Building African cities that work

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This paper has only been edited lightly for clarity.
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Introduction

Urbanization is critical for poverty reduction. Cities provide both the lived environment and the work environment for poor people. The lived environment determines the quality of their housing, their access to public goods, and their opportunities for recreation and socialization. The work environment determines their opportunities for income. In both respects cities have the potential to reap major economies of scale and scope. Decent public services are far more cost-effective in cities than provided to a dispersed population. Worker productivity increases strongly and systematically with city size.

But the gains from urbanization are not automatic. Building effective cities is policy-intensive. The economies of scale and scope depend upon layers of coordination between different agents. The highest layer of coordination is between three distinct investment processes: public investment in infrastructure, enterprise investment in productive capital, and household investment in housing. But each layer also faces its own coordination challenges. For example, firms within an activity gain from clustering together. The decisions of individual agents are sequential, so that in the absence of coordination the evolution of a city is highly unlikely to be efficient, either from the perspective of the quality of life or the productivity of workers.

In much of Africa urbanization has not been well-managed. The typical African city has grown rapidly but without sufficient policy coordination. As a result, the quality of the lived environment does not provide decent housing or adequate public goods for poor people. There is also evidence that African cities are failing to raise worker productivity. The visual expression of this double-failure is the slum near the centre of a city. Such slums are crowded without providing economic density, implying huge losses of potential wellbeing and output. Because successful urbanization is primarily about coordinating various types of investment, it is very difficult to correct mistakes retrospectively.

However, most of Africa’s urbanization is yet to happen. Despite its rapid urbanization, Africa is less than halfway through its urbanization process. Population growth alone will imply rapid urban growth. In most countries this will be reinforced by continuing rural-to-urban migration as the majority of the population gradually relocates to cities, as elsewhere in the world. Finally, there will be relocation between cities. The gradual extension of Africa’s integration into the global economy beyond the primary sector to industry will favour coastal cities over those far from ports. In combination these changes imply that in the next few decades the typical African city will more than double its population and many new cities will be built. The key policy challenge is thus to ensure that this further phase of urbanization does not repeat the mistakes of the past. A repetition of history is the default option, but it is not inevitable. It is therefore important to build better policy understanding of the urbanization process so that the past is not repeated.
Cities are built: that is, they are the consequence of investments in structures. This process of building cities can be decomposed into three distinct types of investment: housing, business premises, and infrastructure. Each of these three types of structure has a distinct function and is undertaken by a distinct class of economic actor. Housing directly delivers household wellbeing: in consequence investment in housing is predominantly undertaken directly by households. Commercial and industrial premises are capital inputs to the production process: in consequence investment is predominantly financed by firms. Infrastructure sometimes directly delivers wellbeing to households, as with a park, and sometimes is an input into the production process as will electricity. However, it usually has either network or public good properties: in consequence it is usually provided or at least regulated by public authorities.

The three types of structure are interdependent. The utility of housing to households depends upon complementary investments by firms in premises that provide employment opportunities, and in infrastructure that enables access to other parts of the city. Similarly, the productivity of premises to firms depends upon complementary inputs from infrastructure and proximate and well-housed workers and customers. The social return on public infrastructure depends upon complementary investments in housing and premises.

Hence, two distinct types of public policy matter. Directly, the urban public authorities are unavoidably the key actors in the provision and regulation of infrastructure. But beyond this direct role, governments set policies that affect the housing investment of households, and the premises investment of firms. The urbanization process can thus malfunction in these two distinct ways. City authorities may misjudge the provision of infrastructure. More subtly, governments may mismanage either the investment by households in housing, or the investment by firms in premises. Not only will this directly result in non-optimal investment in this type of structure, but because the three types of structure are complements, it will rebound on investment in the other types of structure.

I first consider investment in each of the three types of structure separately, focusing on the impediments that are directly concerned with this particular process. I then discuss the impediments arising from the interdependence of the three processes.

**Household investment in housing**

The consequences of housing for living standards are far-reaching: in addition to directly conferring utility, decent housing improves health and enables children to do homework. It also frees up women’s time and enables them to participate in the labour market. More subtly, a home and its environs affect identity and self-respect. Commentary on the emergence of an African middle-class has become commonplace, but it is currently being defined in terms of discretionary spending and its potential for consumer markets. A politically more salient definition of a

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1 This section is based on Collier and Venables (2013)
middle-class would be in terms of home ownership and the consequent stake in economic stability.

