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reflection.

THE RELATIONSHIP BETWEEN THE GRADUATION TOPIC, THE URBANISM TRACK, AND THE MSC PROGRAMME.

This graduation project is linked with the Urbanism Track and graduation studio, Planning Complex Cities, through research that focuses on changing the arrangement of spatial development patterns and planning systems in the contested environment of São Paulo. The contribution of this research to the graduation studio involves the exploration of creating a strategic framework for socio-ecological resilience in metropolitan regions riddled with tensions and walls. In regards to the graduation programme, this thesis contributes to the built collection of master research through the exploration of the spatial perspective of complex issues of socio-economic vulnerabilities exacerbated by the rising effects of climate change and ecological degradation in the context of the Global South. A context that is not exposed enough by the international teachings of this master's program.

RESEARCH APPROACH

The approach at the beginning of this research was oriented toward the focus on social vulnerabilities in extremely marginalized communities within the city of São Paulo. Primarily centering around the spatial polarization of communities and the enactment of both physical and non-physical walls present in Brazilian society. However, as the research continued to formulate into a thesis, I developed further insight into the pressing risks and vulnerabilities that these marginalized communities continue to face every day as a result of historical isolation. Additionally, the lack of published research I found in relation to this topic while on the other side, the abundance of explorative and investigative research into the primary topic of this thesis established a need to adapt to the research gaps. Thereby, this research has been adapted to respond to these pressing issues encountered in the process. This leads to the subjects of socio-ecological resiliency to combat the increasing vulnerabilities and risks that communities, especially historically marginalized neighborhoods, face in the present day.

The impacts of climate change, patterns of ecological degradation, and a historical pattern of social segregation formulate a topic of extreme complexity; one that is impossible to fully grasp in the one-year period of this thesis. Thus, this research focused on the production of outcomes that this thesis found to be necessary for the trajectory of developing solutions to this complex, wicked problem. In line with that, this research does not adhere to a set or traditional urban design solution but rather explores social, ecological, and political opportunities. The outcomes of this thesis were formulated into four final products outlined on different scales: a

vision of development for the metropolitan region, socio-ecological strategic actions or guidelines, local adaptation of the guidelines in a spatialized environment, and an informational manual. Each outcome is framed as a valuable piece that corresponds to gaps found in the Brazilian societal and planning system through the analytical framework.

RESEARCH METHODS

The methods for data collection and analysis that were established in the preliminary stages of this thesis predominately held true. However, towards the end of the research, the methods were partially adapted with the addition of a new technique. As a response to new knowledge found through the analytical framework of socio-ecological systems and socio-economic vulnerabilities, the method of an online survey questionnaire was introduced to this research in later stages. Initially, the method of a survey was not incorporated into this research, with the main approaches on the analytical framework set up as transcalar mapping, stakeholder analysis, data analysis, and more. However, as new barriers present in Brazilian society to implementing climate adaptation solutions were uncovered, it became evident that gathering on-the-ground insight from the employees of the organizations and companies that were under study would become crucial. Although introducing the survey in the earlier stages of this research would have been beneficial to allow an opportunity of receiving more feedback, this method

still had substantial influence over the direction of this research. Regardless of the time constraints, the outcomes of the survey resulted in reflections on the role of urbanism in tackling an enormous and multi-scalar issue.

ACADEMIC AND SOCIETAL VALUE

This thesis project addresses a critical issue in the field of environmental justice by examining the relationship between socio-spatial inequality and environmental degradation in the context of Brazil. The findings of this research have significant implications for addressing the challenges faced by many societies worldwide as they struggle with the effects of historical rapid urbanization, increasing inequality, and a lack of resilience in the face of an uncertain future. The trends of poorly planned urbanization in combination with increasing pressures from climate change on socio-ecological systems reveal the unpreparedness of cities worldwide to face these challenges. Socio-spatial inequality and sustainability are terms widely used in the development of cities. However, often, the effects of plans and designs on already marginalized communities are overlooked. These challenges disproportionately affect lower-income communities, widening the gap between the rich and poor and exacerbating vulnerable communities, pushing them into unprotected environments susceptible to dangerous socio-environmental events and risks. This project aims to expose and raise awareness of the need for ecological action to promote trust and justice within societies

exacerbated by these challenges. Previous planning systems and tools in São Paulo have attempted to mitigate segregation and fragmentation through policy tools and local-scale designs. However, these efforts have been largely ineffective due to a lack of a broader vision for the city's development. This thesis offers an alternative approach by highlighting the importance of understanding socio-ecological systems and using this knowledge to guide the development of a just and equitable society in the Global South. Furthermore, this research contributes to the knowledge systems of Brazil by providing valuable insights into the shortcomings of current practices and offering new strategic proposals that promote social and environmental justice in vulnerable areas, increase their resilience, and integrate these communities into the formal fabric of the city. Overall, the analytical framework of this thesis can play a valuable role in promoting sustainable and equitable strategies for development in Brazil.

