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Housing the Urban Poor

Making markets work at the base of the pyramid can revolutionize distribution of vital products and services to the poor – for little cost and even a profit. The four billion people in the world that live on less than $4 a day represent a mass retail opportunity – they are fiercely upwardly mobile and need access to formal economy capital, technology and markets

By Asad Azfar and Aun Rahman

More than a billion people, or about 30 percent of the world’s urban population, live in slums. Based on current trends, this number will double over the next 30 years. An effective, urgent response is required to battle the rise in urban congestion and surge in urban poverty – particularly in Asia, resident to 60 percent of the world’s slum dwellers. This crisis in the developing world is a result of the public sector’s failure to anticipate and respond to housing demand of low-income migrants and conversely due to the stunning success of the informal sector in creating supply. Poverty, property speculation, absence of secondary mortgage markets and corruption have all combined to exclude the formal private sector. Slums built by informal developers provide shelter and fill a big void. They also create civic disasters, lacking provision for tenure, legal title, hygiene and public safety. What are the alternatives?

One acclaimed solution has been formulated in the southern regions of Pakistan by the Incremental Housing Development Scheme, a public-private partnership between Saiban, a housing development nonprofit, and the government. Popularly called Khuda Ki Basti (City of God) by residents, the scheme is based on a study of the informal developers’ ability to create affordable housing supply. Saiban has conceived a solution that copies the capabilities of the informal sector while overcoming its debilitating deficiencies – lack of legal title, sewage disposal, social services and public safety.

To better understand the workings of the Incremental Housing Development Scheme in relation to the informal sector, Acumen Fund conducted a comparative case study of two settlements in Karachi, Pakistan: a “Khuda Ki Basti” versus an informal settlement. The centerpiece of the study is a survey of 100 households in each of the two settlements, conducted by the Acumen Fund in collaboration with Habitat for Humanity International. The survey included physical audits in the two settlements and interviews with land developers, social activists and urban housing experts to get a fuller picture of conditions in the settlement.
The results of the Acumen Fund study point to actionable insights on affordable, market-based solutions to urban housing for the poor through a formal sector approach.

FAILURE OF PUBLIC HOUSING

As elsewhere in the developing world, affordable housing in Pakistan has historically been built around a site and services model. A state-owned land site is commissioned, full complement of infrastructure (underground sewerage, piped water, electricity and roads) is developed, and fully serviced individual plots are made available for purchase. This approach is inconsistent with the economics and sociology of the poor and consequently has resulted in a massive failure to supply low-income housing. Reasons for this include:

- Development costs for site and services are high and payment schedules inflexible, causing land prices to be unaffordable to the poor. The absence of long-term home mortgage vehicles cripples the ability of the poor to pay.
- Time-lag from allotment to delivery of plot is extremely long – up to 15 years – whereas the poor need immediate possession.
- The plot application process is cumbersome, with bureaucratic red tape, corruption and no guarantee of success.

Additionally, the poor are not actively targeted; housing schemes built for low-income families are sold to middle-income groups or real estate speculators, often with illegal commission for government officials.

The government’s failure contrasts with the stunning success of the informal sector in creating supply of affordable housing. Close to 50 percent of Karachi’s population (Pakistan’s mega-polis of 12 million people) live in informal settlements, a pattern prevalent across the developing world.

The ability of the informal sector to create housing stock for the poor is built on a system that provides affordability, a simple procedure, intermediation with government and quick delivery of land.

WHY THE INFORMAL SECTOR SUCCEEDS

Informal developers are the dominant suppliers of low-income housing in metropolitan Pakistan. In Karachi alone, an estimated 70% of the annual demand for low-income housing is met by informal settlements. These settlements begin as illegal encroachments and become ‘regularized’ over a generation or more.

The process for creating informal settlements is broadly uniform across the developing world and captured in a rich corpus of literature that has emerged over the last decade – popularized (among others) by Peruvian economist Hernando de Soto. An agency of informal land developers illegally ‘grabs’ vacant state land on the periphery of the city. This action is undertaken in collusion with government officials who are given a financial stake in the development of the new settlement. Realizing that the urban poor are desperate for immediate shelter and willing to initially forgo physical services, the agent sub-divides the site on a gridiron plan – consistent with government zoning regulations – into small plots that are then sold for cash. Infrastructure (sewerage, water, electricity and road) is not provided up front but built incrementally, making the price affordable to the poor.