In many African countries there is little or no market for private provision of formal sector housing for ordinary urban households. This is the consequence of three policy failures within the housing market itself, compounded by failures in the complementary markets for premises and infrastructure. Specifically, housing is not sufficiently affordable, with costs often inflated by inappropriate building regulations and inefficient construction sectors. There is a lack of clarity in land titling and legal enforcement. And there has been too little innovation in the design of housing finance.

Affordability of construction costs

Affordability of construction costs is evidently 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. The unit costs of housing depend partly upon building standards, partly upon costs of inputs, and partly upon the organization of the construction industry.

All cities need building standards and because housing investment is to an extent putty-clay, it is appropriate for standards to anticipate rising income. However, the most important characteristic to anticipate may well be the need for rising density. Flats are initially more expensive to build than houses, but 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 to require high standards for individual homes.

When standards are appropriate for actual and anticipated income, they function as a form of ‘mental shorthand’ which reduces decision costs. In 1947 Britain suddenly and substantially raised its housing standards (the Parker-Morris standards) and implemented them through the Town and Country Planning Act. Unfortunately for Anglophone Africa, the British Government promptly applied the 1947 Town and Country Planning Act around its colonies. Hence, upon 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. 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 which, had they applied to 19th century London, would most probably have frustrated formal housing for ordinary households.
Regulations covered both building standards, such as wall thickness, room size, and depth of foundations, and minimum size of plot, perhaps intended to produce the ‘garden cities’ which were briefly in vogue in British urban planning. For example, in Nairobi the minimum legal plot size is 1/16\textsuperscript{th} of an acre, which is unaffordable for ordinary households. Not only were these not revised downwards, but they inevitably conveyed the impression to African regulatory authorities that modernization would if anything require that from time to time standards should be further raised: were the standards of 1947 to be good enough indefinitely? Hence, for example, in Dar es Salaam the minimum size of plot is 500m\textsuperscript{2}, but the authorities are currently discussing whether to raise this to 700m\textsuperscript{2}. In East Asia authorities took a more independent view: for example, in the 1980s Thailand reduced minimum housing standards.

How out of line were the standards of the 1947 British Town and Country Planning Act for the level of African incomes? They were clearly ambitious in relation to British incomes as of 1947, and indeed even during the 1980s some aspects of them were seen as being so excessive that they were revised downwards. In purchasing power parity terms African per capita income is radically lower that the British incomes of 1947. The time it will take Africa to attain this income level is evidently far longer than any reasonable horizon for the durability of basic housing. However, the key indication that regulations are excessive is that housing construction has bifurcated, with regulations being ignored in the informal market which caters for ordinary households. Elite homes are individually designed, and adhere to building standards. Ordinary people live in informal housing. Their homes do not adhere to building standards, which are unenforceable because they would impose excessive costs, and their design is in consequence idiosyncratic. An important consequence of informality is that such housing is hard to price. It is non-standard 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 by using land that was remote from centres 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 priced 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 Africa, mass housing – typically around 800,000 units per year - has been provided by the private sector at a unit cost of around $35,000.

The key inputs into housing are land, material inputs such as cement, skilled and unskilled labour, and finance. In the absence of market imperfections, the cost of land should be
determined predominantly by three fundamentals: its distance from the city centre, the population of the city, and per capita income. However, African cities abound in market imperfections for urban land. Since very little urban land is fully marketable, markets are thin and prices inflated. Further, in many societies there are few other inflation-protected domestic assets, so that asset demand is disproportionately skewed towards urban land, some of it speculative. The wealthy elite are atypically drawn from the political class rather than from entrepreneurs, and so are not as well-placed to keep their wealth in self-owned enterprises. The political class has a comparative advantage in land speculation since 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 price. This is largely due to dysfunctional ports which 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 $11bn, founded his business empire on cement imports to West Africa before going into domestic production.\(^2\) In Mozambique building sand is reported to be imported despite a 3,000km coastline.

Whereas unskilled labour in Africa is abundant and relatively cheap, skilled construction labour is currently very scarce. This reflects decades of little investment in structures, so that the construction industry has been very small relative to GDP. A manifestation of this shortage is the importation of foreign skilled construction workers – for example, welders in Zambia, and Chinese across the continent. The state has withdrawn from training of 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.

