



**Final Year Project Showcase Batch-2016
Year 2021**

Department: Architecture and Planning		
Programme: Architecture		
1	Project Idea	<p>Climate Responsive Architecture through Energy-Efficient Designs. Building Design Parameters for Integrating Active and Passive Systems in Karachi.</p> <p>The concept of the project to provide spatial, visual and aesthetics metaphor to the user of the project, providing relief to them by initiating available <i>natural resources</i> and their usage that somehow make architecture as responsive.</p> <p>Few points that will spark an idea on a macro level, and then become contributing aspects in reducing pollution and carbon footprint of our developments</p> <ol style="list-style-type: none"> 1. Questioning the Bye laws <ol style="list-style-type: none"> a. Bye laws reformation related to Urban Farming b. Less built criteria equates to less environmental damage.
2	Process	<p>The project's design incorporates both active and passive energy sources that are required for the operation of offices, apartments, and the Urban Farm. The idea is to integrate active and passive systems to make a design responsive in terms of karachi and the context in which it is built up to reduce carbon footprint and create an environmentally sound environment with biophilia (nature/green elements that fulfills human requirements and provides comfort)</p>
3	Outcome	<p>It's a mixed-use space or environment where <i>offices</i> and <i>apartments</i> coexist with the <i>Urban Farm</i>. The farming concept introduced in serach for the climatology in reference to the site, the grey water of Nehr-e-Khayyam would be recycled and used in <i>Urban Farming and Gardening</i> and have micro and macro impacts on the site employing site available parameters (as in my case, Water, Wind, Sun, and Temperature). There is a provision for market area to provide relief from buying and selling at the site which is a major disturbance factor at clifon block 5. There is a parking area underground for the visitors, workers and residents of the site. This initiative would bring ease to the life to the people of corporate world at the site surrounding the area, because it will evacuate the path of mafias entrenched at this block, This design meets the demands and criteria of the community that lives on the site, allowing to benefit everyone in the area.</p>



4	<p>Evidence (Theoretical Basis)</p>	<p>Books</p> <ul style="list-style-type: none"> • Wolfgang F.E. Preiser. (2005). <i>Assessing Building Performance</i>. Burlington: Elsevier. • Juan Ren. (October 2013). High-Performance Building Design and Decision-Making Support for Architects in the Early Design Phases • Richard Hyde. (2000) <i>Climate Responsive Design</i> • A Study of Buildings in Moderate and Hot Humid Climate <p>Publications</p> <p>https://www.researchgate.net/publication/300250245_A_Case_Study_on_Passive_vs_Active_Strategies_for_an_Energy-Efficient_School_Building_Design</p> <p>http://www.duluthenergydesign.com/Content/Documents/GeneralInfo/PresentationMaterials/2014/Day2/coulca-passhou.pdf</p> <p>LEED credit library www.usgbc.org/credits</p> <p>Others</p> <p>www.suzlon.com/in-en/careers/one-earth</p> <p>https://www.archdaily.com/tag/urban-agriculture</p> <p>https://www.archdaily.com/964460/6-urban-design-projects-with-nature-based-solutions</p>
5	<p>Competitive Advantage or Unique Selling Proposition (Cost Reduction, Process improvement, Attainment of any SDG (Sustainable Development Goal), increase of market share or capturing new market or having superior performance over a competitor. In summary, any striking aspect of the project that compels the industry to invest in FYP or purchase it. Some detailed description is required in terms of how, why when what. You can select one or more from the following dropdown and delete the rest of them). Please keep relevant options, delete the rest of them, and correct the sequence</p>	
a	<p>Process Improvement which Leads to Superior Product or, (e.g. What is the issue in current process and what improvement you suggests)</p>	<p>The current industry practice replicates the design without taking into account location/site factors, or designers give it the lowest priority, resulting in a bogus construction.</p> <p>The design can satisfy all the needs related to people and the community if we consider the designs that underlie its ideology in the transformation of the city at the micro level through implementing the concept of green, relief and integrated designs.</p>
b	<p>Attainment of any SDG (e.g. How it is achieved and why it is necessary for the region)</p>	<p>SDG#3, Good Health and well Being Employees and inhabitants of the design can benefit from this post-covid design development strategy, in which they can enjoy fresh air, daylight, and natural features at the site via waterbodies, plantations, and harvesting, as well as experiencing and learning from this environment.</p> <p>SDG#6, Clean Water and Sanitation This goal can be reached by filtering of Nehre Khayyam sewage water on site, which can then be used for irrigation and harvesting to increase yield and crops.</p> <p>SDG#8, Decent Work and Economic Growth</p>



		<p>This entrepreneurship module will assist in the creation of jobs in the markets by assigning various tasks to foremen, laboratories, packing and sorting personnel, technical teams and supervisory personnel, workers, and sellers.</p> <p>SDG#9, Industry, innovation and infrastructure It's an ever-changing concept that contributes to economic growth by providing inclusive benefits to those who use the property for urban farming, harvesting, and selling at the market area.</p> <p>SDG#12, Responsible Consumption and Production The on-site use of natural resources, as well as their transformation into food production and harvesting, results in a healthy ecosystem. to reduce waste creation and maximize resource consumption to produce lifecycle impacts</p> <p>SDG#13, Climate Action Integrate climate change mitigation strategies into the design to reduce the proportion of the built environment that contributes to the urban heat island effect, and apply this knowledge to government policy and planning.</p>
C	Expanding of Market share (e.g. how it expand and what is the problem with the current market)	<p>Due to the limited resources available to farmers, there has been a drop in the inclination to cultivate crops as compare to its consumption; therefore, these types of efforts would result in a rise in production, lowering the price graph of fruits, vegetables, and other vegetables, as well as the inflation rate.</p> <p>Through the capitalization of the concept of urban agriculture, there is the potential of a vertical gain in market share and gross domestic product, and the property owner profits from this due to market share or depending on the capacity of production they are fulfilling.</p>
D	Capture New Market (e.g. Niche market or unaddressed segment)	Integration of Urban Farming with other urban functions
E	Any Environmental Aspect (e.g. carbon reduction, energy-efficient, etc.)	Carbon footprint reduction, Energy efficiency through Renewable energy sources
6	Target Market (Industries, Groups, Individuals, Families, Students, etc) Please provide some detail about the end-user of the product, process, or service	Global Market, employer/owner, Daily wage earners, office workers, farmers (community farmers/residences farmers), common man, Construction industry, Developer market and others.
7	Team Members (Names & Roll No.)	Abdul Rehman (AR-16033)
8	Supervisor Name	Madam Rahat, Madam Masooma, Madam Rabela Junejo, Sir Shabbir Kazmi
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10	Pictures (If any)	Attached Below

11 Video (If any)

<https://drive.google.com/file/d/1zAoKI-hMtPcj122u-NVvLTTojP7HUenCh/view?usp=sharing>



Views



Elevations



