Clustering families is the basic frame for development.

INCREMENTAL **HOUSING**

A proactive urban strategy.

By Reinhard Goethert, Director, SIGUS (Special Interest Group in Urban Settlement), School of Architecture and Planning, MIT

HERE IS A FRIGHTENING FACT: the urban population in the developing world will double by 2030. The implications are staggering. One is that we have 20 years to build as much urban housing as was built in the past 6,000 years. Clearly we cannot continue as in the past; issues of *speed* and *scale* have become even more critical, and disasters only heighten the challenges.

A process known as incremental housing can be a key part of the solution. In Haiti, for example, it may offer the best chance to meet the immediate large-scale challenges. The Haitian government's plan to resettle 400,000 homeless victims, the need for rapid action, and the tremendous technical and financial support to Haiti may provide an ideal setting for an incremental strategy.

Around the world, slum upgrading receives a great deal of attention. However, focusing on slum upgrading is insufficient, overly expensive and traps us in a hopeless catch-up mode. After-the-fact endeavors doom us to expensive reactive efforts and compromise urban development. We need to shift to a proactive strategy. Traditional approaches of building "instant" housing are too costly, socially disruptive, often culturally inappropriate and overtax scarce administrative resources.

In rapidly growing cities, informal building and expansion—the pay-as-you-go process—is often the de facto growth pattern, particularly in low-income neighborhoods. This process accounts for most new housing and housing improvements in most cities. The informal sector already builds an estimated 70 percent of all urban housing in the developing world, making it the leading actor in the housing supply chain.

This informal sector starts with simple makeshift shelters (a shack or a one-room core) and, given sufficient time and resources, transforms them into middle-income houses. It expands the housing again by adding extra units that increase the housing stock and provide rental income.

What it is and why it works

Incremental housing is a step-by-step *process*. It goes by different names (starter house, phased-development house, owner-driven house), but fundamentally, incremental housing is an integral urban development process, building housing communities and citizens. It is not quick, immediate or complete, but choice remains with the owner. It starts with a starter core shelter. The starter core may be a kitchen/bathroom unit or just a bare lot with utility connection potential. But recommended is a multi-purpose room with basic kitchen/bath facilities. Owners control the expansion of their housing based on their needs and resources.

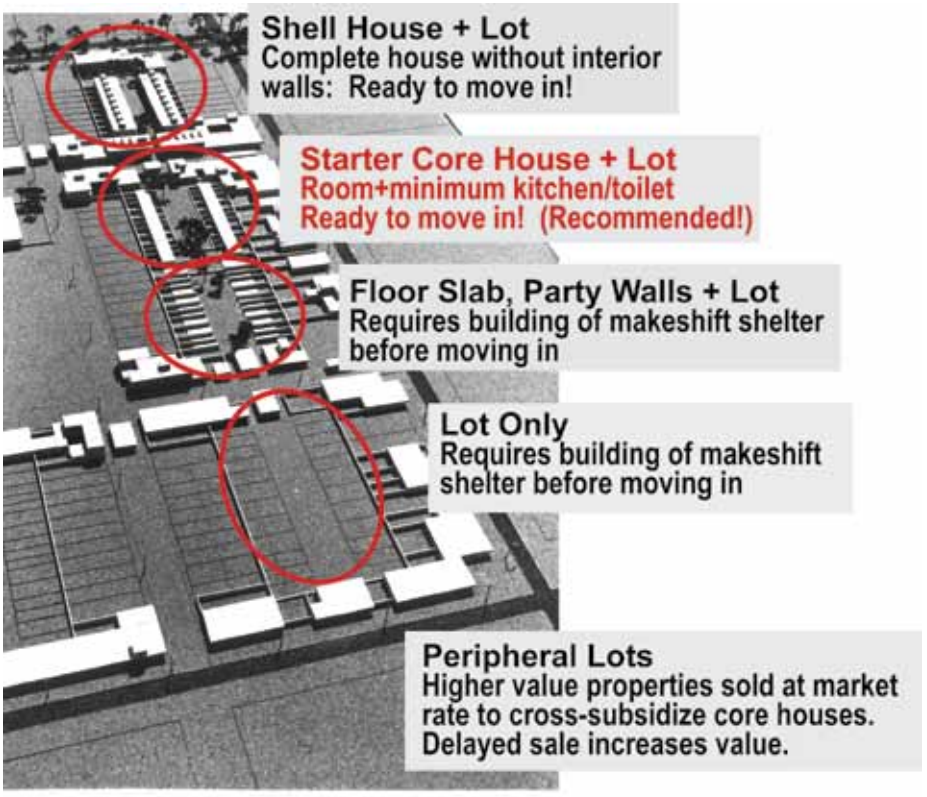
Incremental housing is an affordable way to rapidly resettle many families at a minimum housing and services level by linking the energy of families with the large-scale city planning. It provides secure title and maximum flexibility in housing decisions. City expansion becomes predictable and effectively uses limited funds and administrative capacity. But it is more than housing. It also builds citizens and communities develop social networks that can support services and small-scale commercial opportunities.

