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JOURNAL OF RESEARCH IN ARCHITECTURE AND PLANNING

Introduction

Focusing on research works relevant to the fields of architecture and planning, the Journal of Research in Architecture and Planning (JRAP) explores issues of relevance to both scholars and practitioners in the field of architecture, urban design, urban planning, built form heritage and conservation. JRAP was initiated in 2000 as a peer reviewed journal, initially published annually. Since 2011 its frequency has increased to biannual. In addition to the papers received through our regular submission process, the volumes also include papers selected from those presented at the annual International Conference of Urban and Regional Planning, hosted by the Department of Architecture and Planning at NEDUET. Contributions to the journal on general topics are accepted any time of the year, and incorporated in upcoming issues after going through a peer review process. A post conference review is also undertaken for the selection of conference papers, before their publication. JRAP holds the privilege of being the first peer reviewed journal in the discipline of architecture and planning, published from Pakistan. Contributions are received from all across the globe and on average one third to half the papers included in JRAP are from international scholars.

As of 2018, the category entitled 'Young Scholar's Contribution' has been included in the Journal. In this category, papers from young faculty and early career scholars are accepted and editorial assistance and peer review feedback is provided to improve the research papers. One such paper is published under the head 'Young Scholar's Contribution' within each issue of JRAP.

Aims and Scope

The primary objective of JRAP is to provide an international forum for the dissemination of research knowledge, new developments and critique in architecture, urban design, urban planning and related disciplines for the enrichment and growth of the profession within the context. The journal focuses on papers with a broad range of topics within the related discipline, as well as other overlapping disciplines. JRAP publishes a wide range of research papers which deal with indepth theoretical reviews, design, research and development studies; investigations of experimental and theoretical nature. Articles are contributed by faculty members, research scholars, professionals and other experts. The editors welcome papers from interested academics and practicing architects. Papers published so far have been on topics as varied as Housing, Urban Design, Urban Planning, Built Environment, Educational Buildings, Domestic Architecture, Conservation and Preservation of Built Form. All previous issues are openly accessible and available online on the Journal's official webpage: http://jrap.neduet.edu.pk/online_journal.html.

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Note: All the photographs included in this issue have been taken by the authors unless otherwise mentioned.

EDITORS' NOTE

The following volume of Journal of Research in Architecture and Planning is the 33rd volume and first issue of year 2023. It contains five papers contributed by international and local scholars. The papers cover themes related to landscaping, sustainability and education. The tilt of the volume is toward education and public parks / landscape which are envisioned through different perspectives by the paper contributors. Out of five papers, two papers in the volume are on public parks, two papers deal with primary and university level education and one paper analyzes the vertical housing as a possibility for sustainable urbanization. The first paper in the volume is international and four papers are local contributions. This volume also carries two book reviews.

The first paper addresses an important issue of landscaping and its impact on post primary school education. The premise of the paper is significant as it advocates landscaping in schools as one of the factors enhancing the school education. In today's digital driven age such papers direct us to reflect on the tangible built environment and its vitality in education and mental growth of young people.

The second paper is again centered on education and analyzes relevance of Pierre Bourdieu's theory of Cultural Capital on Architectural Education in Pakistan. The paper contextualizes a western theory by appropriating indicators of cultural capital and adapting them to the local context. The study is a quantitative one and shows applicability of the theory and its relevance for Pakistan.

The third paper in the volume is a study of potential of vertical housing as a solution for housing problem in this increasingly urbanized world. The paper focusses its lens on the city of Lahore. Housing is a very pressing global issue and the paper looks at vertical housing as a solution. It attempts to include user perception since vertical housing is not a favored choice in the context of Pakistan. The paper attempts a thorough profiling of residents' attitude and perceptions regarding vertical living.

The fourth paper analyzes satisfaction index of the need for public parks in Hyderabad. The study assesses the impact of public parks on inhabitants' social lives and advocates parks as a necessary urban public space stressing upon its need in Hyderabad and its environs.

The last paper in the volume looks at the evolution of Greater Iqbal park as a case study to examine dimensions of power, politics and space. If parks are taken as a public space within public domain, how political and power related contestations and conflicts spatially manifest them, is at the core of the study. States hegemony and its application on public space is also considered in the paper.

The volume also includes two book reviews, the first is review of the book "Hassan Fathy: Earth and Utopia" written by Salma Samer Damluji and Viola Bertini the second review is of "The Eyes of the Skin: Architecture and the Senses" written by Juhani Pallasmaa. Both the books are complimentary, since they provide an alternate thinking to modern architectural approach in design.

Editorial Board

TOWARDS ENHANCING POST-PRIMARY SCHOOL STUDENTS' LEARNING EXPERIENCE: THE CASE FOR NIGERIAN SCHOOL LANDSCAPE ENVIRONMENT

*O.K, Akande**, *L.C, Obi-George***, *D.O, Adeoye****, *O.A, Obakin*****, *E.M, Anikor******

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ABSTRACT

Landscape elements have significant importance in school designs due to the contributions they can make to students' learning experience and well-being. Learning in an aesthetically pleasing environment has been established to add value to the learners' experience as well as enhance their sense of well-being. In Nigeria, several public secondary schools mostly lack adequate landscape elements, which has caused a major strain on students' learning experiences and staff's productivity. This research explored the landscape environments of selected public secondary schools in Nigeria with a view to bringing to light the potential and value that landscape can add to the learning experience and wellbeing of the students. To investigate the precise roles of landscape components in enhancing student learning experiences, public secondary schools in Ilorin, Nigeria, were randomly selected for the study. Primary data was collected through questionnaires, case studies, and observation schedules. Findings reveal poor design quality in nature, with the result showing that the majority of public secondary schools were poorly landscaped. The study concludes that most students attending public schools in Nigeria are deprived of learning environments connected with nature's aesthetics and qualities. It recommends a holistic approach to public school management that goes beyond establishing schools and providing needed buildings but should give importance to good school landscaping to enhance not just the students' learning experience but also the learners' health and well-being, as well as nurture their ability to appreciate the beauty of nature right from school age.

