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Housing and Urbanization in Africa

Unleashing a Formal Market Process

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Abstract

The accumulation of decent housing matters both because of the difference it makes to living standards and because of its centrality to economic development. The consequences for living standards are far-reaching. In addition to directly conferring utility, decent housing improves health and enables children to do homework. It frees up women's time and enables them to participate in the labor market. More subtly, a home and its environs affect identity and self-respect. Commentary on the emergence of an African middle class has become common, but it is being defined in terms of discretionary spending and potential for consumer markets. A politically more salient definition of a middle class will be in terms of home ownership and the consequent stake in economic stability. This paper examines why such a process has not happened in Africa. The hypothesis is that the peculiarity of housing exposes it to multiple points of vulnerability not found together either in private consumer goods or in other capital goods. Each point of vulnerability can be addressed by appropriate government policies, but addressing only one or two of them has little payoff if the others remain unresolved. Further, the vulnerabilities faced by housing are the responsibility of distinct branches of government, with little natural collaboration. Unblocking multiple impediments to housing therefore requires coordination that can come only from the head of government: ministries of housing have neither the political weight nor the analytic capacity to play this role effectively. Yet in Africa, housing has never received such high political priority. This in turn is because the centrality of housing in well-being and of housing investment in development has not been sufficiently appreciated.

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Housing and Urbanization in Africa: Unleashing a Formal Market Process

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The accumulation of decent housing matters both because of the difference it makes to living standards and because of its centrality to economic development.

The consequences for living standards are far-reaching. In addition to directly conferring utility, decent housing improves health and enables children to do homework. It frees up women's time and enables them to participate in the labor market.[1] More subtly, a home and its environs affect identity and self-respect. Commentary on the emergence of an African middle class has become common, but it is being defined in terms of discretionary spending and potential for consumer markets. A politically more salient definition of a middle class would be in terms of home ownership and the consequent stake in economic stability.

The role of housing in economic development is perhaps not sufficiently recognized. Investment in housing is often regarded with disquiet due to its association with speculative property bubbles and financial instability. Yet in developed economies, housing is by far the most important tangible asset. For example, the total private wealth of households in Britain is $15 trillion, of which $5.5 trillion is property, overwhelmingly housing.[2] The aggregate process of national asset accumulation is thus fundamentally bound up with investment in housing.

Not only is housing the single most important asset, it completely dominates an economically strategic asset class. Investment is conventionally disaggregated by agency and type. Agency distinguishes between private and public, the two generally being complements. Private investment is usually seen as particularly important for development because private agents are more likely to discipline their decisions. A further disaggregation of private agency is between firms and households, the two having different objectives and different access to finance. Housing is overwhelmingly a private, household investment.

Investment by type disaggregates into equipment and structures, these also being complements. In low-income countries, this distinction is particularly important because equipment is imported, whereas structures are internationally nontradable and so must be produced domestically. Investment in structures thus has a counterpart in the output of the construction sector. And unlike equipment, it can be frustrated by failures in either domestic demand or domestic supply.

Combining the two key analytic distinctions, housing dominates the category of private, household, nontradable capital. Yet with regard to African investment, this massive and distinctive category has received far less analytic and empirical attention than either public investment or investment by firms.

A further respect in which housing matters for economic development is through the labor market. Construction creates employment, particularly because housing is typically more labor-intensive than other structures (such as public infrastructure and commercial property) and considerably more so than equipment, which in Africa is imported. As the major asset class and labor intensive to produce, investment in housing has the potential to make a substantial

contribution to aggregate labor demand. Even in high-income countries, this is apparent during periodic housing booms. However, in low-income countries that are only partly through their urbanization process, housing has the potential for prolonged and substantial employment demand, as in the 19th-century miracle cities of Manchester, Chicago, and Melbourne. During the peak decades, their main activity was their own construction.[3] In addition to this direct effect, housing (together with transport services) determines the ease with which workers can access employment and firms servicing local markets can reach consumers.

In Africa, the process of formal investment in housing for ordinary urban households has yet to get under way. The typical household lives in a low-cost shack, likely to have been self-built. It will not comply with official building standards. Rights of occupancy, though probably robust, will be informal, and the building will have been self-financed. The shack will be located in a shantytown, which itself is informal: the local government will not have provided roads, electricity, street lighting, water, or sewerage.

