

# Incremental Housing in a Dense Future

- the quest for a long term solution



*Helena Pettersson*

## 1 Factors Shaping Urban Shelter Design

The term Urban Shelter is commonly used all over the world and you can easily find lots of information about it. But what is really urban shelter? What is urban? How do you define shelter? For me that was an important way to start. Wikipedia lets me know that “An urban area is characterized by higher population density and vast human features in comparison to areas surrounding it.”

*([http://en.wikipedia.org/wiki/Urban\\_area](http://en.wikipedia.org/wiki/Urban_area))* A shelter is defined as a basic architectural structure or building that provides cover, regarding to the same site. The definition gets more complicated if you start breaking down the term into what you are supposed to cover from? What is basic? We have natural causes like rain and sun, but we also have the aspect of cover up from the surrounding world once in a while; to get some privacy. It's also of big importance to feel secure in your environment; in your home. A shelter will always be a home for somebody, for a shorter or for a longer period. It's the people claiming the space as their own, that creates a sense of belonging.

If you don't have protection from the climate, you don't feel secure and you don't have access to privacy you will probably try your best to protect yourself and your family anyway. Maybe by use what you can get and build your own shelter. Your

own home. UN Habitat<sup>1</sup> defines a slum household as a group of individuals living under the same roof in an urban area who lack one or more of the following:

1. Durable housing of a permanent nature that protects against extreme climate conditions.
2. Sufficient living space which means not more than three people sharing the same room.
3. Easy access to safe water in sufficient amounts at an affordable price.
4. Access to adequate sanitation in the form of a private or public toilet shared by a reasonable number of people.
5. Security of tenure that prevents forced evictions.

*(UN HABITAT 2007, page 1).*

When we talk about urban shelter are talking about homes in urban, dense areas. To create a living for people in an already existing surrounding where they can be protected and have sufficient living space and security of tenure. But for how long is that building a shelter and when does it become a home? Can it be both? When I participated in the study trip to Metro Manila with the Urban Shelter Course<sup>2</sup>, I got interested in the fact that a temporary building solution for one family waiting to move in to new developments, in an area called Smokey Mountains<sup>3</sup> is taken over by another family afterwards. When the first family has moved on to the units they waited for, the temporary building becomes a more permanent home for the second family. An informal home, but yet a home. The problem is that the buildings were temporary and just built to support roof over the first families head for a couple of months. I therefore see the importance of creating structures that can be used for a long time and salutes the willingness to expand and turn this shelter into a home. This is what I define as incremental housing.

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<sup>1</sup> The United Nations Human Settlements Programme, UN-HABITAT, is the United Nations agency for human settlements. It is mandated by the UN General Assembly to promote socially and environmentally sustainable towns and cities with the goal of providing adequate shelter for all.

<sup>2</sup> Studytrip to Metro Manila, the Philippines with Lund University, Urban Shelter ABAN11, February – March 2013.

<sup>3</sup> Smokey Mountain is the term coined for a large landfill located in Manila, Philippines. The area was cleared decades ago and became the site of numerous public housings for the impoverished people living in the slums surrounding the landfill. The slums were also cleared, which was the home of 30,000 people that make their living from picking through the landfill's rubbish.

A big factor for me regarding shaping shelter design is the time aspect. For how long is this building going to manage to protect families? But also, how long the neighbourhood is meant to grow in a long term perspective. This fact affects the aesthetics, the function and the quality of the buildings.

The importance of the quality of the infrastructure and services provided to the area is also something to have in mind. If too high, costs of the lots or housing solutions become unaffordable to low-income households. (*Wakely & Riley, 2010, page 4*). This raises another important factor of planning for urban shelter. Good infrastructure is of course important for a shelter development, but it can't be to a high cost and exclude the poor, cause then the concept of it fails. The increasing cost of land is another urban development factor together with poorly developed financial systems. (*Greene & Rojas, 2008, page 90*) The conflict between who is taking the bill for the construction and who is paying for maintenance is well known. The conflict becomes even more complicated when we are building for low income families, which is the case for shelter design. *Roberto Chávez* writes in his article "Incremental Housing: The past and Future Dwelling Solution for the Poor" that the least-cost housing solutions is based on the principles of self-help and mutual aid in settlements that can be easily upgraded. (*Chávez, 2009, page 1*) The government provide a start and then it is up to the families to develop it further. This is a third important aspect; the actors in the housing process. The conditions of the building industry affects in a high grade the market, the builders and developers in the low-cost housing sector and they must accept slim profits per unit to maximize affordability (*Lizarralde, 2010, page 176*). The cost of housing could be reduced by recognizing that the poor urban families already build and extend their own dwellings incrementally in response to their needs and the availability of resources. (*Wakely & Riley, 2010, page 1*) What we as professional planners and architects need to do is providing legal and technical support. So to design for urban poor should be a balance between respect for an already existing knowledge from the citizens in what they need to create a home and the help from professionals on how to start and develop the dwelling and community in the right direction.