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 same firms operate in Africa as operate in the Gulf States, and their unit costs are far beyond the budgets of ordinary 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.

In contrast, ordinary urban housing is largely self-built to ad hoc personal designs. This compounds idiosyncrasy and hence the difficulty of valuation. What appear to be largely missing are small but formal private building firms, employing a mix of unskilled and skilled labour, able to raise formally the finance required to buy a plot and build a row of houses on it, which are built to standardized, architect-prepared designs, and comply with building standards. It is unlikely that there are significant direct impediments to the emergence of such firms; most probably, other problems impede demand for their services.

What policies would help to bring unit costs down? The starting point might be a realistic estimate of affordability, generated from urban budget survey data. A complementary exercise could price the minimum unit cost of complying with current building standards: a discrepancy between these numbers would force policy discussion. Finally, the cost chain could be benchmarked, component by component, on costs in low-income countries elsewhere in the world, and building firms consulted as to what they regard as their key impediments to lower costs.

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.

Urbanization creates value: 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. However, to a considerable extent coordination, whether consciously planned or spontaneous, is 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 which has enabled the finance of urban infrastructure. In 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. Within living memory much of the land that is now urban was rural, rights of possession to this 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 approach would not be to reassign land ownership, but rather to use the tax system.
While African urban land rights have usually 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 since 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 may make both land and property constructed on it less marketable, and clearly make both less able to function as collateral.

There is an evident 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 approach to resolution is to begin by radically increasing 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 to a further deadline, by an ad hoc court.

While clarity in the rights to the plot is necessary for property to function as collateral, it is not sufficient. The function of collateral depends upon the ability of a creditor to foreclose on the property in defined circumstances of arrears. This in turn depends upon 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 which is being enforced in its courts whereby creditors can foreclose after only a few months accumulation of mortgage arrears.

Tenancy is likely to be more affordable than ownership for most urban households although there appears to be considerable variation between African cities. Purchase may well not be optimal for the median urban household, yet owner-occupation has usually been the goal of policy. Nevertheless, absentee landlordism is often dysfunctional: an ideal model might be for above-mean households, for example those who have accumulated savings for retirement, to own a few houses in a settlement, living in one of them and renting out the rest. In many societies the rights of tenants versus landlords have been subject to long political cycles: when tenants are in a
majority governments are inclined to legislate in favour 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 below a rental rate of $60 per month tenants have enhanced rights and landlords cannot raise rents.

A realistic approach to the reform of tenancy law may be to grandfather existing tenancy contracts, but to allow landlords to write fixed term contracts, and to repossess property for non-payment of rent, for new tenancies.

In summary, the confused nature of urban land rights in Africa reflects the recent nature of African urbanization and the very slow and confused 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 very recently lacked sufficient legitimate authority to resolve them. This is widely perceived as an immovable impediment around which housing policy must navigate, rather than 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.

The provision of working capital for construction firms is normally undertaken by banks. In Africa banks would probably regard lending to small, formal building firms for low-income housing as being too risky. The reason it is viewed as too risky may, however, be derivative of some other underlying risk, such as the difficulty faced by ordinary households in financing house purchase. Were these other impediments to be addressed, the lack of working capital would most probably resolve itself.

In 19th century Britain urbanization triggered innovation in the mortgage market in the form of building societies. They were able to out-compete 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. Not only were spreads low, but in 19th century Britain inflation was very low, so that nominal interest rates could be low. As a result, the repayment of a loan was not artificially accelerated 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 around 5 percent per 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. In the 19th century 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. 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 percent interest rates completely unviable on conventional lending models. A standard way of overcoming this impediment is to index the principle, and hence the repayments. In parts of Africa this is not currently feasible because there is no suitable index in which both borrowers and lenders could have confidence. To build confidence one approach might be for the central bank to create a dedicated public index, which was periodically verified by the IMF and was well-publicized across society. Lending institutions would then compete in terms of real rates of interest and maturity periods. Such mortgages need not inflict high risks on lenders: over the 20-year horizon that affordable mortgages need to take, wages in Africa should generally rise relative to prices as the region develops, so that repayments should become increasingly affordable. Currently, mortgage lenders, who serve only around three percent of African households, are in a vicious circle of high nominal interest rates (commonly above 20 percent), short maturities, and high default rates within the first two years of the loan. Such high default rates are the inevitable consequence of requiring borrowers to repay nearly half the real value of the loan within the first two years of taking on the financial burden of a new home. Hence, indexed mortgages with long maturities should enable a substantial expansion of the mortgage market to middle-income households without giving rise to heightened default rates.

