

Beyond Books: A Blueprint For Libraries As Engines Of Community And Cultural Exchange

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ARTICLE INFO	ABSTRACT
Article History: Received: October 10, 2025 Revised: November 18, 2025 Accepted: December 04, 2025 Available Online: December 15, 2025	Libraries are entities that were always knowledge repositories, however, given the current digital age, they are losing their traditional purpose. This study investigated how a long held concept on library in Peshawar could be transformed into a vibrant community library center which promotes social, cultural, and lifelong learning. This project was meant to provide a space that is inclusive and a blend of modern digital facilities and vernacular architectural buildings by ensuring that the library is not only a place of book collection but also a gathering place. The study started with an opening to the downfall of libraries and their capability as a community center. This was intended to transform the library into a living library that would be an interactive and multi-purpose space that is accessible to all age groups that would facilitate creativity, sustainability, and education. The methodology involved comparison of local and international library models, site analysis and surveys to determine the needs of the community. In comparative analysis, a study was made on effective transformations of libraries in other part of the world and best practices were identified. These findings showed that the space of a library may have a significant effect on community well-being when properly designed. The last design proposal was to have a library that incorporated passive cooling, natural light and flexible spaces and so it would be sustainable and easy to use. It includes interactive displays, silent areas, computerized media centers and outdoor reading space. This was supported by the conclusion that libraries ought to go beyond what they used to be, to be more social and cultural entities in the cities.
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Introduction

Imagine something where not only books but also where people can recuperate, meet and get motivated. The concept of this research project was precisely the following: to transform a traditional library in Hayatabad, Peshawar, into an active and interactive community space. This thesis, in a world whereby socialization with other people is often more about digital technology than the real geographical place, is that communal space is important. It dispels the old notion of a library being a silent, solitary zone of reading the literature. Rather, it suggests a dynamic space that accommodates people, which is where students, professionals, families, and seniors will get to learn, create and belong (Mukhtar et al., 2024). The project will transform the library into a living institution through the incorporation of flexible areas where workshops, cultural events, and collaborative work will take place to foster the community and personal development. It is a reaction to the increasing urban social disintegration, which provides a prototype of how common zones can become the core of the neighborhood community again.

The necessity of such a transformation is in a social need. In Hayatabad such as most region of Peshawar, libraries have mostly remained neglected and have not kept in pace with the changing needs of the diverse and expanding population (Bhatti et al., 2024). Their footfall has also been reduced due to the convenience of information online especially to the youth and a gap has been created where the community bonding and learning inclusive should be flourishing. This is where this study finds a significant gap: there is the lack of open, multifunctional community areas that can fight social isolation and promote a sense of belonging to a group. The paper assumes that libraries have untapped potentials to fill these divides. They may be re-engineered out of passive repositories into active living libraries - environments enabling co-creation, dialogue and well-being. This is not an architectural vision, but highly social vision in the efforts to reconstruct the community bonds that are being torn by urbanization and busy modern schedules.

This vision is architecturally expressed into the combination of numerous design goals that are a combination of the local and the global, the traditions and the modernity. The project has identified nine main objectives that are community integration, skill development, cultural preservation and sustainable design. It demands a kind of space that is a refuge and a workshop-space- with silent reading areas and digital media areas, domestic forms with an approach to modern interactive technologies. It incorporates sustainability in its design with passive cooling, natural lighting, and environmentally-friendly materials so that it can be environmentally responsible. More importantly, the design focuses on extreme flexibility and accessibility and forms flexible zones, which have the capacity to host exhibitions, collaborative work, recreational activity, and quiet study, making it inclusive to both children, the elderly, and differently-abled people. This is aimed at not only building a building, but a living and changing ecosystem to the community.



Figure 01 AI generated image of a modern library

The study has a clear connection to other general missions of human development in the world, which explicitly links the objectives to the United Nations Sustainable Development Goals (SDGs). It puts the new role of the library of being a direct contributor to Good Health and Well-being (SDG 3) through the provision of an enabling environment that alleviates loneliness, anxiety, and depression. It promotes Quality Education (SDG 4) through the process of lifelong learning, creativity, and skill-development regardless of age. Moreover, the project is actively supporting Sustainable Cities and Communities (SDG 11) because it leads to the creation of an inclusive, safe, and accessible public space. This correspondence raises the project to a local architectural intervention to one of a prototype of sustainable urban development showing how community infrastructure can respond to universal issues of well-being, education, and social resiliency. Thus to proceed ahead with research exploration, problem statement was formulated as shared below:

Problem Statement

Although libraries serve as a source of knowledge and community (with a long history in Hayatabad, Peshawar), they have since become redundant with the advent of digital technologies. They are considered to be space that is out of date, underutilized, and does not meet the modern social needs like the isolation of individuals and youth, the degradation of community ties, and the necessity of inclusive and lifelong learning. Such disconnection is a pressing issue: a precious resource of the community is simply going to waste, at the same time the society does not have a vibrant, hospitable center that would help develop bonding, imagination, and psychological health.

Based on the above problem statement, two major research objectives were set forth as stated below:

1. To explore and recommend architectural and programmatic plans to change the existing Hayatabad library into a multifunctional community center that enhances social connections, fosters inclusivity and mental health.
2. In order to come up with a sustainable and culturally resounding design prototype that is both vernacular and modern digital resource conforming, it is necessary to establish a versatile, adaptable and replicable model to the like city in Khyber Pakhtunkhwa.

This study is important because it can reinvent a new definition of what is considered valuable by the people in an ever-privatized and digitalized world. It does not remain on a theoretical level but instead offers a concrete human-oriented prototype of city space renewal. The reason why this research is significant is that it covers the silent epidemics of our age: the insularity and deterioration of common civic life. The project provides a direct solution to these problems as it demonstrates how a library can be reborn and turned into a living library which would allow people to find a community, purpose and support in a safe and stimulating and inclusive third place. It is a source of empowerment to the young people of Hayatabad, who can showcase their talent, churn out skills, and meet other people who are not burdened by the view of studying and pursuing careers. It gives the community in the wider society a cultural landmark and the celebration of local heritage as well as the acceptance of the future that fosters pride and renewed group identity. Besides, the study will play a significant role as a connection between the policy and practice. It provides a framework based on evidence which can be applied to redesign the community infrastructure by utilizing architects, urban planners, the local government authorities and local-private partnerships (PPP). The study presents relevant information regarding the needs of the stakeholders, sustainability in design application and cultural integration making the end design to be not only innovative but also grounded on the local context. The effective identification of the project with the global SDGs makes it a locally-based model which is replicable regionally and nationally and provides a blueprint, according to which Pakistan can create future-proof and socially responsive open spaces (Bhatti et al., 2024). Finally, according to

this thesis, the real value of a library cannot be measured by the number of books it possesses, but the rootedness of the human relations it builds. The great concept that this project holds is that, in developing these relationships, we are able to create healthier, stronger, and more lively communities.

Literature Review

Digital technology has changed the trends of learning, socialization and space interaction in fundamental ways that can be experienced by the modern youth. The millennials, post millennials and digital natives have been raised with smart phones, laptops, social media networks, and unlimited internet browsing (Tariq et al., 2024). The digital natives are able to access information immediately and may multitask and move around between both the physical and virtual worlds using various screens. Consequently, the historic has been transformed into a shallow and fragmented consumption of knowledge between learners and knowledge as opposed to a deep and linear interaction. Although technology has made information more democratic, scholars are increasingly claiming that the change has brought about a cognitive and social cost (Carr, 2011).