## 2 Design of Sustainable Shelter and Neighbourhoods

### ... from an incremental point of view

A big challenge is to translate this mix of involvement into a real housing area. To take the theoretics and give it a structural frame. I think one of the keys for a sustainable community design could lie in the incremental aspect of housing and community growth. Incremental housing allows poor residents to slowly climb the housing ladder through improvements that follow the pace of their own economic possibilities. (*Lizarralde, 2010, page 176*) This can result in a building that is sustainable in a long-term perspective, if you get the right involvement from different actors. Time, economy and actors; three main factors. I think that you should see the building as part of a living organism that can be allowed to evolve with time. This is, in my opinion what creates a home; the personal commitment and the sense of belonging. If you feel that you can invest your time and money into your home, you will care more. But the problem is to apply this way of thinking into a more sustainable version of incremental housing. The first image I got into my mind when I thought of a house planned with the incremental aspect in mind is a one family, one level home. This is not urban. Many politicians and technicians associate incrementally built housing units with illegal land settlements. This because these units often are constructed on inadequate land, is located within incomplete sub-divisions or fails to meet the construction standards that ensure safety. (*Greene & Rojas, 2008, page 91*) We are talking about urban shelter and in cases like Manila this is not how we can build new developments today, because it is not urban. I will suggest to ways of facing the situation:

1. To upgrade the existing low developments together with the inhabitants
2. To build new communities that supports incremental growth and creates dense areas with high quality of social life.

In this paper the focus will lay within the new developments.

### **Accessibility of Land for Low-income Housing**

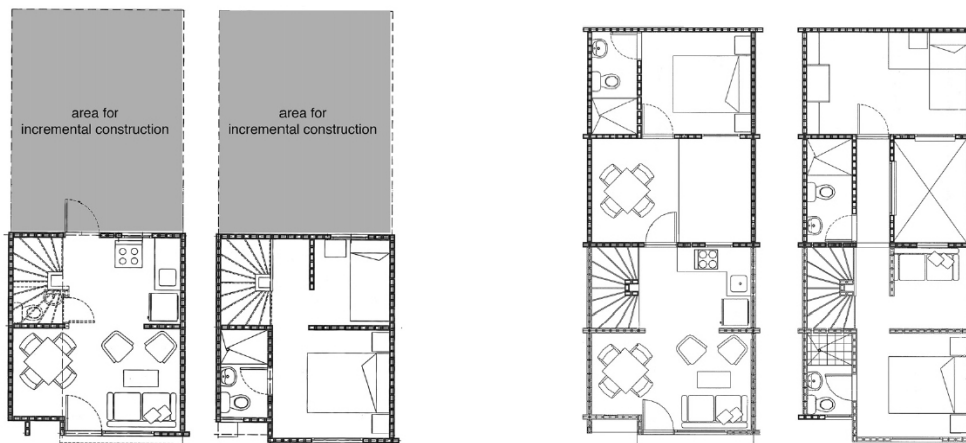
The first thing you need when you as a government, private investor or a small community when starting a new development are a piece of land well connected to the infrastructure and a net of services a city provides. To support incremental growth the location of the land is important. That it is well connected to a sustainable surrounding and that it can integrate income-generating activities. Back to the balance between the actors; professionals and the citizens, this is clearly something where the government can be helpful. Cause the basis of incremental housing is that government does what households cannot effectively do- assemble land and provide trunk infrastructure and services- and households do what governments cannot do efficiently, construct affordable dwellings that meet the priorities and resources of their occupants. (*Wakely & Riley, 2010, page 2*) Many governments, admitting their inability to provide shelter for all needy households through traditional policies and programmes centred on the direct provision of subsidized houses or loans, moved to recognize the importance of mobilizing resources from the private sector for housing. A problem with this is that a lot of land that would have been appropriate for this type of low-income development is owned by private companies who usually want to make a good profit on their investment. In general, the lowest-cost land is located on the periphery of cities and then it's not urban any more. If low-income developments continue to be built outside of the urban border, the problem with transport and access to job opportunities for the poor will grow. This is a tricky situation and the only circumstances in which the incremental housing process takes place in central locations is when it begins with the illegal occupation of available land, as the beneficiaries do not pay the actual cost of the land. (*Greene & Rojas, 2008, page 96*) There is an invention to help the access to good location land to a reasonable price that involves the extraction of land from real estate developers, an approach that is generally used to obtain land for public facilities. (*Greene & Rojas, 2008, page 96*) One thing that is clear is that the need for urban land to an affordable price is a crucial start if a low-income incremental housing project is going to work.

