

SYLLABUS 2021

SEMINAR LOW-COST & EMERGENCY HOUSING

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1. INTRODUCTION

The rapid demographic growth and the unplanned urbanisation process the planet experienced in the last century, has created slums and has increased the number of people living in precarious habitability conditions. According to United Nations estimations, this situation will continue taking place in the next decades, especially in the cities of the least developed regions.

The world population increases in more than 70 million person per year, and it takes place - according to the urbanization trends of the planet- preferably in the developing countries' cities. Neither the building sector nor the urban planning discipline have been capable of attending the problem and its scale.

The urban poor have to solve an equation with diverse variables: the need of access to soil, optimize housing costs, the dwellings quality, access to infrastructures and services, or the displacement to the work. The result is a mixture of high costs, absence of municipal services and insecurity in the property of the soil, and it makes up the slums of the cities in the developing countries, where nowadays a third of its population lives overcrowded, without drinking water nor improved sanitation or in insecure and unhealthy housings.

In addition, research indicates that the Earth's climate is changing at a rate that has exceeded most scientific forecasts. Some families and communities have already started to suffer the consequences of climate change, translated into sever natural events. The combination scaling extreme nature events, growing informal settlements and increased social and economic marginalization, leads irretrievable to more frequent, more ever and more complex disasters. People living in precarious settlements are even more exposed to extreme events, without having the capacity to respond adequately after a disaster. Vulnerability is growing and many of them are forced to leave their homes in search of new opportunities.

Increasing political or social unrest and violence in some regions of the world are as well decisive factors for people to move to other regions or countries, looking for safety.

One of the building sector's challenge is the overwhelming housing deficit and the new urban growth in the least developed countries, as well as the unmet shelter need of displaced people and people affected by a disaster.

UN HABITAT, June 2019 and 2020

Globally, an estimated 1.6 billion people do not have access to adequate housing, 25% of the world's urban population live in informal settlements, and homelessness is on the rise in every world regions. The urban poor often live in inadequate housing conditions, such as informal settlements, where they lack access to basic services, work and education opportunities. Thus, exclusion from the formal housing market, and challenging access to homeownership and rentals lead to spatial segregation and inequality. Ending poverty and ensuring access to adequate and affordable housing for all is therefore a major and urgent global agenda in a rapidly urbanizing world.

https://unhabitat.org/sites/default/files/documents/2019-05/un-habitat_country_activities_report_-_2019_web_0.pdf

In 2020 there are 1934 metropolises with more than 300,000 inhabitants representing approximately 60% of the world's urban population. It is projected that the number of people living in metropolises in 2035 will increase to 3.47 billion representing 39% of the global population and 62.5% of the world's urban population. Almost 1 billion people will become metropolitan inhabitants in the next fifteen years.

<https://unhabitat.org/sites/default/files/2020/06/gsm-population-data-booklet2020.pdf>

The UN High Commission for Refugees, Global Trend Report 2020

At least 100 million people were forced to flee their homes during the last 10 years, seeking refuge either within or outside the borders of their country. Forced displacement and statelessness remained high on the international agenda in recent years and continued to generate dramatic headlines in every part of the world. As we approach two important anniversary years in 2021, the 70th anniversary of the 1951 Convention Relating to the Status of Refugees and the 60th anniversary of the 1961 Convention on the Reduction of Statelessness, it is clear these legal instruments have never been more relevant.[...]

By the end of 2019, the number of people forcibly displaced due to war, conflict, persecution, human rights violations and events seriously disturbing public order had grown to 79.5 million, the highest number on record according to available data. The number of displaced people was nearly double the 2010 number of 41 million and an increase from the 2018 number of 70.8 million.[...]

Climate change and natural disasters can exacerbate threats that force people to flee within their country or across international borders. The interplay between climate, conflict, hunger, poverty and persecution creates increasingly complex emergencies.

<https://www.unhcr.org/be/wp-content/uploads/sites/46/2020/07/Global-Trends-Report-2019.pdf>

International Federation of Red Cross and Red Crescent Societies. World Disasters Report 2020

The COVID-19 pandemic has shown how vulnerable the world is to a truly global catastrophe. But another, bigger, catastrophe has been building for many decades, and humanity is still lagging far behind in efforts to address it, as communities and countries still need to adapt to its realities.

