MARKET-BASED MODELS FOR LAND DEVELOPMENT FOR THE LOW/MODERATE-INCOME MAJORITY

Bruce Ferguson

Hybrid value chains (see Ashoka, 2008 and Ferguson, 2008 in this issue of *Global Urban Development Magazine*) provide a tool to analyze, improve, and create affordable housing projects and products. Nowhere is the need and opportunity greater than in land development (*Global Urban Development Magazine*, November 2007).

Virtually all net growth of 2.6 billion in world population between now and 2050 is projected to occur in emerging-country cities. The majority of these new households will earn low or moderate incomes. In effect, relatively poor countries must build the equivalent of a city of more than one million people each week for the next 45 years (Cohen, 2005)! Rapid rural-to-urban migration (particularly in South Asia and Africa, where large majorities still live in rural areas) as well as in-situ population growth have created this surge in urban population. Although these households will earn incomes well below those of affluent countries, the huge increase in emerging-city populations will drive growth in the world economy and demand for many products. From 2001 to 2007, emerging economies grew at an average annual rate of over 6% compared to 2.5% in high-income advanced countries, and have resisted the current "credit crunch" (as of July 2008) far better than affluent nations. The importance of emerging nations in the global economy will only increase in coming decades

Absent major change, the bulk of new residential land development will occur informally without integration into mainstream markets, at tremendous public and private cost. Settling this wave of new urban residents far exceeds the challenge of upgrading existing urban shantytowns containing one billion people. Experts (*Global Urban Development Magazine*, 2007; Freire, Lima, Cira, Ferguson, Kessides, Mota and Motta, 2007; Ferguson, 2007; Buckley, 2005) and housing developers agree that land presents the greatest constraint to sheltering the low and moderate-income majority. Government programs, however, typically result in boutique high-subsidy projects incapable of reaching a scale commensurate to this challenge. New market-based approaches are essential to reach the enormous necessary scope.

This paper first presents a hybrid value-chain framework with particular attention to urban land development to provide a systematic method for guiding private-sector initiative. It then uses this framework to analyze and specify how to improve two cases of market-based urban land development – one in Pakistan with a nonprofit as the developer and one in El Salvador where for-profit firms are the protagonists – based on interviews and reports prepared for this study. This analysis also helps identify the roles of private firms, the citizen sector (variously called "nonprofits", "NGOs", and the "social sector"), and government in achieving massive low-income land development.

A hybrid value chain approach to urban land development

Table 1 (distilled from Table 2 of Ferguson's policy introduction on the value chain framework to this issue of *Global Urban Development Magazine*) lists the main steps of the progressive housing process used by most families in emerging countries, a set of overall criteria to assess outcomes, and products and services for streamlining this practice. The key to creating value and markets in affordable housing is not only to lower the costs of each of these steps but also, more importantly, to innovate and combine products and services into new business models that address larger segments of the problem – i.e. "value chains."

Modern companies develop competitive advantage by vertically integrating the sourcing, manufacturing, and delivery of packages of products and services (Porter, 1985). Hence, these firms are well suited to squeezing costs out of the progressive housing process. However, they typically have little direct access to poor communities, which they find dangerous and difficult places in which to work, and to low-income people, who usually do not trust them. Citizen-sector organizations that work in these neighborhoods can perform an important function at critical junctures in the value chain. As a result, the most effective value chains are "hybrid" efforts that join modern corporations with citizen-sector organizations.

A broad summary of the context of residential land development in emerging countries cities serves to preface application of this hybrid value-chain framework to specific projects and products.

During the early phases of the great urban wave during the 1950s and 1960s, poor households migrating to cities from the countryside could, with some frequency, find centrally located low-cost parcels to invade. This land offered a low-cost foothold near to the city center and jobs, which families could turn into a valuable asset.

However, continuing urbanization has used up most land vulnerable to invasion. As a result, most new low/moderate income households now settle in illegal subdivisions on the periphery and beyond, stretching over vast areas. In effect, illegal subdivisions have become the default mechanism for urban land development. Typically, clandestine developers acquire parcels, mark areas for dirt streets, divide the remaining area into lots, and sell these raw lots to poor households. Most emerging countries and cities have officially made such unserviced land development illegal under their subdivision codes. However, the bulk of these governments unofficially allow or promote unserviced land development as the only viable alternative for massive low-income settlement. Others lack the enforcement mechanisms to control this phenomenon.