Housing provision in the 21st-century African city contrasts with 19th-century London and many other such cities.[4] The fundamental conditions of migration and income were similar. Between 1800 and 1900, London grew from a population of 1 million to 6 million, as peasants migrated to the city. Further, per capita income levels in 19th-century London were comparable to those in 21st-century urban Africa. Yet housing growth in 19th-century London, and indeed throughout Europe, remained largely formal. The new housing for the English peasants who migrated to London was built by small firms. Typically, the freehold on the land would be owned by one of the great estates, which therefore had the incentive to plan the development process. This was inequitable, as the estates captured much of the value of land appreciation but had the advantage of creating incentives to invest in local public goods and services. The estates would install basic infrastructure—such as a road network on a tract of land—and then sell off leaseholds in smaller plots to building companies.[5] A building company might build a row of houses, constructed using standardized architectural plans and labor-intensive techniques. Only around 20 percent of houses were owner-occupied, most occupants being tenants. Their landlords were usually not large corporations; instead, they were older people who invested their retirement savings in a few properties, living in one of them and renting out the others. This produced three desirable side-effects. The housing was professionally built to standard designs and therefore easy to value. Its construction generated jobs, and there was mixed occupancy by tenants, owner-occupiers, and landlords, tending to produce both better maintenance of the housing stock and greater social cohesion.

This paper examines why such a process has not happened in Africa. Our hypothesis is that the peculiarity of housing exposes it to multiple points of vulnerability not found together either in private consumer goods or in other capital goods. Each point of vulnerability can be addressed by appropriate government policies, but addressing only one or two of them has little payoff if the others remain unresolved. Further, the vulnerabilities faced by housing are the responsibility of distinct branches of government, with little natural collaboration. Unblocking multiple

impediments to housing therefore requires coordination that can come only from the head of government: ministries of housing have neither the political weight nor the analytic capacity to play this role effectively. Yet in Africa, housing has never received such high political priority. This in turn is because the centrality of housing in well-being and of housing investment in development has not been sufficiently appreciated.

In 19th-century London and the other cities in which adequate housing was built by an efficient market-led process, success rested on simultaneously resolving five potential vulnerabilities. First, *formal housing was affordable*. Building regulations were set at a level appropriate for the level of income rather than based on some elite notion of "desirable" accommodation. As a result, the building costs of adhering to formal standards were not pushed so high as to induce informality: they could actually be enforced. Second, there was *clarity in legal rights*. Leaseholders had enforceable title and could in turn use title as collateral because there was a functioning legal process of foreclosure. Landlords had clear rights to evict tenants for unpaid rent: indeed, tenant security was week-to-week. Third, formality and legality unleashed *financial innovation*. Banks have seldom been able to provide finance for nonelite housing: their administrative costs are too high. Instead, specialist housing finance organizations (building societies) emerged, pulling in deposits from lower income households and lending them to middle-income households with low risk thanks to the sound collateral—and consequently at long maturities and low margins. Fourth, the benefits *of housing infrastructure*—roads, water, and sewerage—were internalized by a coordinating authority and so provided in advance of housing construction. While efficient, this was achieved by the highly regressive mechanism of ownership of huge tracts of land by the great ducal estates. Finally, housing combined decent conditions for living with *opportunities for income*. Reconciling residence with opportunities depends on lenient zoning rules and effective transport connectivity to the rest of the city, which was provided by the underground and surface rail networks.

These five vulnerabilities form the organizing framework for this paper. We argue that, in conjunction, they have stifled the development of the formal private sector, particularly for low- and middle-income households. While it has become conventional to regard upgrading the existing stock and the flow of informal housing construction as the only practical solution to Africa's housing needs, we explore the complementary approach of reestablishing formality. A well-functioning formal sector dominates informality by reaping the benefits of scale, continuity, and legality.

Affordability of construction

Affordability of construction is a prior condition to mass household investment in housing. Affordability can only be assessed relative to income and the share of budgets that ordinary households are willing to devote to housing. For example, in Dar es Salaam the typical rental rate per room is around $10 a month, and in Dakar around $16. So, a modest four-room home (equivalent to the "two-up, two-down" of 19th-century Britain) would be affordable, albeit

perhaps for multioccupant use, in the repayment range of $500–$800 a year. What this implies for a viable purchase cost depends on the real interest rate and terms of financing, but it is difficult to see such a repayment rate supporting a home costing more than around $15,000. This, of course, includes the price of land, which in Dar es Salaam on the informal market is currently around $5,000 for a plot of 300 square meters. Clearly, such a plot could support more than one small house, but given current land availability, land costs per house could not be reduced much below $2,000. The unit costs of house construction depend partly on building standards, partly on input costs, and partly on the organization of the construction industry.

Building standards

All cities need building standards: London has had them since the early Middle Ages (1216), when thatched roofs were banned due to the fire hazard.[6] Because housing investment is to an extent putty clay, it is appropriate for standards to anticipate rising incomes. However, the most important characteristic to anticipate may well be the need for rising density. Flats, while initially more expensive to build than houses, become more cost-effective at higher densities. Thus, it may be more valuable to force an increase in the ratio of flats to houses than in the building standards of individual homes.

