social relationships.[7] However, the details of how this will be done, in terms of housing form, legal framework and financing, have yet to be determined.

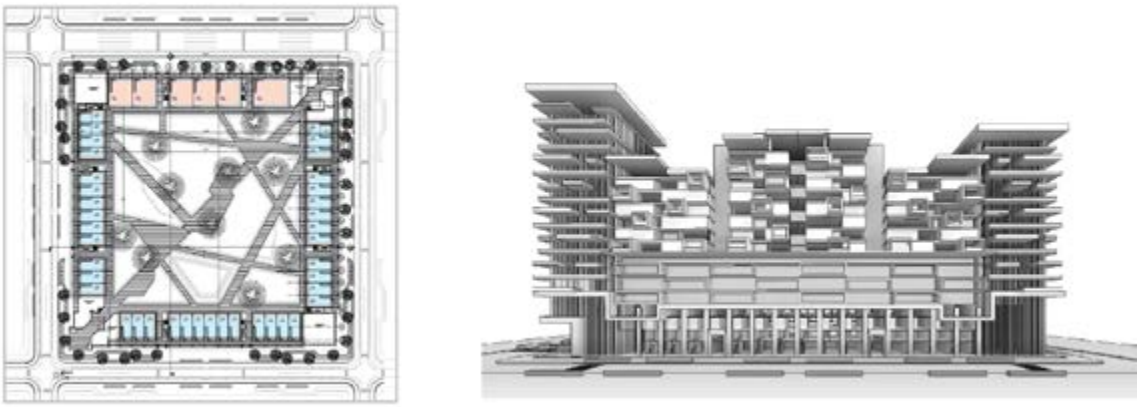
3. A new concept for housing development

The Addis Ababa City Block concept was developed by the Ethiopian architect Elias Yitbarek Alemayehu from ideas that emerged from a workshop with international experts hosted by the LSE Executive MSc in Cities (EMC) Lab in June 2019. It aims to provide a model for high-density, multi-storey, mixed-income, mixed-use development that makes the most of prime inner-city land to meet human and economic needs.

As shown in Figure 1, it has two main elements: **perimeter blocks**, with contiguous buildings along the entire street frontage, set back minimally, and **Horizontal Above Vertical** (H/V) construction, with narrow vertical units at street level topped by several storeys of horizontally oriented space.

Perimeter blocks are essential parts of the urban fabric in many major cities, from Barcelona, to London, to Buenos Aires and São Paulo. Well-designed perimeter blocks can enable cities to achieve high density without building skyscrapers, as they use land more efficiently than stand-alone buildings with large setbacks or wasted spaces between them. They also create more clearly defined public versus private spaces, including shared courtyards for recreation, social interaction and other activities.

Figure 1: The key elements of Addis Ababa City Blocks, in a larger and a smaller version.



120m x 120m

80m x 80m

In Addis Ababa, the Task Force is proposing perimeter blocks of 120x120 metres or 80x80 metres. The dimensions are adopted from the City Structure Plan (2017–2027), which describes "high density mixed residence land use" along mass transport corridor lines, "with a depth of up to 80 m or 120 m" (p. 46). The plan calls for commercial activities and businesses at the ground level, to create lively streets.

The narrow vertical units in the H/V concept were inspired by the Vietnamese "tube houses": tall walk-up buildings with a narrow frontage (2–4 metres) built for a single household. The bottom floors of each building would provide similar housing for low-income people in Addis Ababa, flanked by commercial space. In the storeys above, the H/V concept adds conventional apartments for middle-income households. Larger buildings could also include offices and collective living spaces.

4. Core principles of the Addis Ababa City Block

The H/V and perimeter block concepts are built on five core principles, all aligned with the City's stated policy priorities and the requirements of the City Structure Plan (2017–2027): flexibility, livelihood continuity, functional and income mix, densification, and cross-subsidisation.