Table 1: Framework for assessing and improving affordable housing projects and products

Steps in the progressive housing process	***Goods and services necessary to streamline process and reduce costs***
1. Acquisition and occupancy of a lot *a. Physically occupy lot* *b. Pay for lot* *c. Starter infrastructure for occupation* *d. Construct an initial makeshift shelter*	• Formally-developed subdivisions with "starter" services (e.g. collective water and a gravel road network) located near trunk infrastructure lines • Low-cost norms and streamlined processing for approval of subdivisions with "starter services" (e.g. communal standpipes/wells or "tanker" water, dirt roads, electricity) and progressive provision of other infrastructure and services over a predictable timeframe.
2. Upgrading property tenure for security of occupation *a. Maintain physical control of the lot* *b. Achieve secure tenure* *c. Full legal title*	• Legal, financial, and administrative assistance in upgrading security of tenure. Land developers, building materials retailers and manufacturers, and utility companies have an interest in increasing the security of tenure of the low-income communities that they serve.
3. Provision of basic infrastructure *a. Upgrading (e.g. road network, paving, drainage)* *b. Adequate sanitation (improved pit latrines or sewerage)*	• Lobbying for and brokering infrastructure and collective services from various levels of government and private sector organizations. • Organizing the community to help maintain and pay for installed infrastructure and collective services (e.g. cleaning drains, operating community centers)
4. Construction of the house structure *a. Improve/ expand unit of owner occupant* *b. Add accessory units and spaces for relatives and rental income*	• Packages of high quality building materials. • Technical assistance in design, budgeting, and construction of houses • Market information on the type of home improvement and upgrading of property tenure that increases home values.
5. Finance of steps in progressive housing process *a. Household savings vehicles* *b. Small serial short-term credit for:* *-purchase of lot* *-infrastructure provision and connection* *-expansion and improvement of structure*	• Organizing groups of households to save for home upgrading and to demonstrate creditworthiness. • Saving vehicles that create discipline and give a positive real interest rate • A range of credit including: microfinance; supplier and consumer credit from developers and building materials retailers; and small mortgage loans; not only for building materials but also for specialized technical labor.
6. Building community institutions to combat insecurity *a. Formation of neighborhood groups* *b. Local and international NGOs support neighborhood groups* *c. Neighborhood groups and NGOs partner with public and private sector to increase security*	• Organizing community associations and funding sources to operate them. • Developing women's networks to market goods and services • Community centers with daycare and youth facilities • Agreements with the police and other authorities that enhance security • Investment in street lighting and local police stations
Overall characteristics	***Outcome measurement/description***
1. Sustainability *a. Scale* *b. Financial* *c. Political* *d. Environmental*	• Number of units produced relative to demand (new household formation) • Positive net return • Reliance on government action and resources, and dependability of this public support • Impact on households' health and the natural environment
2. Location relative to existing infrastructure, services, and jobs	• Distance from trunk infrastructure, services, and jobs
3. Targeting/affordability	• Share of project/product that serves low-income households

Illegal subdivisions present an enormous dilemma. They are typically the only affordable means of low-income settlement, have simple procedures, and deliver their product rapidly. However, illegal subdivisions lock in many of the extremely high costs of progressive housing over time (Ferguson, 2008). Households pay clandestine developers many multiples (often, 10x to 20x) their cost for individual lots without receiving full legal title. They then struggle to keep physical possession and upgrade their rights to their lot (step 2) by keeping an adult family member (typically the wife) on site around-the-clock instead of working outside the home, bribing local police and officials, and paying the costs of regularization and registration of property ownership. In order to occupy the lot and begin consolidating their home and community, families build a makeshift shelter and acquire water and electricity via clandestine connections or by paying private suppliers many times the cost of publicly-supplied services for poor quality.

Upgrading this infrastructure (step 3) and building a permanent home (step 4) destroys these households' initial investment by retrofitting a new road/services layout to the community, typically at two to three times the cost of formal-sector development, and by replacing the makeshift shelter. Households pay exorbitant rates both to save and to borrow to finance this process (step 5). During the consolidation phase (steps 3 to 6), families and neighborhoods usually suffer from much higher rates of crime, violence, and insecurity of all types than formal settlements of a similar socioeconomic profile; they combat insecurity by building community institutions (e.g. neighborhood associations and groups of all sorts), establishing alliances with supportive NGOs, and developing partnerships with public agencies (step six), particularly the police.

In this context, creating value chains for land development involves making clandestine subdivisions legal through regulating and supporting their development in order to reduce the cost and length of this process. The following sections summarize two in-depth case studies of market-based low-income urban land development, and then apply this hybrid value-chain framework to rate and specify how to improve them. The full versions of these case studies are available on Ashoka's website at www.ashoka.org.

The progressive subdivision market in El Salvador

Progressive subdivisions started in the 1960s in the municipalities of the capitol, San Salvador (Barraza, 2007; Souza, 2001), and now serve 60% of new low-income households throughout the country, with sales of 5,000 to 8,000 lots per year.