When standards are set appropriately, they function as a form of "mental shorthand," which reduces decision costs. However, in 1947 Britain suddenly and substantially raised its housing standards (the Parker-Morris standards) and implemented them through the Town and Country Planning Act. This was part of a much larger agenda of social reform introduced by the British government of 1945–50. Fortuitously, Britain shared in Europe's "golden decades" of growth, with household incomes rising rapidly to levels at which the new standards were broadly appropriate.

Unfortunately for Anglophone Africa, the British government promptly applied the 1947 Town and Country Planning Act in its colonies. Hence, on independence, African governments inherited building standards that were inappropriate for their level of income. This was not immediately apparent because in the early 1960s African cities were still small and occupied predominantly by well-paid government officials and expatriates. Further, it would have been an act of extraordinary courage and insight for newly installed governments to lower standards. The new African political elite wanted to join modernity, not to dilute it. And so Africa was stuck with building regulations that, had they applied to 19th-century London, would probably have frustrated formal housing for ordinary households.

Regulations cover building standards, such as wall thickness, room size, and depth of foundations, and also the minimum plot size. For example, in Nairobi the minimum legal plot size is one-sixteenth of an acre, unaffordable for ordinary households. These regulations were not only revised down but also inevitably conveyed the impression to African regulatory authorities that modernization would require that standards be raised from time to time. Were the standards of 1947 to be good enough indefinitely? Hence, for example, in Dar es Salaam the

minimum plot size is 500 square meters, but the authorities are discussing whether to raise it to 700. In East Asia, authorities took a more independent view. For example, in the 1980s Thailand reduced minimum housing standards.[7]

How out of line were the standards of the 1947 British Town and Country Planning Act with African incomes? They were ambitious in relation to British incomes as of 1947, and during the 1980s some aspects of them were seen as so excessive that they were revised down. In purchasing power parity terms, African per capita income is less than a twentieth of British incomes as of 1970 (a date by which the standards were probably reasonable). How long it will take Africa to raise per capita incomes 20-fold is not amenable to forecasting, but it is far longer than any reasonable horizon for the durability of basic housing.

Perhaps a more reliable indication that regulations are excessive is that housing construction has bifurcated, with regulations being ignored in the informal market, which caters to ordinary households. Elite homes are individually designed and adhere to building standards. Ordinary people live in informal housing, which does not adhere to costly building standards, and the design of which is in consequence idiosyncratic. An important consequence of informality is that such housing is hard to price. It is nonstandard, and key aspects of its quality, such as the depth of foundations, cannot be observed. In turn, being hard to value impedes the resale market and means that it would need to be heavily discounted before it could be used as collateral.

There have been several attempts around Africa to use formal firms for low-cost housing. In Mozambique, the "low-cost" housing ended up so expensive that it became upper-income housing. In South Africa, housing costs were kept low, but this was achieved using land that was remote from centers of employment and therefore cheap. In Angola, the government resorted to Chinese firms to construct a new city. However, even with Chinese workers and methods, the homes ended up costing between $50,000 and $100,000 and so were beyond the reach of ordinary households. Yet the costs of decent housing need not be so high. In Mexico, where per capita incomes are much higher than in Africa, mass housing—typically around 800,000 units a year—has been provided by the private sector at a unit cost of around $35,000. A pilot project by Tanga Cement in Dar es Salaam, using modern techniques of precasting and four-story construction, suggests unit costs of around $15,000.

Unit costs of inputs

The key inputs into housing are land, material inputs, skilled and unskilled labor, and finance.

In the absence of market imperfections, the cost of land should be determined predominantly by three fundamentals: its distance from the city center, the population of the city, and per capita income.[8] However, African cities abound in market imperfections for urban land. We discuss land rights in a later section, but here we note that because very little urban land is fully marketable, markets are thin and prices are inflated. Further, in many countries there are few other inflation-protected domestic assets, so asset demand is disproportionately skewed towards

urban land, some of it speculative. The wealthy elite are often from the political class rather than entrepreneurs—and so are not well placed to keep their wealth in self-owned enterprises. Stock markets are underdeveloped, and in any case weak corporate governance makes minority shareholdings in other enterprises risky. Further, the political class has a comparative advantage in land speculation because it is in a privileged position to anticipate economic development and the granting of planning permissions.

Material inputs, such as cement, have been surprisingly expensive in Africa, typically around three times the world average price. This is due largely to dysfunctional ports that provide considerable natural protection, the uncompetitive organization of domestic production, and the hostile climate for domestic business activity. For example, Aliko Dangote, the richest individual in Africa, with a fortune estimated at $11 billion, founded his business empire on cement imports to West Africa before going into domestic production.[9] In Mozambique, building sand is reported to be imported despite a 2,000-kilometer coastline.

