

Reassembling Communities

Adaptive Architecture Integrating a Vulnerable Community Through Modular Design

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Keywords

Marginalized, Social Cohesion, Assemble & Reassemble, Connectivity, Architecture

Problem Statement

The city of Copenhagen, such as other big cities around Europe, has a significant separation between communities, especially in the outskirts of the city. Such is the region of Amager-Vest in Copenhagen and more specifically the area of Sundholm, which is described as a marginalized neighbourhood where certain problems prevail, such as crime, safety concerns, and mobility. Social issues are also dominant in the area, signified through the segregation of the community, which is magnified through the lack of inclusion and lack of meeting spaces in the neighbourhood (Andersen 2023). The neighbourhood has been previously placed on the “ghetto list” which presented the area with a bad reputation that remains to this day. Separation between the people of Copenhagen retains on the economical differences between areas and the ethnical background of the population. This problem is magnified in the Sundholm area, as it characterized as a low-income area with a significant percentage of the population having a non-Danish background (City Population 2024). Hence, my research problem will be regarding in what ways can this social exclusion be minimized through creating accessible public architecture that provides basic public functions and improve the quality of life of the neighbourhood.

Research Question

In what ways can social integration and inclusivity be fostered in a marginalized neighbourhood through designing accessible public facilities, creating spaces where people can come together and through sustainable practices, such as modular design?

Sub-Questions

1. In what ways can the architectural design and strategies of a public building, such as connectivity and openness and closeness, benefit the social inclusivity of a neighbourhood?
2. In what ways can the Danish principles of sustainability be implemented in the design of the public building, such as reuse, resilience and modular design?

3. In what ways is the prospect-refuge theory implemented in the design of a public building and how does it benefit a marginalized and segregated community?

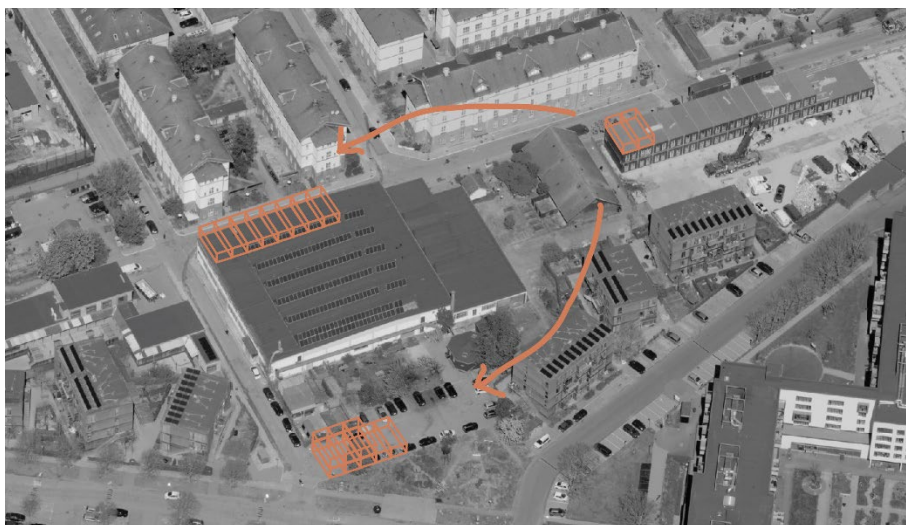
Significance

The area of Amager-Vest, especially Sundholm, is described as unsafe and one that people tend to avoid. The area consists of multiple social housing projects, homeless shelters, juvenile detention centre, educational institutions and residential buildings. Hence, it contains a very diverse mix of amenities, however taking a closer look at the public amenities and public spaces, the neighbourhood does not provide much variety in that aspect. After researching the area and conducting interviews, it was found that one of the biggest issues in the neighbourhood is the lack of safe meeting spaces and connections through the area. Hence, it is crucial to design a public condenser that would provide space for people to come together despite their differences, which would strengthen the identity of the neighbourhood. Such public space would bridge the physical gap between the vital necessities people need in their daily lives, which would improve the overall quality of life and promote healthiness.