Roughly 70 firms belong to the Association of Land Developers of El Salvador, and are active in this market. The four largest firms (Argoz, Proyectos Dinamicos, Lotiversa, and Ivan) operate on a national scale and account for one-half of new lot production (Barraza, 2007; Souza, 2001).

Typically (80% of projects), firms approach landowners of parcels near or on major roads on the urban periphery and in semi-rural zones, and offer to form partnerships to subdivide this land. The firm commits to execute and administer the subdivision, and pass on 60% to 75% of payments from individual households to the landowner.

The developer sets aside 35% of the parcel for streets, communal infrastructure, and, higher-end projects, green space, and then divides up the remaining 65% into 20 to 35 lots of 150 square meters (in suburban zones) to 250 square meters (in semirural zones). The firm levels and prepares the terrain, demarcates lots and roads, compacts dirt roads, and, for higher-end projects, drills communal wells and leaves space for parks. Electricity companies make individual households connections in parallel with the subdivision.

Marketing usually consists of putting a billboard at the front of the parcel advertising lots for sale with a telephone number. Developers establish local offices to receive monthly payments and also make arrangements with banks to receive these monies on their behalf. Low-income people buy the great bulk of these lots. In addition, significant sales now come from the Salvadoran community in the US seeking to build a home to retire to their native country and investors.

Developers use a rental contract with promise of sale (*contrato de arrendamiento con promesa de venta;* hereafter, called a "rent-to-own contract") for this purpose. This rent- to-own contract stipulates a monthly payment of US $15 to $70 per month for 8 to 12 years, representing an affordable 15%-20% of income of low and moderate-income households earning US$175-$350 per month. This legal vehicle maintains ownership of the lot with the developer/landowner partnership until the last monthly payment, which reduces the risk and capital invested.

Developers typically phase their subdivision over time, so that both the developer/landowner partnership and families that purchase early gain from the appreciation resulting from the occupation of the project. Developers invest a small amount – US$300-$700 per lot – in starter infrastructure that approximates the norms set by government regulation. Firms ignore regulations that would raise costs to levels that would price their product out of their target market segment.

Families then build the structure of their homes and pressure government for other services – most importantly, piped water – which generally arrives 10 to 15 years after the initial development – and paving of roads and schools, which usually takes longer. Virtually none of these settlements have piped sewerage – the most costly type of infrastructure. Instead, residents build unimproved pit latrines, which frequently contaminate underground water and wells – the main source of their drinking water.

This *modus operandi* results in monthly payments affordable to a wide range of low and moderate-income households. However, rent-to-own contracts can be highly problematic. Arrears of three or more months in payment permit the developer to repossess the lot and sell it to another family. On making the final payment, some families discover that the developer/landowner partnership has mortgaged or sold the land to others, and have problems getting clear legal title to their lot.

From the perspective of developers, the low investment of capital in projects has allowed massive production of progressive subdivisions that has substantially exceeded demand but, nevertheless, turned a profit. The three largest developers have produced an average of 10,500 lots per year compared with annual sales of around 3,000 lots per annum. Financial analysis of a typical project in one of the most active current markets (municipality of San Miguel) shows a net return of 25% to 35% per annum, around the national median profit rate for private-sector investment.

Progressive subdivisions started in the 1960s, but occurred outside of national and local law until 1992. In 1992, national government approved the Law for Urban Development and Construction and Regulation of Subdivisions (Barraza, 2007; Souza, 2001). This law created a category called "Subdivision for Progressive Development" for low-income households, a Social Register of Real Property, and the Institute Of Liberty and Progress (model on and on Hernando De Soto's efforts in Peru of the same name) in order to legalize informal settlements. In addition, national government has established a Management Unit within the National Real Property Registry Office to approve these plans while municipal governments – which are constitutionally in charge of land-use – also review progressive subdivision applications if they have land-use plans. These and other agencies including the Ministry of the Environment participate in an inter-institutional committee to review progressive subdivision applications, which constitutes a "one-stop shop" ("*ventanilla unica"*) that coordinates the approval process for developers.

The progressive subdivision industry and its regulatory framework in El Salvador have produced marked positive and negative results:

The regulatory framework adopted in 1992 has succeeded in converting an illegal industry into a legal one that has rapidly expanded and now serves 60% of new low-income households. Government review has helped keep development away from the most environmentally-hazardous locations. In contrast to the 1960s when illegal subdivisions occurred on hilly lands and floodplains, regulation has influenced developers to locate new projects on flat land with suitable soils, although at increasing distances from city centers.

On the other hand, unoccupied progressive subdivisions now consume large areas in semirural regions as well as the urban periphery throughout the country, displacing other land-uses such as agriculture. Transfer of legal title to households on payment of the last installment of the rent-to-own contract continues to be a major issue; a

substantial backlog of progressive subdivisions (mainly from before passage of the national legislation in 1992) remain illegal. The government review process still creates some dilemmas for developers; in particular, the minimum lot size of 100 square meters for urban areas is large compared with other Latin American countries.

