

Teranga | Reflection

Design Location: Kholpa, Senegal
AR3AE100 Architectural Engineering
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Introduction

Design and Research | The research focused predominantly on a critical assessment of the spatial planning of the urban fabric in the developments of new housing in the Daga Kholpa urban pole in the Dakar region of Senegal. This is the plan of a new satellite city located to the adjacent east of the capital city Dakar. Many people living in this area however cannot afford the houses being built in the development. The research and design for this project therefore targeted improving the living standards and reducing the costs of construction for this target group. It does so in a traditional spatial planning culture observed in the region of the urban pole.

Why Senegal? | My grandfather was from the Caribbean and had West African ancestry. I have grown up on the Caribbean island Sint Maarten where this side of my family has lived for several generations. Although my African roots have been diluted through my three Caucasian Dutch grandparents, I still feel a strong connection to people of African descent. It is quite interesting, that people on Sint Maarten with African descendance do not necessarily feel African and have lost significant knowledge of the continent. My friends and family identify as Sint Maarteners and not as African-Sint Maarteners. The culture on the island is above all a melting pot of many cultures which has turned into its charm and identity. I am however deeply curious how life is in the origins of my African heritage. This is mainly because we do not meet many African people on Sint Maarten. By basing my design in Senegal, I was able to feel, smell, hear, taste and see what it is like to be in an African country. Through this project, I have gotten to know the roots which I have lost connection with. I know some of my ancestors have walked on this continent and it feels very empowering to return here. My love for Africa has grown immensely during this project and therefore, I am considering to move to the continent after my studies to work as a system designer and a maker. The systems I would like to assist in are based on lowering the pollution linked to of the building and agriculture industry with a focus on low income groups. Many aspects of my design for the graduation studio have and will influence my future. For this I am eternally grateful.

Reflection Questions

1. What is the relation between your graduation project topic, your master track (Ar, Ur, BT, LA, MBE), and your master programme (MSc AUBS)?

This graduation topic concerns guided self-built housing using vernacular materials for low income groups in a traditional Senegalese spatial planning typology. There is a generalized tendency in our faculty, that “construction projects follow the money”. This approach, means that low income groups fall short in getting significant recognition in the realm of Architecture and the Built Environment in practice. Our role as architects, urban planners, building engineers or project managers is to collectively shape our built environment in a sustainable manner. With this project, I aimed to show that there is an alternative, equally exciting assignment to work on projects with “far less money”. The Global South is urbanizing at a very rapid rate, and they can learn from technological insights we can offer as engineers to address important aspects related to greenhouse gas emissions and environmental degradation. Equally so, as western practitioners, we can learn from many (indigenous) practices found in these settings which can inform us in the mission to reduce our carbon footprint. This project has shown that researching and designing where the money isn’t, can have impactful results to solve a small aspect in the global issues related to climate change.

2. How did your research influence your design/recommendations and how did the design/recommendations influence your research?

The findings from the research paper were used to highly value the traditional spatial planning typology and disfavour the modern international style of urban planning using a square grid. This approach has shaped my design drastically. With occasionally too much respect for the traditional spatial planning, I chose to essentially copy this typology and fix the technical problems found. In reflection, this choice was due to my character. My nature lies in the capability to listen attentively and not to speak dominantly. When visiting the village setting, I was therefore able to absorb the culture well and translate this into a spatial design. Put bluntly however, the spatial planning in this project is not very innovative, but at the same time not very imposing. In fact it is very conservative and is an exercise of applying an existing context related planning system. The innovation lies in adding functional systems to supply building services such as electricity, water and sewerage capacities into the traditional typology. Staying within the traditional style of planning, has limited my design in terms of finding a new spatial typology which might be different from the existing typology, but could perhaps be better suited to the needs of the future of the village in a digitizing world. This was rightfully highlighted by my tutors in both the design and research processes. The passion and admiration I have found for the culture in the village in Senegal (Kholpa) has limited me from finding another possible spatial solution to a certain extent. The fascinations for the traditional spatial planning design, has in exchange also biased my research in favour of the traditional typology. I held this position, because I would like to one day see a truly Sub-Saharan African city. Not an African city which has copied internationally powerful urban models, but one which is inspired by typologies which are only found on the continent. Although my design is extreme in its copying of the existing typology, it does however represent a part of Senegalese culture very clearly.