Whereas unskilled labor in Africa is abundant and fairly cheap, skilled construction labor is very scarce. This reflects decades of little investment in structures and a construction industry small relative to GDP. A manifestation of this shortage is the importing of foreign skilled construction workers—for example, welders in Zambia and Chinese across the continent. The state has withdrawn from training skilled manual workers, and firms may limit training because of the historically volatile nature of demand.

Finance for the sort of small firms that would build low-cost housing for ordinary households has been expensive, to the extent that it has been available at all, because of wide spreads in the banking system. In turn, this has reflected an uncompetitive financial market, crowding out by government borrowing, and high risks of default.[10]

Industrial organization

The organization of the construction industry is also bifurcated. Elite homes are constructed by foreign construction companies using capital-intensive techniques and imported materials. The firms that operate in Africa also operate in the Gulf States, and their unit costs are far beyond the budgets of ordinary African households. As an indication of the irrelevance of such firms to the housing needs of ordinary people, the largest housing construction firm in Ghana claims to have built around 3,500 houses over the past decade.

By contrast, ordinary urban housing is largely self-built to ad hoc personal designs. This compounds idiosyncrasy and hence the difficulty of valuation. Largely missing are small but formal private building firms employing a mix of unskilled and skilled labor, able to raise formally the finance required to buy a plot and build houses on it, constructed to standardized, architect-prepared designs, and complying with building standards. It is unlikely that there are significant direct impediments to the emergence of such firms, so the most likely explanation for their scarcity is that the other problems discussed in this paper limit demand for their services.

What policies would help bring unit costs down? The starting point might be a realistic estimate of affordability generated from urban budget survey data. While the results would differ by city, they would reset norms, forcing difficult tradeoffs to the fore. A similar exercise could price the minimum cost of complying with current building standards. A discrepancy between these numbers would force policy discussion. The cost chain could then be benchmarked, component by component, on costs in low-income countries elsewhere in the world, again making differences apparent. Other approaches are to discuss with small, formal building firms the key impediments to lower costs and to undertake quantitative surveys of firms' cost and productivity differences.

Legal rights

Legal rights affect the housing market in three respects: the ownership, security and marketability of land rights; the extent to which housing can function as collateral; and the rights of tenants relative to landlords.

Land rights

Urbanization creates value, and rising density increases productivity. Because the effect is location-specific, much of the increase in value accrues to the owners of urban land. The growth of cities is a classic coordination phenomenon, and so the enhanced value is not readily attributable to the actions of any single agent. But coordination, whether planned or spontaneous, is to a considerable extent the result of public action. Hence, there are reasonable ethical grounds for assigning the ownership of value addition to a city authority as the representative of the residents who have collectively generated it. This has been the strategy in Chinese urbanization that has enabled the finance of urban infrastructure. By contrast, as noted above, in Africa the ownership of prime urban land has often been appropriated by politicians on a speculative basis. This appropriation is recent, as rights of possession of rural land did not extend to marketability and were often further circumscribed by being partially under the authority of chiefs. In turn, the authority vested in chiefs reflected their functions as leaders of their communities. This history reinforces the ethical case for socializing much of the increase in urban land values. However, the most straightforward way to capture these land value gains would be not to reassign land ownership but to use the tax system.

While African urban land rights have often been privatized, they have seldom been clarified. In some cities, such as Freetown in Sierra Leone, a history of dysfunctional registration has left land ownership radically unclear. The same piece of land may have several claimants, each supported by some sort of documentation. Clearly, the number of claimants to a plot is likely to increase in response to construction because ownership becomes more valuable. The rights to property constructed on the plot follow directly from the rights to the plot. Resolution of these disputes through the court system is neither reliable nor swift. Indeed, the legal basis for settlement is often still in dispute. For example, in Ghana lawyers have been attempting to resolve the rules of urban land rights for four decades. In other cities, de facto ownership is

accepted, but the owner does not have legal title. These weaknesses in land rights make both land and the property constructed on it less marketable and make both less able to function as collateral.

There is a tension here between the perspective of lawyers, whose aim is to resolve complexity by deducing the strongest claim to ownership, and that of economists, whose aim is to establish clear marketable rights as swiftly as possible. A possible resolution is to radically increase the taxation of value addition so that ownership becomes less important. From this base, it might be possible to follow an approach pioneered by the government of Uganda in 1992 to resolve the property claims of Asian Ugandans who had been expelled by Idi Amin. All claims to urban land and property were required to be registered by a set date, after which no further claims would be valid. Then, all cases of multiple claims were settled transparently at a later date by an ad hoc court.

