

Thoughts Behind 18 Square Meters...

From the Social House Size Towards Adequate Housing



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“When you build homes, you think about the people that will live there”
(Rachelle N. Astrand)

1. Introduction

Universal Declaration of Human Rights recognize that “Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family” (UDHR, 1948), including, within other basics, “housing”. Despite this statement is repeated several times in the national constitution of different countries around the world, there is still a high proportion of their populations currently and permanently living in inadequate housing, even more, part of these populations doesn’t even have a roof nor a shelter for their living. As reference, 15% percent of people in the world is considered to live in poverty and 56% percent in the low-income stratus (Pew Research Center, 2015), living in informal settlements and slum areas, being unable to access to an adequate housing. Once reading the words “adequate housing” several times a question bumped in my mind: what does adequate housing mean?

When travelling to Manila (Philippines) for the Urban Shelter course and visiting some of the social housing projects that are around the city, I was astonished to face such small houses taking in such large families. Coming from another underdeveloped country with still high levels of inequality, I used to feel social housing in Chile were not enough in terms of space (around 40sqmt for a family of 5-persons average), however the facts show that they double

the size compared to a social house in Manila. Chile, just like Philippines, although some years ago, has had an important phenomenon of migration from the countryside to the city (specially towards the capital region), social process that has given as a result high percentages of its population living in precarious conditions, forcing local authorities to incessantly take measures in the social housing development and construction, as to try to improve the quality of living of the vulnerable sector.

When experiencing the housing situation in Manila, a lot of reflections and questions came to my mind. Housing program in Manila is a “solution” in terms of providing a place and a roof for families in overcrowded areas, but where inner spaces are still inadequate, with unsecure surroundings and with poor quality of living conditions. Families living there have being capable of taking the best of these small units, engineering themselves to live there, and making the lack of space a “sufficient” space for them. It seems that with the increase of population within the city and the housing programs, an attempt has been made to improve the quality of life of their vulnerable inhabitants, and probably their situation is better than that these people lived before, however, it does not mean they have reached a minimum quality of housing which help these families, particularly their children, to at least have the chance to reach the basics to leave their precarious way of living.

Internalizing this situation, I started asking myself some initial questions:

How 5 people manage to live in 18 sqm?

What would be the minimum living area for a standard family?

What would be the appropriate (minimum) spaces for that house?

Finally, what architectural design features would help maximize their living standard?

Undoubtedly the characteristics of a decent home are different in every country, because of the different customs, incomes and living conditions, however, every one of them has the same goal of seeking a good quality of life. Taking the Manila experience as a starting point that inspired me to write this paper, I will try to emphasize the importance of space and size of a housing unit as to be called as a decent space to live in- an adequate house-, to be called not shelter, but home.

2. Literature Review

For writing this paper, I have used a variety of definitions, statistics and previous papers acquiring information about the housing situation in the world, explaining the problem of the lack of adequate housing, not trying to solve the problem, but presenting my thoughts and concerns about it.

To begin with, I will show the definition of an adequate house which to me best resumes the ideas behind this concept, leading the topic of this paper, searching the essential aspects an adequate house should provide. Then, I will look into the definition of the floor area per person, as it is also considered an important reference because it shows how the individual space is taken into account in different parts of the world and how the income per country influences it. And finally, I will present an overview about Metro Manila, a major urban region in the Philippines, to analyze its situation and try to find some possible solutions to the problem of the size of a social house.

Adequate House

There are some essential aspects that a regular house should incorporate which human beings need to live in. Among different approaches one can find in literature, I would rather take the one referred in United Nations' Habitat Agenda's Goals and Principles: an adequate house is *“more than a roof over one's head. It also means adequate privacy; adequate space; physical accessibility; adequate security; security of tenure; structural stability and durability; adequate lighting, heating and ventilation; adequate basic infrastructure, such as water-supply, sanitation and waste management facilities; suitable environmental quality and health-related factors; and adequate and accessible location with regard to work and basic facilities: all of which should be available at an affordable cost.”* (United Nations Conference on Human Settlements (Habitat II), 1996)

Exploring some these aspects a house must achieve; United Nations also explains:

- Security of tenure: housing is not adequate if its occupants do not have a degree of tenure security which guarantees legal protection against forced evictions, harassment and other threats.