Flexibility

Addis Ababa evolved organically in its early decades, without formal planning,[8] resulting in an inner city with a wide range of plot sizes and shapes: from very small pockets, to large plots of more than 500 m^2. The Addis Ababa City Block concept is thus deliberately flexible, to fit different plot sizes and zoning requirements, and to provide the functional and income group mixes needed for financial viability.

In large areas that have been cleared, including along mass transport corridors and on the outskirts of the city, full perimeter blocks can be built. On odd-shaped parcels, U- or L-shaped blocks could be built, or else single linear blocks; smaller plots could also hold smaller blocks. Similarly, the height of the buildings will vary: from walk-ups with as few as five storeys, to large buildings with up to 16 floors.

Livelihood continuity

The housing units for low-income residents would be duplexes with direct street-level access, and the spaces would be flexible, to accommodate home-based enterprises, production units and rooms to sublet. This would ensure that people can continue and even enhance their livelihoods, with visibility from the street to attract customers. The H/V concept would also provide additional space for production units and stores at the basement level. Furthermore, the design of the duplexes would facilitate

room rentals by providing ways to access the spare room without passing through the owner's private spaces.

Functional and income mix

A highly prized feature of Addis Ababa is its vibrant city life, with mixed-function urban spaces and the intermingling of income groups. The latter helps avoid marginalising the poor and contributes to public safety, while the functional mix reduces travel needs and contributes to socio-economic activity. Recent development has shifted away from mixed-use, mixed-income spaces in pursuit of greater security and prestige, but the H/V concept embraces and builds on the city's legacy.

As shown in Figure 2, a full-size H/V building could include duplexes for low-income people in the lower levels, including space for home-based enterprises; commercial spaces in the corners; apartments for middle-income people in the upper storeys, as well as collective living spaces — an option for young people who have just joined the workforce, for instance.

In practice, the mix of functions and income groups within each building, perimeter block or cluster of perimeter blocks would vary. For example, some 80x80 m blocks might be designed for people in the lowest two income quintiles, while some 120x120 m blocks might house higher-income people. A mix of blocks could be built within a neighbourhood, or one block could be placed within another. Even when income groups are mixed in a single block, separate access can be provided.

One advantage of perimeter blocks is that they clearly demarcate private, semi-private and public spaces. The courtyards can hold social and communal facilities, such as green spaces, playgrounds and sitting areas; nurseries/kindergartens, clinics and social function spaces can also be built, to serve several blocks.

Notably, the H/V concept does not include car parking facilities, as residents would be expected to use other mobility options, such as public transport, walking or cycling, or new services, such as shared vans. Omitting parking garages not only reduces construction costs, but frees up the basements, which are usually allocated for parking, to be used for production units and stores for home-based businesses.

Densification

The land within Addis Ababa's administrative boundaries is nearly all developed, so efficient use of any remaining vacant land, and of built-up areas that are razed for redevelopment, is crucial. This is why the Task Force has embraced the perimeter block concept, with all multi-storey buildings (see Figure 3).

As noted, perimeter blocks use space more efficiently than stand-alone buildings, which often have large unused spaces around them (see Figure 4). This would enable the City to meet its density needs with lower-rise buildings, which are less costly, better meet residents' livelihoods needs, and — through the shared courtyard spaces — also foster a greater sense of community. A comparison of the net density of H/V perimeter blocks with condominium complexes of similar height built for the government's 40/60 programme (which provides units to households who have saved up at least 40% of the cost) showed the perimeter blocks required half as much land to provide a similar number of residential units.

Over time, Addis Ababa might need to densify its housing even more, and doing so with more high-rises could affect the liveability and safety of neighbourhoods. The City Block concept includes densification options that could be implemented as needed, such as adding smaller housing unit modules at the corners of courtyards within perimeter blocks.

Figure 2: Income and functional mix in a large H/V building.