### **Neighbourhood Planning for Incremental Housing**

The next step in the process of succeeding with the incremental growth of a community and a house is how you plan and build your community for a long-term success. What a lot of other people realize is the importance of a sense of “ownership” of a local community to create collective responsibility for their maintenance and management by the community. One easy way to start is to provide a street address which gives the residents a sense of belonging. (Chávez, 2009, page 6) As I mentioned in the beginning a sense of belonging is important for people to care for their neighbourhood and feel safe within the community. One way to create a sense of ownership the upcoming community could to participate in all stages of the planning process. This could be a whole paper in itself, but it is important to mention how everything is depending on each other. To create the feeling of the shelter as a home, you need to feel responsibility for your unit and your community. If you do this you are more willing to invest in your building and the incremental process is a fact. Both on housing and on a community level. It's important that the planning of the neighbourhood embrace the thought of this area developing in the future. Chávez mention another factor why the sense of belonging is important and that is the areas with strong sense of community create a lower crime-rate since they are surrounded by the watchful eyes of their occupants. (Chávez, 2009, page 5)

### **Incremental Housing**

From a household's point of view, the primary function of a home is to provide protection against the cold, rain, sun and wind and reaching these standards is the first priority after accessing the land. (Greene & Rojas, 2008, page 97) A very common solution for low income housing is the row-house. This has proven in many cases to work well for incremental growth of the individual unit, both vertical and horizontal. One case study that has been done and that *Gonzalo Lizzaralde* writes about is a new development in Facatativá, Colombia a project called Juan Pablo II (JP II). The concept was to create a mixed area with subsidies housing in the form of land tenure where the residents accepted to follow a saving plan. They were provided with a plot of land, with a two story building with instructions how to develop the house in the following years. (see fig.1).



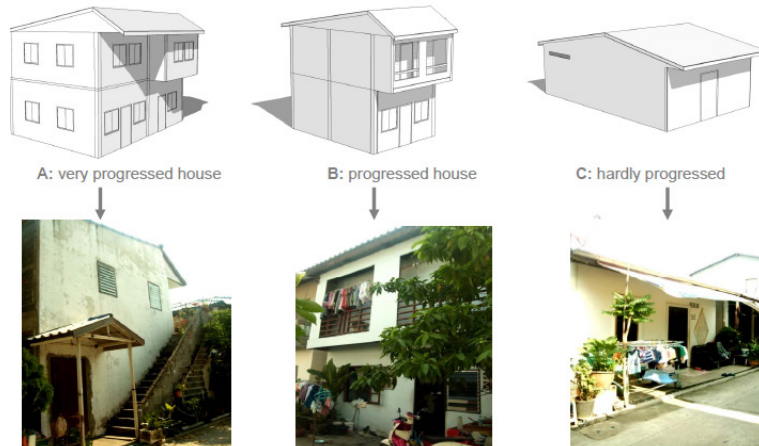
*Fig1: First and second floor of delivered building with builders suggestion for further development. (Lizarralde, 2010, page 183)*

As you can see on the drawings, just half of the plot was built from the beginning, which means a lower building cost for the families. The idea was that the families could extend when they could afford it, according to the proposed extension plan.

This worked out as planned with the families developing the buildings in their own pace. Usually they started with improving the materials and after that, foundations until the whole plot was filled. So the intention was to provide a lot of land and make sure the families could upgrade the buildings following their own economic possibilities. This is in my point of view a concept where the house itself is within the focus point, not the neighborhood or the community. The incremental aspect was towards the individual families and how they could own a piece of land even though they had low income. What we can learn from this is that incremental growth of the individual family-home might not be a hard thing to achieve, but the question is how that is helping us to live together in a denser way and in an urban setting? Because if you build like this, you still need a lot of available land and provide one piece of land for every family. The amount of land used is the same, even if you do not build on the whole plot from the beginning.