The plot allocation procedures are simple and quick. Prospective buyers contact the developer directly and are shown available plots. Payment is made up front; because the plot is encroached and unserviced, the cost is low and the price affordable. Possession is transferred immediately on payment and the buyer is free to move in and build a house. There are no regulations or building bylaws; the only condition placed on the buyer is to begin construction promptly or risk plot confiscation. The condition is placed to facilitate quick expansion of the settlement and attract new buyers.

The developer arranges for initial water, transport, building material, credit and construction advice through informal private suppliers. The developer also forms and registers community organizations to lobby politicians and government officials for water supply, sewerage, electricity and other essential public services for the settlement. Given the settlement’s illegal nature, the lobbying process is protracted and yields inconsistent results that mature over a long time period. Ultimately, infrastructure and services develop ‘extralegally’ and

Public housing schemes have been inconsistent with the economics and sociology of the poor.

In Pakistan, seminal research on housing for the poor has been produced by Arif Hasan and Tasneem Siddiqui. This section is based on their published work.
in an ad hoc manner. Resident households – individually and collectively – make direct arrangements by bribing government officials and paying private suppliers for key services such as water, electricity and transportation. As the settlement grows, other private actors step in to provide retail and social services, including schools and health care. (See Exhibit 1)

WHERE THE INFORMAL SECTOR FAILS

Although the informal sector is the most effective, and by far the largest, provider of housing to the urban poor, it has two fatal limits. First, land tenure is insecure and extralegal as the land is illegally grabbed and settled. Despite the developer’s connections with powerful government backers and lobbying efforts to ‘regularize’ the settlement (i.e., confer legal cover), tenure remains insecure for many years. Given risk of eviction, police harassment is widely prevalent, which impairs benefits of ownership. The incentive to invest in one’s home to improve quality of life and enhance value of economic asset is reduced, which in turn negates the ability to collateralize an asset to raise capital and build a business.

Second, public health and safety are major issues that remain largely unattended in informal settlements. Residents of informal settlements do get informal access to key services (water, electricity and transportation); however, the settlement as a whole develops little physical infrastructure for a long time period. Most debilitating is the absence of a proper sewage disposal system (that is constructed at the end and not up front – which could mean a generation or more). Aside from no business incentives for informal developers in the absence of regulatory oversight, the logistical and technical complexities of developing this system are beyond the capabilities of the small developer or individual households. Residents rely on sub-optimal solutions to meet their sewage disposal needs. Not surprisingly, many informal settlements have open sewage running on the streets, creating serious environmental and health hazards.

Concentrating large numbers of the extreme poor into squalid, unregulated conditions in the midst of affluent metropolitan neighborhoods creates a toxic environment fertile for crime. Undefined ownership provides an extra opportunity for the police to engage in widespread extortion. The modern ‘slum’ provides shelter to the poor stripped of self-dignity and opportunity, resulting in hardship to individuals and high cost to society.

FORMALIZING THE INFORMAL SECTOR

In 1987, Tasneem Siddiqui, a civil servant heading a municipal government authority in Hyderabad, Pakistan, conceived an approach to low-income housing that improved upon and ‘formalized’ the informal approach in what was termed the Incremental Housing Development Scheme. Siddiqui then established a nonprofit company, Saiban (meaning ‘shelter’), that has improved and scaled up the approach over the last decade.

The Incremental Housing Development Scheme copies the informal sector’s features of affordability, simple procedure and rapid delivery. In addition, it provides planned infrastructure, which includes an underground sewerage system built in the early phases of the settlement, a safe environment and perhaps most importantly of all, access to legal title. The scheme is a de facto mortgage system as it is built incrementally on installment payments – a ‘pay and play’ system. To date, the scheme has created 6,000 housing units and reached 35,000
low-income urban residents with affordable, legally entitled real estate assets. Schemes for an additional 35,000 residents are in the pipeline.

The model is self-financing. The only subsidy required is public land provided on sub-market rates for making the scheme affordable to the very poor (those earning $3 a day or less). Cost of private land in metropolitan areas is several times higher than public land, which makes housing the poor inside the city uneconomic without some measure of public policy support for land subsidy or home mortgage guarantee.