Property as collateral

Clarity in plot rights, though necessary for property to function as collateral, is not sufficient. The function of collateral depends on the ability of a creditor to foreclose on the property in defined circumstances of arrears. This in turn depends on the law and the reliability and speed with which courts implement it. The common experience has been for delays in court proceedings and judicial corruption to make foreclosure unreliable. However, reform is feasible. Ethiopia has recently introduced draconian legislation that is being enforced in its courts whereby creditors can foreclose after only a few months of mortgage arrears.

Tenancy

Tenancy is likely to be more affordable than ownership for most urban households, though there appears to be considerable variation among African cities. Purchase may well not be optimal for the median urban household, yet owner-occupation has usually been the policy goal. However, absentee landlordism is often dysfunctional. An ideal model might be for households above mean wealth—for example, those who have accumulated savings for retirement—to own a few houses in a settlement, living in one and renting out the rest.

In many countries, tenant and landlord rights have been subject to long political cycles. When tenants are in a majority, governments are inclined to legislate in favor of rent controls and tenancy protection. As buy-to-rent investment becomes unviable, formal tenancy gradually diminishes so that at some point the scarcity of such accommodation induces changes in the law. In much of urban Africa, there is a well-functioning formal rental market for expatriates, but that for ordinary households has largely informalized in response to generous tenant protection. For example, in Nairobi tenants with rent of less than $60 a month have enhanced rights, and landlords cannot raise rents. A realistic approach to reforming tenancy law may be to grandfather in tenancy contracts but, for new tenancies, to allow landlords to write fixed term contracts and to repossess property for nonpayment of rent.

In sum, the confusing nature of urban land rights in Africa reflects the continent's recent urbanization and the very slow and confusing evolution of rural land rights. In societies with few other assets and a long and recent attachment to the soil, land rights are inevitably politically sensitive. Governments have until recently lacked legitimate authority to resolve them. This is widely perceived as an immovable impediment around which housing policy must navigate, rather than as a fixable problem.

Financial innovation

Housing finance is needed both for the short-term support of the construction phase and the long-term process of purchase.

Banks normally provide the working capital for construction firms. In Africa, banks would probably regard lending to small, formal building firms for low-income housing as being too risky. This perception may, however, stem from some other underlying risk, such as the difficulty faced by ordinary households in financing house purchases. Were these other impediments to be addressed, the lack of working capital might resolve itself.

To estimate the finance that would be needed for an ordinary household to buy a decent home, we make some assumptions about viable debt service and the cost of a house. Recall that based on typical rental rates in African cities, payments of interest and principle would be affordable to the occupants of informal housing at around $500–$800 a year. Suppose that the unit cost of decent housing could be reduced to around $15,000. Then, a mortgage of around two-thirds of the cost of the house would be viable at an annual repayment rate of around 5–8 percent. What are the impediments to such terms?

In 19th-century Britain, urbanization triggered innovation in the mortgage market in the form of building societies. They were able to outperform banks because they had much lower administrative costs and much lower risks and so could work on narrower spreads. Their lower costs reflected their specialization in long-term, low-risk lending. The setup costs of a loan could be spread over many years, and default was limited by good collateral. Inflation was very low, so nominal interest rates could be low. As a result, the repayment of a loan was not artificially brought forward by the erosion in real terms of the principle. With low administrative costs and a substantial branch network, building societies were able to lend at repayment rates of within this range of 5–8 percent a year. They were also able to build a large deposit base from ordinary savers. While lending very long and borrowing short was potentially a recipe for a run on deposits, the conservative business model protected them from insolvency, and the central bank protected them from illiquidity. It was the banks, rather than the building societies, that faced runs on their deposits.

Although some African cities have building societies, they cater to either high-end housing or to civil servants. Except in the Franc Zone, inflation is periodically fairly high, so that on conventional interest rate practices the principle is at times rapidly eroded. Such high and

variable inflation makes 5–8 percent repayment rates completely unviable on conventional lending models. Typical terms on African "affordable" mortgages are an interest rate of 22 percent and a term of only 10 years. Thus, in the first year of the loan the repayment rate is around 25–30 percent of the amount borrowed. Unsurprisingly, such "affordable" mortgages only cater to a tiny income elite. Also unsurprisingly, defaults are typically concentrated in the first two years of the loan.

A common policy response has been to place ceilings on interest rates or to offer subsidized public mortgages. For example, the Nigerian government has been providing mortgages at 6 percent at a time when the market interest rate is 18 percent. This kills the possibility of a private market and would be fiscally ruinous at scale.

