

A DEBATE ON INCREMENTAL HOUSING: CAN AN OLD ANSWER BE THE NEW SOLUTION FOR HOW TO BEST REBUILD HAITI?

LAURA DELGADO, XENIA ANTIPOVA



INTRODUCTION: THE 2010 HAITI EARTHQUAKE

The January 1, 2010 earthquake in Haiti destroyed 100,000 homes (OSHA estimates) and damaged many thousands more, forcing 1.3 million (13 percent) internally displaced Haitians to live in spontaneous and organized settlements in affected areas. Tents and tarps, however, do not suffice. Tents are generally too small, too expensive, not flexible, provide no security, and inhibit faster shelter recovery. Engineers determined that approximately 46 percent of assessed buildings remain safe for habitation, 31 percent could be rendered safe with repairs, and 23 percent were unsafe and require demolition. Of those with safe houses, not everyone returns, fearing lack of access to food and water, lack of jobs, and inability to pay rent. The quarter of the population without any housing at all has far more limited options: to stay in the tent

settlements either while they try to rebuild elsewhere or the government and other organizations initiate the construction of incremental housing communities.

In 1976, an earthquake in Guatemala caused damage that produced a tale similar to that of Haiti. It rendered 700,000 of the total population (13 percent also) homeless. The solution resulted in a site and services project, the precursor to incremental housing, such that the basic core would be built and then progressively developed and expanded to meet the residents' priorities and needs.

These types of projects give households ownership, promote community, and provide for their most basic needs: security, basic infrastructure and municipal services, and affordable land. It facilitates the immediate shelter response by building basic starter units that enable people to move in soon, and it mimics the method by which these people often build, little by little, as they have the time and resources.

That being said, incremental projects require strong will by the government; the government cannot become lenient, nor can it abandon a settlement and let it turn into a squatter settlement. As the whole process takes a very long time, initially the communities may look poor and cost-inefficient. Indeed, cost and time estimates are near impossible to make accurately. Future inhabitants do not always have a say in the initial decision-making process, such as regarding location. A rigid building code must be enforced so that buildings would not collapse as readily in a future disaster.

At the World Urban Forum V, March 22-26, 2010 in Rio de Janeiro, Brazil, the Global University Consortium presented a debate session on whether incremental housing would be a good solution for Haiti. The following is an overview of the presentations given by the four panelists at the debate session on financing, livelihood, ethnographic perspectives, and housing in the context of incremental housing. This paper concludes with a critical look at the themes and proposals raised in the panelists' presentations.

DEBATE PRESENTATIONS

FINANCIAL BENEFITS AND TRADEOFFS OF INCREMENTAL HOUSING

Presented by Dipl.-Ing. Matthias Nohn, Germany

Matthias Nohn, an international housing and finance consultant, led off the debate on whether to use an incremental housing approach to rebuild Haiti by focusing on the financial implications of incremental housing. He addressed how an incremental housing approach changes the standard costs of housing for both developers and households and how it impacts the financial

vulnerability of low-income households. He followed with a proposal for a “pro-poor housing finance loan” and concluded with the financial feasibility of using incremental housing in Haiti.

Cost reduction through incremental housing

To determine the feasibility of an incremental housing approach, Nohn first presented the standard costs and fees associated with housing development and then identified which of those costs incremental housing can reduce and for whom. The standard costs of developing housing are land, infrastructure, and housing construction. In addition to these costs are fees and charges, including developer's profit, taxes, registration fee, and loan interest.

Developer's perspective: Of the costs and charges of housing development, incremental housing reduces housing construction costs and developer's profit. If the infrastructure is developed incrementally, it also may decrease infrastructure costs. From a developer's perspective, the reduced project cost and, thus, reduced profit decreases the incentive to accept an incremental project. From the perspective of a government or non-governmental organization funding the project, however, incremental housing is beneficial in that it decreases the overall capital required per household so that a larger number of households may benefit from an equal amount spent.