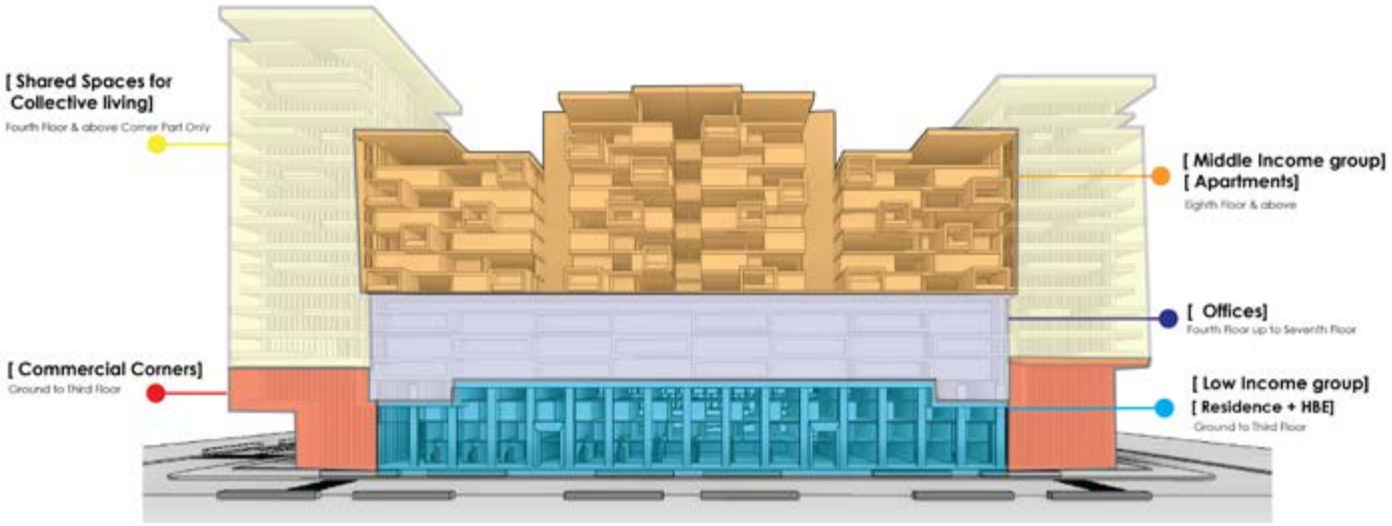


Figure 3: Artist's rendering of a perimeter block built in an area cleared for redevelopment.

Cross-subsidisation

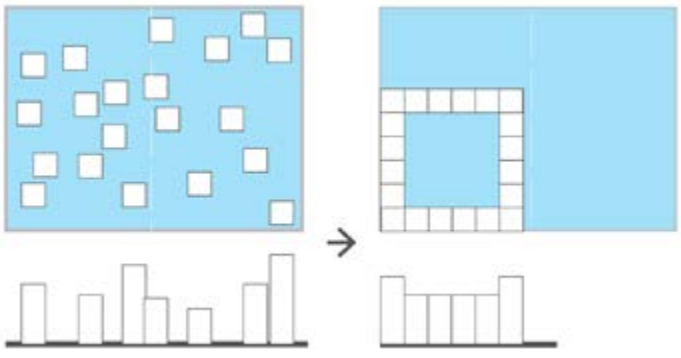
Addis Ababa's urban core is prime real estate, with highly developed infrastructure, facilities, amenities and services. Private investors see profitable investment opportunities, while the government wants to enhance the city's image and use the land more efficiently. Existing residents, meanwhile, want to maintain their homes, jobs and social networks, which are crucial for their survival.

The Addis Ababa City Structure Plan (2017–2027) shows most of the inner city is to be redeveloped, continuing an ongoing process. A central question for the Urban Age Task Force was whether the land could be redeveloped in a way that results in a "win-win" for the government, private developers and low-income residents alike. The H/V and City Block concepts offer several options to do so.

Since land in Ethiopia is state-owned, the government offers reduced-price leases to developers if they invest in mixed-use buildings with subsidised housing for low-income people. Profits from the units for middle-income households and from commercial spaces could help offset the cost. Low-income residents, in turn, might be able to pay more than they do now, as home-based enterprises and room rentals can increase their income. Moving into a vertical unit would thus become an investment in a better life.