The SIGUS Group at MIT has initiated a global university consortium to explore incremental housing. The consortium, which already includes 23 universities, advocates a proactive incremental housing strategy (large-scale developments of expandable starter cores to guide urban expansion) working with the demonstrated strengths of the informal sector. The goal is to improve awareness and explore incremental strategies for proactive urban housing policies. Case studies of long-established, informally developed communities are underway, focusing on how these low-income communities succeeded. At its first joint meeting at the UN World Urban Forum earlier this year, eight consortium member universities presented case studies. (See web.mit.edu/incrementalhousing.)

The consortium supports incremental strategies of core houses, a land subdivision frame and related policies for both rapid city growth and rebuilding communities after disasters. Both demand rapid, large-scale responses to meet immediate needs and a long-term building perspective.

Incremental projects are not new and draw on the experience of the 1970s with "site and services/core house projects." (Development ▶

Images: Reinhard Goethert



Water, sanitation services provided through a variety of communal and individual options

◀ *A variety of housing options exist. A multi-purpose room with kitchen/toilet facilities is recommended.*

agencies used "site and services" to describe a then-new project strategy of a lot with legal title and water, sanitation and streets, and usually supporting programs including training, microloans, schools and clinics.) Essentially, these projects mimicked squatter settlements but with institutional support, legal title, attendant services, and usually some basic shelter option ranging from a simple one-room structure with kitchen and bath to a bare lot with utility connections. The policies fell into disuse, in part because of a failure to recognize it was a *process*, not a "standard" housing project. As Professor Pat Wakely of University College, London explains, "Site and services was deemed unsuccessful and discredited. They were evaluated too soon (after two to three years) and there was misunderstanding about the criteria and indicators in this process-based type of project."

However, site and services clearly works (evidenced by the successful expansion of the houses over the long term), although construction quality is sometimes questionable, and infrastructure services often lag and are not considered in city planning.

Implementing an incremental strategy is not as simple as ready-set-go. A viable policy must address three linked challenges: (1) establishing a frame to structure land development; (2) providing a starter house-core; and (3) creating and implementing supporting policies and programs.

Several basic principles drive the approach.

First, consider the capacity of the authorities and the city, for both for short- and long-term sustainability. Sophisticated strategies require skilled staff, resources and a structure and culture of effective management. Most cities confronting rapid growth do not have this capacity and their capacities diminish further following disasters. Successful interventions also build on customary practices.

Second, focus on the *least* that needs to be done—the absolute minimum rather than the desirable. When demand is overwhelming, widespread intervention is best. It is a question of addressing the few versus the many, an issue of acceptable versus perfect.

Third, establish a sense of identity amongst the inhabitants of the new housing. This is critical. After a disaster this provides stability and a sense of support, and in new housing areas it fosters development. The physical frame and policies need to include support for communities.

Providing a frame for development

Three basic options exist for a frame of land subdivision in new settlements: main streets only, main streets with large-lot cluster divisions, and main streets with all lots defined. The most minimal is a main grid of through-streets and main infrastructure networks. The most complete is an entirely defined layout with individual lots, streets and space for public facilities. In all three, the main service grids are built first and then expanded as demands and resources allow. Infrastructure develops incrementally, along with the houses. "At the most basic level, simple chalk lines can define the lots which provide the frame for growth," explains Roberto Chavez, one of the pioneers in the 1970s.

"A cluster of families, whether in a newly planned area or a street, becomes the ideal basic unit for intervention," notes George Gattoni, an early incremental growth advocate and designer of projects in the 1970s. Clusters group 15 to 20 families around a shared, multi-use court. When rebuilding existing areas in disaster situations, the cluster (rather than the house) becomes the basic unit for intervention.

Clusters allow provision of water and sanitation in stages, beginning with services offered communally to the clusters and progressing, if desired, to full individual connections. They offer a basis for representation in government. In disaster situations, clusters allow a variety of donors to effectively work in the same area, including small-scale donors seeking a focus for their limited resources.

Land availability is always an issue. But it must be addressed, because failure to find suitable areas too often results in large scale, out-of-control squatting in undesirable areas.

Providing a starter core

Starter cores provide a quick way to shelter many families. While the defined location created by the frame facilitates planning of service facilities, starter cores mitigate resource

impact. To the family, housing is more affordable and an appropriately designed core offers expansion flexibility.

A range of options exists from just providing a lot to building a complete house. What is best depends on the situation. For example, a complete unit limits the number to be housed and increases costs, but is ready to occupy sooner. Conversely, providing only a bare lot requires work by the families just to obtain a minimal level of security and community identity. Generally, the starter core should provide one room plus kitchen/toilet facilities. A finished room starter core offers immediate identity and helps define a neighborhood and street. The core should be built under strict guidelines that provide a model for safe expansion and good construction practices.

What is most important in a good core house depends on perspective. Families value flexible expansion opportunities, use of local materials and skills, and (perhaps most importantly) a culturally appropriate image. Settlements professionals may instead focus on issues including ensuring earthquake- and hurricane-safe construction, water and sanitation, initial cost and mobilization time. While many inventive, exotic ideas have been offered most are impractical. A straightforward plan is best.