A more viable way of overcoming this impediment might be to index-link both the principle and the repayments. Such an innovation is not currently feasible because it would require indexes in which both borrowers and lenders could have confidence. To build such confidence, one might subject government-produced indices to regular and well-publicized independent verification by a respected authority, such as the International Monetary Fund. For example, an overall repayment rate of 8 percent would accommodate a real interest rate of 3 percent, a repayment of principle starting at 3 percent, and an administrative charge of 2 percent. This would be radically more affordable than current practice and would reduce the risk of early default. Of course, by shifting the structure of repayment into the future, indexation at some point increases the risk of default in later years. This can be guarded against both by setting a prudent loan-to-value level and by macroeconomic management that contains incipient housing bubbles.

Such mortgages would not impose high risks on lenders. Over the 20-year horizon appropriate for a mortgage, African wages should rise relative to prices so that repayments become increasingly affordable. By both historical and current international standards, a real interest rate of around 3 percent would be a reasonable return on a loan that was both highly collateralized and affordable. While indexation of mortgages is rare in Africa, it has been common in Ghana for 20 years and appears to have worked well.

Currently, there is much discussion of how mortgages might be financed using innovations like securitization. However, the building societies of 19th-century Britain did not depend on such innovations. They were instead able to tap the small savings of ordinary households. There is some evidence that African households have similar savings potential that has generally gone untapped. In the 1970s, there were some highly successful initiatives through post offices,[11] but subsequent bouts of inflation wiped these savings out. Recently, with the advent of e-banking, the scope for mass savings has again been demonstrated: Kenya's M-Pesa scheme is serving as both a savings vehicle and a payments mechanism. There is potential for building societies to use e-technology to harness this depositor base. Indexation not only makes mortgages more affordable but also makes savings safer—and so is very popular with savers. By matching the

indexation of their mortgage assets with the indexation of their deposit liabilities, building societies could have a safer business model.

For housing to function as low-risk collateral, building societies need the conditions discussed in previous sections. Legal title has to be clear, and court processes have to be reliable. Further, systems whereby a lender can cheaply observe the credit history of the borrower, whether there are other liens on the property, and the actual occupancy of property (to establish whether it is tenanted) are needed. Housing must be affordable, of standard design, and built to enforced standards so that it can be accurately valued.

Supporting infrastructure

For housing to be decent, the property itself must be supported by complementary physical infrastructure and social services: roads, drainage, street lighting, electricity, water, and sewerage, together with policing, schools, waste disposal, and health care.

While the capital costs of some of these services may be provided by property developers, ultimately supply is best undertaken publicly. This is partly because many of the services are network goods and so cannot be provided by each household individually and partly because even where they can be supplied by each individual household, as with sanitation, there are substantial externalities. At African levels of income, the private benefits from installing good sanitation in a house are generally insufficient to warrant the expense. The public benefits imply that provision must be either subsidized or enforced by compulsion.

Cost-effective provision of physical infrastructure requires that it be installed in advance of housing construction and then serviced. If infrastructure is retrofitted, the costs may be prohibitive. For example, the prolonged civil war in Sierra Leone induced massive population growth in Freetown, while at the same time precluding public investment in even the most basic urban infrastructure. As a result, there is now a striking lack of roads. Since squatter-style settlements have occupied the land on which roads might have been built, even the legal processes required for clearance before road construction are beyond current government administrative and political capacities.

These characteristics highlight the need to internalize local externalities, to finance long-lasting investment, and to plan ahead. The three problems are interdependent. Without planning, population growth will still occur, but settlements will be informal, so it will be more difficult to build a tax base that internalizes externalities. Unless externalities are internalized, neither services nor infrastructure investment can be financed. Without credible prospects of finance, there is little point in planning for services and infrastructure that anticipate urbanization.

Localized externalities of infrastructure can be captured and thereby internalized, either through ownership of the land itself (as in modern China and the estates of 19th-century London) or through a local tax system. Where it is politically feasible, ownership is administratively less

cumbersome and avoids distorting side-effects, but taxation is the more common approach. Urban planning is standard around the world. The starting point is realistic forecasts of urban population growth to provide estimates of demand for housing, schooling, and health care. On this base, planners need to integrate a view of likely local economic developments, including growth of manufacturing locations and city center service activities. From this demographic and economic information, the key decisions on new residential locations and their supporting infrastructure follow.

African governments have underinvested in both internalization and urban planning. As noted above, Africa has not adopted the Chinese model of government ownership of urban land, so that the imperative is to achieve internalization by building local tax systems. With few exceptions, notably recent developments in Lagos, African city administrations have not generated significant tax revenue. As a result, they have little political interest in local economic growth, and infrastructure needs are unaffordable. This in turn rebounds on urban planning: without finance, otherwise sensible plans become idle dreams.