Saiban purchases land from a government agency or private developer (process illustrated in Exhibit 3). Like the informal developer, Saiban subdivides the land on a gridiron plan consistent with government zoning regulations. Around 15 percent of the site is allocated for commercial services (shops) and amenities (schools, medical clinics, parks, etc.) and the remaining 85 percent for 80 square-yard residential plots. Saiban then markets the scheme to low-income families living in informal settlements.

The application and allocation process is handled on site and involves minimal paperwork, thus dispensing with the red tape and bureaucracy that cripples traditional public housing schemes. A flexible payment schedule is offered, consisting of a down payment of 20-40 percent of the total price (about $175). The remaining amount ($525) is paid down in convenient monthly installments spread over an 8-year period. The down payment and payback for schemes built on privately purchased land is more aggressive, given the higher cost exposure to the project. Saiban has worked with commercial banks to offer mortgage finance to those earning $3 a day and upwards, making the high cost more affordable. Break-through mortgage finance products are now being offered to the poor by two commercial banks on an experimental basis.

A poor family that arrives at Saiban’s office must stay at a reception site for up to two weeks to demonstrate need. The premise for this is that only the desperate would tolerate the discomfort and dislocation of uprooting their families and endure this inconvenience. This seemingly awkward requirement is imposed as a first check to filter out real estate speculators who are often the first to apply for cheap plots. After two weeks, with a down payment, the family secures possession (but not title) of a plot. There are no building bylaws except constructing within the boundaries of one’s plot. The only tenure requirement is that the family must live there as its primary residence and construct its dwellings immediately – a second check to weed out speculators. Generally, the poor build their houses in stages, often starting with a reed-matting structure and gradually moving to a more concrete unit. To facilitate homes of reasonable standard, Saiban facilitates building contractors to provide materials and technical advice. Saiban has also facilitated microcredit to the most needy to enable house construction. Residents build their own homes through a combination of family labor, hired help and technical advice from building contractors.

Minimal infrastructure is built up front (a third check on filtering speculators and the well-off). Initially communal water supply, soak-pits for sanitation and public transport through informal private transporters is arranged. Remaining infrastructure – underground sewerage, piped water, electricity and paved roads – is developed incrementally as installment payments are collected over time. Infrastructure development is broken down into two categories: internal and external development (see Exhibit 2).

- Internal development consists of underground lane sewers and water pipes, electric poles and wiring, and internal paved roads. It is executed by Saiban and financed through monthly installments.
- External development consists of trunk sewers, sewage treatment plants, bulk water and electric supply, and access roads. These tasks are undertaken by the relevant government agencies. This infrastructure development is partially financed by plot down-payments and monthly installments.

A key feature of the infrastructure development process is the involvement of the resident community. Although Saiban handles most of the execution, residents also participate in planning and implementation. This helps to create transparency and trust between Saiban and residents, foster community cooperation and lower capital outlay.
Meanwhile, Saiban builds networks with education, health and employment providers and assists them in establishing services in the settlement. Leading national providers of education and health to low-income groups have set up programs in Khuda Ki Basti, creating significant opportunities unavailable in most slums.

Once an installment is paid down by a resident, Saiban transfers the title deed in the name of the individual home owner. Acquiring ownership creates tangible long-term possibilities of entering the formal economy, accessing formal credit institutions and investing in a vital legally owned economic asset – one’s own home.

Through a survey of 200 households, interviews with key actors and a physical review of the settlements, Acumen Fund compared an Incremental Housing Development Scheme with a relatively well-developed, high-standard informal settlement in Karachi. Here is what we found:

**CASE FINDINGS**

The study focused on Khuda Ki Basti-3 (Taiser Town), situated 24 kilometers from the center of Karachi. KKB-3 was settled in 1999 and has 12,000 current residents. The informal settlement assessed is an extension of Gulshan-e-Zia, settled originally in 1985, with 20,000 current residents. Gulshan-e-Zia Extension (GZX), developed in 1998, is situated 20 kilometers from the city center and has 6,000 current residents. The informal settlement was regularized by the government in the mid 1990s – which means ex post legal cover has been granted – but residents must apply individually for the title deed to their individual plots, a process that can take several years. Gulshan-e-Zia is part of Orangi Township – the largest squatter settlement in Karachi – where, over time, the informal land-supply model has become efficient, tenure is relatively secure, and infrastructure and services develop at a faster pace than in other parts of the city. All this makes Gulshan-e-Zia a high-standard informal settlement.