3. How do you assess the value of your way of working (your approach, your used methods, used methodology)?

Being a good listener is in my opinion part of being a good architect. Our design decisions can have great implications on the social lives of many people. The methods and methodologies I've used in my research have therefore targeted documenting the existing way of life in the village spatial planning culture in order to incorporate these aspects into my design. The social capital observed during the visit, was observed to foster many social interactions between neighbours. This has limited my urban design alternatives because the spatial setting simply functioned well in terms of its social dynamics. This has led to the development of designs which strongly incorporate the spatial qualities found in the existing typology.

During my visit to Senegal, I have additionally spent much of my time building a small rammed earth port with the locals as material research. Therefore, I had less time for my formal research. In hindsight, my research paper could have had more value if I was able to do more formal interviews and thereby quantify aspects relating to the social capital which is highly generalized and simply described in the research paper, supported with spatial analyses. The value of informal research should not be understated however. By building this small scale project, I was able to gift a workshop and materials in the form of an Architectural object to the locals in Kholpa. This has led to a scenario where I was accepted into their community. The informal activities might have informed the research on the social dynamics to a greater degree than many formal interviews could have. Additionally, working without power tools and with the people, with materials that are affordable, has further strengthened the position of my design towards making the project feasible for the local population.

4. How do you assess the academic and societal value, scope and implication of your graduation project, including ethical aspects?

For this question, it is important to be cautious of the privileged nature one can easily fall into as a trained architecture student in a western country. It is easy to impose the technologies and design typologies learned in a Western Architecture school. Using this approach, can however create risks

leading to economic, social and political issues. This is another reason why I have stayed close to the spatial planning techniques identified in the research paper. My tutors have tried to persuade me to raise the budget for the design which I had instilled in my design framework. This would allow more space to develop technological solutions. To keep this graduation project feasible for low income groups I have however kept my design products feasible for low income groups. The target group was hereby focused on the average person in Senegal (based on the GDP per capita). Aside from these products, I included some more expensive prefabricated design options which can be attained in the future when the development in the region has reached a further stage in its financial maturity.

We must also collectively question how we are going to innovate on a global scale in the upcoming decades. This design was very low tech and used very simple building techniques. The result is that it is much easier to reach a carbon neutral building which is still not customary in construction practices in the West. The history of construction since the first industrial revolution has shown that innovation has dominantly been paired with drastic environmental pollution. Should innovation therefore be part of our future? Is this the nature of our species and is this the modern human? In retrospect, as engineers in society, we must be honest and mention that we have made decisions in the name of innovation which have led to devastating pollution effects through construction. We need to innovate with systems that will stop making significant changes to our planet's ecosystems. And in my opinion, this starts with simple systems as presented in this project which either have a neutral or negative carbon footprint. It involves taking a steps into low tech principles, which can in turn inform the future of high tech applications based on less polluting effects through its application.

5. How do you assess the value of the transferability of your project results?

This project is mainly targeted towards low income groups. The spatial planning typology has always been a rural typology used by low income groups in general. Performing spatial planning according to this typology can therefore enforce segregation, unless higher income groups choose to live in such settlements. On the urban scale, ideas must be further developed to find smart solutions to integrate the concepts which enhance social cohesion and affordability in this typology and at the same time allow for a coherent existence of residential units in the area which can provide the luxuries for higher income groups such as more space and private cooking and sanitary amenities. The governing body of the Daga Kholpa urban pole can take inspiration from this compound design and research, but should further develop these ideas on the urban scale to create an urban system fit for the financial growth of the community and to include social capital between social classes.

6. Should Africa develop a continental urban spatial planning typology or should this differ per country?

It is wrong to think that Africa has a collective culture and therefore can use similar solutions across the entire continent. The fact however is that there are a wide variety of cultures and spatial typologies to be found all over the continent. In Senegal alone, there are ethnicities such as the Sérère who use the spatial planning discussed in the research paper, but other ethnicities such as the Wolof do traditionally use the square grid (even before the colonial era). A universal spatial planning typology would therefore result in the homogenization of cities in places where differing typologies could better suit the local needs or highlight cultural differences. This can in turn create valuable identities which can help with city branding which has benefits such as tourist attractions and social empowerment.

7. How has the cultural difference played a role in the design and research process and how could this be improved?

Senegalese people were found to be very welcoming and enjoyed displaying their culture to me as a foreigner. Some of the cultural difference which provided hinderances were mainly the local language which I couldn't speak. But as the majority of people spoke French it was still possible to have

conversations. Secondly, the daily lifestyles of people in Senegal are relatively divided by gender. Therefore, I was able to witness conversations and informal social activities with mostly the men in the village. For future research, it is advised to have a guide who speaks the local language and is as invested in the research questions as the researcher him/herself. Secondly, the interpreters of the data should include both at least one woman and one man who explore the social dynamics individually in order to get accurate results first hand.