While some regulatory issues remain, the low amount of funding for new water and sanitation infrastructure is now clearly the major bottleneck to low and moderate-income settlement. The water and sanitation system of El Salvador suffers from weak governance and under-capitalization. Municipal governments receive a very low share of national tax revenues in intergovernmental transfers (8%) compared to the Latin American average (15%), and lack funds for local capital investment. The lack of funding for infrastructure contributes to causing the central problem of progressive subdivisions: although the progressive subdivision system effectively settles a large share of the low/moderate-income population of the country, it provides virtually no support for consolidating the resulting communities over time.

The Low-Income Land Development Projects of Saiban in Pakistan

Public landownership in Pakistani cities is high, ranging from 20% to 40% of urban property. The lack of housing finance, urban development funding, and property tax systems discourages private real property owners from development and encourages them to hold raw land for speculation at prices unaffordable to the majority (World Bank, 2006). These factors throttle legal land markets and create a perverse dilemma for low-income housing. Pakistani cities and Karachi (Dowall, 1991), in particular, have ample vacant land including many unoccupied formal subdivisions. However, most low and moderate-income households cannot afford the prices landowners ask for these lots.

Lacking any legal alternatives, most Pakistani families either participate in unorganized land invasions or buy lots in illegal subdivisions, which account for the bulk of urban settlement since the 1960s as parcels suited to land invasions have become scarce.

The public sector has an official and an unofficial response to these severe bottlenecks in housing and land markets, and the lack of affordable housing. Officially, government agencies have experimented with a wide range of housing programs including sites and services, low-cost core units, and slum upgrading. However, government-produced housing covers a negligible part of need and demand.

Unofficially, public officers enter into arrangements with private-sector builders to develop publicly-owned land informally – i.e. the default mechanism of informal subdivision that predominates in most emerging-country cities. Clandestine developers collude with government authorities to use public land on the urban periphery without formal legal transfer.

The former head of the urban development authority in Hyderabad, Tasneem Siddiqui, started Saiban, a citizen-sector organization**,** in 1987 in order to improve upon and formalize informal low-income settlement and has continued to lead the organization. Essentially, Saiban has sought to copy the informal sector's affordability, simple procedures, and rapid delivery, and join them with planned infrastructure including a sewerage system, a safe environment, legal title, and access to social services (Siddiqui). Three projects have created 6,000 affordable titled lots to reach 35,000 low-income urban residents. A comparable number of lots are in the pipeline. This total of 12,000 lots exceeds direct government production but represents less than one year of unmet need (new household formation) in the Karachi/Hyderabad area.

Saiban's City Of God project serves as an example. Saiban acquired a 100-acre site for a portion of the City of God project (KKB-3) from the Malir Development Authority on the outskirts of Karachi. This nonprofit organization subdivided the land on a gridiron plan consistent with government zoning regulations; 20% of the site was allocated for commercial services and collective functions (schools, medical clinics, parks etc.) and 30% for roads – much larger shares than informal subdivisions typically designate for these collective functions. The remaining 50% was divided into 80 square-yard residential plots.

The process to apply for and buy a lot is handled on-site and involves minimal paperwork. Saiban offers a flexible payment schedule consisting of a downpayment of 20% to 40% (about US$175) of the total price. Households pay the remaining amount of US$525 in monthly installments over 100 months. The resulting payments of US$5.25 per month are affordable even to the lowest-income households and virtually none drop out of the process. Saiban keeps ownership of the lot until the last payment, after which it delivers full legal title to the families. Saiban has also worked with commercial banks to offer mortgage finance to those earning US$3 per day and upwards.

In order to discourage speculation, Saiban requires that a poor family stay at a reception site for up to two weeks to demonstrate need. On making the downpayment at the end of the two-week waiting period, the family gains possession but not title to the plot, which is delivered to the family on payment of the final installment.

The initial infrastructure is minimal – partly to discourage speculation – and consists of communal water supply, a soak pit for sanitation, and public transport from private suppliers. The remaining infrastructure – including underground sewerage, piped water, electricity, and paved roads – is extended incrementally as installment payments are made. Saiban develops the infrastructure internal to the subdivision including underground sewer and water pipes, electric poles and wiring, and internal paved roads funded by the monthly installments from purchasing households. The relevant government agencies develop external infrastructure including trunk sewer lines, sewage treatment plants, bulk water and electricity supply, and access roads.

In addition, Saiban arranges for a wide variety of other services. Perhaps most important, Saiban transfers clear title to the lot when households make the final payment on their land and ensures public safety in its settlements through agreements with local police (usually, not to intervene) and others.