Demographics of the two settlements are similar: the average household size is around six. A significant majority of surveyed households in both settlements – over 70% – are poor or very poor, with average household income of less than $3 a day. Additionally, most surveyed households were tenants in their previous place of residence and moved principally because they wanted to own a house.

**Physical Infrastructure**

Physical infrastructure is vital for quality of life, and sewerage and sanitation key to public health. Both schemes build infrastructure incrementally, but the major difference in KKB versus the informal approach is timing, durability and legality. While both settlements are about five years old and infrastructure development remains work in progress, clear trends are evident: following a planned approach, KKB-3 has made significant progress in building key infrastructure. The settlement has a functional
sewage disposal system and is on track to have formal electric and piped water supply connections in two years. In contrast, infrastructure development in GZX has largely been ad hoc, with the developer not responsible for site development. Residents rely primarily on informal channels to access key physical services. As these settlements expand and age, these differences will impact environmental conditions and overall quality of life.

**Sewerage System**

KKB-3 has a functioning sewerage system – a main underground sewerage line is connected to underground lane lines, which are connected to internal household latrines. Sewage moves from household latrines through underground lane sewers to a community treatment plant developed by Saiban. The system is low cost and not ideal. While there have been no major problems to date, 38 percent of survey respondents indicated that the sewerage lines are small and could lead to manhole overflow, while 62 percent rated the system as “good.” Longer term, as the settlement grows, there will be need to develop larger trunk sewers – currently absent from the existing set-up – to handle greater volume. Given the complexity and cost of construction, developing these tertiary lines is the responsibility of public agencies, which have yet to respond.

In GZX, there is no underground sewage disposal system. Although a main underground sewerage line – constructed with multilateral funds – runs through the settlement, there are no lane sewers connecting household latrines to this main line. Households instead rely on underground soak-pits to dispose sewage. With a soak-pit, sewage water seeps into the ground, while solid waste accumulates until it is periodically removed physically. Long-term use of soak-pits can lead to two problems:

- Water seeping into the ground can potentially damage the foundation of the house, creating additional cost burden for the household.
- Seeping waste water raises ground water levels, increasing probability of flooding. A settlement flooded with sewage water poses serious environmental and health risks.

So far, there has been no serious effort on the part of the developer, the local organizations or the residents of GZX to address the long-term sewerage issue. Given the ‘tragedy of the commons’ syndrome, informal settlements typically address this issue only when sewage runs onto the streets and conditions become toxic. The developer who has sold the plots and moved on has no incentive to invest time or money to build the system once the plots are sold.

**Electricity**

KKB-3 currently does not have an electric connection to the grid. Given its poor financial health, the state electric utility levied a large surcharge to connect new settlements to the grid – $1.2 million ($600 per household) – which made it unaffordable for KKB-3 residents. The lack of electricity in the settlement creates an economic burden as it prevents residents from engaging in supplementary home-based economic activity or running their shops/businesses in the evenings. Not surprisingly, most surveyed residents listed the lack of electricity as among their top three problems.

The development of electric infrastructure fell behind schedule because of the change in the policies of the electric utility. Well-off urban residents can pay a capital investment surcharge (an expense previously borne by the utility and amortized over a long period, like elsewhere in the world). Low-income residents cannot afford a large capital infrastructure surcharge up front. In 2003, Saiban was able to negotiate a lower surcharge after intervention from the president of Pakistan (reduced from $600 per household to $150 per household). It is now close to completing installation of electric poles, internal wiring and construction of a substation through household installment payments and is on course to connect KKB-3 to the grid by early 2004, five years after the scheme was launched.

In GZX, no formal electric supply is available but almost all residents procure electricity by illegally tapping electric lines near the settlement. This method – whereby residents place a metallic hook (called the *kunda system*) on an electric line – is the dominant source of electricity for most informal settlements in Karachi. This connection is maintained by paying a monthly bribe to the local utility lineman. Although this channel does provide electricity to residents of GZX, the electric supply is sub-optimal given low electric voltage. While households can use an electric bulb/fan, they cannot operate appliances...
that require greater power. GZX residents have listed the electric situation among their top three problems.