While one impediment to such innovation is the lack of trusted indices, another is the absence of appropriate mortgage institutions. Commercial banks have administrative cost structures which preclude their entry into the finance of mass housing, but specialist institutions such as building societies do not exist because of the other impediments discussed in this paper. Given the positive externalities from owner-occupation there may be a case for some public pump-priming of house purchase. In Chile the government provides a capital subsidy for purchase; a more limited action might be pump-priming public finance for building societies which offered indexed loans up to a ceiling value which confined them to low-cost housing.

For housing to function as low-risk collateral, building societies would also need systems whereby they could cheaply observe the creditworthiness of the borrower. In the past such information depended upon a much wider network of formally recorded transactions, such as employment records, and credit history, from which most African urban households are largely excluded. However, the spread of e-payments systems across Africa has the potential for
alternative financial data which is inexpensive to access and potentially more informative than conventional sources. Additionally, building societies would need the conditions discussed above: legal title, reliable court processes, and affordably priced housing, of standard design, and built to enforced standards, enabling accurate valuation.

**Firm investment in premises**

Many of the problems facing investment in premises are either the same as face household investment in housing, or generic to private investment rather than specific to premises. The former have just been covered in the previous section and the latter are familiar from the professional literature, being summarized in indices such as *Doing Business*. I will therefore focus only on these problems that are specific to investment in premises: construction costs, legal rights, and finance.

**Construction costs**

The same factors that raise construction costs for households also raise them for firms: for example, cement is usually expensive. But large firms may even be disadvantaged relative to households because they do not have the options of self-built structures or construction by small building firms. As a result, they may be reliant upon a very thin market in firms that are sufficiently large to built premises of an appropriate scale. For example, despite a superior investment climate for policies as measured by *Doing Business*, the cost of building an office block is around 25% higher in Kigali than in Nairobi, predominantly because due to the smaller size of Kigali the construction sector is less competitive. This matters because if large premises are relatively costly this will reduce the scale at which production is undertaken. Yet scale contributes to productivity, so small premises imply lower productivity. For example, in Ethiopian manufacturing even a fifty-worker firm typically achieves productivity ten times that of a four-worker firm.

**Legal rights and the land market**

Small firms often face similar problems to households: they lack clear legal title to their premises. As a result they must devote resources to physically defending their property, and cannot use it as collateral. Large firms will have legal title but may nevertheless be subject to opportunistic competing claims to title because of weaknesses in the practical functioning of the courts.

Because there is only limited supply of usable land with unambiguous title, the market in urban land is commonly very thin. One consequence is that the market is volatile: investment booms lead to surges in land prices because the flow onto the market is so small. A further consequence
is that at any one time the choice on the market is too limited to meet the diverse and usually specific needs of firms: a firm wanting land for premises will usually want it in a particular location. A third consequence is that it is difficult to develop clusters of similar activities because there is little scope to assemble sufficiently large plots for integrated redevelopment. This matters because clusters raise productivity. The productivity-enhancement from manufacturing clusters is well-established, and is increasingly occurring for highly specific tasks within the manufacturing chain. For example, the global clustering of the manufacture of buttons is described in UNIDO (2009). But clustering also matters in mundane service activities such as retailing. Lagos, with a population of around 15 million, has only two international-standard shopping malls.

Finance

In the OECD firms now seldom own the premises in which they operate. This is because it has proved cheaper for them to rent premises constructed and held by others. The construction phase of premises is relatively high-risk and management intensive, and so is often best managed by specialist firms that are familiar with negotiating planning procedures, working with architects and supervising construction firms, and arranging high-risk finance. Once constructed, the landlord role is similarly often best managed by specialist firms with expertise in managing tenancies and the ability to raise low-cost debt backed by commercial property as collateral. In African cities these specialist firms are largely missing, perhaps because of the lack of sufficient market size to support them. As a result, firms must manage and finance the construction phase, and the cost of premises becomes a necessary part of the capital needed to finance the firm.

Investment in Infrastructure

Infrastructure is best provided publicly. In part this is because most types of urban infrastructure are network goods and so cannot easily be provided through competition. In part, it is because even where it is not networked, as with household-level 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 evident public benefits imply that provision must be either subsidised or enforced by compulsion.