Developers could also put different functions in different parts of an H/V building, perimeter block or cluster of blocks in different places to maximise profits. For instance, commercial spaces and higher-cost units could be placed along major streets, with units for low-income people on secondary streets, or in a smaller block within the larger block. Even with those adjustments, any of these options could still create vibrant, mixed-income, multi-function urban areas, in line with the City's priorities. It would also generate additional tax revenue, while advancing social justice by avoiding displacement.

Figure 4: Comparison between stand-alone buildings and a perimeter block.



5. The affordability challenge

One of the greatest challenges in building housing in Addis Ababa is that few Ethiopians can afford to pay full price. In 2019, the cheapest new house built in the country was a 20 m² structure that cost 600,000 Birr (in purchasing power parity terms equal to US$49,530), which the Center for Affordable Housing Finance in Africa (CAHF) estimates would be affordable to only a small fraction of urban residents.[9]

The vast majority of Ethiopians do not have enough savings for the down payment, however, nor are they taking out mortgages. As of 2021, the state-owned Commercial Bank of Ethiopia, the only authorised lender in the IHDP, held only 247,000 residential mortgages nationwide. Also, while the average cost per unit delivered by the IHDP is just under 1.1 million Birr (about US$24,000), based on actual mortgage balances, CAHF concludes that prices must be "heavily subsidised", and buyers pay far less (p. 118). Overall, more than 60% of Addis Ababa residents rent their homes.

A 2019 review by the World Bank found that Ethiopia's approach to housing provision, mainly through the IHDP, was meeting only a fraction of annual demand, was "fiscally unsustainable", and produced housing that was unaffordable to the bottom 40% of the population – who simply couldn't afford to buy any formal housing.[10] The report also noted that only 7% of land parcels in Addis Ababa were auctioned for private development, straining government finances both through direct costs, and forgone revenue. Among the reforms recommended was to engage the private sector in more housing construction and use government revenues to provide targeted subsidies for homebuyers.

6. Costing out a City Block pilot

A natural next step for the Addis Ababa City Block concept is to launch a pilot project. Based on an early version of the concept, CAHF developed a rough estimate of construction and development costs. The idea is for a private developer to be given free or low-cost access to land to build a mixed-use, high-rise development in a prime area with significant potential for value extraction, in exchange for subsidising the development of affordable housing elsewhere in the urban core.

For modelling purposes, the high-end development, a 16-storey, 120x120 m block, was situated in the south of the Sengatera area, which already includes hotels, embassies, a stadium and a railway station, and the five-storey, 120x120 m affordable housing project was situated in the Amstegna Lideta Sub-City. The two sites are separated by a major road and are relatively close to major public transport routes.

Table 1. Total estimated construction and development costs for high-end perimeter block

COST ELEMENT	Total cost (Birr)	Cost per m² of GCA (Birr)	Cost per m² of GLA (Birr)	Total cost (US$ at 43.99/Birr)	Cost per m² of GCA (US$)	Cost per m² of GLA (US$)	% of total cost
Total building construction and associated development costs	**3,723,810,693**	**46,065**	**62,049**	**84,651,300**	**1,047**	**1,411**	**87.87**
Land costs:							
Land preparation	354,363,194	4,384	5,905	8,055,540	100	134	8.36
Bulk infrastructure charges	159,465,715	1,973	2,657	3,625,045	45	60	3.76
Total land costs	**513,828,909**	**6,357**	**8,562**	**11,680,585**	**144**	**194**	**12.12**
TOTAL DEVELOPMENT COST INCLUDING LAND	**4,237,639,602**	**52,422**	**70,611**	**96,331,885**	**1,192**	**1,605**	**100.00**

Source: Pienaar, 2022, Table 6.[12]

Table 2. Total estimated construction and development costs for affordable perimeter block