Prospects for getting formal electric supply to GZX in the near future are slim. Electric infrastructure development is expensive and government agencies generally place informal settlements low on their priority list. Despite lobbying efforts, it takes years before formal electric supply becomes available. Only some parts of the older Gulshan-e-Zia settlement – settled over 15 years ago – have formal electric supply. Therefore, while the situation in GZX – given the illegal connections – is currently better than in KKB-3, in one year's time the picture is likely to reverse.

**Water Supply**

A significant percentage of Karachi’s 12 million population and the majority of its low-income residents do not have access to piped municipal water supply. Instead, they purchase water from private contractors via water tankers. The infamous ‘tanker mafia’ represents a powerful collusion of private entrepreneurs, elected leaders and local government officials. In both KKB-3 and GZX, residents acquire water through these private tankers. This imposes a heavy economic burden on the poor, as private water costs 5-10 percent of monthly household income. Furthermore, much of the water supplied to the poor is often not potable – either brackish or mixed with sewage water.

In both KKB-3 and GZX, water infrastructure – laying of underground water pipes and connection to the water main – has not been developed. As a result, residents of both settlements buy water through private tankers.

In KKB-3, however, Saiban has arranged for delivery of private water supply to residents at subsidized rates until municipal water supply becomes available. The quality of water is also decent – 85% of KKB-3 residents stated that their water was “sweet” and/or “clean.” In GZX on the other hand, residents pay market rates for water. The water quality is also considered poor by residents – 100% stated that the water was “brackish and dirty.”

Despite the woeful water situation in Karachi, Saiban hopes that municipal water supply will be available to KKB-3 residents in the near future. It plans to finish installing water infrastructure – laying underground lane pipes and connection to the water mains – within the next two years. And with the near-term completion of a major government housing project – with municipal water and electric supply – near KKB-3, it is expected that this remote part of Karachi will soon have municipal water supply that KKB-3 can access.

In GZX, residents will have to successfully lobby government agencies to install water pipes in their settlement – a prospect unlikely to bear fruit in the short term. Therefore, residents will continue to buy poor-quality water through private tankers and incur the added financial and health cost for the foreseeable future.

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**Exhibit 4: Social Services in KKB-3 and GZX**

[Graph showing Social Services in KKB-3 and GZX]
Education, Health and Civic Amenities

Around 15 percent of the site area of KKB-3 is earmarked for public parks and social amenities. Saiban is proactive in bringing reputed providers of education and health services to set up programs in its settlements. In addition, private entrepreneurs establish schools, pharmacies and retail businesses to provide telephone services, stationery and medical supplies. Two of the best known private education and health companies, The Citizens Foundation and the Baqai Medical Trust, are operating schools and medical facilities in KKB-3.

GZX is serviced by small private entrepreneurs, and aside from a lower standard of education and medical service, there are fewer service providers in the area. Overall, GZX is one-half the population of KKB-3 and, proportionately, the relative quantity of social services (provided through private entrepreneurs) is the same as in KKB-3; there is, however, a difference in the quality. In addition, site planning in KKB-3 creates greater recreational opportunity.

Health Care – While GZX is serviced by four private clinics, KKB-3 has a larger array of health facilities – four private clinics, two mobile clinics and one hospital. Saiban has also arranged health education and child immunization programs through other NGOs. Such health programs do not presently exist in GZX.

Education – As with health care, KKB-3 has more educational facilities than does GZX. KKB-3 is serviced by nine formal primary schools, four informal schools, two secondary schools and one adult literacy center for women. GZX has five formal primary schools and two informal schools. To date, no secondary school has been developed in GZX. Therefore, a majority of GZX residents send their children to school outside the settlement.

Other Amenities – In addition to promoting social services in KKB-3, Saiban also earmarks space for recreational facilities. With the assistance of other NGOs, Saiban has developed three parks in KKB-3. In GZX, no land is allotted for parks or recreation.