Cost-effective provision of the physical infrastructure requires that it be installed in advance of investments in housing and premises. If infrastructure is retrofitted the costs may be prohibitive. For example, the prolonged civil war in Sierra Leone induced massive growth in the population of 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. Yet because squatter-style settlement has occupied the land on which roads might have been built, even the legal processes
required for clearance as a prelude to road construction are beyond current government administrative and political capacities.

Africa’s urban infrastructure is commonly inadequate. This is partly because unit costs are atypically high, but mainly because of the demanding nature of the public decision problems posed by infrastructure.

Unit costs of construction

The unit costs of infrastructure construction are atypically high in Africa. A new study of the cost of constructing a kilometre of roads finds that in low-income Africa the cost is around a third higher than in the OECD (Collier, Kirchberger and Soderbom, 2013). In part, this is for the same reasons that affect firms. The market for the construction of large structures is usually not sufficiently competitive and the inputs such as cement are expensive. Additionally, the process of public infrastructure commissioning is open to corruption. For example, over the years the Nigerian government has allocated many billions of dollars to the public agency responsible for electricity generation, but the agency still generates far too little electricity.

Decision problems

All public decisions require an authorizing environment: an institution widely recognized to have the legitimate power to take the decision. In parts of Africa, investment in urban infrastructure lacks a clear authorizing environment in three respects. First, the powers of city, regional and national authorities may not be delineated with sufficient clarity, resulting in disputes and gridlock. Second, the ownership of the land needed for infrastructure might be contested. Finally, the reason why these difficulties persist is that the institutional processes by which these disputes might be resolved – legislation and court decisions – are themselves malfunctioning. For example, it has been estimated that at current rates the backlog of land disputes in Mozambique would take 500 years to clear up.

Beneath the meta-level problem of an authorizing environment, three characteristics of infrastructure decisions make them inherently challenging. They have to internalize localized externalities; they have to finance long-lasting investment; and they have to plan ahead. The three problems are inter-dependent. In the absence of planning, population growth will still occur; but settlement will be informal and so it will be more difficult to build a tax base that internalizes externalities. Unless externalities are internalized neither services nor infrastructure investment cannot be financed. Without credible prospects of finance, there is little point in planning for the services and infrastructure that anticipate urbanization.

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3 P. Collier, M. Kirchberger and M. Soderbom (2013), The Cost of Transport Infrastructure in Developing Countries, mimeo, CSAE, Oxford.
Localized externalities of infrastructure can be captured and thereby internalized, either through ownership of the land itself, as in modern China, or through a local tax system. Where it is politically feasible, the former 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. This demographic information has direct implications for aggregate housing, schooling, and health care needs. On this base planners need to integrate a view of likely local economic developments, including growth of manufacturing locations and city centre 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. Africa has not adopted the Chinese model of government ownership of urban land, so that the imperative is to achieve internalization by building local taxation systems. With few exceptions, notably recent developments in Lagos, African city administrations have not generated significant tax revenue. As a result, politically they have little interest in local economic growth, and financially 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 embracing 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 peopled 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 policymakers, donor agencies have emphasized rural development as a priority for public spending. Underpinning this bias has been the simplistic mantra that since the majority of poor people live in rural areas they should be the focus of public spending, and a deeper prejudice among NGOs (which are the key political constituency for development agencies), against urban-based economic growth.

**Interdependencies between investments in structures and their implications**

The investments in housing, premises and infrastructure are interdependent. 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. But housing is also dependent upon premises: these
enable households to generate a viable income. At a minimum, new settlement must be compatible with those opportunities for employment which are being generated elsewhere in the city. However, viable settlement should aspire to more than compatibility with exogenously generated employment opportunities. Well-planned settlement can induce employment in provision of local services and workshops, so that most members of the resident labour force 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.