COST ELEMENT	Total cost (Birr)	Cost per m² of GCA (Birr)	Cost per m² of GLA (Birr)	Total cost (US$ at 43.99/Birr)	Cost per m² of GCA (US$)	Cost per m² of GLA (US$)	% of total cost
Total building construction and associated development costs	**768,563,733**	**37,447**	**45,934**	**17,471,328**	**851**	**1,044**	**78.32**
Land costs:							
Land preparation	180,458,481	8,793	10,785	4,102,261	200	245	18.39
Bulk infrastructure charges	32,335,467	1,575	1,933	735,064	36	44	3.29
Total land costs	**212,793,948**	**10,368**	**12,718**	**4,837,325**	**236**	**289**	**21.68**
TOTAL DEVELOPMENT COST INCLUDING LAND	**981,357,681**	**47,815**	**58,652**	**22,308,653**	**1,087**	**1,333**	**100.00**

Source: Pienaar, 2022, Table 10.1

The high-end complex was costed out with a one-level basement for parking, storage, small production units and mechanical areas; four floors of vertically stacked duplexes (104 units), with commercial retail and mixed use in the corners; 64 high-income units on floors 4–7; 160 middle-income units on floors 8–12; collective living spaces (affordable rooms with shared facilities) at the corners of floors 4–12 and across floors 13–15; and various social and green spaces. Including room rentals and collective living, 621 households could be accommodated. Total land needs were estimated at 2.25 hectares.

The affordable complex was costed out with no on-site parking; 52 duplexes on the ground and first floor; 180 affordable apartments of different sizes on floors 2–4; four corner boxes on the ground floor for small businesses; communal living in the corners of floors 1–4; and some social and green spaces. Overall, 332 households could be accommodated. Land needs were estimated at 2.25 ha.

Detailed descriptions of these assumptions, as well as of land assembly and preparation needs, existing infrastructure, engineering services, building construction and other development costs, as well as the methodology of the analysis and its limitations, are provided in a background paper,[14] along with detailed tables with the resulting estimates. Tables 1 and 2 summarise those estimates.

7. Could a public-private partnership be viable?

Analysis for the Task Force indicates that building perimeter blocks through a public-private partnership — with the City calling for competitive bids from private developers to obtain high-value public land at a discount, in exchange for internally subsidising affordable housing — could, in principle, be a highly effective mechanism for achieving the government's stated objectives.

For the government, there are multiple benefits, including a sharply reduced need for public capital investment, the use of private sector expertise and capacity, opportunities for local economic development and job creation, improvement of the public environment, and new revenue.

The challenge that remains is to find ways to make such a project financially viable for the private sector. The costing exercise found that construction costs for both blocks would likely be too high for profits from the high-end units to entirely subsidise the cost of building the affordable block.

A scan of real estate listings for units built in 2020–2021 found low-priced units for 1.02–2.4 million Birr (about US$23,000–54,545);[14] mid-priced units for 7–11 million Birr (about US$160,000–250,000); and luxury units for 14.5–18 million Birr (about US$330,000–409,000). The estimated cost of middle-income units in the high-end perimeter block, meanwhile, is US$160,508, while the high-income units would cost US$509,479. This is close to the high end of market prices in the respective categories, leaving little room for mark-ups to provide adequate cross-subsidies. The average unsubsidised cost per unit for duplexes in the affordable block, meanwhile, is US$113,451, and for the apartments above, US$47,969. To compete effectively in the marketplace, CAHF estimates, these units would have to be subsidised by 50–75%.

As noted earlier, the Ethiopian government is already heavily subsidising housing, so the Addis Ababa City Block pilot cost estimates do not necessarily compare unfavourably with the status quo. However, further work is needed to find ways to reduce costs and to find potential additional funding streams to make a public-private partnership more financially viable. Follow-up analyses will also need to reflect changes to the concept made after input from Ethiopian professionals and government officials.

8. Exploring sustainable materials

A final aspect of the Urban Age Task Force's research on housing in Addis Ababa involved the potential for alternative materials to be used, in order to make construction more sustainable while reducing the need for costly imports.[15] The sustainability of a large-scale housing development depends on multiple factors beyond the materials used — from the site choice, to the design, to institutional capacities, to the social and economic impacts of the project. Still, materials play an important role.