Nohn was careful to note that land, the cost of which is not decreased through the incremental process, may present further complications for development in the case that it is either expensive or inexpensive. If the cost of land is high, taking a horizontal development approach in which each plot is developed with a single-story unit may be too expensive per unit because of the limited amount of construction for pooling land costs. In this situation, building up is ideal, which leads to higher capital investment in construction required by multi-story units. Conversely, if the cost of land is free or very inexpensive, there is less of an incentive for the developer to efficiently plan the development.

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construction required by multi-story units. Conversely, if the cost of land is free or very inexpensive, there is less of an incentive for the developer to efficiently plan the development.

Household's perspective: From the perspective of a household, the incremental housing process offers a more affordable and less risky alternative to the standard approach. The initial decrease in construction costs leads to a further decrease in costs that are calculated as a percentage of construction costs—such as reductions in developer's profit, government taxes, registration fees,

and loan interest. This decrease is significant for households because it decreases the financial vulnerability of, or risk taken by, households. Low-income households, in particular, are vulnerable because their income is low and irregular; they lack formal, secure employment; they tend to lack savings; and they may be excluded from basic services (e.g., health care), lack social security (e.g., health insurance), and be at greater risk for health problems because of inadequate infrastructure and exposure to occupational hazards. A loan of any amount, but especially a large amount, increases the vulnerability of households. Therefore, the reduction in housing costs associated with incremental housing can translate either into lower loan payments over a fixed period of time or the same loan payments, but over a shorter period of time. Either of these adjustments equates to greater economic freedom and a lesser degree of the households' vulnerability.

A “pro-poor” housing finance loan

Incremental housing should not *oblige* a household to invest a lot in housing, but it should give the household *options* to do so through a “pro-poor” housing finance loan. A pro-poor housing finance loan maximizes investment without increasing household vulnerability, and the loans “achieve this by being convenient and safe and by promoting discipline.” The case of SEWA Housing Finance, a forthcoming housing finance company promoted by the Self Employed Women’s Association in India, demonstrates how a pro-poor housing finance loan may accomplish the above. SEWA uses installments that are easy to repay because they are small. Collection conveniently takes place in the community. SEWA Housing Finance incentivizes prepayments, as opposed to penalizing them. Additionally, loans are combined with a de-facto savings scheme because clients can skip payments and withdraw any prepaid amount up to the point where the principal is on schedule. Finally,

frequent collections (at least weekly) promote disciplined savings.

Overview: Financing incremental housing in Haiti

From the perspective of the household, incremental housing is an ideal approach to redeveloping housing in Haiti because it does not expose households to risk, it gives them economic freedom, and it provides them with the choice to build out their units over time according to their preferences, needs, and economic situation. To encourage quick and successful incremental development, however, households also must be given access to pro-poor housing finance loans. Otherwise, the incremental construction may take too long—or not occur at all—so that a site and service or core housing approach potentially fails. Unfortunately, Haiti currently may not be prepared to provide such financing, considering that there are only 150,000 active borrowers of microfinance institutions (many of these are commercial borrowers) out of a population of nine million. In conclusion, while incremental housing would benefit Haitian households that need to reconstruct their homes, any low-income housing project also needs to build up an incremental housing finance system; otherwise, the present lack of pro-poor housing finance mechanism may obstruct incremental housing construct and may render the project as a whole to the risk of failure.

IMPROVING QUALITY OF LIFE THROUGH INCREMENTAL HOUSING AND A PARTICIPATORY PROCESS

Presented by Alexandre Apsan Frediani, London

Alexandre Frediani, a planner in the UCL Developmental Planning Unit, continued the debate on whether to use an incremental housing approach to rebuild Haiti by looking at the livelihood considerations surrounding the concept of incremental housing. Throughout his presentation, he imbedded that issue into the bigger theme of the forum, “The Right to the City.” He recalled a panel in London about Haiti in which the discussion of how to proceed in the case of Haiti ensued, stressing that architects, planners, and the government should implement a participatory process and consider redevelopment as a whole. Within the context, he backed up his argument with two examples from a community in Bahia, Brazil. He concluded with two sentiments: 1) when poor households incrementally improve their houses through a self-help

strategy, their quality of life improves, and 2) it is important to think about livelihood strategies and incremental housing using mechanisms that can be transformative in the long-term.