ETHICAL DILEMMAS

The most evident ethical dilemma of this research, which was apparent from the beginning stages, was the limitations of developing a thesis in a context that lies on the other side of the world. On several occasions, concerns were brought up if this research would be possible with these prominent limitations of access to local data and access to the site. Especially as this research was exploring an extremely complex issue in a very contested environment, however, this concern

was addressed throughout the thesis with an extensive and comprehensive analysis of digital data that was available through various data platforms and sources. Although there were barriers to gathering data on small-scale elements (factors on the district scale in terms of topography, housing types, demographics, etc.), it simply restructured this research to focus on a more extensive and holistic dimension rather than developing a thesis proposal that centers on the small-scale. Through alternating the scale of the thesis, it provided a focus on developing strategies and strategic interventions that can be applied to various contexts within the Brazilian landscape. However, with the necessity to elaborate on a broader scale came the importance of incorporating governance and economic models into the research. As time is constrained through the development of this thesis to a one-year period, these subjects were not developed to their fullest potential. Thus, providing an important topic to be further explored by an alternate team of researchers or professionals. On another note, the ethical implications of a researcher's background and its influence over the thesis subject are vital to consider in any research. Therefore, it becomes crucial to acknowledge that although the research stems from personal ties to Brazil, my background is not grounded in the local context of this thesis. The process of this research prepared for the potential bias arising from a Western background by structuring the selection of mentors towards those that possess local knowledge of the context. As well, mitigating the bias influences by grounding
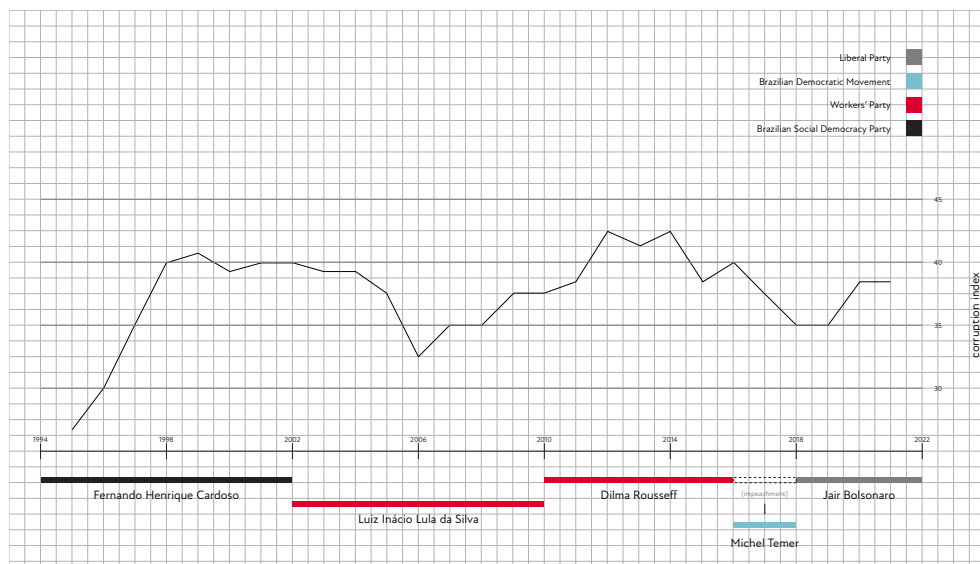
the research in extensive contextual and data-driven analysis. Although our roles as a designer require taking a critical stance and in various instances, applying our background and passionate opinions towards research proposals, continually reflecting on personal biases and engaging in critical discussions contribute to providing a comprehensive response to various ethical concerns.

RESEARCH LIMITATIONS

Lastly, the complexity of issues that involve the adaptation of environmental risks and the alleviation of social inequality have continuously been linked to the limitations bound by political polarization, oppressive administrations, and corruptive practices in Brazilian governance. As explained briefly through the research, this thesis developed alternate strategies that cover the discourse over the execution of plans or policies by enabling more accountable and transparent systems. However, it is important to stress that although our roles as urban planners or designers are impacted by these political systems and practices, these limitations are present in every aspect of research and are often too complex for a one-year thesis. Thus, additional interdisciplinary research is required within this field of discussion to adequately address these limitations of extreme political polarization and corruption.

The corruption perception index from Trading Economics ranks countries based on how corrupt their public sector is percieved to be from a scale of 0 (highly corrupt) to 100 (not corrupt). Brazil, *as of December 2021, is ranked with a corruption index of 38. Which is equivalent to countries such as Turkey, Serbia, Argentina, and Indonesia.*