



**Final Year Project Showcase Batch 2019
Year 2023**

Department: Architecture and Planning Programme: <i>Development Studies</i>	
1	<p>Project Idea</p> <p>Impacts of Housing Design on the health of the residents: A comparative study between high rise - high density and low rise - low density housing.</p>
2	<p>Process</p> <p>The idea was developed with the common observation of rising trends of some health issues (diseases) in the past 10 years (2009-2019) in Pakistan and most of the diseases out of them, turned out to be NCDs (non-communicable diseases) which are non-infectious diseases but leave a long term effect of human health as well as occupy medical resources in terms of hospital space. Along with this rising trend of NCDs, a surge in increase of high rises has also been observed in Karachi and these facts were later on confirmed by extensive literature review.</p> <p>So the hypothesis of the research became that since both variables have shown a visible increase in past years, there must be some connection between them and the objective of the study was to see if there is any connection between the mentioned two variables and if there is, then what the impacts of housing design are on the health of the residents and if there are any difference in the impacts in high rises as of low rises.</p> <p>Literature review also highlights the previous policies of health and housing and existing bylaws different agencies in Karachi such as SBCA, DHA, etc. It also mentions the relevant acts for both, health and housing.</p> <p>For qualitative data collection, interviews of 80 recipients were conducted in person through extensive survey which includes visiting the houses, making architectural plans of the visited house, taking pictures with the consent of interviewees. Prior to interviews of recipients, key informants, people who have command on the topic were interviewed in order to make a questionnaire for recipients. Key informants involves, Mr. Arif Hasan, Dr. Murk Qazi, Dr. Noman Ahmad, a few doctors from PMA including Dr. Ali Mirza and others.</p> <p>For quantitative data collection, smart band (xiaomi band 7) was used to collect real time and continuous data of 9 recipients and blood tests were conducted of 6 recipients from DPW Lab. For quantitative data, funding was provided by NESDAASC of Rs. 1,04,000.</p>
3	<p>Outcome</p> <p>The hypothesis was proven right. There does exist a connection between health and housing design and people residing in high rises are at vulnerability but people of high rises informal are most vulnerability. Whereas, people low rise on the other hand are at benefit and ease.</p>
4	<p>Evidence (Theoretical Basis)</p> <p>The problem statement emphasizes the lack of comprehensive understanding regarding the influence of housing design on health outcomes, especially in high-rise and low-Rise typologies. This research aims to bridge this gap and explore the nuanced Relationship between housing design and residents' health.</p> <p>The research revolves around the idea of a possible correlation between these mentioned variables and to understand the intensity of issues in high rises, the study draws a comparative analysis with low rises which is categorized into five main heads</p>



	<p>of the design in order to assess its impacts on health, which involves physical activity, Cross ventilation, sunlight exposure, overcrowding and privacy. These heads are extensively researched and further classified to identify the impacts on physical health along with the mental well-being of the residents.</p> <p>The research contributes to Sustainable Development Goals, particularly Goal 3 (Good Health and Well-being) and Goal 11 (Sustainable Cities and Communities).</p> <p>Overall, the outcome reveals that high-rise design negatively affects the physical health as well as mental well-being of the residents. Whereas, in low rises due to the availability of green spaces nearby, proper distance between the buildings and adequate availability of windows and open spaces, helps a lot with cross ventilation, sunlight exposure and increased physical activity of especially women and children. These findings emphasize the need for health-oriented planning and architectural considerations to improve the quality of life of the residents.</p>
5	<p>Impact on Sustainability of Urban Regions or SDG-11 “Sustainable Cities and Communities”</p> <p>SDG#11: Sustainable Cities and Community, by highlighting the aspects needed in and around a living space that develops a society, strengthens social ties and also essential for positive infrastructural development that does not harm human health.</p>
6	<p>Competitive Advantage or Unique Selling Proposition</p> <p>The study is a social sciences study that is highly qualitative in nature but for the triangulation of data, the study also contains quantitative data that proves the problem. The researchers have used recent and advanced methods such smart band to collect data (sleep score heartbeat, blood pressure, calories burning and daily steps taken and where the smart band's features (blood culture, sugar count, vitamin D count, etc.) fall short, blood tests were conducted. To ensure the authenticity of data, credible brands were used.</p> <p>The study does not only identifies the problem, proves it through qualitative and quantitative methods and analysis but it also proposes a solution of how to counter and reduce the problem.</p>
a	<p>Attainment of any SDG (e.g. How it is achieved and why it is necessary for the region)</p> <p>The research targets SDG 3 and SDG 11:</p> <p>SDG#03: Good Health and Well-being, by identifying what are the potential aspects and features of a living space that needs to be taken into account so that one's health, physical and mental well-being, both, are not negatively impacted.</p>
b	<p>Environmental Aspect (e.g. carbon reduction, energy-efficient, etc.)</p> <p>Our research indirectly addresses environmental aspects by emphasizing the importance of housing design in promoting physical activity, reducing stress, and improving mental well-being. These factors contribute to a healthier and more sustainable urban environment</p>
c	<p>Cost Reduction of Existing Product:</p>