- Availability of services, materials, facilities and infrastructure: housing is not adequate if its occupants do not have safe drinking water, adequate sanitation, energy for cooking, heating, lighting, food storage or refuse disposal.
- Affordability: housing is not adequate if its cost threatens or compromises the occupants' enjoyment of other human rights.
- Habitability: housing is not adequate if it does not guarantee physical safety or provide adequate space, as well as protection against the cold, damp, heat, rain, wind, other threats to health and structural hazards.
- Accessibility: housing is not adequate if the specific needs of disadvantaged and marginalized groups are not taken into account.
- Location: housing is not adequate if it is cut off from employment opportunities, health-care services, schools, childcare centers and other social facilities, or if located in polluted or dangerous areas.
- Cultural adequacy: housing is not adequate if it does not respect and take into account the expression of cultural identity

(United Nations, 2003)

Floor Area per Person in the world

“Floor area per person is defined as the median floor area (in square meters) of a housing unit divided by the average of household size. This indicator measures the adequacy of living space in dwellings. A low value for the indicator is a sign of overcrowding.” (United Nations Population Division, 1997)

The housing size and floor area per person are very different around the world, as it can be seen in image number 1 and 2, - generally- the floor area per person get larger the higher is the per capita income of the country. The media in the world is around 17 sqm, however comparing low income and high income countries, most crowded countries can reach levels as low as 3.7 sqm per person, while less crowded show standards of more than 60 sqm per person. (United Nations Center for Human Settlements (Habitat), 1996)

Another way to see the space standard for people is through the number of persons per room. Within the Philippines – belonging to the group of low-mid income countries – Metro Manila

is one of the most overcrowded cities with an average of 3 or more persons per room. Chile, on the other hand, belongs to the mid-high income group¹, with an average of 1.03 persons per room, and where the floor area per person increases to 22.0 sqm. (United Nations Center for Human Settlements (Habitat), 1996)

Income Grouping; cities in:	Floor area per person (m ²)	Persons per room	%age of permanent structures	%age of dwelling units with water connection to their plot
Low-income countries	6.1	2.47	67	56
Low-mid-income countries	8.8	2.24	86	74
Middle-income countries	15.1	1.69	94	94
Mid-high-income countries	22.0	1.03	99	99
High-income countries	35.0	0.66	100	100

Source: The Housing Indicators Program Volume II; Preliminary Findings, A Joint Programme of the United Nations Centre for Human Settlements (Habitat) and the World Bank, Washington DC, April 1993.

Image 1: Housing Quality (United Nations Center for Human Settlements (Habitat), 1996)

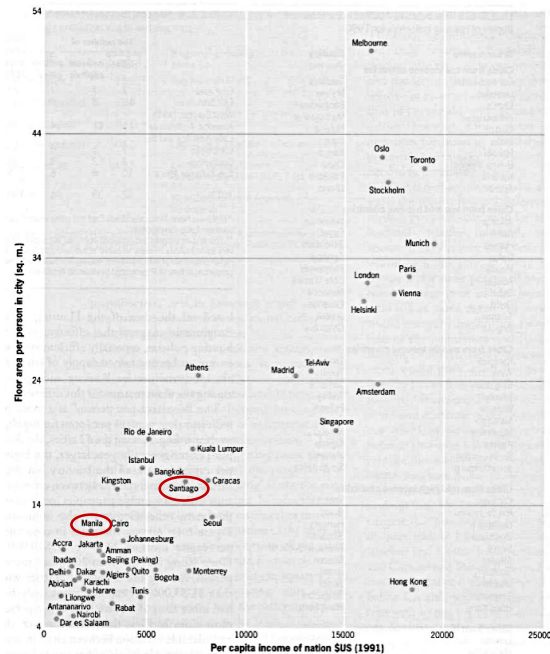


Image 2: Floor Area per Person (United Nations Center for Human Settlements (Habitat), 1996)

Overview: Metro Manila

Philippines has a population of 100 million people (2015), where more than half of them lives in the region of Luzon (56.9%). Metro Manila (also known as National Capital Region – NCR) has 12.5% of all the population in the Philippines, and Quezon city the city with more people of the region with 2.94 million people. The density of the Philippines is around 337 p/sqkm, being NCR the most density region with 20,785 p/sqkm. In this context, 21.9 million people are considered in poverty situation by the year 2015, where 6.5% of them are in NCR.