In Ethiopia, the most commonly used materials used in formal new construction are cement, sand, coarse aggregates, hollow concrete blocks and reinforcement bars (rebar).[16] There is significant waste in the use of those materials, and cement, concrete blocks and rebar together account for more than 90% of the embodied energy and CO_2 emissions in construction projects. A study for the Task Force therefore examined how projects such as perimeter blocks could reduce the use of these materials.

Key strategies explored included replacing concrete elements with renewable substitutes where possible; reducing the volume or thickness of structural elements (eg, thinner floor slabs); and replacing some of the cement with supplementary cementitious materials (SCM). Materials such as timber or straw bales, for example, store carbon for the lifetime of the building and even beyond, if recycled and repurposed.

The study found that several such materials could be viable, in principle, and they could potentially create job opportunities. However, it is the view of the Task Force that the need for social acceptability — and for the perimeter blocks to be attractive to buyers and renters — limits the options. For example, straw bale construction has drawn growing interest in some developed-country markets, but in Ethiopia, it would likely be too closely associated with *chika*, the material traditionally used to build informal dwellings.

Task Force members also discussed the potential for incorporating two Ethiopian-made, sustainable alternative materials: Hydraform blocks, a type of sun-dried brick used mainly as a temporary material,[17] and Agrostone panels, made of agricultural and industrial waste materials, magnesium-based chemicals as a binder and fibreglass as reinforcement.[18] While neither material is of quite high enough quality for widespread use yet, with some further improvement, Task Force members see greater potential for Agrostone. Other sustainable materials, efficiency measures, and especially measures to reduce construction waste also warrant further exploration.

Conclusion

For some time, the issue of housing design has been sidelined from policy discussions, which have instead focused on socio-economic aspects. The Addis Ababa City Block is an attempt to reconnect the two, showing how the physical form of housing can be tailored to better meet socio-economic needs.

The new concept addresses spatial layout, aesthetics and density requirements on the one hand, and socio-economic priorities on the other, including mixed functions, a mix of incomes and improved livelihood opportunities for the poor. The Task Force also addressed affordability, exploring subsidy mechanisms and the potential for improved sustainability through the use of alternative building materials.

During validation workshops for the perimeter block and the H/V concept, stakeholders noted that a citywide application of the concept requires further scrutiny. It was, however, appreciated as an alternative to prevailing approach of stand-alone high-rise buildings. More research is thus needed to explore more deeply how the Addis Ababa City Block concept could contribute to shaping the overall physical layout and fabric of the city and social interactions among residents, and to improving livelihood opportunities for low-income households. Further research to compare the densities achievable through various building types could also be beneficial in convincing city officials and professionals alike of the advantages of the City Block concept.

Endnotes

1 This is the official estimate, which is widely viewed as conservative; by UN estimates, Addis Ababa had about 4.8 million residents as of 2020 and is expected to reach 8.9 million by 2035. See UN DESA, 2018, "World Urbanization Prospects 2018."

2 KDI, 2018, "Enhancing National Housing Development and Administration."

3 https://www.business.gov.et/assets/files/construction-permit/Addis-Ababa-City-Structure-Plan-Summary-Report-(2017-2027).pdf

4 As of 2007, there were about 149,000 *kebele* housing units in Addis Ababa – about 24% of total housing units at the time, and about 38% of total rental units. Significant redevelopment has occurred since then, and the rental stock grew by almost one third, but *kebele* housing is still common. See Matsumoto and Crook, 2021, "Sustainable and Inclusive Housing in Ethiopia: A Policy Assessment."

5 For a detailed look at *kebele* life, as documented in master's theses done at the Ethiopian Institute of Architecture Building Construction and City Development (EiABC), see Appendix I of Alemayehu, 2021, "Addis Ababa City Block: The Horizontal Above Vertical (H/V) Concept for Livelihood Continuity."