	While our research doesn't directly reduce the cost of existing products, it can inform cost-effective design assessment and strategies for new housing projects that prioritize residents' health and well-being.						
d	<p>Process Improvement which Leads to Superior Product or Cost Reduction, Efficiency Improvement of the Whole Process (e.g. What is the issue in current process and what improvement you suggests)</p> <p>The project that was proposed as a solution was to develop a tier/ranking system that categorizes the housing type and a house on the basis of health. Different levels/ranks are defined with detailed explanations of the characteristics that make a house fall on a particular rank. On the basis of these rankings, certification will be provided to builders and developers which will encourage them to keep healthy housing as one of their focuses as eventually it benefits the market and increase property value.</p> <p>Currently, no such system of that sort exists. The only classification of housing property exists is on the basis of property value in different zones/areas. Health is nowhere near in the process of housing design development and construction.</p>						
e	<p>Expanding of Market share (e.g. how it expand and what is the problem with the current market)</p> <p>The solution will lessen the burden on the hospitals of NCDs. It caters to the health market. The solution will attract architects, planners, health practitioners, builders, construction engineers, and policymakers. It will open new opportunities for all the mentioned professionals in the existing market.</p> <p>The existing market does cater to all of them but in isolation and which is why our development projects are not sustainable. The solution will bring everybody on board and is an effective, long-term solution that is sustainable and does not require much cost but efforts.</p>						
f	<p>Capture New Market (e.g. Niche market or unaddressed segment)</p> <p>Our research doesn't target specific market segments but offers insights applicable to urban planning and housing design in Karachi, addressing the needs of the growing population.</p>						
g	Any Other Aspect (Please tag it like above options)						
7	<p>Target Market (Industries, Groups, Individuals, Families, Students, etc) Please provide some detail about the end-user of the product, process, or service</p> <table border="1"> <thead> <tr> <th>Primary</th> <th>Secondary</th> <th>Tertiary</th> </tr> </thead> <tbody> <tr> <td> <ol style="list-style-type: none"> Government Authorities(SBCA, KDA, LDA) Housing Developers and Builders Health and Public Health Agencies </td> <td> <ol style="list-style-type: none"> Architectural and Urban Planning Professionals Community and Resident Associations Academic and Research Institutions </td> <td> <ol style="list-style-type: none"> Non-Governmental Organizations (NGOs) focused on housing, public health, and community development Advocacy Groups Residents and Community Members </td> </tr> </tbody> </table>	Primary	Secondary	Tertiary	<ol style="list-style-type: none"> Government Authorities(SBCA, KDA, LDA) Housing Developers and Builders Health and Public Health Agencies 	<ol style="list-style-type: none"> Architectural and Urban Planning Professionals Community and Resident Associations Academic and Research Institutions 	<ol style="list-style-type: none"> Non-Governmental Organizations (NGOs) focused on housing, public health, and community development Advocacy Groups Residents and Community Members
Primary	Secondary	Tertiary					
<ol style="list-style-type: none"> Government Authorities(SBCA, KDA, LDA) Housing Developers and Builders Health and Public Health Agencies 	<ol style="list-style-type: none"> Architectural and Urban Planning Professionals Community and Resident Associations Academic and Research Institutions 	<ol style="list-style-type: none"> Non-Governmental Organizations (NGOs) focused on housing, public health, and community development Advocacy Groups Residents and Community Members 					
8	<p>Team Members (Names along with email address)</p> <p>Tooba Binte Arif – tooba101arif@gmail.com Shamama Waqar – wshamama2@gmail.com</p>						

		Ghania Tabassum - ghania.tabassum@gmail.com Noor ul Ain - arainnoor071@gmail.com
9	Supervisor Name (along with email address)	Dr. Saeed uddin architectsaeed@yahoo.com
10	Pictures (If any)	