A participatory process that builds community

People in Haiti should be involved in the process of reconstruction. Frediani suspected that the residents were being left out and that a participatory process was not being implemented. Utilizing a radical participatory process would invent incremental housing through political, social, and economical transformation. By disengaging the people, there otherwise exists the danger of incremental housing becoming just a technical fix.

By listening to people, the planners then institute incremental housing as a foundation for a community. If a pre-existing community moves into a settlement after having made the decisions for how to design and develop it, they will be brought closer together. Thus, it is necessary to consider social networks and how people interact with each other. Using this method, incremental housing not only would be a short-term solution, but also would transform into a long-term solution as well. In addition, if communities know about the different assets that they have, they can manage the process much more effectively as well as look at the many issues that can be addressed. For instance, normally the livelihood considerations framework does not take into consideration political assets of communities. Other assets include those relating to the natural, social, human, physical, and financial.

To tap into the potential of these assets, certain policies could facilitate their conversion to actual benefits, such as decentralization, strategic planning, and privatization. Following this reasoning, it would be better for many small organizations, as opposed to one monopoly, to take charge. Structural processes, of people and of finance, generated the rehabilitation in Haiti. So at the same time that Frediani calls for decentralization, he also demands more interventionist movement from the government to think about redevelopment. Obviously, a balance must be struck with government involvement versus that of various private sector organizations, but this line is not drawn clearly. If, however, community leaders, planners, and architects manage to harness the assets, they would result in tangible community outcomes: livelihood benefits, reduced vulnerability, increasing financial capacity, and better decision making capacity.

Action capability

The mobilization capacity differs in each community, depending on how they interact with private and government sectors. Sometimes the private and public sectors manipulate communities, whereas other times, they think through long-lasting solutions that can be changed over time to custom fit the settlement. In any given situation, there is an action space for planning agencies, or, a degree of freedom to achieve change. By channeling the political assets of communities, and by talking about the room to maneuver, planners and communities can generate structural change. If the grassroots organizations that are connected to each other cooperate with the government about long lasting change, action space can be enhanced.

Case studies

COOPHabitat has seen past disaster situations prove that people-based initiatives for reconstruction that employ existing grassroots movements and local networks are most effective for producing appropriate reconstruction. A similar network is the Haitian Platform for Alternative Development, a civil society network, which currently is trying to first eliminate Haiti's long-standing debt and then begin rebuilding.

Movimento dos Sem Teto da Bahia (MSTB), the homeless movement in Salvador de Bahia, Brazil, used sustainable livelihoods and the participatory process as a goal. They have managed to procure security and permanent housing for thousands of families already. Frediani mentions that, by allowing poor households to incrementally improve their houses, they improve their quality of life simultaneously because of better community, mobilization, raised visibility, and fewer forced evictions. The poor can then speculate on their land and sell it back to the government once it increases in value. Where these people would then move, however, presents doubts. Likely, they would move in squatter-like settlements again on land of poorer quality. There exist other situations in which an incremental settlement is made and the poor move in, add to their houses, and then sell their property to make money. The initially poor neighborhood gradually turns into a middle-class area, and the need for proper housing arises again.

Architecture Sans Frontieres, UK also saw participatory learning in action and became a success. The architects involved made community and international development issues integral to architecture. They trained the participants in strategic action planning, engaged with MSTB to support their work, and analyzed three areas: institutions, the house, and community. Frediani did

not go into detail as to how they used their analysis.