Figure 02 Library, Agha Khan University Library, Karachi

One of the most common effects of over-digitalization that is being discussed is the deterioration in the level of sustained attention and deep reading (Bhatti et al., 2024 B). Carr (2011) points out that the processes of reading, watching, and listening via hyperlinks, notifications, and multimedia content rewire human neural pathways, promoting the behavior of skimming over reflecting. To students this is translated in the form of lack of concentration, inability to retain information and a tendency of superficial learning instead of critical thinking. In addition, the long term screen time has been associated with eye strains, mental tiredness and loss of memory, and this brings skepticism on the long term cognitive wellbeing of young learners. Online databases, e-books, and search engines are no longer considered as secondary sources of entry into the world of information; they are now competing with the physical libraries. This has led to a decrease in the use of libraries and this has affected the young generations (Bhatti et al., 2025). But the loss of library culture is not just limited to the access of books. Historically, the libraries used to be reflective, socially learned and community based spaces. Their regression poses the threat of forming learning conditions of isolation, distraction, and diminished chances of shared intellectual development.

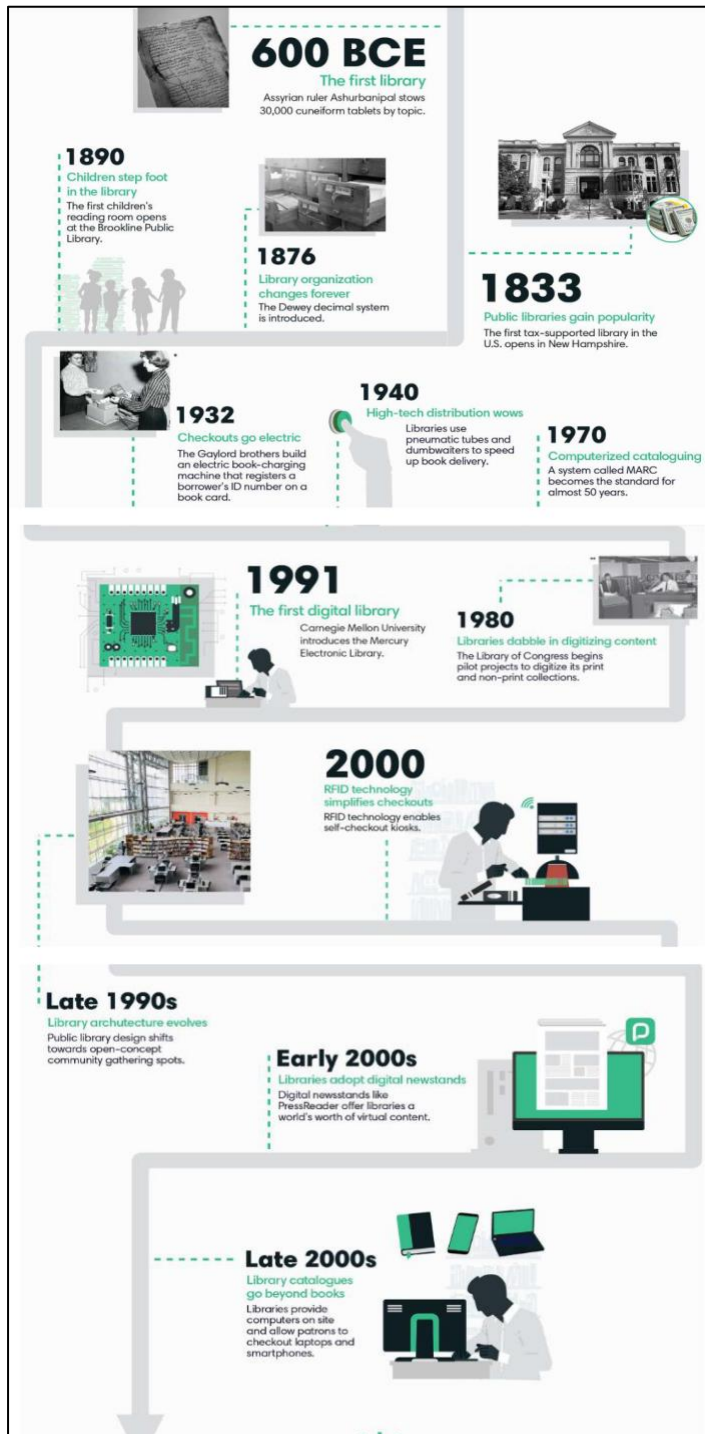


Figure 03 Evolution of Library Architecture & Typology over time

Although the student behavior and learning preferences have changed drastically, learning institutions have been lagging behind in this aspect as far as the spatial aspect is concerned. The layout of campus learning facilities does not represent the truth of modern education. A lot of academic areas are still inflexible, dull and do not reflect on what the students require. Whereas pedagogical discourse is progressively focusing on collaboration, creativity, and experiential learning, spatial layouts are still focusing on passive instruction (Bhatti et al., 2023). One-way communication lecture halls dominate the campuses and support the old teaching paradigms that do not find an echo in digitally fluent students.

Studies have shown that a considerable proportion of students take individual studies rather than group work, but campuses do not always have enough quiet and well-designed places to study (Bhatti & Huma, 2023). Although the libraries are no longer as dominant as book repositories are, they still enjoy favor as one of the best places where the individual can focus their mind. Students still relate libraries to quietness, order and intellectual sanity. They are however often constrained by overcrowding, ageing layouts and lack of spatial diversity. Meanwhile, collaborative learning in classrooms is never readily supported in any meaningful way. Inflexible seating plans, lack of flexibility and insufficient technological integration do not allow interactive participation.

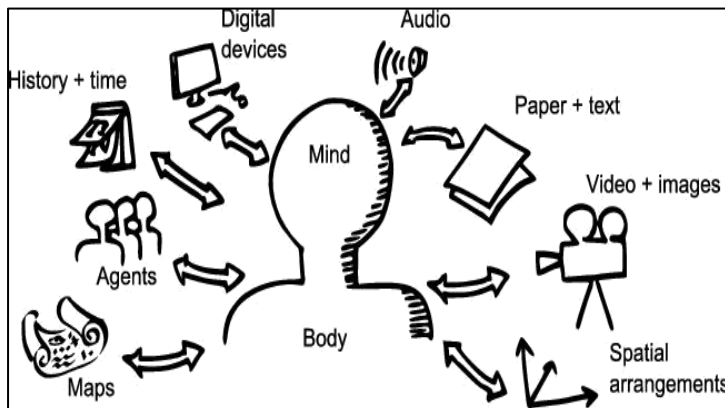


Figure 04 Diagram showcasing the versatile range of cognitive functions

Interestingly, studies have shown that technology has not played great role in contributing to quality of learning experience. In spite of the proliferation of digital tools, students are still forced to use old-fashioned study aids such as pen and paper. It means that the faculty of learning depends less on the degree of technology but is directly related to the environment, spatial comfort, and anthropocentric designs. Over-technologized spaces are lacking in experience which again supports the assumption that the learning environment must deem the emotional, social, and cognitive needs but not simply the introduction of the digital infrastructure.

To overcome these spatial and educational challenges, though, the recent literature is transforming libraries into community centers, rather than a source of information. A communal hub will be a location where social interaction, cooperation, and inclusiveness between the heterogeneous groups of users will be encouraged. Libraries are turning into complex civic places, in which people may gather within workshops, exhibitions, debates, cultural activities, and informal education. The shift can be said to represent a more recent understanding of knowledge as a social and not an individual process.