Getting deeper, almost half of poor families in the Philippines are living in housing units with a floor area of 10 to 29 square meters. “Among the families in the bottom 30% income stratum, the largest proportion (48%) are occupying housing units with a floor area of 10 to

¹ Annex 1: Table (United Nations Center for Human Settlements (Habitat), 1996)

29 sq. m. Three out of ten (32%) families in this income stratum are living in housing units with a floor area of 30 to 49 sq. m.” (Philippine Statistics Authority, 2017)

Focusing in the housing laws in the Philippines the Betes Pambensa (BP) 220 is a law that “defined a set of the minimum planning and design standards for residential subdivision projects, particularly on economic housing (housing packages worth PHP 225,000-500,000 or USD 4,245-9,434) and socialized housing (maximum housing package costs PHP 225,000)”. (Housing and Land Use Regulatory Board , 2008)

“Minimum lot areas for single detached dwellings shall be 64sqmt, duplex 48sqmt, and row house 32sqmt. For shelter component, minimum area is 22sqmt for economic housing and 18sqmt for socialized housing.” (T. Valenciano)

The average household size in 2015 was of 4.4 persons, however this number is bigger in families with lower income. So, in these 18 square meters an average of 5.87 persons live in (2003), in spite it is a very small space for that number of persons, it seems the law doesn’t take it in consideration. (Philippine Statistics Authority, 2017)

3. Critique and discussion

The housing situation in the Philippines is overcrowding, which, associated to low income families, leads to a basic survival state with no hope of opportunities for change. The precariousness of constructions, but overall the lack of space, with an absence of privacy consequently, threatens against the development of cognitive skills of the members of the family preventing them from having more opportunities to develop their socioeconomic situation. As it has been mentioned, the design of a house requires of different aspects that will influence its construction. Although relevant issues such as climate, income, context, customs, will undoubtedly influence the design of the house, in this paper I will only pick the aspect of the size into further analysis.

Seen the graphic in the previous chapter, it is clear that Manila, like other undeveloped low income countries, have a remarkable low floor area per person index. This leads us to suggest that the authorities of these countries, based on reduced budgets, have tried to wrongly

prioritize the development of small social house with reduced possibilities of extensions, instead of building less number of houses with more space according to the family sizes and needs. We have to consider that *“the user needs to complement their social houses to their particular way of life, because it was conceived (the house) under minimum standards and for a “type” and “average” family...”* *“When it comes to definitive solutions, that should satisfy almost all those requirements, errors of the architectural programing remain in evidence, for not interpreting with fidelity the real characteristic and cultural values, of those socioeconomic stratum of the population, within extreme cases the original version of the house is left almost unrecognizable.”* (Sepúlveda Mellado, 1986) And that’s is one of the biggest mistakes of social housing around the world, the production of standard small houses with no concern of the different family requirements.

For people to have a better quality of life it is necessary to start from the roots. When we live in limited or overcrowded spaces, several number of negative matters starts to emerge, making it more difficult the development of the people living in those spaces. The problem of the non-adequate housing introduces a vicious circle as a result: within an overcrowded small house more stress and less positive relations are grown. This leads to a more difficult daily life, hindering work options and work efficiency, revealed in a work of less quality, thus, less income, which most probably redound to less house quality, taking us back to the beginning of a family living in a small unit.

In turn, having a bigger space in the dwelling, allows households to have their own private spaces to do their daily activities, such as studying, reading, cooking, etc., including in many cases remunerated jobs, such as sewing, or where products are sold, and having such a little space makes it harder. It can be seen in Manila, how people have mixed their houses with little stores in the front entrance.