Financial analysis shows that a typical Saiban project (City of God KKB-3 of 2,800 lots) generates a highly positive net return (US$179,000 more than the total of the purchase cost of $430,000 plus subsequent development expenses of US$1.32 million). Thus, Saiban's *modus operandi* is financially viable and market-based. However, it depends on the sale of parcels from government to Saiban. Given the ample amount of urban land owned by the public sector, scaling up the Saiban model appears, in principle, a sustainable way to address low-income land and housing problems in urban Pakistan.

In practice, however, the large financial benefit to public officials of illegal subdivisions and of government "sites and services" projects has substantially slowed the expansion of Saiban's production. While the money Saiban pays to purchase public land goes to the government treasury department ("exchequer"), illegal subdividers pay under the table directly to individual government officials. Similarly, officials receive large commissions from contractors who over-design and over-estimate the cost of infrastructure for government sites-and-services projects, also under the table.

As a result, individual officials prefer to sell public land to clandestine subdividers for their own personal gain rather than Saiban. The founder and chair of Saiban – Tasneem Siddiqui – states that this organization has sought to purchase an additional site from the Malir Development Authority to expand Phase 3 of the City-of-God project near Karachi for the last three years. This Authority has yet to sell more land to Saiban. Illegal subdividers, however, have acquired the use of parcels adjacent to this Saiban project in collusion with the Malir Development Authority, the Board of Revenue, and the police. In Islambad, Saiban has yet to get permission to develop land purchased from private owners four years ago, while illegal subdivisions proliferate.

Analysis

Table 2 applies the hybrid value-chain framework to analyze the progressive subdivisions of El Salvador and Saiban's low-income land development projects in Pakistan. Each factor was rated on a scale of "0" (negligible/never) to "3" (high/always) along with a brief explanation. These ratings of individual factors were used to create average ratings for the settlement phase, the consolidation phase, and overall. An examination of these average ratings provides a broad assessment of each case:

The progressive subdivision system of El Salvador scored 2.0 (out of a maximum of 3.0) for settlement, 0.4 for consolidation, and 2.0 overall. The reasonably good score for settlement reflects that the progressive subdivision system of El Salvador allows 60% of new low-income households to acquire a lot in distant but developable areas. Although this system avoids extreme environmental hazards, it results in contamination of groundwater by unimproved pit latrines, the proliferation of vacant subdivisions, and significant legal and physical insecurity. The very low score for consolidation reflects these deficits and the minimal, haphazard support for turning these settlements into viable communities by extending infrastructure and for building shelter. Overall, the massive scale and good affordability compensated for the negative environmental impacts and the distant location of these projects to achieve an average rating of 2.0.

Saiban's low-income land development in Pakistan scored 2.3 for settlement, 1.9 for consolidation, and 2.2 overall. Saiban – an NGO – does a superior job not only at settlement but also in supporting consolidation over time of the resulting communities relative to the for-profit subdivision firms of El Salvador. The Saiban case demonstrates the potential value-added of citizen-sector organizations to the progressive housing process. However, Saiban's dependence on unreliable governments for acquiring new parcels ("political sustainability") and the resulting limits to scale resulted in an overall average rating only modestly above that of the El Salvador case (2.2 compared with 2.0).

Table 2 – Hybrid Value Chain Analysis of Progressive Subdividions in El Salvador and Saiban's Low-Income Land Development Projects in Pakistan

Phase	Step		Progressive Subdivisions El Salvador	Saiban Pakistan
Settlement	I.	ACQUISITION AND OCCUPANCY OF A LOT		
	a.	**Physically occupy lot** El Salvador – on signing rent to own contract, households (HHs) can immediately occupy lot Pakistan – after two-week processing/orientation period and making $175 down payment, quick occupancy of lot with minimum of paperwork	**3**	**3**
	b.	**Pay for lot** El Salvador – $15-$70 monthly payments affordable to great bulk of low/moderate income HHs Pakistan – monthly payments of $5.25 affordable to even poorest HHs	**3**	**3**
	c.	**Starter infrastructure** (e.g. communal standpipes/wells or "tanker" water, dirt roads, electricity) for occupation El Salvador – dirt roads, electricity and, sometimes, communal wells available on occupation Pakistan – dirt roads, tanker water and electricity available on occupation	**2**	**3**
	d.	**Construction of an initial makeshift shelter** El Salvador – no support Pakistan – minimal support	**0**	**1**
	II.	UPGRADING PROPERTY TENURE TO ACHIEVE SECURITY OF OCCUPATION		
	a.	**Maintain physical control of the lot** El Salvador – 70% of HHs that sign rent-to-own contract to purchase lots complete process, 30% unable to maintain monthly payment and drop out Pakistan – virtually 100% of HHs complete process	**2**	**3**
	b.	**Achieve secure tenure** El Salvador – rent-to-own contracts provide secure tenure for majority of HHS during payment period, but create legal issues for minority Pakistan – 100% of HHs maintain right to their lot during payment period	**2**	**3**
	c.	**Full legal title** El Salvador – majority of HHs and projects are able to acquire full title on completion of payments, but a minority are unable to Pakistan – 100% of HHs receive full legal title from Saiban on making final payment	**2**	**3**
		AVERAGE RATING FOR SETTLEMENT PHASE	**2.0**	**2.3**