Architectural discourse has the capability to validate this change. Rem Koolhaas notoriously called libraries experimental and not preservative because they could easily fit the evolving requirements of the society. The Seattle central library is a good illustration of such philosophy in the sense that it is distinctly evident in its openness and flexibility of space that is not only friendly to an individual reader but also to groups. These libraries lie at the border of silence and interactivity, and it gives the user a choice of how he or she engages space and knowledge. By this, they create social cohesion, interdisciplinary dialogue and sense of belonging.

There are also communal libraries that play an imperative role in this aspect of addressing social fragmentations particularly in an urban environment. Libraries provide the only opportunity where individuals of various social, cultural, and age groups engage each other in an environment where computing takes place in an isolated environment with age where physical communities are deteriorating. This job is based on transparency, openness and inclusivity. Libraries also serve as

democratic institutions because they are free and accessible to resources, programs, and spaces to encourage lifelong learning and voter turnout.



Figure 05 Library interior by Frank Lloyd Wright

The interaction between the built environment and mental processes like attention, memory, perception and reasoning is what is called cognitive space. The architectural design is the key to the impact on these processes as it determines the sense experience and the emotional response.

Phenomenology is an architectural method that focuses on the influence of materials, light, sound and spatial ordering on the human experience. The work by Zumthor demonstrates that focusing on touchable surfaces, controlled acoustics, and carefully designed spatial transitions allows developing the environment that can stimulate more focus and affect the emotions. Natural light in libraries minimizes mental fatigue, acoustically the maintained attention in spaces is facilitated, and clear organization of space limits the cognitive load. All these factors lead to further learning and intellectual engagement.

The cognitive role of library spaces is also increased with the incorporation of nature. Being exposed to the natural surroundings has been found to enhance concentration, alleviate stress and help improve creativity. The libraries that include the appearance of greens, plants, and organic substances develop the settings that promote the state of mind and emotional well-being. These spaces make users stay longer, get more interactive as well as emotionally attached to the institution.

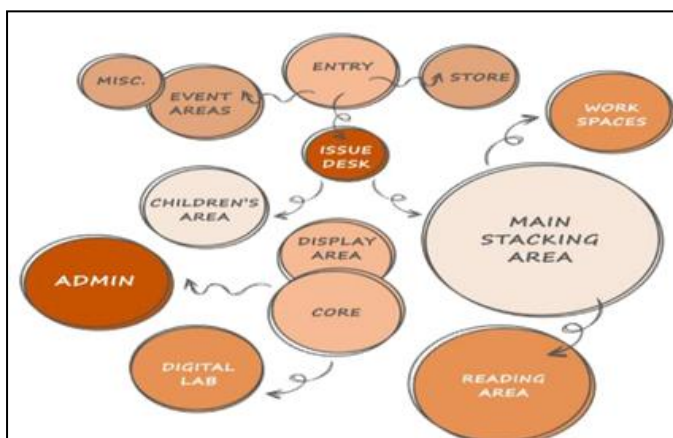


Figure 06 Bubble Diagram for Library Project

The literature reviewed, on the whole, points to the essential change in the capabilities of learning, sharing of knowledge, and engaging the community in terms of the digital era and speaks in favor of the fact that technological progress is incomplete to ensure effective education and intellectual growth. Although digital technologies have changed the behavior of young people and their access to information, they have also undermined the concept of deep attention, reflective learning, and socializing, revealing the drawbacks of the world dominated by screens. Libraries in turn have been responding by rebranding as hybridic, communal, and experiential spaces that focus individual attention and group activity together through flexible design, participatory models like Library 2.0 and Living Libraries, and historical inspired ideas such as Penny Universities. It is highly recommended in the literature that the library settings in the future need to include the elements of human-centered spatial design, biophilic concepts, cognitive ergonomics, and climate-responsive design to improve mental health, inclusivity, and sustainability. Nevertheless, there are many gaps in the empirical studies that associate particular architectural characteristics with quantifiable cognitive, social and behavioral phenomena, especially in the context of developing world and hot climatic areas like Pakistan. Evidence-based design evaluation, user behavior and post occupancy should therefore be emphasized in future study so as to develop designs that are in line with the goals of technological integration with environmental psychology, cultural identity and long-term sustainability to place libraries as strong knowledge infrastructures to the future generations.

Case Studies & Analysis



Figure 07 Multiple Case studies

The Quaid-e-Azam Library, Lahore, national case study is a historically important, but functionally limited, model of a public library infrastructure in Pakistan. Founded in the British colonial times and opened in the modern look in 1984, the library represents the neoclassical and Victorian architectural ideas with its monumental size, symmetry of the facade, Doric columns, and strong structure made of masonry. It is the place in the green landscape of Bagh-e-Jinnah, which adds to its cognitive and experiential value by providing a relaxing atmosphere to the

concentrated study. The library, in its functional aspects, has a large physical and digital collection and serves a wide range of users with auditoriums, exhibition halls, and research facilities (Library, 2021). Nevertheless, as the technology gets upgraded each time, the library is struggling with its accessibility, flexibility of space and future growth. The barriers to heritage preservation, restricted accessibility to people with physical impairments, the absence of special-purpose prayer areas, and the obligatory nature of paid membership makes it less efficient as a fully democratic and adaptive open knowledge building. The case points out the conflict between the architectural tradition and the modern practical needs of the system of the Pakistani public libraries.

The global case studies of Australia and regional example of India, on the contrary, foster progressive, community-related, and climate-responsive approaches to library and community hub design. In Nokha Village Community Centre, Rajasthan, India, the focus on vernacular architecture, passive design and social inclusiveness is made up of the curvilinear design, sandstone lattice screens, earth berms, rooftop gardens, and open-air amphitheater. These designs go a long way in minimizing heating and energy use and encouraging communal communication in a desert extreme environment. Likewise, the Surry Hills Library, Green Square Library and Springvale Community Hub of Australia have been an example of integrated public architecture where libraries have been used as hybrid civic institutions that merge learning, childcare, recreation, culture and social services. Transparency, accessibility, sustainability, and biophilic design are the focus elements of these projects with light wells, green roofs, photovoltaic panels, rainwater recycling, displacement ventilation, and flexible zoning. In contrast to the national one, these libraries actively serve different age groups, digital interactions, informal learning, and social interactions, making them look more as everyday urban living rooms than as a purely academic institution.

On the whole, the comparative analysis demonstrates that there is an evident difference between the traditional libraries, which are collection-centered, and the modern, people-centered knowledge centers. Although Quaid-e-Azam Library is very strong in terms of heritage value, spatial dignity and archival depth, it is not flexible, inclusive and environmentally responsive as the regional and international examples. The examples of the international practice show how libraries may effectively transform into multifunctional civic structures, which incorporate learning, culture, sustainability, and social life by means of flexible planning and climate-sensitive design. The given comparison highlights the necessity of developing libraries further in Pakistan in order to go beyond preservation-driven paradigm to turn to hybrid, biophilic and community-based typology. The combination of passive design aspects, flexibility in programming, universal access, and communal interaction, alongside respecting the cultural and climatic conditions, proves to be one of the crucial lines of bringing the libraries back to re-perceive them as strong and supportive urban institutions in the future.