LINKING ARCHITECTS, PLANNERS, BUILDERS, AND COMMUNITY IN AN INCREMENTAL HOUSING APPROACH

Presented by Non Arkaraprasertkul, Assoc. AIA, Massachusetts, U.S.

Non Arkaraprasertkul furthered the debate by presenting an ethnographic perspective on incremental housing. He started off by saying that not only architects can discuss rebuilding after a disaster, using a formal methodology, but anthropologists can, too. The missing link between architects, planners, builders, and community leaders should be found. The research on post-disaster building should be conducted in the field and based on the study of the relationship of space and people. When the architects know for whom they are building, when they have experienced the communities firsthand, they can design better and thus improve the long-term success of the incremental solution.

Ethnographic perspective

Arkaraprasertkul suggested that architects should enter the field to find out what people want and need, to reduce the chance of architects designing what they *think* people need as opposed to what they actually need, as incremental housing lasts for a lifetime. A spin on participatory process, this shows that knowing fast facts about a community will not reveal all the underlying complexities and emotions. The questions of why people expanded in the first place, how they hope to expand, why and from where they moved, and similar other ones, can only be answered by personally witnessing the community under scrutiny.

It is possible to conduct an ethnographic study of an urban community in order to derive the true understanding of the community for design. Three proposed stages of the study exist: 1) pre-field work study, 2) fieldwork, and 3) analysis. Pre-field work study consists of a short story gathering survey before beginning to look at how others have interpreted them. The first-hand information gathered would help buffer the researcher from direct influence of other scholars' interpretation. Then, the actual information learned in the field would benefit the architect in designing within a context. Ethnography could shed light on the different rationality under which different communities operate.

Ethnographic perspective applied to architects

When the architects and planners know the community, they suggest materials based on those customarily used and further viable options for incremental building. They would understand society and the community dynamic, that there is a level of resistance, and that it is not easy to just force a design plan upon a neighborhood. Though Arkaraprasetkul admits that the anthropological theory is a bit too intense, he maintains that architects should still incorporate more understanding of society as a whole and that they need to get something from the people by learning about them. The missing link between architects, planners, builders, and communities forbids truly cohesive communities to be formed.

Overview: Incremental housing through a participatory approach

Incremental housing would build social infrastructure, but needs to be built on a strong foundation. As it is a lifelong process of building, its foundation should be hardy communities that are erected upon a sound physical base to reduce sociocultural gap. Though it is a very viable way to cope with change in infrastructure and population growth, there must be participatory process, otherwise, architects and planners cannot make feasible decisions. To start making this strong foundation, the link between architects, planners, and communities should be connected.

INCREMENTAL HOUSING DESIGN CONSIDERATIONS

Presented by Dr. (ABD) Gabriel Arboleda

Dr. (ABD) Gabriel Arboleda of the University of California, Berkeley concluded the debate on using incremental housing in Haiti by focusing on the role of housing design and construction. Arboleda began by revisiting incremental housing as it was first introduced decades ago and how it since has developed. He went on to discuss how incremental housing needs to evolve to be relevant today and what design and process considerations need to be taken into account currently. Arboleda concluded with the role of community participation in incremental housing.

Incremental housing then and now

Some may dismiss incremental housing as an old answer to development strains, but it can and should be adapted to solve the evolving development problems of today. Incremental housing as a concept has had to grow over time to address the environmental, economic, social, technological, and professional aspects of development. Environmental aspects, for example, are central not just in the case of Haiti, but around the world considering geologists are predicting that natural disasters of this strength are going to be at least as strong for the next century. More than ever, incremental housing approaches need to be rethought using a framework that incorporates all of these aspects.

Design and physical form

By definition, incremental housing is built over time, and often this is a very slow process that can take up to twenty years to finish a house. Design must factor into this slow process and accommodate different scenarios for how a family develops their house. Just as design guides how a family builds their unit out (e.g., a long plot with a core unit in the front of the lot leaves room to expand in the back or a large core unit without walls encourages the subdivision of the unit through the construction of walls), so should design accommodate families who do not further develop their unit. For example, in a rural incremental housing development in Guyana, families could not afford to build out their houses and, therefore, lived in rooms that were three by three by three meters for years. If a family does not further build out their house, as is the case in some extremely poor areas, the core house must be able to stand alone as a permanent. The design solution may be a bigger form or a “multispaced” form.