Consolidation	**III.**	**PROVISION OF BASIC INFRASTRUCTURE**		
	a.	**Upgrading** (e.g. road network, paving, drainage) El Salvador – minimal support provided by government over dacades Pakistan – Saiban builds infrastructure internal to subdivision as it receives HHs payments and arranges for government to build external infrastructure	**1**	**3**
	b.	**Adequate sanitation** (improved pit latrines or sewerage) El Salvador – HHs build their own unimproved pit latrines Pakistan – Saiban builds internal sewerate, and government external sewerage	**0**	**3**
	IV.	**CONSTRUCTION OF THE HOUSE STRUCTURE**		
	a.	**Improvement and expansion of unit of owner occupant** El Salvador – no support Pakistan – minimal support	**0**	**1**
	b.	**Addition of accessory units and spaces for relatives and rental income** El Salvador – no support Pakistan – no support	**0**	**0**
	V.	**FINANCE OF STEPS IN PROGRESSIVE HOUSING PROCESS**		
	a.	**Household savings vehicles** El Salvador – no support Pakistan – no support	**0**	**0**
		Small serial short-term credit for –		
	b.	**– purchase of lot** El Salvador – development firms finance payment of lot through monthly installments over 8-12 years Pakistan – Saiban finances payment of lot through monthly installments over 100 months	**3**	**3**
	c.	**– infrastructure provision and connection** El Salvador – development firms neither finance nor provide infrastructure/services after provision of minimal starter infrastructure Pakistan – Saiban builds directly infrastructure internal to subdivision financed by HHs' downpayment and monthly installments, and arranges for government to build external infrastructure	**0**	**3**
	d.	**– expansion and improvement of housing structure** El Salvador – no support Pakistan – Saiban has arranged for a small share of HHs that are formally employed to get private mortgage loans for house construction	**0**	**1**
	VI.	**BUILDING COMMUNITY INSTITUTIONS AND COMBATING INSECURITY**		
	a.	**Formation of neighborhood groups** El Salvador – no support Pakistan – minimal support	**0**	**1**
	b.	**Metropolitan, national, and international NGOs support neighborhood groups** El Salvador – no support	**0**	**3**

		Pakistan – Saiban, an NGO, provides substantial support for settlement and consolidation		
	b.	**Neighborhood groups and/or NGOs partner with government and the private sector to increase physical and legal security** El Salvador – no support Pakistan – Saiban partners with government agencies such as local police to ensure physical security and guarantees legal security through delivery of full legal title on final payment	**0**	**3**
		AVERAGE RATING FOR CONSOLIDATION PHASE	**0.4**	**1.9**
OVERALL CHARACTERISTICS				
1		**SUSTAINABILITY**	**3**	**2**
	a.	**Scale** El Salvador – serves 60% of new low-income HHs nationwide Pakistan – 70,000 lots developed or in pipeline far exceed government affordable-housing production, but serve only a modest fraction (less than 10%) of new low-income household formation		
	b.	**Financial** El Salvador – development firms earn a return of 25% to 35%, approximately the national average for private sector Pakistan – Saiban generates a highly positive net return on each project, but this depends on purchasing government land at low prices	**2**	**2**
	c.	**Political** El Salvador – since 1992, a government legal and procedural framework has developed that results in relatively rapid approval of projects and appropriate subdivision norms Pakistan – Saiban has difficulty in acquiring parcels from government as needed to supply its project pipeline, resulting in production substantially below Saiban's capacity and HHs' demand	**3**	**1**
	d.	**Environmental** El Salvador – avoids the worst environmental problems that characterized illegal subdivisions prior to regulation in 1992 (steep topography, inappropriate soils, location near/on sensitive or hazardous sites), but without adequate sanitation resulting in ground- and drinking-water contamination, and vacant unsold subdivisions occupy large areas, displacing other land uses Pakistan – full infrastructure, especially sewerage, joined with good site characteristics and adequate location result in positive environmental impacts	**1**	**3**
2		**LOCATION RELATIVE TO EXISTING INFRASTRUCTURE, SERVICES, AND JOBS** El Salvador – increasingly distant location often beyond urban periphery and in semi-rural areas Pakistan – on urban periphery	**1**	**2**
3		**TARGETING/AFFORDABILITY TO LOW-INCOME HOUSEHOLDS** El Salvador – affordable to bulk of low and moderate income HHs Pakistan – Saiban income criteria and selection procedures ensure targeting	**2**	**3**
		AVERAGE OVERALL RATING	**2.0**	**2.2**