Research Methodology

Site Selection & Contextual Analysis





Figure 08 Site Context study

Phase 2 site, Hayatabad, Peshawar has good strategic positioning because of the excellent site location, good interconnection, and near interaction with the educational, recreational, and civic systems of the city. Being located in a mature suburban environment with easy access to dense roads and transport, along with the BRT stops, students, families, and the general population will find it easy to use the site. The major facilities like schools, universities, parks, sports complex, commercial, as well as current civic center (Itwar Bazar), are located within walking distance of one kilometer, which reaffirms the appropriateness of the site as a people-oriented project. At the macro level, the location of Hayatabad in the proximity of the Khyber Pass and its accessible distance by road to the major cities of the region only add to the importance of the city. The weather conditions, position of the sun, wind patterns, and availability of utilities like water, gas, electricity, drainage, and sewage system give firm grounds of sustainable architectural intervention. All in all, the physical site access, land use in the area and future development of civic expansion makes the site one of the most possible sites to place a knowledge and cultural hub with community orientation.

Of the same significance is the historical and transformational possibilities of the site, currently occupied by a derelict planetarium where aerospace and science museum was planned to be upon its inception. The facility was abandoned after failure in its operations and lack of proper coordination; the facility left a neglected structure that has failed over time and is now becoming socially inactive and stigmatized. The broken windows, torn finishes, and neglect and abuse of the facility have added to its poor image, even though the facility has a valuable land and central location. The site consists of huge potential of adaptive redevelopment or reconstruction into a productive civic and communal space capable of rejuvenating public participation and fulfilling modern educational and social demands, as concluded by PDA. Meso- and micro-level (typologies of surrounding buildings, vegetation, noise producers, zoning, accessibility, and byelaws (maximum height 70 ft and 65% cover of the site) emphasize the potential actions to be taken and the limitations of the reuse, respectively. Taken as a whole, in SWOT analysis, the site can be described as an unusual urban empty space that can be utilized to become a lively, inclusive, and future-oriented public place, and abandonment can be turned into opportunity and the spatial design would be aligned with the dreams of the community.

Analysis of Data collection & interviews

The interviews have shown that there is a high level of emotional and practical interest in the introduction of a local library in Hayatabad Phase 2 as the level of attachment to learning together and the social places in the society. The residents around Deans Apartments also showed an attitude of hope and happiness with the prospect of having a library close to their homes especially to the children and other women who do not have an opportunity, at the moment, to study and

interact intellectually in safe and accessible ways. To most parents, the proposed library is not only a building but also an assurance of good time to their kids- not overindulged in the screens and in an environment where they develop curiosity and reading culture and practicing learning. Mothers noted that there were no community places where children could learn and read in peace, and also noted that initiative like story reading sessions, reading circles, and even simple digital literacy sessions, which would enable women at home. These reactions are indicative of the fact that learning in Hayatabad has been walled up in small areas, and the need to have a communal center that can open the process of education beyond schools and universities.

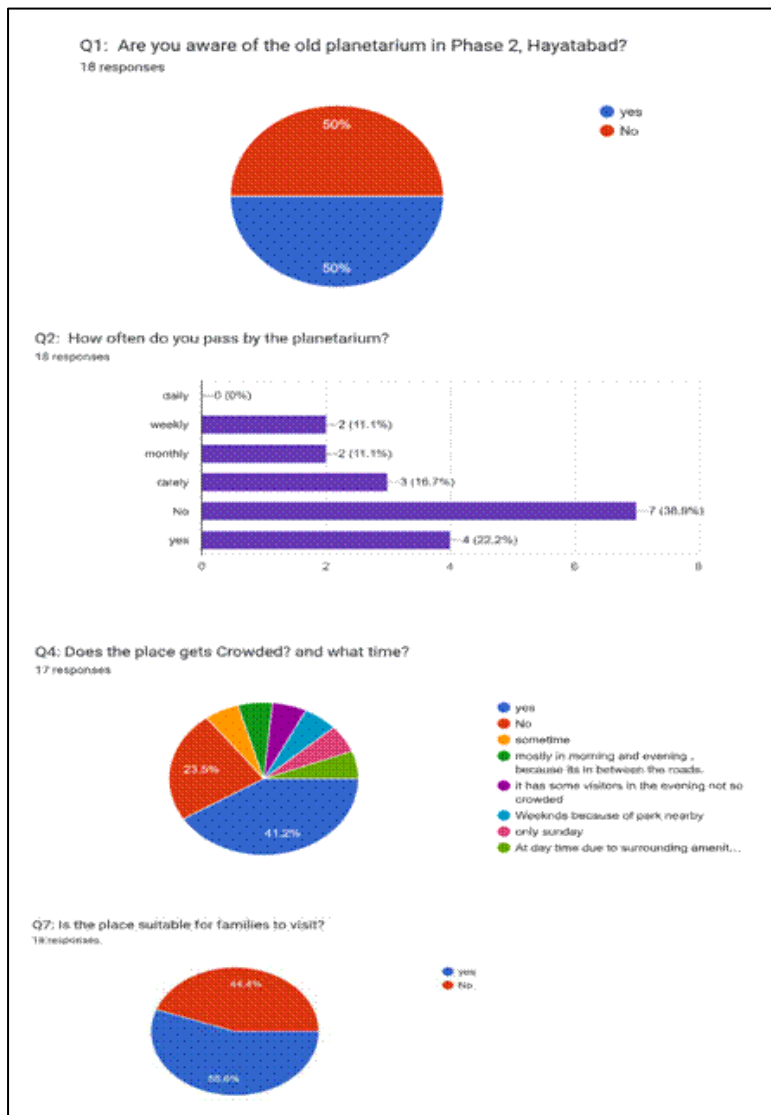


Figure 09 Respondents Data 01

On the social aspect, the importance of the library was emphasized by the employed people and people in business to enhance close social ties. The respondents stated that despite Hayatabad being a well-designed residential area, there is yet no significant opportunity of people interacting in a meaningful way. To them, a library would be a gathering place of different people to share ideas or cultural and intellectual procedures. This perception is associated with the worldwide revision of the library functions that is the shift to noiseless book depositories and the contemporary roles, which is the active civic roles. These responses show that the community perceives the library as a cultural development facility, social integration and life-long learning facility rather than a student facility or a scholar facility. A community that longs to be rich in

intellectual circles in the neighborhood is heightened by the need to have a place where people can socialize through communication, education, and sharing of experiences.