Underlying the neglect of internalization and urban planning is a deeper explanation: African governments have resisted urbanization rather than embrace it. For example, the government of Liberia has adopted a deliberate policy of refraining from infrastructure investment in the recent settlement areas of Monrovia, as part of a strategy of inducing urban residents to return to the countryside. Underpinning this official resistance to urbanization is a political fear of organized urban protest. Africa's demographics imply that rapid urbanization would create cities populated overwhelmingly by young adults. The failure of African cities to generate sufficient opportunities for formal wage employment makes them potentially dangerous concentrations of disaffected youth. Coincident with these political fears of policy makers, donor agencies have emphasized rural development as a priority for public spending. This bias stems from the simplistic mantra that because the majority of poor people live in rural areas, they should be the focus of public spending, and from a deeper prejudice among nongovernmental organizations (the key political constituency for development agencies) against urban-based economic growth.

Opportunities for income

It is not sufficient for housing to be of decent quality and to be properly serviced by public goods; housing must also enable households to generate a viable income. At a minimum, new settlements must be compatible with employment opportunities elsewhere in the city. However, viable settlements should aspire to more than compatibility with exogenously generated employment opportunities. Well-planned settlements can create employment in the provision of local services and workshops, enabling most members of the resident labor force to find employment within the locality. Hence, planning for households to generate viable incomes involves both compatibility with exogenous employment opportunities and the generation of endogenous local opportunities.

Compatibility with exogenous opportunities involves physical access to places of work, the accumulation of pertinent characteristics for employability, and information about opportunities in other parts of the city. Physical access is the most straightforward aspect to plan. It requires that the location of settlements and transport infrastructure permit commuting. This raises the initial cost of settlements because it implies some combination of sites that are closer to the city center and therefore have higher land prices and because it implies more investment in transport infrastructure. The accumulation of pertinent characteristics for employability is more subtle but may also be important. The most obvious attributes are the hard skills acquired through education and occupational training, both of which can be directly planned and provided. The more nebulous attributes come from the community attitudes and norms that form in the settlement. For example, once unemployment becomes the norm for young people, it will affect aspirations accordingly. Such hysteresis effects are well-established—in both attitudes to work and parental attitudes to education. These effects suggest that there may be a premium on getting the early stages of new settlement right.

In a new, large settlement, the generation of endogenous opportunities for employment is likely to be more important than compatibility with exogenous opportunities. Employment is most often devoted to serving local markets. The fundamental aspects of endogenous opportunities are density and regulation. The higher the density of settlement, the greater the economic opportunities per square mile. In typical low-income cities, this creates a tradeoff between the economics of housing-as-accommodation and housing-as-opportunity. The least expensive form of residence is single-story, because greater height requires more substantial walls and more sophisticated building. But the greatest opportunity per square mile is through proximately spaced tower blocks. The market does not handle this tradeoff well. The economic opportunity–generating aspect of increased density is an externality, whereas the increased costs of construction necessary for higher density are fully internalized by the household. As a consequence, building heights and density will be too low in an unregulated market. Density will increase as settlement proceeds because land values will increase. But the putty-clay nature of residential investment inhibits what would otherwise be a gradual market-driven increase in height. Clearly, the informal settlements of African cities have not yet induced investment in height. As a result, the floor-area ratio of persons per hectare in the typical African city is essentially flat over the spectrum of distance from the city center, whereas the normal global pattern is for it to fall steeply as distance increases. The floor-area ratio is substantially too low in areas close to the center.[12] This may be because of the other impediments discussed above, such as finance or the lack of secure title, but it may also be due to a coordination failure inherent in a market-driven process. At low per capita incomes, low-rise residence may remain privately optimal, because it never achieves a density that justifies writing off the fixed costs of a low-rise and replacing it with a high-rise.

Saunders (2010) suggests that from the social perspective, in which the economic opportunity externalities of density are internalized, the most appropriate choice along this tradeoff is blocks

of five-story buildings in which the ground floor is used for small businesses. Five stories is the maximum height before the need for a lift, which involves a quantum increase in costs. While this hypothesis is plausible, it has not yet been researched. If it is correct, it would indicate a substantial market failure in African cities, because structures in informal settlements are generally only single-story.

Inappropriate regulation can destroy the potential of high density, as in many high-rise estates of the developed world that are zoned for purely residential uses. While inappropriate regulation will constrain employment generation, a city government can do much to promote it. The market process is replete with local coordination failures and externalities that astute official intervention can help offset. Local marketplaces are themselves public goods. The weights, measures, and hygiene practices adopted by local businesses benefit from public standardization and verification. Local dispute settlement procedures can reinforce contracts and reduce opportunism. And formalization and certification of apprenticeships can enhance skill formation.

The potential for damage and benefit inherent in public regulatory policy at the city level mirrors the standard debate about national industrial policies: a passive state is better than a predatory state but worse than an astute developmental state. At the national level, the conventional critique of the African regulatory policies adopted for much of the postindependence era has been that they tended to be predatory, in contrast with the developmental states of East Asia. The same critique might apply to urban regulatory policies. Just as Africa inherited inappropriately high building regulations, it might have suffered a similar fate with zoning restrictions. However, the informal settlements that have been the predominant process of postindependence urban residential growth are usually beyond the confines of the colonial city and seldom subject to effective zoning. The key impact of urban regulatory policy toward settlement has been to make it informal.