The impacts of global warming are already killing people and devastating lives and livelihoods every year, and they will only get worse without immediate and determined action. The frequency and intensity of climatological events are increasing substantially, with more category 4 and 5 storms, more heatwaves breaking temperature records and more heavy rains, among many other extremes. Loss of natural resources, food insecurity, direct and indirect health impacts and displacement are likewise on the rise. Many communities are being affected by concurrent and consecutive disasters, leaving them with little time to recover before the next shock arrives. The most at-risk people in these communities are in danger of being left behind if their needs and capacities are not understood, and their voices not heard.

https://media.ifrc.org/ifrc/wp-content/uploads/2020/11/20201116_WorldDisasters_Full.pdf

2. APPROACH

Shelter is essential for the physical protection and privacy of people affected by displacement, allowing them to lead lives in a safe, supportive and culturally appropriate setting. Rights should be protected and lives saved by providing timely shelter interventions to meet both immediate and temporary needs, promoting durable solutions and enabling families to access social services and livelihood options.

Shelter programmes should aim to facilitate both the physical and social needs of targeted beneficiaries in all phases of a crisis and across a range of settlement options beyond the household, including Settlement or Camp Planning, Community Infrastructure and access to Basic Services, Housing or Emergency Shelter, Non Food Items (Household and Shelter Items), Capacity Building and link with Livelihoods. It should not focus solely on

the delivery of house or shelter as a physical product but should also include a range of wider social and settlement related considerations that enhance and complement the impact of individual solutions.

Appropriate strategies and activities should be defined based on a contextual analysis such as scale, climate, culture, available materials and skills, logistics, funding, legislation and policies, and needs.

3. OBJECTIVES

The present seminar wants to:

- give an introduction about the problem of slums, informal city and new urban development.
- introduce the approaches during emergency, due to natural or social disasters, and show the transition to recovery and resilience.
- provide instruments to deal with some of the challenges students could find if they decided to work on emergency or development, related with planning, access to basic services and provision of shelter/housing.

4. METHODOLOGY

The seminar consist of lessons (L) and a workshop (W) based in Project Based Learning (PBL) methodology. PBL method consists of a collaborative teaching system. It focuses on a more active student's participation, involving them in active research to solve a problem in a real context. Therefore, there will be general lessons as well as particular lessons in order to help with the workshop. The ratio of lessons and workshop is 1:1, to allow enough time to reflect and put into practice the theory.

5. SCHEDULE

	1st week				2nd week			
	Mo 12 Jul	We 14 Jul	Th 15 Jul	Fr 16 Jul	Mo 19 Jul	Tu 20 Jul	We 21 Jul	Fr 23 Jul
15,30-17,00	L1 New Urban Agenda A. Salas	L3 Emergency: Introduction S. Molina	L5 Basic infrastructure Water A.Schiffer	L7 Shelter Solutions C. Schmölder	L9 Vernacular Architecture E. Sevillano	L10 Refugees G. Sánchez-Terán	W9 A. Salas S. Molina	P1 Final presentations JURY
17,15-18,45	L2 Development & Settlements A. Salas	L4 Recovery after a Disaster S. Molina	L6 Basic infrastructure Sanitation A. Schiffer	L8 Basic infrastructure Energy J. Mazorra	W5 A. Salas S. Molina	W7 A. Salas S. Molina	W10 A. Salas S. Molina	P2 Final presentations JURY
19,00-20,30	W1 Presentation A.Salas S. Molina	W2 Settlement research A.Salas S. Molina	W3 Shelter research A. Salas S. Molina	W4 Infrastructure research S. Molina	W6 A. Salas S. Molina	W8 A. Salas S. Molina	W11 A. Salas S. Molina	P3 Final presentations JURY

L – Lectures; W – Workshop; P - Presentation

6. WORKSHOP STRUCTURE

Students will work in 8 groups, composed by 3 people each. The groups will be divided in two different scenarios: one facing issues related to development challenges and the other looking into an emergency context. Both are based on real scenarios and facts.