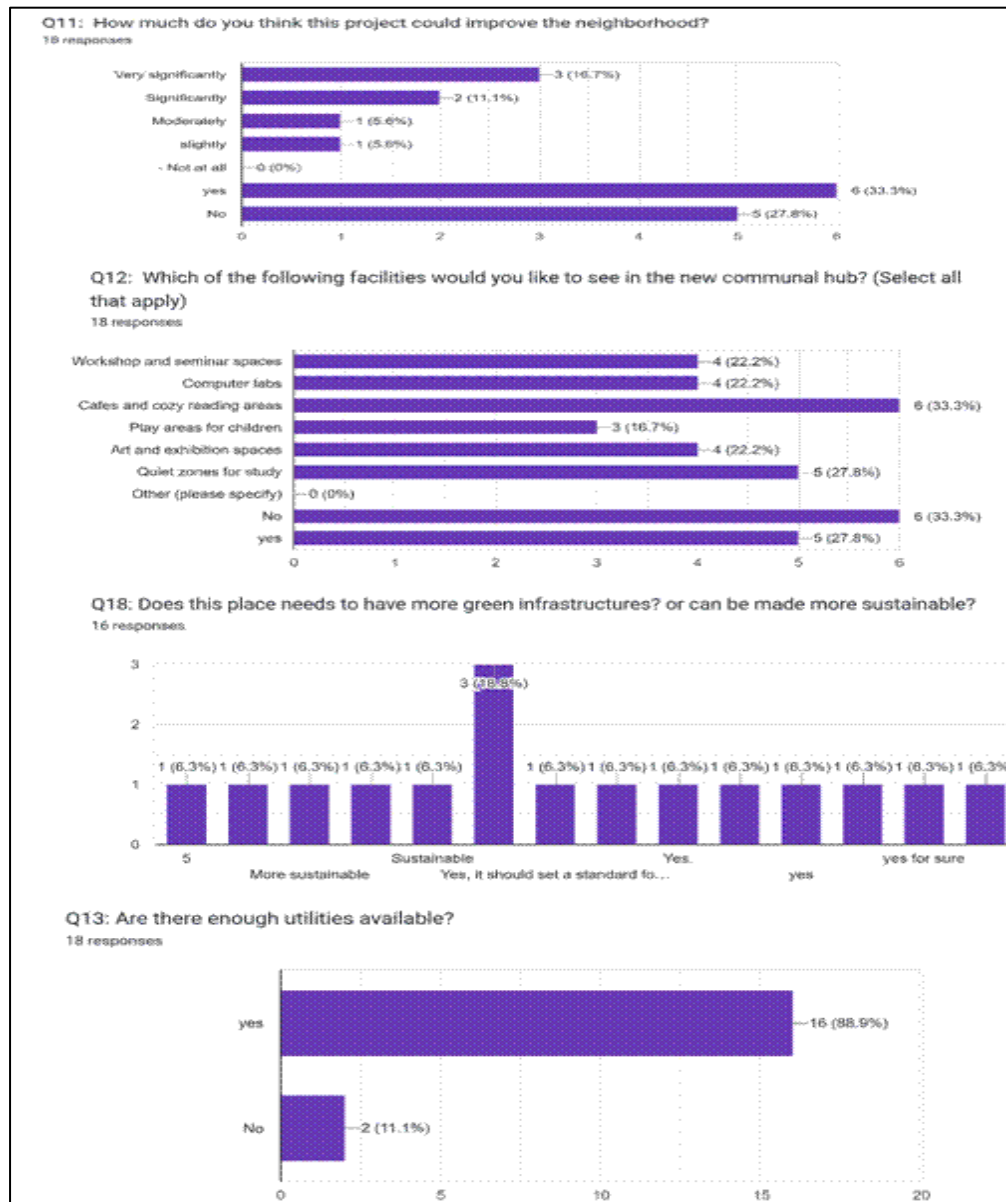


Figure 10 Respondents data 02

The other consideration is the institutional perspective that was provided by the official of the PDA who claimed that redevelopment of the forgotten planetarium site will follow the civic vision of Hayatabad Phase 2. PDA forecasts the area development into a working civic centre, and a new library is a logical extension of this project. The focus on multifunctionality, i.e., digital resources, co-working zones, seminar halls, and inclusive design, is an indication of a realization that modern-day spaces in the public should address a variety of user demands. The fact that PDA recognizes the accessibility of all ages also contributes to the need to create a library that would satisfy children, youth, professionals, and even the older generation. These interviews taken together demonstrate a high level of correspondence between the community expectations and the planning authority goals which create a clear social and institutional base of the proposed project.

The data of student interviews and the demographic survey can substantiate the point of a modern community library even more, as it shows the daily academic and professional issues of the

majority of the population in Hayatabad, which is primarily composed of young people. Students of IMSciences, Iqra University and CECOS noted that there was a shortage of peaceful, resource endowed learning and teamwork environments. Though online resources are readily available, students said that online resources are not enough especially when preparing to write tests, carry out research or doing group work. The library concept of physical books, research journals, digital databases and group study rooms appealed to them a lot. To students, this proposed library is a place of balance- where silence and cooperation can in harmony co-exist and where academic life is not limited to campus existence.

These qualitative insights are supported by the findings of the surveys with the quantitative data. The population of Hayatabad has increased by a great percentage in the last twenty years attracting a large population of students, young professionals and families. The demographic data indicates that close to 60 percent of residents are aged between 18-45 years, and this means that the population is young, has an active income, and education level, as well as professional development are valued. Although the literacy rate in the district is 41.7, there are a lot of educational institutions, which implies the localization of the educated and learning-oriented population. This fact of human population creates an even greater impact of lack of a hub of knowledge. The interest of the respondents was in a contemporary model of libraries with inclinations stretching further than physical reading areas to have digital learning areas, cafes, exhibition areas and lecture halls.

Hayatabad is also an occupational diverse area with students, professionals, entrepreneurs, and retirees, and this also justifies a flexible and hybrid space. According to the survey data, a large part of the residents would use the library to read, network, co-work, and train their skills. This is captured by the fact that there are estimated 48784 potential library users and the number of visitors expected to visit the library at a daily rate of more than 2400 persons. These figures indicate the feasibility of the project and the importance of considering the space planning, in order to develop a space which could support different intensities of activity during the day. Notably, the senior citizens also showed interest in the library as well by prioritizing quiet reading areas and convenient facilities, which leads to the fact that the library is an intergenerational space.

On the whole, both interviews and demographic information make it clear that Hayatabad has no common intellectual and cultural platform which would react to its increasing diverse population. The proposed library is not viewed as a luxury facility but rather as a civic facility that is vital such as a facility that could foster learning, community cohesion and identity. Data-driven knowledge of user requirements has a direct impact on the architectural program, making sure that the design is based on the actual social demand instead of abstract assumptions.

Building Program Discussion

The library complex is conceived as a well-designed people-oriented building that balances the life of the learning, culture, and community via three interrelated blocks and an outdoor amphitheater which is well designed so as to make it comfortable, accessible, and well utilized. Block A is the very image of the project, which received visitors or guests in a complex of the administrative functions, a cafe, and a multi-story exhibition room with a spacious area. The administrative rooms are more or less personnel, however, the cafe is a quiet socializing place where families and individuals can enjoy themselves and the exhibition hall is something of a walk-through, slow pace of communicating with art and ideas. Block B is planned as the intellectual and academic core of the discourse that contains seminar halls, debate rooms and modular lecture rooms that serve formal learning, workshop and community discussion.

