P4 and P5 Reflection

In the above graduation topic I have tried to understand and compare the socio- economic processes of two urban cases in San Francisco bay area to understand the elements of its urban and social systems and arrive at comprehensive design strategies that increases the capacity to manage flooding and guide developments towards a resilient future. This comparative approach has guided me to understand how socio- economic systems evolve in a similar regional context of San Francisco bay based on several externalities that mould its unique social systems. The question that is raised is how these systems will evolve in the context of Climate change, which is a global trend. The important element of this comparative research study is the strong contrast between its socio- economic systems. Looking towards a specific outcome for comparison the two cases chosen are East Palo and Foster City which are located on the south bay.

Just a few miles apart, the two city are located on the edge of the bay with high threat towards sea-level rise inundation and inland – flooding. In the regional context both the cities have a pressure for development from Silicon Valley however one has succeeded in absorbing these changes compared to the other. East Palo Alto has remained as a haven for Low- income communities and deprived of development with little or no access to basic infrastructure. The economic system has failed to add a fresh lease of life and continues to struggle to balance and uphold these communities. On the other hand the city of Foster city was conceived with careful planning and regulations that foresees a vision for higher quality of living and economic development. In this context of strong contrast it is not possible to arrive at single solution for adaptation that shall enhance the economic and the social systems.

The graduation lab of Delta Interventions is focused on the theme of adaptation by design in San Francisco bay region. The main method used in the studio is research by design and focuses on adaptation (resilience) to climate change. The relationship with the waterscape of the bay, its dynamics and the future challenges were the pre-requisites of the studio. A first look into the bay region clearly shows how the edge is being managed by several socio- economic systems that abuts the bay. In this contextual framework the first part of my regional synthesis was to understand these different edges and what type of social system exists around it. It is important to note that the bay region is a complex dynamic system and a region of disparity with both affluent and low- income communities that live and embrace the bay. We already know that low – income communities are more vulnerable to climate change and its threats (Jabareen, 2013). This formulated my first focus towards research to apprehend adaptation in two contexts. It is important to understand that adaptation is not a linear process but a transitional one which evolves over period of time based upon the change in local context and external influences(van Veelen et al., 2015). To understand adaptation is to understand the spatial – temporal change in different systems. The spatial- temporal change in different scales enables to establish cross scalar interaction of different elements. The methodology of 3x3x3 introduced as part of the graduation lab was certainly useful in my research. The mapping of the historical transformation of occupation, landscape and infrastructure elements did enable to establish connection between the regional scale and its impact felt at the local scale i.e. in the two cases. This was also helpful in understanding how the local economy was transformed along with the social system that is moulded into the current urban structure. The historical development of both the systems also depicts the contrasting change that has occurred with an image of the past identities of the two

cities that has been transforming over the years. This was also a key component in formulating specific visions for both the cases that dictates design strategies to implement adaptation principles in its individual context.

Process

The two main components of research was Flood risk analysis and the urban spatial structure. As an important tool of graduation lab, the method of mapping inundation to understand risk and its consequences was extensively useful in risk assessment. The mapping in two cases shows the differences in risk and the type of risk management that is employed to reduce risk. I tried to formulate a hypothesis by understanding the relationship between risk management and type of social structure by comparing the two cases. Upon research the hypothesis was more or less found true, however there are several other external elements that play an important role towards risk management for example the political willingness and planning. A cash- strapped East Palo Alto makes little effort towards providing high level of protection from floods towards its residents where as an affluent Foster City has good resources to provide a certain level of protection. Thus the socio – economic systems determines the type of flood risk it faces. Another important element of understanding flood risk in terms of resilience is by measuring its capacities in terms of threshold, recovery and adaptive capacities(De Graaf, 2009). The capacities are measured by analysing flood risk management and designed probability of floods. This comparative analysis represents the resiliency of both the cases and adds to the component of design on how to increase its capacities and how much has to be done as part of an adaptation strategy.

The second component of research by design was to understand the urban structure of both the cases by making an inventory based on the principles of sustainability (4Ps)(Van Dorst and Duijvestein, 2004). The synergies between the various elements shows what do these socio-economic systems value. In the case of East Palo Alto it is visible that certain basic elements such as pavements or an open space may not exist, which may not be the concern of its residents. As a Low income community, a shelter on their roof and food on their table may be their top priority. The socio- economic system adapts to its societal conditions and needs, however as a designer it is important to consider and balance these systems and values, taking into considerations the grievances of the social systems and looking towards a holistic solution. This also defines the ethical dimension of this project. The comparison of values and synergies determines what is lacking and what's best for both the cases. The element of spatial quality is also assessed to understand what is desired. An eye level perception shows how the social landscape determines the cultural and the ecological landscape. This contrasting differences in both the cases helped me steer towards design strategies that vary in each case and tailor made to its urban contexts.

Planning

Translating these research findings into elements of design was not an easy task. I did feel a lack of 'vision' at a point in my project. However formulating urban visions for both the cases based on their socio- economic conditions was an important task to process my design and strategies to be specific to its contexts. The important note about the design objective was about the integrative approach. The design strategies, specific to its socio – economic context attains a certain quality of integration to achieve multi- benefits that can build on resilience of its societies. The design also manifests on how the transformative nature of the landscape is stitched into the socio – economic process that adds new values, synergies and spatial quality.

References

DE GRAAF, R. E. 2009. Innovations in urban water management to reduce the vulnerability of cities: feasibility, case studies and governance.

JABAREEN, Y. 2013. Planning the resilient city: Concepts and strategies for coping with climate change and environmental risk. *Cities,* 31**,** 220-229.

VAN DORST, M. & DUIJVESTEIN, C. 2004. Concepts of sustainable development-The 2004 International Sustainable Development research conference–Conference proceedings 29-30 march University of Manchester. *University of Manchester, United Kingdom*.

VAN VEELEN, P., VOORENDT, M. & VAN DER ZWET, C. 2015. Design challenges of multifunctional flood defences. A comparative approach to assess spatial and structural integration. *2015,* 3**,** 18.