4. Design Proposal

After this analysis, I am able to deliver ideas of design proposals, perhaps not as a solution, but as considerations, not for the whole design but for the sizing of housing.

1 House Size

With the standard sizes, according to Neufert's book "Architect's Data", a comparison can be made to try to find minimum spaces for living in the different areas in a house, taking in consideration the essential spaces in a house, such as Kitchen, Dining room, Bathroom, Laundry/Drying Area and Bedrooms for the analysis.

First, Neufert talks about rooms for every household, room as a separate space, aisled from each other, so every person has a private space where they can develop and arise. In a way of they are students, they can study in their space, or if they are homeworkers they can work quietly, or even if someone wants to read a book, they can be able to, because they will have the space to do that.

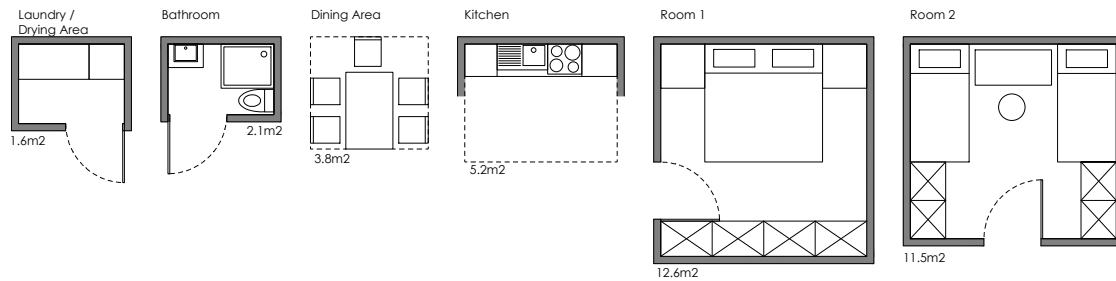


Image 3: Room Sizes

In the image number 3 it is illustrated the different areas of a house with the minimum sizes, according to Neufert's book Architect's Data. Adding all the measures of the different spaces a total of 36 square meters is reached. Then, spaces for circulation as corridors and stairs should be added afterwards for each design. So, at the end, taking this in consideration, the starting point of a house size should be closer to the double of a minimum house established nowadays in the Philippines.

2 Collective Spaces

Another point it can be taken for a design and the size for the house is the Philippine's culture. If the basic aspects of a house and the community culture of Philippines, maybe shared parts of the house can be made, having more space for private matters and more space for social ones. Taking in consideration that a house is composed by the areas mentioned in the image, bathroom, kitchen and bedrooms can be considered as private space, meanwhile the dining area and laundry as semi private (shared with other families), in order to achieve more and better private spaces, even though that means to share some semi-private ones. This idea will help improving the different spaces for a lower cost (shared costs).

3 Extension Possibility

Last idea is that because every family is composed by different number of members, as well as they have different customs, and different requirements for their houses, it is difficult, or maybe even impossible, to make one standard house for everyone, being the main error of housing projects. Most of the time, when families have the chance to expand their houses, they make informal extensions, that are unstable and hazzardous.

I know making standard houses is cheaper than making all of them different, it is more accessible for developing houses, however, there are architects, as ELEMENTAL organization, who have demonstrated that solutions can be found, so a bigger, cheaper and better house can be made.



Image 4: Proyecto Villa Verde, Constitución, Chile. ELEMENTAL

As to the design of the house: “That is why we thought of putting in place an open system able to channel all the available forces at play. In that way people will be part of the solution and not part of the problem. On the other hand, it is a fact that available resources are not enough.

To face such scarcity of means, the market tends to do two things: Reduce and Displace; reduce the size of the houses, threatening the quality of life of its inhabitants, and displace them to underserved peripheries where land costs nothing, segregating people from the opportunities that made them come to cities in the first place.” (ELEMENTAL, 2018)

This project consists in the handover of “half house”, where the first half correspond to the part that is fully constructed with walls and interior spaces while the second half correspond to an empty space, with no walls, but with foundations and structural arrangements, so, in the future, the householders can extend their dwelling regarding their own requirements, complementing with what is missing to them.