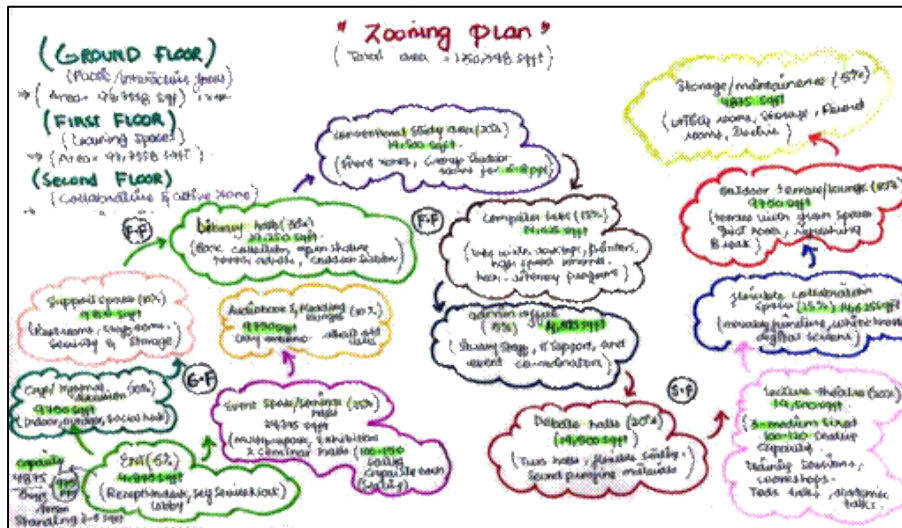


Figure 11 Schematics 01

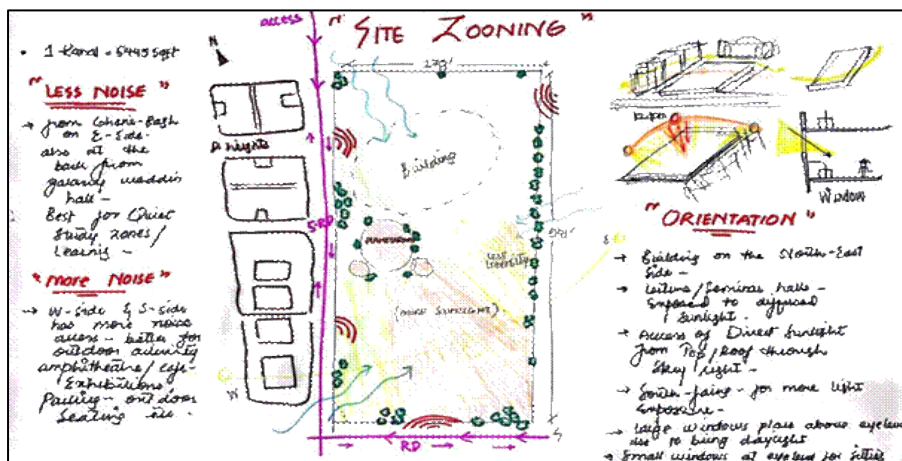


Figure 12 Schematics 02

Block C is the library itself which offers large reading areas, study areas, shelving areas and other support resources like discussion rooms and quiet pods where a wide variety of users can study, collaborate, or reflect at their own speed. To these indoor areas, the sunken external amphitheatre brings a sense of the outdoor aspect of lectures, performances and cultural events, which reunites learning with the general world. The total number is close to 3,000 individuals that can be safely accommodated in the complex, but it is purposely meant to be used by approximately 1,800 to 2,000 people at once. In addition to figures, the project envisions the former planetarium space as a rebirth of the forgotten place demolishing the crumbling building, recycling local resources and transforming seclusion and desolation into an interesting, sustainable and inclusive civil community that will inspire the community to communicate, connect and learn throughout their lives in Peshawar.

Design Evolution

Concept Development

The main concept of the project that can be called the Inside-Out concept or a Living Tree of Knowledge, makes the library not a fixed structure but a living organism that develops, breathes and evolves with its users. The design is based on the idea of knowledge that needs to be cultivated, as the lives of a tree provide inspiration, and the life cycle of a tree was used as a source

of inspiration. Similarly to a tree that grows its roots and its trunk first before reaching far off via its branches and leaves, the library will initially concern itself with an inward, narrow emphasis on books, arches, and individual education, and only later extend its outward focus on the collective experience and the community. It begins with the “Flower Bud which is the administration and reception areas that warmly receive the visitors and get them oriented like a bud to a growth. It is at this point where the circulation paths are naturalized and seem like stem branches that direct individuals naturally through the building. The workplaces are envisioned as the leaves, the seminar rooms, workshops, and working spaces where ideas are assimilated, processed and refined with the help of dialogue, creativity and collective learning. The center is the Bloomed Flower, the central library and learning areas, where knowledge becomes the most complete in the areas of silent contemplation, exploring the world by interacting and sharing memories. This comparison leads to the movement, geometry and spatial organization of the building into circles, curves and stratified form of growth like rings of a tree and the veins of leaves. The avenues are not linear but they run on connecting in support of the idea that learning is never present and not independent. This story also has an additional coating due to the fact of photosynthesis: natural light is the assimilation of the ideas, collaborative spaces are the conversion of information into creative energy, and programmes to the society are the disclosure of knowledge in the society, and the enrichment of the community at large. In such a manner, the library will not solely become a symbolic functional eco system, but also a interrelational system that links personal development with community prosperity and then turns learning into a communal and living process rather than an isolated process.

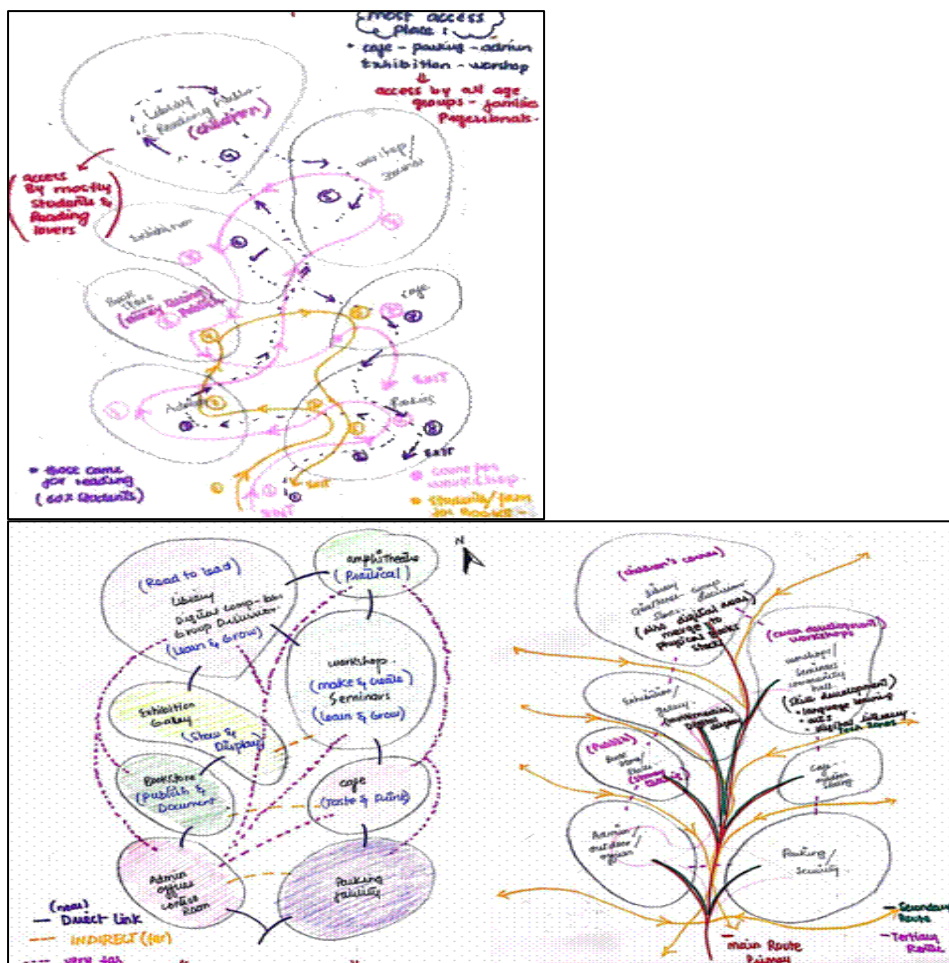


Figure 13 Concept Design Evolution

No less significant to the idea is its physical manifestation in design plans, materials, construction methods, and space planning to make sure that the philosophy of growth, nourishment and sustainability is physically represented. The project combines the vernacular architecture with biophilic design to make the library feel like part of the local culture and yet be both progressive and sustainable to the environment. Local resources like the bricks and earth are also preferred due to their affordability and availability, besides their thermal capacities and familiarity to the culture to make the building feel rooted and friendly. The example of rammed earth walls that serve as the thick trunk of a tree, which stores heat during the day and releases it to the night, create comfortable interiors with the minimum amount of energy consumed. Brick jaalis and lime plastering offer advantages of better ventilation, daylight as well as privacy and climatic responsiveness. The green roofs and terraced landscapes can serve as an extension of the metaphor of nature and they have functions to provide insulation, manage stormwater, biodiversity, and provide restorative outdoor spaces to users. The use of skylights and courtyards makes daylight penetrate deep into the building which strengthens the symbolic meaning of the building absorbing the sunshine and enhancing health, productivity, and energy-efficiency.