Rating Scale for Level of Project/Product Support to Progressive Housing Process

0 = negligible/never
1 = low/infrequently
2 = medium/frequently
3 = high/always

This analysis suggests that citizen-sector organizations can, indeed, greatly improve outcomes in affordable housing and land development in emerging countries. However, nonprofits' dependence on government for resources – e.g. land parcels, administrative funding, and project subsidies – often limits their impact to a fraction of the potential. Thus, partnerships between private firms and the social sector must compensate local participants for their role, as do the bottom-of-the-pyramid programs of Cemex and Corona (Ferguson, 2008).

While these average ratings measure broad performance, the individual ratings show specific strengths, weaknesses, and ways to improve affordable-housing projects and products. For example, both of these cases scored low in Step 4 (Construction of the house) and step 5 (Finance of steps in progressive housing process). Hence**,** both could benefit by incorporating goods and services to streamline these steps (listed in Column 2 of Table 1). Packages of high-quality building materials, technical assistance in design and budgeting, and information to guide home improvement and upgrading of property tenure could facilitate construction of the house. Organizing savings groups, creating savings vehicles with a positive real interest rate, and microloans and supplier credit would help put in place the missing finance.

Poor scores on Step 6 (Building community institutions and combating insecurity) indicate that the progressive subdivision system of El Salvador badly lacks and could benefit tremendously from involvement of neighborhood groups and NGOs in consolidating these emerging communities. Such a citizen-sector component could take various forms. The four leading nationwide development firms might find that including support for community groups (e.g. land for/construction of a community center; a small share of households' payments as ongoing funding for a community association) raises the sales price and/or volume of their projects sufficiently to compensate for the cost. The great potential benefits of citizen-sector organizations in consolidating progressive of the subdivisions could also justify a public subsidy or a grant from a donor.

In turn, the analysis shows that Saiban must focus on land bottlenecks resulting from its dependence on purchasing publicly-owned parcels at low cost that limit its scale. For example, including some moderate-income households in Saiban's projects would generate a larger net return and the amount that the organization could pay for land, and allow this NGO to buy more privately-owned parcels. Working with a larger number of political jurisdictions could increase the competition among them for Saiban's services and result in greater access to government land. Campaigning for greater transparency in land-use decisions of government authorities would directly confront a core bottleneck – the corruption and mismanagement of publicly-owned land that limits supply. While such a confrontational strategy risks retaliation from these local officials in the short run, it has the potential to greatly increase land supply if higher levels of government make reform a priority.

Conclusion

Hybrid value chains provide a tool to analyze systematically affordable housing projects and products. El Salvador's progressive subdivisions and Saiban's low-income land development projects in Pakistan are cases in point. El Salvador has chosen to legalize and regulate market-based, land-development affordable to low-income households that, consequently, has expanded to massive scale. Although it avoids the worst abuses of clandestine development, El Salvador's progressive subdivisions continue to have many environmental, legal, and economic drawbacks. Government has developed programs and institutions to deal with some of these difficulties, but much remains to be done. In this regard, a crucial next step involves building partnerships with citizen-sector organizations and firms involved in land development and building materials supply in order to put in place other elements of the housing value chain.

Pakistan continues to allow the worst abuses of illegal subdivisions, which represent the only settlement option for most low-income household and, thus, the majority of the urban population of this low-income country. Saiban's projects demonstrate a far better market-based approach capable of massive scale. However, the benefits of illegality – particularly to local public officials in charge of land-use decisions – hinder its expansion. Saiban, an NGO, can expand its land development projects incrementally through applying different strategies. However,

reaching massive scale depends on reform of land-use decision-making and the administration of the large amount of land owned by government.

This hybrid value-chain framework can also help orient the role that government inevitably plays in low-income settlement even when private-sector organizations (for-profits or nonprofits) function as developers. In effect, government must act to secure the inputs (listed in the Column 2 of Table 1) necessary to streamline the process. Government must galvanize and demonstrate, when necessary, the feasibility of private-sector initiative as well as regulate. The means include national legislation, reform of local subdivision and development review, programs, pilot projects, partnerships with the private sector, and transparency to combat corruption.