*Klong Lum Noon Community*

From a study made in Thailand made by Wijitbusaba Ann Marome, Ph.D. & Supreedee Rittironk, Ph.D. we can find a lot of other examples on how the incremental process of housing has progressed.



One of those examples was in a community called

*Fig2: Example of progressed housing (Wijitbusaba Ann Marome, Ph.D. & Supreedee Rittironk, Ph.D, 2010, page 14)*

Klong Lum Noon (*see fig 2*). What Wijitbusaba and Supreedee have done is to find three different levels of achievement when it comes to process in the same neighborhood and you can see the difference of the houses (*see fig 2*). They mean that incremental housing should be systematically studied throughout a city concerning different level of housing intensification in terms of number of room progressed, number of household members increased, level of household income, process of land tenure security and budget used for incremental housing. (Marome & Rittironk, 2010, Page 26). This is, as the last example focusing on the houses. Maybe it is not strange that my first thought regarding incremental growth was a family adding a floor on top of an existing one on their own lot. What they write about here is also the level of household income and that is a different aspect of incremental housing. It probably will not make the area more dense in terms of number of families living in the community, but it will help to maintain and higher the quality of the built environment. Because when the family income stabilizes they can afford to invest in their property and add to the sense of belonging.

Although it is very good that people learn how to develop their own building and maybe most important learn how to save money, these two projects is still not sustainable enough in my point of view. I think that we need to think broader than



this. In an area like Metro Manila, we cannot construct one storey buildings anymore and wait 30 years and hope that the communities develop it in the right direction. I think we need to have the time aspect in mind again. There is soon not going to be any space left to build on and the population growth is rapid.

*(<http://www.indexmundi.com/facts/indicators/SP.POP.GROW>)* So the main challenge is how to plan and build a dense community from the beginning where there still is a possibility for incremental growth. One way of doing it is of course that every family extend their unit regarding to their own economy. But can this be done more on a neighbourhood level, in a way where ownership of land is not necessary but the sense of security of tenure still exist? The challenge is just to convince and make sure that the users believe in the system and that the system works properly.

My interest lies most in the incremental growth of the neighbourhood, which will say growth of the number of homes you can provide over time in an area. Of course the aspect on how the unit or house can develop is really important, but maybe together with something else? Adding more apartments to an already existing neighbourhood? What I am talking about is densification. A factor I believe it is very important for this to work is that whenever a new development is planned for, the time aspect and the possibility for further growth is crucial to have in mind. The new buildings should be a long-lasting construction, which is easy to maintain over time. If you have the aspect of growth in mind you will also notice the importance of how to work with the ventilation and day lighting so that qualities like that will still work properly if new buildings are added. It's all a matter of thinking in advance

### 3 The Role of Architects

So it is at this point we become important! To think in advance. This is what architects are trained for. The role of the architect in building urban shelter is increasingly important. As I mentioned before the monetary aspect for low-income housing solutions has been the main focus for a long time. To let all the decisions be made with the economic aspect in the front won't work for the long-

time perspective. To try and find a solution that is both economic and sustainable is an important task for architects and planners. The problem is just that the overall responsibility lies with the politicians and their ability to believe in the professionals. These are huge questions and I think it's necessary to delegate responsibility to other sectors of the society to be able to reach the key issue; how to make sure that every citizen has somewhere that they can call home.

I can't find answers to all the questions I have asked in this short paper, but I think it's our role as architects and planners to try and do so. To sit with the individual unit and try to imagine this in the long perspective, how it could work in a more dense solution. There is this huge pressure all over the world in building millions of new low-income apartments every year and it seems like every one is too stressed to take a breath and try to find a better solution for the future. A solution that if we look around, we can already see around us. Very much in the informal sector. Incremental housing is the most common strategy of the informal sector to overcome the problems of insufficient unit size and customization of housing units to individual needs and expectations (*Lizarralde, 2010, page 176*) It is time to use our knowledge as educated architects and human beings and try to be futuristic. The amount of available land is not going to last forever and the population growth is not going to stop. If other professions do what they can do to contribute in helping the urban poor, we can try to come up with solutions for how to create homes, not only housing, for as many people as possible. Solutions that fits well into the urban, dense environments of the future.

Helena Pettersson

ar08hp7@student.lth.se

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