Tenure Security and Legal Title

Tenure security can be broken down into two categories, de facto and de jure. De facto tenure security essentially measures the likelihood of getting evicted from one’s home. De jure tenure security, on the other hand, is indicated by documentation, i.e., legal title, which provides evidence of formal ownership.

De facto tenure security is strong in both KKB-3 and GZX. None of the households in either settlement has ever been evicted. Furthermore, none of the surveyed households state that they face a significant risk of eviction in the future. The result for KKB-3 is unsurprising – tenure security and legal entitlement is built in to the system. For GZX one would not expect strong de facto tenure security. It can, however, be explained by the ‘regularized’ status of the settlement. Regularizations by the government conferred legal cover on a large number of pre-1990 slums. Unlike most recent informal settlements, GZX, developed as an extension of the older Gulshan-e-Zia settlement, had a ‘regularized’ commission from the start. This factor has allowed GZX residents to escape the experience of eviction threat that are frequent occurrences during the early stages of most informal settlements.

Nevertheless, GZX residents have paid a price because of their tenure status. 100 percent of GZX residents stated that they had to make extortion payments to the local police to avoid trouble; 87 percent reported fearing arrest by the police while building their houses. Households in KKB-3 did not indicate facing any such harassment.

Acquiring legal title was the stated priority of all survey respondents in KKB-3 and GZX. In KKB-3, over 80 percent of surveyed residents said they expect to get title automatically after completing their installments. This reflects a relatively high degree of public trust. In practice, all KKB-3 residents will get legal title on completing their installment payments. The process will be automatic with no additional financial or complex procedural requirements.

The path to legal title in GZX will be more onerous. Although the settlement has been marked for regularization (which removes the largest barrier to legal title), two further steps remain. A physical audit of the settlement; followed by marking and registration of each housing unit by the relevant local government agency. The audit has yet to happen, and it is unclear when it will be done. Second, once individual units have been registered, resident
households must apply for legal title. The application fee, however, for acquiring legal title is high ($300) and the application process riddled with bureaucratic red tape. Applicants often must pay bribes to speed up the process. 100 percent of GZX residents stated that they expected complication and problems in securing title to their land.

Public Safety

The case findings reveal a startling difference in the levels of public safety in the two settlements. In KKB-3, crime, violence and harassment are virtually non-existent. 98 percent of surveyed residents indicate that they have never been victims of violence, robbery or harassment. In GZX on the other hand, petty crime and harassment are a serious problem. Approximately 70 percent of surveyed residents recorded being victims of either violence or robbery during their tenure in GZX. They noted facing high levels of harassment, with the biggest problem coming from the local police. Discussion with community activists revealed three murders in the area over the last two years. 99 percent of surveyed KKB-3 residents mentioned public safety as one of the top three “positives” of living in KKB-3. 92 percent of GZX residents referred to the high levels of violence and harassment as one of the top 3 “negatives” in GZX. It is difficult to specify the exact causes of these divergent public safety levels, but three broad factors may be important contributors:

Tenure Status – While GZX residents have not been evicted, lack of legal tenure has a social price. Residents are exposed to harassment, extortion and blackmail. Such harassment comes from a range of social actors; however, tenure insecurity is especially exploited by local police. As stated above, 100 percent of surveyed GZX residents recorded harassment from police while building their houses; 87 percent indicated that they feared arrest during these interactions. In contrast, 100 percent of KKB-3 residents recorded no harassment from police or any other source.

Preventive Steps – Police in Pakistan are widely considered to be a source of crime. In addition to harassing residents directly on some pretext, they are often on the payroll of crime agents and other negative social actors, facilitating their entry, ensuring escape and providing protection. For example, the three murders in GZX are suspected by community activists and residents to have had police involvement. Saiban has arranged with the police chief of Karachi to keep police patrols out of the settlement. By the arrangement, major crimes and issues that cannot be resolved by Saiban site managers are referred to the police. Patrolling and petty issues are resolved locally by Saiban social organizers and community self-organization. This has kept the police and harassment away.

Location – While, both settlements are located on the periphery of the city, KKB-3 is relatively more remote and surrounded by sparsely populated areas. GZX, on the other hand, is located next to an older, larger settlement where criminal and political elements are more active.

How much does it cost?