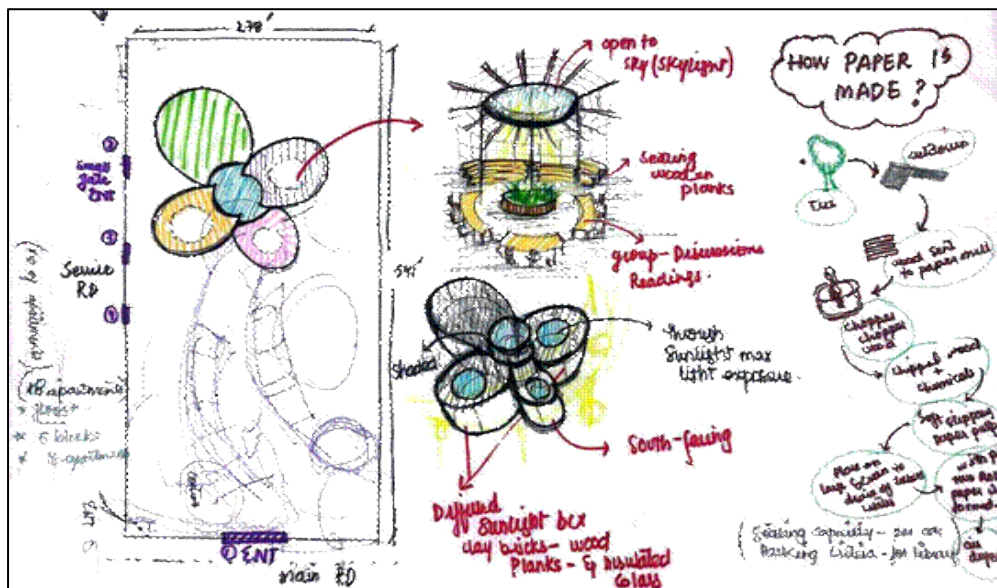


Figure 14 Design form evolution

These strategies are united to a master plan which separates the library into three distinct blocks which are inter-related. Block A is a friendly interaction venue, which is a mixture of administration, exhibition spaces, and a cafeteria to promote social exchange. Block B is the learning and experience centre which hosts workshops, seminars and lectures to aid in building knowledge actively. Block C is the core of the library, which provides inclusive environments to children, youth, adults, and the elderly, including quiet reading areas, to media and AI rooms. Collectively, these blocks are a system that works together as the part of one organism, as one organism is connected by the circulation of the fluids and the common outdoor areas. The design will eventually make the library a sustainable civic landmark; one that does not just preserve the knowledge, but develops curiosity, innovation and society; in such a way that the learning process is sustained even through generations.