A participatory, case-by-case process

Too often incremental housing development projects are implemented in a top-down approach. For this reason donors and architects are not always accepted and well received by communities. Therefore, community involvement in, and acceptance of, projects is essential. This means that incremental housing projects cannot be designed on an architect's desk, but rather must be developed through a participatory, case-by-case process. Furthermore, such a process helps ensure cultural appropriateness and long-term sustainability of the project.

Overview: A reinvented incremental housing process

In conclusion, incremental housing works and should be used, but in a modified, reinvented form. In regards to funding, new international aid players, such as diaspora organizations willing to send funding abroad, should be approached for funding. Design should be culturally appropriate and accommodating to those who build out their units along with those who do not. Most importantly, the design and development process should involve and be responsive to the community.

REFLECTION

Nohn, Frediani, Arkaraprasertkul, and Arboleda, the four experts on financing, livelihood, ethnographic perspectives, and housing, respectively, contributed to an engaging and multifaceted debate on whether to use an incremental housing approach to rebuilding housing in Haiti. The consensus among the panelists was that incremental housing provides a viable and promising option for housing development in general, with a few provisions related to process and capacity. Whether incremental housing should be used in Haiti, however, is still up for debate, as most of the panelists did not closely tie their proposals to the economic, environmental, political, and social situations that are specific to Haiti.

While each spoke about different aspects of the design and development of incremental housing, a few overarching themes tied together their presentations and the audience's responses. Those include the use of participatory planning and design that engages communities; incorporation of flexible design and financing that accommodates different household situations; and the evolving role of the architect, the planner, the developer, the community, the government, and the (international) aid agency. The following is a synthesis of the panelists' views on the above themes along with issues and questions relevant to the themes, but not addressed during the debate.

Participatory planning and design processes

Most of the panelists recognized the need for more participatory planning and design processes in incremental housing development than has been standard. Specifically, their reasons for urging that the process should be more participatory are twofold. First, participatory processes

improve the quality of life of community members. Second, projects are more sustainable in the long-term if they begin with a participatory project.

The long-term sustainability of housing developments is very important for communities affected by disasters, the governments responsible for the communities, and the credibility of the donor agencies. By building social networks, or “social infrastructure,” through a participatory process, there is a higher likelihood that communities will identify and draw on their assets, be they natural, social, physical, political, or financial. These assets, in turn, have the potential to strengthen the long-term community through a more efficient process. Frediani suggests that a lack of a participatory process, which he suspects is occurring in Haiti, will only bring a quick technical fix. The other side of this long-term sustainability argument is that, by engaging community members in the process, they will be brought closer together, thereby both improving quality of life and ensuring long-term sustainability.

While the panelists spoke to the need for more participatory processes, they did not propose specific procedures to use in the planning, construction, and incremental development phases. Furthermore, they overlooked the need for emergency relief housing, such as that required in Haiti, to be executed at scale and speed. In the case of Haiti, which faces an impending hurricane season within months of the initial disaster, should a participatory process be used even if it means housing families in tents and temporary or transitional shelters for months? Conversely, how can architects, planners, and builders not use a participatory process when a prominent redevelopment proposal is to relocate a large portion of the population? These questions are complex and without clear answers, but they must be acknowledged in the context of Haiti and other disaster-ridden places.