The conventional approach is for local government to regulate private development of new urban land. Even in El Salvador, which has relied mainly on this strategy, this passive limited role has proved insufficient. Practice and theory now coincide in finding that government must take a more proactive role to urban land than simply regulation in order to "enable markets" *(Global Urban Development Magazine*, November 2007; Freire et. al., 2007; Ferguson, 2007; Buckley, 2006). The hybrid value-chain framework identifies other actions that government must take for massive low-income land development: providing parcels for projects in cases where government owns much of the stock and land markets are paralyzed (e.g. Pakistan), promoting household savings vehicles and small housing credits, streamlining processes for securing intermediate tenure as well as full legal title, stimulating and working with neighborhood associations and nonprofit land/housing developers, developing neighborhood/police partnerships, and – most important of all – funding basic urban infrastructure and services.

Bruce W. Ferguson *is a consultant and former Senior Housing and Urban Economist at the World Bank, and a member of the Advisory Board of Global Urban Development. He previously served as an Urban Development and Housing Project Officer at the Inter-American Development Bank, and has published widely on housing and urban development in developing countries and the U.S.*

Citations

Akbar, Tahir. *Urban Land and Housing Markets in Sindh, Pakistan: Evaluation Policy Recommendations.* Goldman School of Public Policy, University Of California at Berkeley. April 30, 2007.

Azfar. A. and A. Rahman. *Housing the Urban Poor.* Acumen Fund. April 2004

Ashoka. *Housing the Poor by Engaging the Private and Citizen Sectors: Social Innovations and "Hybrid Value Chains".* Authors: Stephanie Schmidt with Valeria Budinich. Arlington, Virginia: Ashoka. 2006.

Ashoka. "Transforming Urban Markets for the Poor through Collective Entrepreneurship" in *Global Urban Development Magazine*, November 2008.

Barraza, Ernesto*. Analisis sobre el desarrollo de la vivienda progresiva en El Salvador*. Report prepared for Ashoka under the direction of Bruce Ferguson. 2007.

Buckley, Robert. *Thirty Years of World Bank Shelter Lending*. Washington, D.C.: World Bank. 2005.

Cohen, Joel E. "Human Population Grows Up" in *Scientific American* Vol. 293. No. 3. New York: September, 2005

Dowall, David. "The Karachi Development Authority: Failing to Get the Prices Right" in *Land Economics* Vol. 67, No. 4, pp. 462-471. 1991.

Durand-Lasserve, Alain and Lauren Royston (eds). *Holding Their Ground; Secure Land Tenure for the Urban Poor in Developing Countries*. London: Earthscan Publications. 2002

Ferguson, Bruce. "A Value Chain Framework for Affordable Housing in Emerging Countries" in *Global Urban Development Magazine*, November 2008.

Ferguson, Bruce, "General Introduction" and "Section Introductions" in Freire, M, R. Lima, D. Cira, B. Ferguson, C Kessides, J. Mota, and D. Motta, *Land and Urban Policies for Poverty Reduction*. World Bank and Brazilian Institute of Economic and Administrative Studies (IPEA). Washington, DC.. 2007.

Ferguson, Bruce. "New Approaches to Progressive Housing in Latin America; a Key to Habitat Programs and Policy", in *Habitat International*, London, Pergamon Press, March 2003.

Freire, M, R. Lima, D. Cira, B. Ferguson, C Kessides, J. Mota, and D. Motta, *Land and Urban Policies for Poverty Reduction*. World Bank and Brazilian Institute of Economic and Administrative Studies (IPEA). Washington, DC. 2007.

Greene, Margharita and Eduardo Rojas. "Incremental construction: a strategy to facilitate access to housing" in *Environment and Urbanization*, London: international Institute for environment and development. March 2008.

Global Urban Development Magazine. Volume 3, Issue One, World Bank/IPEA International Urban Research Symposium by Mila Freire. November 2007.

Michigan Business School. *Cemex: Innovation in Housing for the Poor.* Case Study Series. University Of Michigan. 2003.

Porter, Michael. *Competitive Advantage: Creating and Sustaining Superior Performance*, New York, NY: The Free Press, 1985.

Siddiqui, Tasneem. *Presentation on Incremental Housing Scheme* Karachi Pakistan. Undated.

Souza, Maria Teresa. *Lotificaciones de Desarrollo Progresivo en el Salvador.* Report prepared for the Inter-American Development Bank. Washington, DC. 2001.

Stein, Alfredo and Irene Vance. "The Role of Housing Finance in Addressing the Needs of the Urban Poor: Lessons from Central America" in *Environment and Urbanization*. London: International Institute for Environment and Development. March, 2008.

Trujillo-Cardenas, Diana and Roberto Gutierrez. "Citizenship above Consumerism: Colombia's Colceramica" in *Revista*, Fall 2006.

UNCHS (United Nations Human Settlements Programme), *The Challenge of Slums*. London: Earthscan Publications. 2004.

World Bank. *Urban Land and Housing Markets in the Punjab, Pakistan*. Draft report. 2006b.