Proposed Building Program

Proposed Design

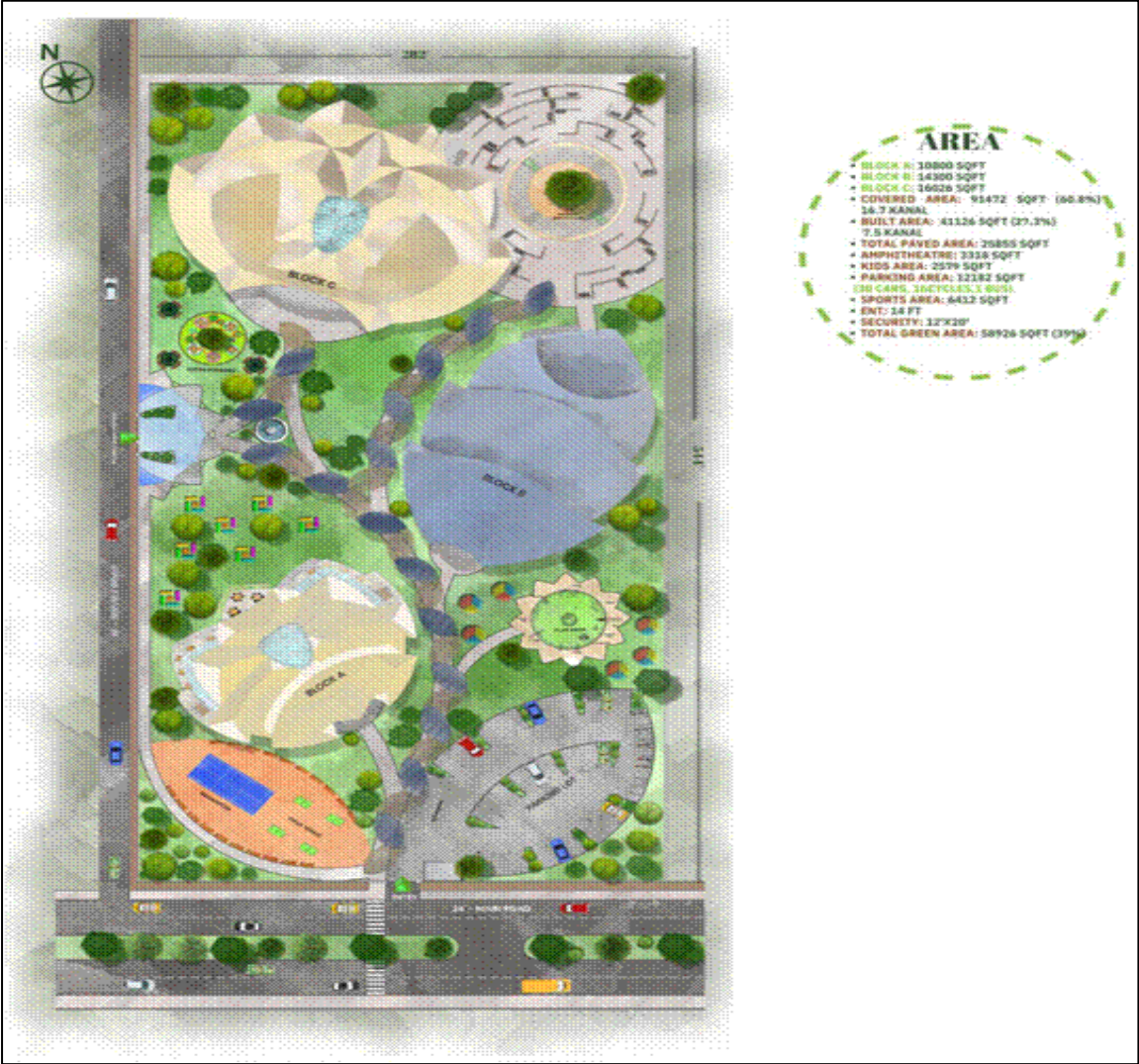


Figure 15 Proposed Master Plan

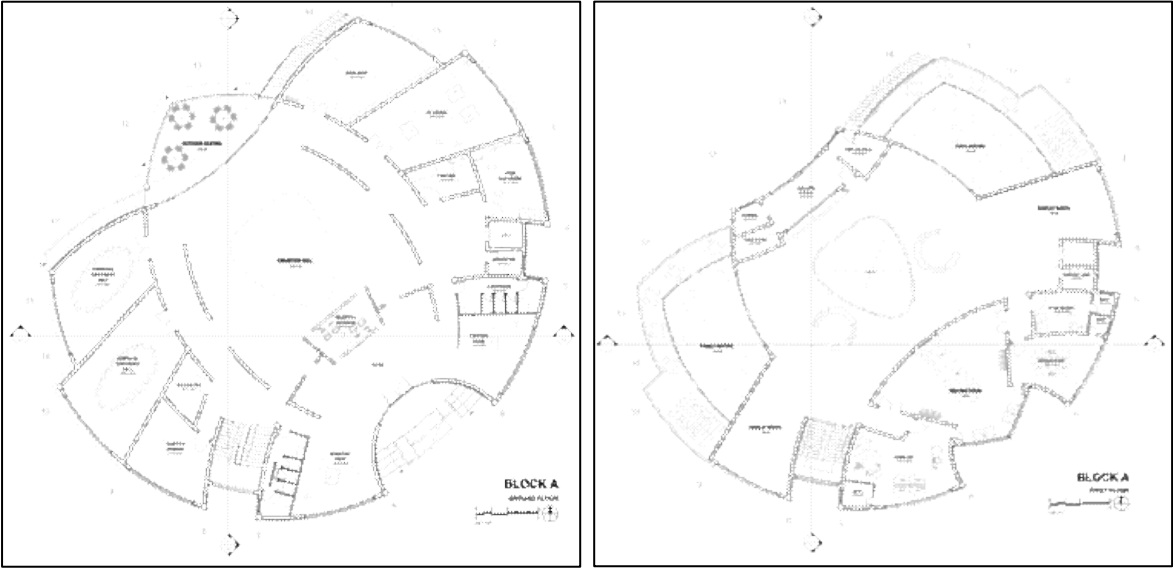


Figure 16 Proposed Ground & First Floor Plans



Figure 17 Proposed Section

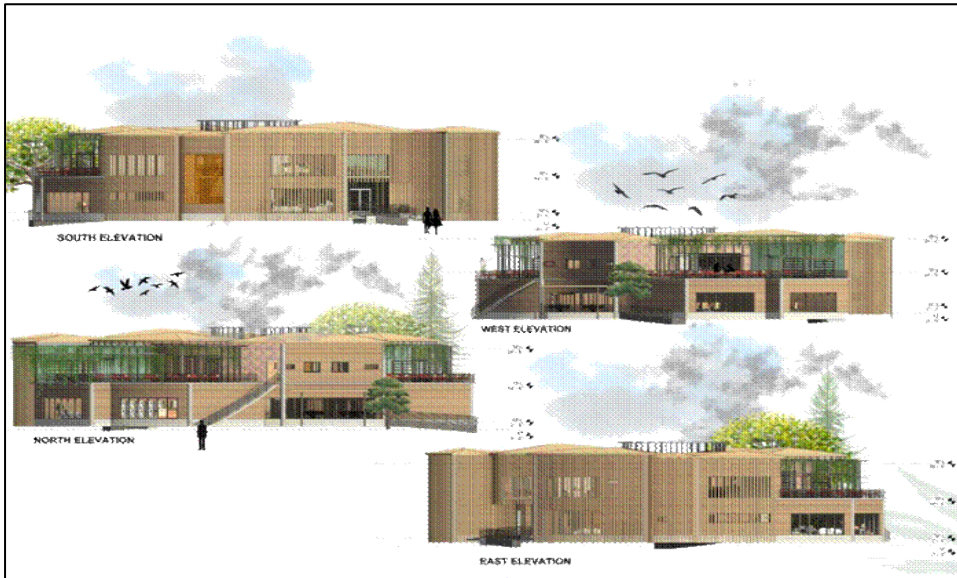


Figure 18 Proposed Elevations



Figure 19 Proposed Renderings

Research Findings

The results of the research make it obvious that the abandoned planetarium in Hayatabad has enormous opportunities to be transformed into a valuable civic resource in case the people-centered and contextually-sensitive design approach is taken. Site analysis, user surveys, interviews, and demographic information showed that there was a high demand of public spaces which extend beyond traditional reading rooms and also accommodate social interaction, learning and well being in the same space. The suggested multi-block library model is a direct reaction to these requirements and combines reading areas, digital learning, discussion, play, and cultural interaction. The results indicate that users of all ages, including children, students, professionals, and senior citizens, want flexible, inclusive, and emotionally engaging environments as opposed to inflexible and strictly academic ones. Passive cooling, optimization of the daylight, green terraces, and climate responsive materials were considered as the most efficient strategies to improve spatial comfort and lessen the energy dependence, which makes sustainability not only functional but also experiential. Furthermore, the use of storytelling areas, reflection areas, and activity-oriented learning areas emphasise the importance of architecture in promoting mental well-being and intergenerational conversation. The study also verifies that the use of local materials and regional methods of structure makes the users emotionally attached to place, which helps to reinforce the cultural identity and the use of modern technologies. In general, the results confirm the hypothesis that modern libraries in Pakistan need to be a hybrid civic facility, i.e., a combination of physical and digital education, individualism and group process, tradition and innovation, to be able to survive in the modern rapidly shifting socio-cultural and technological environment.

Research Conclusions

This study concludes that the conventional character of a library as a library being a quiet book based institution has become inadequate to the changing demands of the urban community, especially in urban areas such as Peshawar. By envisioning the derelict planetarium as a dynamic community library center, the thesis shows how creative reuse and intelligent design of buildings can bring new life to the forgotten urban areas. The project validates that libraries do not have to be solitary scholarly structures, but can be strong social assemblies; the intersections of knowledge and culture and community. The proposed library demonstrates that multifunctional spaces may provide support to learners, creators, recreational activities, and emotional health at the same time through the analysis of the site, user interaction, and experiments with design. The combination of the use of vernacular materials, sustainable construction methods, and biophilic design ensures that the building will be environmentally, economically, and culturally responsible. Simultaneously, the incorporation of digital materials, group areas, and adaptable learning facilities are the manifestations of the actualities of modern learning and access to information. The study points out that architecture is highly significant in developing social behavior and interaction in the community particularly when it is designed with inclusiveness, accessibility, and human comfort as the primary concern. Finally, the thesis supports the thesis that the digital libraries need not challenge technology, on the contrary, they need to complement it- providing the space where the digital knowledge can be put in its context, through the human interaction, experience, and memory. The project is an example of how the design can change not only a building, but the very perception of people and convert the lack of opportunities and solitude into possibility and interaction.

Future Research Directions

Although this study has created a robust conceptual and architectural framework of redefining libraries as community spaces, it has created a number of opportunities to look into in the future.

Future studies may explore the social effects of these library spaces over the long run on literacy levels, mental health and community cohesion especially in urban areas in Pakistan. Similar projects can be evaluated during post-occupancy to yield useful insights on how users will use multifunctional learning environments in the long term and how design choices affect behavior, comfort, and inclusivity. The second area of concern is to consider further incorporation of digital solutions, like online learning platforms, AI-assisted research tools, and virtual learning environments, and balance it with in-person and social interaction. Comparisons of traditional libraries and hybrid library model may contribute to the quantification of advantages of interactive and activity-based spaces in terms of learning outcomes and user satisfaction. Also, future research might be based on the optimization of costs and policy structures to render such community libraries viable on a broader urban and semi-urban level, especially in resource-limiting contexts. The exploration of the model of public-private partnerships and community-led management could also assist in the provision of the long-term sustainability and ownership. Last but not the least, the flexible design plans in this thesis can be experimented in other climatic, cultural, and socio-economic environments in Pakistan and the model perfected to be an extended prototype. By so doing, the future researches will be in a position to carry out the present study even further to make libraries resilient, inclusive, and transformative centers at the center of modern city living.

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