Flexible design and financing

A central aspect of incremental housing is that it first provides a core house, and then households personalize how or if they build upon the core and how much money they invest in doing so. The initial design and planning of incremental housing units and communities tends to plan for a variety of approaches to incremental development. Panelists suggested, though, that more attention be paid to households who either choose not to build upon their core house or cannot afford to. Arboleda proposed that design be flexible and allow for safe, comfortable housing in the core alone. Nohn introduced a “pro-poor” housing finance loan that put

households at minimal risk and is flexible if a household's income fluctuates or the household experiences a sudden financial emergency, such as one caused by a medical emergency.

Two questions arise from this call to provide for those who do not develop incrementally: 1) how much more of an initial investment does this planning require? and 2) would the efforts of architects, planners, and developers be better spent ensuring that households have the resources to build incrementally? If a development turns into one in which most families cannot build incrementally, it ceases to be an incremental housing development and is a topic for another debate.

The role of the architect, planner, developer, community, government, and (international) aid agency

The various roles are important from a design and planning perspective and from a funding perspective. What is the role of the architect in the design of a low-profile, inexpensive, mass-produced form? Should governments, large NGOs, or small local NGOs fund incremental housing developments? Regarding the first question, the role of the architect should not be viewed narrowly as a designer. It may be true that core housing designs may not demonstrate the full design capabilities of architects, but in post-disaster situations, architects play a variety of roles beyond designer that range from direct engagement with the affected communities to organizing with planners and builders to the construction of actual units. Given that the flexible, engaged, caring architect is not a new creation, the allusion to the architect as disconnected and self-involved during the debate may not have been justified.

In regards to the role of the developer, or the implementer, of the incremental housing development, a few questions arose. Who is most willing and able to provide funding? How will an incremental housing approach affect the profit of developers and therefore their desire to participate? How should donors and developers engage with communities and grassroots organizations? If, as suggested by Arboleda, funding is available from new international aid players, such as diaspora organizations, governments, planners, architects, and communities should explore, and possibly reach out to, these new resources.

Overview: Should incremental housing be used to rebuild Haiti?

While the panelists brought up important considerations for applying incremental housing in general, few specifically related them back to the context of Haiti, and even fewer used data and specific observations from the Haiti case. Furthermore, much of the debate focused on considerations for standard housing development rather than incremental housing specifically. Nohn made the best case for the use of incremental housing by showing how it specifically affects households and developers compared to standard housing development. He also looked at the potential drawbacks of it (which are outweighed by the benefits) and tied it all into the financial and organizational context of Haiti's microfinance institutions.

The other panelists made convincing arguments for why participatory processes are important, but not necessarily why they are *more* important in the context of incremental housing. Perhaps the greater level of specificity by Nohn can be attributed to his longer career in the field. Potentially turning to an incremental housing process should not symbolize the reinvention of the wheel, but rather the adoption and improvement of a past idea with potential. In line with this, the debate must progress past the overarching themes tied to incremental housing and move on to the specific ways in which the process can be improved and adapted to different communities, Haiti being the currently priority.

Going beyond the panelists' proposals, the Haitian context may be appropriate for an incremental housing approach for a couple reasons. First, the culture in Haiti is to build incrementally. Unfortunately, part of the reason the damage in Haiti was so severe was because people built incrementally, but not up to standards. Therefore, an incremental housing approach would be culturally appropriate, but should be accompanied by stricter building codes and enforcement. Second, incremental housing typically is produced in the form of single family units, a common building typology in Haiti, where households own single family homes arranged around courtyards. The above are two of many more reasons why incremental housing may be a viable solution for Haiti.

Finally, many benefits of incremental housing exist that were not identified in the presentations. For example, two major benefits of incremental housing (i.e., building core units), compared to standard housing construction, are the accelerated speed and large scale at which housing can be constructed. Because only core units, or starter homes, are produced initially, the project costs less per unit, requires fewer materials per unit, and each unit can be constructed

more quickly than a full house could be. Incremental housing also provides greater safety and immediate security for households who move in than sites and services approaches. In a post-disaster environment such as Haiti, where many 1.3 million people have been displaced and hurricane season requires quick, strong construction, speed, scale, safety, and security all are necessary considerations to address.