4 groups will be working in Robuya, a precarious rural area near to Makeni (Sierra Leone) in which the students have to develop strategies to upgrade the conditions of inhabitants, providing urban and housing solutions.

4 groups will be working in a natural disaster context (cyclone Idai) in Dombe, Mozambique, thinking about strategies to relocate affected population to a safer place, designing the new sites and developing adequate shelter solutions.

Each group will have to improve settlement condition of up to 75 households (approximately 1,000 people) in Sierra Leone and up to 400 households (approximately 2,000 people) in Mozambique, providing access to basic facilities and suitable shelter, responding to people's needs and capacities. Every group will need to elaborate detailed housing solution for at least 3 housing typologies. During the whole exercise, special attention should be given to vulnerable groups or groups with special needs.

The first week of the workshop will help to set the stages for a deeper analysis of the context and needs of the exercise and the available tools to propose solutions. Brief task will be given to the groups every day to guide this analysis which can be solve outside and during the Workshop hours.

During the second week groups should already present the progress of their proposals, using the workshop time for tutorials and continue working together.

On the last day of the Module, every group will have to present to the whole class and the Jury their final proposals

Along the workshop, participants will work according to the following steps:

- | | |
|--------------|--|
| First Week: | <ol style="list-style-type: none">1. Research on the climatic areas where projects will be settled.2. Get familiarized of the exercises location and possible settlement options3. Understand people's housing needs and capacities, available materials and construction techniques (vernacular architecture), possible barriers and opportunities in the specific context to access adequate shelter4. Research on possible low cost water, sanitation and energy solutions5. Get to know and do research in existing handbooks or literature which can guide definition of the proposal (settlement / shelter / basic facilities) |
| Second Week: | <ol style="list-style-type: none">6. Propose an urban / settlement design for the target population7. Propose infrastructure solutions at urban and unit scale8. Design housing units based on the specific needs of target population, defining material and construction detail9. Plan an implementation /construction strategy or approach, without forgetting future maintenance, upgrading or closing down.10. Provide the shelter's solution budget. |

7. STRUCTURE OF LESSONS / SUBMISSIONS

July 12th 2021

1. Introduction to the New Urban Agenda and Urban slum (L1)
2. Introduction to Development Aid and Settlements (L2)

3. Introduction to exercise and references (W1)

July 14th 2021

1. Introduction to Emergency and Shelter assistance (L3)
2. Introduction to Recovery and Resilience after a Disaster (L4)
3. Participants present their research and proposals about site selection and urban layout (W2)

July 15th 2021

1. Introduction to Low-cost and Emergency Water Supply (L9)
2. Introduction to low cost and Emergency Sanitation Service (L10)
3. Participants present their research and reflections about housing and shelter units (W3)

July 16th 2021

1. Introduction to the Reality of Refugees and Displaced People (L7)
2. Introduction to Low cost and Emergency Energy supply (L8)
3. Participants present their research about water, sanitation and energy infrastructure (W4)

July 19th 2021

1. Low cost shelter solution (L9)
2. Proposals review, desk critics (W5)
3. Proposals review, desk critics (W6)

July 20th 2021

1. Vernacular architecture as low cost solution (L10)
2. Proposals review, desk critics (W7)
3. Proposals review, desk critics (W8)

July 21th 2021

Proposals review, desk critics (W9, W10, W11)

July 23th 2021

Proposal submission and presentation (P1, P2, P3)

8. DELIVERABLES

On the 23rd of July, every groups should present **2 A1**:

1. Site selection, settlement design and infrastructures proposal;
2. Detailed shelter solution and innovation elements.

9. EVALUATION

The final grade (over 10), based on the workshop, mainly, will consider:

- Students' participation along the seminar. They are invited to participate during the lessons as well as try to take advantage of the knowledge of every lecturer	1/10
- Proposal quality	5/10
- Innovation	1/10
- Context adaptation	1/10
- Final presentation, where all the group members must take part	2/10
TOTAL	10/10