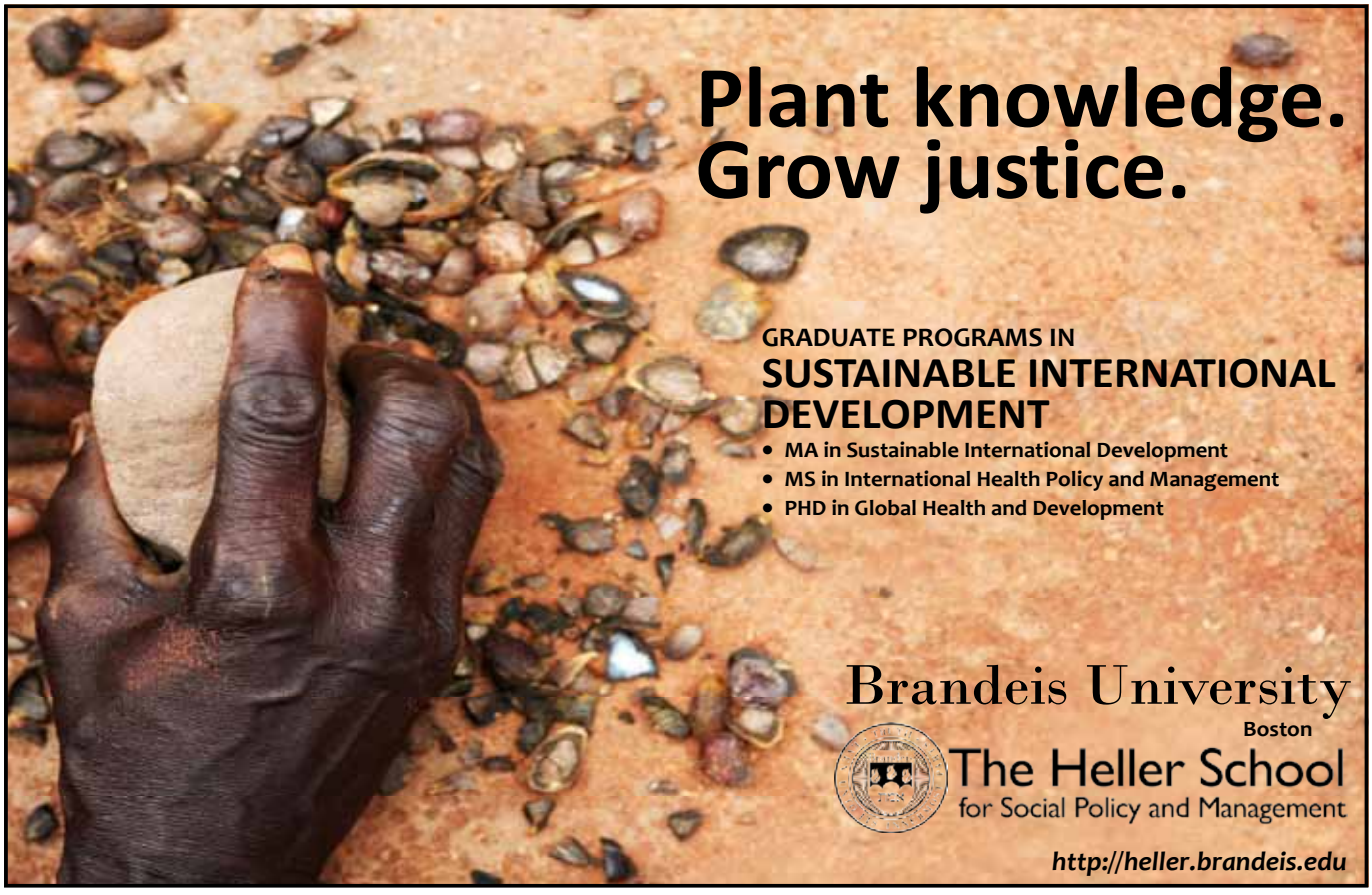
Supporting policies and programs

Successful, incremental settlements require support in four key areas:

- A simple process for expansion to speed development by adding to the housing stock quickly;
- Strengthening individual identity and sense of community;
- Promoting safe, good quality construction practices; and
- Encouraging provision and maintenance of basic services.

Policies must realistically reflect government capacity. Low-capacity cities have less ability to control and direct programs due to limited staff, resources or experience, and local officials often face more pressing priorities. This results in more reliance on outside support and continuation of informal practices. Programs that build on customary practices are more likely to succeed. On the other hand, high-capacity cities can carry out more complex measures and rely less on outside assistance; formal programs dominate.

The level of economic development in the community and surrounding area is also important. Where development is very limited, prioritize enacting policies and programs that promote expansion of the core toward a basic minimum of house consolidation. Second stage policies focus on facilitating further expansion of houses for family use and/or rental. A last stage focuses on long-term consolidation and maintenance of the area, including employment support.

Given all that incremental housing has to offer and the enormity of the challenges in Haiti and around the globe, isn't it time to put it to use?

For additional information visit web.mit.edu/incrementalhousing or contact the University Consortium via rgoethert@mit.edu.