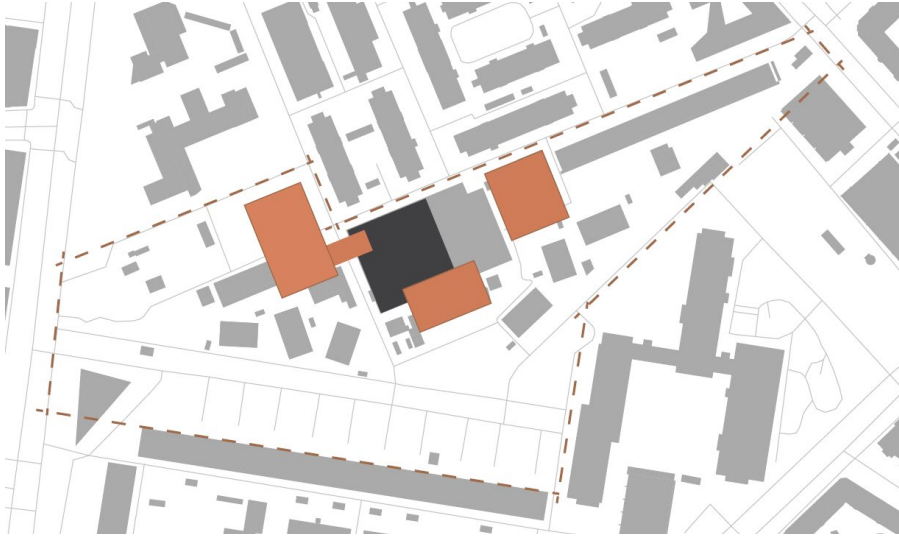
Approach/ Method

The design of the public condenser would aim at following the five architectural pillars: multiplicity, hybridity, resilience, sustainability, and healthiness, while implementing the Danish principles of design. Examining the design plot area reveals several conclusions: the majority of the plot is already developed, lack of greenery and inadequate connections with the surrounding areas.

The design approach would be to limit the resources used and provide sustainable and resilient solutions. Hence, certain parts of the plot would be reused or readapted, such as the factory building, occupying a significant area of the plot, which would be reused. The temporary school, which is made of modular containers, would be reassembled in different places, as shown in the diagram below.



The design process progressed by incorporating additional buildings and programs around the factory building, which was established as the central structure of the project. Three buildings were subsequently added to the main one, each exploring a unique connection – attached, semi-attached and detached – providing a greater variety and design possibilities, while also enabling a new type of relation to be explored – public square.



Through interviews conducted in the area it was established that the people of the area are very separated with one another, as each stay in their own area, as they lack incentive to do otherwise. In research conducted by the Rasmus Andersen, who is part of a team currently redeveloping and revitalizing the area, conclusions were drawn that the majority of the residents of the area state that there is a lack of meeting spaces and greenery, which greatly influence the cohesion and collectiveness of the neighbourhood (Andersen 2023).

Moreover, in the book “Whose Public Space” a study was conducted in a similar marginalized neighbourhood, as to how to improve the collectiveness and inclusivity. An observed perspective was that “when public spaces allow differences to be expressed, they can contribute to a sense of well-being in the resident population”, emphasizing the need to create public spaces that embrace the differences of a community, rather than gentrify it (Madanipour 2010).

Linking back to a research question, in what ways can inclusivity be implemented through architectural design strategies? The public condenser should revitalize the public domain through introduction of communal spaces, where people can come together. Taking into consideration the segregated nature of the neighbourhood, accidental meeting spaces should take precedence in the design, which would promote all the different groups of people to engage with each other, despite their differences. Hence, aligning the ideas of the public condenser with the Danish Welfare principles, as referred to in the book “Forming Welfare” (Lotz 2022).

The ground floor becomes a vital part of the inclusive design, as it is the most frequently interacted-with one. Thus, the functions placed on the ground floor become essential. The design of the plinth and the façade are intrinsically tied to the connectivity between the people and the building. Hence, an interplay between the openness and enclosure across

various parts of the building, including the façade, display both the inviting nature of the public buildings and the functions within.

This creates a concept of 'inside-out', shaping how the public building is perceived from both exterior and interior perspective. However, linking back to the ground floor, this distinction between inside and outside must be non-existent to eliminate the boundary between the exterior and interior, making the building more inviting. The functions on the plinth level would be essential to integrate and bring people together. As such, the ground floor of the factory would be transformed into a food hall – a perfect example of uniting people through the universal language of food while celebrating their differences. Other functions that would be dispersed around the buildings would also aim at fostering connections and bringing people together. These would include a café, library, theatre, art spaces, playground and workshops. However, the most important places would be those providing access to vital necessities, such as government offices, economic opportunities and, most importantly, resources helping individuals integrate into society.