6 A study of low-income households that won the lottery for IHDP units found that 46% moved in, with generally positive outcomes, but the rest rented them out instead. See Franklin, 2019, "The Demand for Government Housing: Evidence from Lotteries for 200,000 Homes in Ethiopia." For media coverage, see Gardner, 2016, "Ethiopians Adjust to Life in Africa's Most Ambitious Social Housing Project," *Reuters*; 2017, "'Addis Has Run out of Space': Ethiopia's Radical Redesign," *The Guardian*.

7 FanABC, 2021, "የቀበሌ ቤቶች ባሉበት አካባቢ ነዋሪዎቹ ሳይነሱ የቤት ማልማት ስትራቴጂ ሊተገበር ነው."

8 For more historical perspective, see, e.g., UN-Habitat, 2017, "The State of Addis Ababa 2017: The Addis Ababa We Want."

9 The latest CAHF estimate puts the share at 25%. See Kihato and Karuere, 2021, "Ethiopia," in *Housing Finance in Africa: A Review of Africa's Housing Finance Markets – 2021 Yearbook*. The 2020 edition of the Yearbook, however, put it at 4%. The reason is that to buy a 600,000 Birr home in 2020, a person needed to provide only a 23% deposit, so the loan value would be 462,000 Birr – affordable to only 4% of urban Ethiopians. In 2021, the deposit required was 40%, so the loan amount is just 360,000 Birr, affordable to 25% of urban Ethiopians. However, the difference between a 23% deposit – 138,000 Birr – and a 40% one – 240,000 Birr would almost certainly make housing less accessible to most prospective buyers, as saving up that much money on a low income would be quite challenging.

10 World Bank Group, 2019, "Unlocking Ethiopia's Urban Land and Housing Markets: Urban Land Supply and Affordable Housing Study."

11 Pienaar, 2022, "Finding Housing Affordability: cost estimates and affordability paths for the Addis Ababa City Block."

12 Pienaar, 2022, "Finding Affordability."

13 Pienaar, 2022, "Finding Affordability."

14 Notably, CAHF finds that even these low-end units are unaffordable to most Addis Ababa residents. See CAHF's housing affordability calculator: https://housingfinanceafrica.org/documents/calculating-mortgage-and-housing-affordability-in-africa/ In Ethiopia, a US$23,000 house would cost US$696 per month at an interest rate of 12.5% over 18 years, assuming a 20% deposit. This would only be affordable to 1% of Ethiopia's urban population.

15 Langmaack, H., Scheibstock, P., and Kraubitz, T. 2022, "Sustainable Building Materials: exploring green construction options for new housing in Addis Ababa.

16 Woubishet Z. T. and Abegaz, K. A. 2019, "Embodied Energy and CO_2 Emissions of Widely Used Building Materials: The Ethiopian Context," *Buildings*.

17 Ahmed, 2015, "Production Possibility of Hydraform Block as Walling Material for Affordable Housing in Jigjiga."

18 W. Z. Taffese, 2012, "Low-Cost Eco-Friendly Building Material: A Case Study in Ethiopia," *International Journal of Civil and Environmental Engineering*.

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Technical Report 1.2 | *Finding Housing Affordability: cost estimates and affordability paths for the Addis Ababa City Block* by Jacus Pienaar

Technical Report 1.3 | *Sustainable Building Materials: exploring green construction options for new housing in Addis Ababa,* by Hannah Langmaack, Peter Scheibstock and Thomas Kraubitz (Buro Happold)

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Credits

This policy brief was written by **Marion Davis** based on two papers commissioned by the Addis Ababa Urban Age Task Force: Technical Report 1.2 Finding Housing Affordability: cost estimates and affordability paths for the Addis Ababa City Block, by Jacus Pienaar and Technical Report 1.3 Sustainable Building Materials: exploring green construction options for new housing in Addis Ababa, by Hannah Langmaack, Peter Scheibstock and Thomas Kraubitz (Buro Happold)

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