Conclusion: from failures of market coordination to failures of policy coordination

African housing investment has been affected, directly and indirectly, by public policies that have prevented the formal sector from providing housing that meets the needs of ordinary households. However, these policies have not been enforced beyond the remit of the formal sector. So, if informality were efficient, urban Africans would be well housed. Informal builders would build decent homes cheaply, informal finance would finance them cheaply, informal dispute settlement procedures would restrain opportunism, community processes would coordinate to provide the public goods of settlement, and the market would internalize the value of rising density. Yet ordinary urban households are not well housed: the typical living quality provided by informal housing is pitiful and fails to provide the resident labor force with sufficient proximate opportunities for decent incomes.

Our message to Africa's urban policy makers is not the need for deregulation but the need for policy coordination. Housing investment on a large scale through formal channels requires a

series of supporting conditions. Unit construction costs in the formal sector must be low enough to be affordable by ordinary urban households. Legal title must be secure, be marketable, and support collateral and rental. Finance must be available and affordable for both small construction firms and mortgages. Infrastructure must be planned and provided in advance of settlement. Residential services must come swiftly after settlement. Both must be financed by capturing a share of the value added to productivity by density. The location of settlement, transport infrastructure, and public regulation must support income opportunities, and each is not merely vulnerable to inept policies but in need of appropriate policies.

Not all impediments are important in all African cities. For example, in Nairobi the constraints make the ownership of a property unaffordable for ordinary households, even in an informal settlement. In Dakar, most households own such property but find it difficult to rent.

We suggest that the persistence of multiple impediments is because the payoff to policy reform in any one of these areas in isolation is very limited, given that the others remain and will in aggregate be binding. Since each is the responsibility of a different group of policy makers, the rational strategy for each policy team is inaction. The potential for urban housing can be unleashed only by a coordinated push across a wide range of policy teams. This in turn requires that housing policy be elevated to the highest political level. This has not yet occurred, partly because of the bias against promoting urbanization and partly because, as the informal nature of settlement became established, formal policies became impotent and hence irrelevant. Within African governments, ministries of housing largely restrict their focus to the provision of housing to senior civil servants and to the maintenance of inherited formal regulatory standards, which conform to international practice. Meanwhile, among international thinking on African housing policy, the prevailing view has become that the priority is to help informal housing work better and to upgrade infrastructure rather than to make formal housing investment work for ordinary households. While this is probably correct given the confines of current policy discussion, such an approach accepts the lack of formal market housing and the absence of coordination rather than confronting them.[13]

Yet the political elevation of housing necessary for coordination is no longer a forlorn goal. The post-apartheid government of South Africa made decent housing a priority for its discretionary spending. With revenues from the commodity booms, other African governments at last also have some discretionary income. Coincident with these revenues, the Arab Spring in North Africa has focused concern south of the Sahara on the well-being of their urban populations and in particular on the need to provide jobs for young men. Affordable housing built on a large scale using labor-intensive techniques by small private construction firms is one of the few credible approaches to a rapid expansion in jobs for this social group. Hence, housing policy might now be able to achieve a political salience that has previously been infeasible.

Notes

[1] Franklin 2012.
[2] ONS 2009.
[3] Belich 2009.
[4] See Dyos (1968) and Porter (1995).
[5] This secured a supply of local public goods, but citywide public goods, such as a complete sewerage system, were supplied only after the health scares of the mid-19th century and the development of effective city government—first with special purpose authorities and starting in 1889 with the London City Council.
[6] Regulations were formalized in the London Building Act of 1667, which specified building materials and the width of streets. Surveyors were appointed to enforce the regulations (www.buildinghistory.org/regulations.shtml).
[7] Personal communication from Maya Hoek-Smit.
[8] Bertaud and Malpezzi (2003) present comparative work on urban density in 38 cities. Urban density gradients are prevalent in world cities but not in the two African cities in the sample, Cape Town and Johannesburg. We know of no systematic cross-country work on rent gradients.
[9] *The Nigerian Voice* 2011.
[10] British building societies, which came to provide mortgage finance, started as societies of builders who pooled working capital.
[11] Von Pischke 1975.
[12] Personal communication from Steve Malpezzi.
[13] Further, the enhanced infrastructure benefits landlords who are largely absentee. For example, connection to electricity raises the rent per room in informal settlements 27 percent in Nairobi and 44 percent in Dakar (Gulyani Bassett, and Talukdar 2012).

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