Providing spaces where people can come together, feel safe and want to stay is essential for their comfort and, ultimately, their development. To achieve this, different levels of privacy would be introduced across the different floors. The ground floor would serve as the most public area, while more private functions, such as meeting and working spaces, would be organized on upper levels. This approach aligns with the prospect-refuge theory, which emphasizes designing spaces that are inclusive and diverse, while also providing safety and quiet places where people could retreat (Dosen and Ostwald 2012).

Another design strategy is circulation and overall connectivity, which presents vital in those three buildings, as each employs a unique method of connecting to the main building. The design emphasizes blurring the boundaries between the exterior and interior spaces, creating seamless connections throughout the different levels and surroundings buildings, embodying the motif of hybridity within the design project. A primary circulation path would be created following the exterior square, seamlessly linking to the factory building and extending through its levels to connect with the semi-attached building on the plot. This circulation would influence a more open façade design, subtly reflecting the circulation route behind it.

Apart from building interventions, another important aspect is improving the overall infrastructure and greenery of the region. Through interviews it was concluded that the area lacks green spaces and sufficient infrastructure, especially in the area of Sundholm. Hence, essential walking paths would be introduced in the area that better connect the different parts of the neighbourhood, which would be integrated with more green spaces.

Aim/ Objective

Therefore, the aim of this research is to investigate how a public condenser building can be designed to integrate a marginalized and separated community where they could all come together and improve the overall cohesion of the area. Thus, the objective of this research mainly relies on creating accessible spaces, improving the interactivity and engagement of the community, hence, improving the relation between the building itself and the public, while also lowering the physical boundary of using essential and public facilities.

Contribution

The public condenser would improve and revitalize the area through introducing communal and social spaces where people of the neighbourhood would be incentivized to go, as it will include essential public functions, as well as green spaces. Hence, the condenser would promote healthiness through its elements for environmental and human health.

Annotated Bibliography

1. Andersen, Rasmus. Interview with members of the community of Sundholm. *Research and Interviews in Sundholm, Copenhagen*. Conducted in 2023.
 - Rasmus Andersen and his team conducted multiple surveys and interviews with the community of the Amager-Vest area in which they asked the people of what they would like to improve in the area. These data were presented to us, which presents changes they want implemented, what they find unsafe and other ideas.
2. City Population. "Amagerbro Vest (Suburb, Denmark)." Accessed November 8, 2024. https://www.citypopulation.de/en/denmark/copenhagen/admin/amager_vest/21201_a_magerbro_vest/.
 - The website provides statistics of Copenhagen and its different regions. The data used from the website is the ethnic background of the different neighbourhoods.
3. Dosen, Annemarie S., and Michael J. Ostwald. "Prospect and Refuge Theory: Constructing a Critical Definition for Architecture and Design." *The International Journal of Design in Society* 6, no. 1 (2012): 9–24.
 - This research paper provides good insight into the prospect-refuge theory and how it translates into the architectural design.
4. Lotz, Katrine, ed. *Forming Welfare: Design in a Nordic Context*. Copenhagen: Danish Architectural Press, 2022.
 - This book presents the essential items into the Danish context and their principles. Giving an insight into the Welfare state, which is crucial in their living and building policies.
5. Madanipour, Ali, ed. *Whose Public Space? International Case Studies in Urban Design and Development*. New York: Routledge, 2010.

- This book gives an insight into the nature and design of public areas, while providing different examples of redevelopments and revitalizations of different problematic areas. Two case studies stand out, such as the investigation of the different marginalized neighbourhoods around Europe, and of public spaces in low-income neighbourhoods in Mexico.

6. Statistics Denmark. "Statbank Denmark." Accessed November 8, 2024.

<https://kk.statistikbank.dk/statbank5a/SelectTable/omrade0.asp?SubjectCode=303&PLanguage=1&ShowNews=OFF>.

- This website provides statistics for the different regions of Copenhagen, such as annual income of the regions, ethnical background and overall data for the population of Denmark.