5. The role of Architects

As it has been mentioned, every country, every family has its own standards and requirements for building a house, but also the design is highly influenced by their context, climate, income, between other aspects. In the case of the Philippines, I think these standards has reached an extreme on the size of the dwellings. Because of the high volume of immigration to the city, an attempt to accommodate everyone in the city has been made, however, in this process of densification, very small dwellings have been constructed that, in my opinion, cannot be called houses, because of their small sizes and the overcrowding situation they present – 5 people living in 18 square meters.

Public politics have offered standard solutions that only aim to sort out the survival, but, because of their own limitations – whether of the design or income – doesn't permit the development of extensions and adaptations to create independent spaces achieving more privacy for different activities (studying, working, little stores etc.) that will bring more opportunities to improve the life of the families living there. Minimum spaces are necessary to avoid the vicious circle explained before that consist in low quality of life, therefore, low efficiency for work and consequently an impact in the salary (low salary). On the other hand, shared spaces are also important to consider, collective houses can help improve private spaces that will allow families to develop and arise. Sharing spaces can reduce costs, so more

separate spaces can be created for the individual growth. To achieve this, more space is required and less density, nevertheless, I think, anyhow it is necessary to increase the size of the units in the Philippines, to change the overcrowding situation to a densification one.

I think architects and organizations in the Philippines have failed in some kind of way. As architects, we are responsible of making an ethic architecture that involves everyone the same way, in spite the limitations we face we must fight for an adequate housing. The country is trying to improve the quality of living of the vulnerable people, however, the standard established as minimum space is too small to consider it enough space for living. Even tough, both organizations and families, have become accustomed living in this type of space, the truth is that a house of that size is inhabitable for a standard family size in Philippines. It is a space of overcrowding, but as we can't reduce the families we must increase the unit.

Architects should find a way to adapt every house to each situation, country, custom and they must have an influence in the public politics next to other sociologists, urbanists and economists to make a potential concept for every project.

Manila is in the range of cities with the smallest square meters per person, however, there are cities that are even lower. As architects and human beings, we must take measures regarding situation, we have to be conscious of the rest of the world we are living in. We are in charge of, not only bring roof to every habitant in this planet, but to make an adequate house for every one of them.

Annex

Annex 1: The 52 cities included in the Extensive Survey of Housing Indicators for 1990

Urban centre	Country
Cities from low Income countries	
Dar es Salaam	Tanzania
Lilongwe	Malawi
Dhaka	Bangladesh
Antananarivo	Madagascar
Ibadan	Nigeria
Delhi	India
Nairobi	Kenya
Beijing (Peking)	China
Karachi	Pakistan
Accra	Ghana
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Cities from low-mid Income countries	
Jakarta	Indonesia
Cairo	Egypt
Harare	Zimbabwe
Dakar	Senegal
Manila	Philippines
Abidjan	Côte D'Ivoire
Rabat	Morocco
Quito	Ecuador
Amman	Jordan
Bogota	Colombia
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Cities from middle Income countries	
Bangkok	Thailand
Tunis	Tunisia
Kingston	Jamaica
Istanbul	Turkey
Warsaw	Poland
Santiago	Chile
Monterrey	Mexico
Algiers	Algeria
Kuala Lumpur	Malaysia
Johannesburg	South Africa
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Cities from mid-high Income countries	
Caracas	Venezuela
Rio de Janeiro	Brazil
Budapest	Hungary
Bratislava	Slovakia
Seoul	Korea, Republic of
Athens	Greece
Tel-Aviv	Israel
Madrid	Spain
Singapore	Singapore
Hong Kong	Hong Kong
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Cities from high Income countries	
London	United Kingdom
Melbourne	Australia
Amsterdam	Netherlands
Vienna	Austria
Paris	France
Toronto	Canada
Washington DC	United States
Munich	Germany
Oslo	Norway
Stockholm	Sweden
Tokyo	Japan
Helsinki	Finland

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