In a large new settlement the generation of endogenous opportunities for employment is likely to be more important than compatibility with exogenous opportunities: most employment is usually devoted to serving local markets. The fundamental aspects of endogenous opportunities are density and regulation. The higher is the density of settlement the greater are the economic opportunities per square mile. In typical low-income cities this creates a trade-off between the economics of housing-as-accommodation, and housing-as-opportunity. The least cost form of residence is single storey, because greater height requires more substantial walls and more sophisticated building, yet the greatest opportunity per square mile is evidently through proximately spaced tower blocks. The market does not handle this trade-off 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. In consequence, left to an unregulated market building heights will be too low, and density as a consequence will be too low. 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 (FAR) of the typical African city is essentially flat over the spectrum of distance from the city centre, whereas the normal global pattern is for it to fall steeply as distance increases. 4 The FAR is substantially too low in areas close to the centre. This may be because of the other impediments discussed above such as finance or lack of secure title, but it may also be due to a coordination failure inherent in a market-driven process. At low per capita income levels low-rise residence may remain privately optimal, because the density achieved by it never musters enough value to justify writing off the fixed costs of low-rise and replace it with 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 trade-off is blocks of five storeys in which the ground floor is used for small businesses. Five storeys is the maximum height before the need for a lift, which involves a quantum increase in costs. If it is

4 See Malpezzi (2006)
correct it would indicate a substantial market failure in African cities, since structures in informal settlements are generally only single-storey.

Inappropriate regulation can destroy the potential of high density, as in high-rise estates of the developed world that are zoned for purely residential uses. While inappropriate regulation will constrain employment generation, there is also much that a city government can do actively to promote it. The market process is replete with localized coordination failures and externalities that astute official intervention can help to offset.

The potential for damage and benefit inherent in public regulatory policy at the level of the city mirrors the standard debate about national industrial policies: a passive state is better than a predatory state but inferior to an astute developmental state. At the national level, the conventional critique of the African regulatory policies adopted for much of the post-Independence era has been that they tended to be predatory, in contrast to the developmental states of East Asia. Potentially, the same critique might apply to urban regulatory policies. Just as Africa inherited inappropriately high building regulations, potentially it may have suffered a similar fate with zoning restrictions. However, the informal settlements that have been the predominant process of post-Independence 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 towards settlement has been to make it informal. In effect, African urbanization has approximated a completely free market without any institutional support from the state.

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

African urbanization has been impeded, directly and indirectly, by public policies that have inhibited the formal sector from providing housing and jobs for ordinary households. However, these policies have not been enforced beyond the remit of the formal sector, and so if informality were efficient urban Africans would be well-housed and fully employed. Informal builders would build decent homes and premises cheaply; informal finance would finance them cheaply; informal dispute settlement procedures would restrain opportunism; community processes would coordinate to provide the public infrastructure; and the market itself would internalize the value of rising density. Manifestly, although informal activity does provide most urban Africans with shelter and employment, the outcomes fall far short of what formal activity is capable of achieving. Modern economies are formally organized because formality is necessary for the scale and specialization which are the wellsprings of productivity.

The core message for Africa’s urban policymakers is thus not the need for deregulation, but the need for policy coordination.
Investments in housing, premises and infrastructure each face distinct direct impediments that need to be addressed by policy. For investment in housing and premises to happen on a large scale through formal channels requires a series of supporting conditions. Unit costs of construction in the formal sector must be reduced. Legal title must be secure, marketable and support collateral and rental. Finance must be available and affordable both for construction firms and for mortgages. Infrastructure must be planned and provided in advance of settlement, and residential and business services must swiftly be forthcoming subsequent to settlement. For public financial viability these services must be financed by capturing a share of the value added to productivity by rising density.

But because the three types of investment are interdependent, the impediments to any one type indirectly are also impediments to the others. This has the unfortunate consequence that the direct payoff to policy reform of any one type of investment in isolation may be quite limited. Since of necessity government policies are organized into departmental silos, these interdependences can only be recognized through coordination across different entities of government. For example, to get a high-density residential-cum-business settlement may require financial innovation for affordable mortgages; reductions in the minimum size of plots; clarification of legal titles; the advance provision of infrastructure; and fiscal innovation for public capture of the appreciation in land values. These may be the distinct responsibilities of the central bank; the ministry of housing; the ministry of justice; the city government; and the ministry of finance. Doing any one of these in isolation may have little payoff, and may consequently be a low priority for the pertinent agency.

Africa is halfway through its urbanization. For the second half to be more successful than the first there is a need for a coordinated push across a wide range of agencies. 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 appeared to be impotent and hence irrelevant. The result has been that African urbanization has not unleashed the productivity gain of which large cities are capable. The coordination necessary to make urbanization work will require that urbanization be elevated to the highest political level.
References