Aside from quality of life, a critical comparative variable is cost – what are the economics of living in Khuda Ki Basti compared with a high-quality informal settlement? This requires more complicated analysis; along with estimating the explicit direct cost of living, one must also factor in indirect or ‘hidden costs’ of living in such settlements. Hidden costs are difficult to measure and require elaborate hypothetical modeling. We have therefore restricted our comparison to the more easily measurable and conservative direct cost comparison. We conclude with an overview of the ‘hidden cost’ as it has a significant economic bearing on quality of life.
Direct Costs

To build a comparative picture of direct costs, we estimated the costs a typical household would bear over a 10-year period. The direct costs we factored fall into two categories: 1) fixed or capital costs, consisting of payments for land and infrastructure (piped water supply, underground sanitation, electric supply and internal roads); and 2) variable or consumption costs, for the use of essential services, such as water and electricity.

The total estimated direct cost of living in GZX is 33 percent higher than in KKB-3. It is 2.5 times more expensive to purchase a piece of land in GZX compared to KKB-3. It is 3.5 times more expensive to purchase a ‘legally titled’ plot of land in GZX than KKB-3. This underscores the critical importance of public policy in making affordable land available to the poor. KKB-3 land is state land provided by the government on submarket rates. GZX is state land illegally invaded by informal developers in collusion with corrupt

Notes and Assumptions

[a] Prices of plots in KKB-3 are fixed at $175. Plot prices in GZX have ranged from $175 in 1997 to $600 in 2003. We have taken the median price in GZX of $345 in 2000 to compare plot prices between the two settlements.

[b] Residents in GZX must pay a premium of $138 (including bribes) to get their tenure legalized. Residents in KKB-3 do not have to pay this premium.

[c] Infrastructure consists of piped water supply and sanitation, electric supply from the grid, and internal roads. Costs in KKB-3 are higher because of its more remote location; it costs more to connect the settlement to water and electric supply sources.

[d] Cost of water consumption for a typical household in both settlements over a 10-year period. We have assumed that municipal water supply will not be available in KKB-3 for this entire period and residents will need to purchase water through private channels. Water consumption costs in KKB-3 – at subsidized rates of $2.50 per month – are, however, 50% lower than those in GZX.

[e] Monthly electricity usage costs in KKB-3 are 100% higher than in GZX where the electricity is stolen and the only costs incurred by households are monthly bribes to maintain the set-up. Total costs, however, in both settlements are approximately equal because electricity is not available in KKB-3 for the first 5 years. We have assumed GZX residents have had informal electric supply for the entire 10-year period.
government officials and sold on market rates for informal, ‘extralegal’ land. Legalizing that land has additional monetary and time costs. The process of making the illegal plot legal adds another 100 percent to the price of land.

Conversely, the cost of acquiring developed infrastructure (piped water supply, underground sanitation, electricity and roads) is 1.8 times higher in KKB-3 than in GZX. The differential is accounted for by the provision of such infrastructure by a formal process in KKB-3. In GZX this infrastructure is not built up front by the developer but acquired over time through an informal process (political lobbying and bribery).

The variable costs of consuming water and electricity are 1.6 times more expensive in GZX than KKB-3. This difference is primarily caused by the 2X differential in acquiring water supply in GZX, as Saiban has negotiated a preferable bulk rate from private tankers given close working relationships with the government. While KKB-3 has a legal electricity connection and GZX residents acquire it illegally, the cost is almost the same in the two settlements. The formal nature of the KKB-3 and the public-private partnership approach ensures KKB-3 is able to get a government electricity connection. Residents of informal settlements ‘steal’ connections as they are unable to secure formal electricity given they lack legal ownership of their plots.

**Indirect or Hidden Costs**

Due to the incremental nature of both the Khuda Ki Basti and the informal developer models, residents of both settlements incur indirect or hidden costs. It is difficult to accurately specify their economic value but nevertheless important to factor them as they have material economic bearing and possibly exceed the direct costs in size over time. Since formal tenure and services are available much earlier in KKB-3 than in GZX, the economic value of these costs is arguably lower in the former:

**Lack of Legal Ownership** – Lack of legal entitlement may impair one’s ability to enhance economic value of an asset. For example, if one’s tenure is insecure, one may not invest as much as one could in a home and thereby increase value of the real estate. Lack of legal title also reduces one’s ability to mortgage an asset to raise capital – a key form of finance for small business in the United States is home mortgage. This form of financing is unavailable to small entrepreneurs in emerging economies, and is linked to title.

**Lack of Sewage Disposal** – Inadequate sewage disposal leads to increase in morbidity and mortality, especially among the young. A study done by the Orangi Pilot Project in Karachi estimated infant mortality rates of 101 per thousand in settlements without proper sewage disposal versus 37 per thousand in settlements with a functioning system. Long-term economic costs of poor health are material both in terms of rise in health-care expenditure and decline in productivity.

**Lack of Electricity** – Unreliable and inadequate electric supply reduces scope of economic activity. Low-income households seek to supplement primary sources of income and often engage in multiple occupational activities to make ends meet. Working small businesses in the homes like sewing, spinning, brick making, or packaging requires either direct supply of electricity or ability to light one’s home. More-resourced businesses can afford access to small generators, but this is not economically viable for individual poor households. Illegal electric connections can have a higher cost ultimately as supply remains unreliable and sub-optimal.

Even if we assume direct costs, adjusted for government subsidies and the nature of KKB as a public-private partnership, are the same across Khuda Ki Basti and an informal settlement, quality of life differentials are substantial. Underground sewerage, piped water infrastructure, social services, public safety, and legal ownership result in a cleaner, safer, healthier civic habitat. With a little help from the government and a strong guiding hand from a socially responsible developer, thousands of urban poor are able to secure decent, dignified homes, which they own.

**RESTRUCTURING MARKETS**

Access to affordable housing and healthy, secure habitats in mega-cities is among the most pressing livelihood challenges the poor face around the world. Land is a particularly attractive asset class in emerging markets where public and private capital markets are less developed. Real estate speculation – holding on to land without developing it for long periods – is common, often in circumvention of official policy. This leads to hoarding of large tracts of land
unproductively and artificially raises the price of land. For the poor, the choice is often to either live like cattle or move out of the city.

Exploding cities in the developing world need large-scale investment in infrastructure. Given the size of the problem and state of public finances, they also need scalable, low-cost solutions that leverage and restructure informal markets and strengthen institutions built around the sociology and economics of the poor. This work is about public service but also addresses fundamental elite self-interest. Unaddressed, the implications on the environment, injustice and ultimately civil disorder are manifest.

Public policy can make a radical difference. Unlocking land banks for affordable housing is critical to reducing the price of land for the poor, who are increasingly being driven out of the city environs. Lack of access to government-supplied land is leading Saiban to pilot a new model on privately purchased land, which increases the price of housing by at least a factor of four, making it unaffordable for the very poor. Beyond supply of land, government enforcement of existing laws against land profiteering would be a valuable start and long-term home mortgage finance for the poor a breakthrough. The government in Pakistan is encouraging real reform by creating a pilot mortgage scheme for the poor. More can be done – tax incentives for private builders for social housing and affordable land access to nonprofit developers like Saiban can create large-scale formal sector supply of better-quality housing for the poor. National documentation of the assets of the poor and clear ownership rights with credit bureaus for the poor can shift large numbers of humanity in to the formal economy. Finally, there is a big lesson for international aid – to put money where it works. Some of the great innovations of our times that have the track record and the power to transform markets go unnoticed, while millions are wasted on schemes that are neither viable nor scalable.

Making markets like informal housing more efficient and effective for the poor, markets they are already tapping, is a better approach than destroying markets through large indiscriminate subsidies that are not sustainable. A major part of the solution is building institutions’ that work for the poor and enable the poor to enter the formal economy – reducing their cost of living and doing business and expanding their opportunity for creating new wealth.

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Primary Sources
The main primary source for this report is two surveys of 100 households each, conducted in KKB-3 and GZX respectively. The surveys were conducted by an independent team of surveyors, commissioned by the Acumen Fund and Habitat for Humanity Pakistan, in August 2003. Additional primary sources include interviews with the key actors involved in each settlement’s planning and development, as well as informal discussions with commercial vendors, social service providers and residents. Formal Interviews were conducted with the chairman of Saiban and the project officer of Khuda Ki Basti 3, as well as with the informal developers/sub-dividers and community activists of GZX.

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