Keywords: Landscape Elements, Landscape Environment, Landscape Management, Post-Primary School, Physical Environment, School Environment

INTRODUCTION

The benefits of the landscape cannot be overlooked in terms of aiding the process of learning and providing a sense of comfort and well-being for the learners (Ali, *et. al.*, 2019). Thus, appropriate landscape provision in any learning environment not only make the environment conducive but also aids the learning process that leaves a positive impact

on the students and the school environment. In addition, a well-designed landscape environment is also helpful for students' interaction, mingling and revision outside the classroom which add to their learning process. According to Treib and Dorothee (1997), landscape design is a form of art that combines land management, semi-artificial and natural component preparation, and the use of social and informational resources to preserve the environment and

deliver important, healthful, and enjoyable functions. The management of the environment through area-based planning that takes into account the fundamental principles of design entails changing the state of the landscape. Emechebe (2020), posited that the quality of the environment, people's economic well-being, and their physical and psychological health are all influenced by landscaping, making it a significant aspect of their culture. Meanwhile, Adekunle and Basorun (2016), pointed out that landscape in a school setting, city, suburb, or rural setting should be unique and consider as the most economical instruments for improving and sustaining environmental excellence. Ibraheem (2018) studied the importance of landscape in school environment and found there are still many public secondary schools with little or no provision for proper landscape of their school environment. The author points out that landscape plays important roles in the environment and part of diversity in culture.

In a study by Emechebe, et. al. (2020) to determining critical hindrances in integrating landscape elements or green areas in built environments, six major factors were identified, such as inadequate funding or economic hindrance, poor maintenance and planning, ignorance of expert knowledge, lack of a policy or regulation directing implementation, ignorance of its advantages, and users' disregard for and lack of knowledge of the advantages of green areas. The study shows that 56% and 59% of the respondents strongly agreed that inadequate funding and lack of policy respectively remains the barriers towards integrating landscape in the built environment. According to Jianguo (2013), sustainable landscapes can satisfy existing requirements without harming the capacity of coming generations and made possible by maximising trade-offs where economic, social, and environmental goals conflict. Thus, integrating landscape necessitates a specific approach for attaining sustainable landscapes and inclusive rural change, which involves voluntary engagement among numerous stakeholders from various sectors and social groups. However, unsustainable resource management at a landscape size continues to be encouraged by ineffective economic and policy incentives. Meanwhile, in order to establish and entrench a sustainable landscape, the complete range of tools available to policymakers and government organisations must be used to help integrating the landscape strategically.

This study examined the gap in knowledge created through neglect of landscaped environment in aiding the learning process and how it improves students' learning abilities. The research is guided by the objectives to (i) Assess the

landscape elements present in the public school environment. (ii) Examine the level of management of landscape components in the schools to promote their existence and (iii) Examine how a landscaped environment helps the learning process and how it improves students' learning abilities.

LITERATURE REVIEW

Historical Evolution of Landscaping

Historically, landscaping is richly apportioned through design, spanning the entirety of human existence. Through a variety of architectural styles, the account of landscaping illustrates architectural variances. Shukor (2012) indicated that landscaping has just recently become prominent within human civilisation and is spreading rapidly across the globe.

Roger and Rob (2017) posited that gardens have been planned by people throughout history as a way of accumulating physiographic and eco-friendly qualities on the land for change of state and ecological upgrading. The traditions of antiquity, especially those of early Rome, are reflected in the roots of those gardens. Long ago, formal learning facilities existed in Egypt and other cities. This was a time when the relationship between created and natural types needed to be defined in order to support smart living, and this crystallised into the definition of landscaping as a specific sort of design.

Landscaping denotes a shift from what was primarily agriculture to a variety of trendy vocations, which has attracted people from all walks of life to the field (Weijie, *et. al.*, 2022). Shen and Chou (2021), presented two types of landscaping: soft landscaping (i.e., flowers, grasses, plants, trees etc.) and hard landscaping. Moogk-Soulis (2002) reported that trees can be used to give shade against surfaces, function as a barrier to hot breezes, and produce cold air in their place. Hard landscaping refers to the design of a landscape using materials other than plants. Pathways, driveways, walls, patios, ponds, hedges, arches, mountains, fixtures, lighting, flower vases, etc. are examples. In addition to enhancing plants, creating relationships between buildings, identifying zones, and facilitating pedestrian and vehicular transit, landscapes are used to link development with its immediate surroundings. Kopeva, *et. al.*, (2018), found that ponds with fish and waterfalls can be incorporated into artificial landscapes to offer therapeutic benefits to students. The ideal atmosphere for knowledge acumen is created by the calming effects of water components (Kelz, *et. al.*, 2013).

The Evolution of Landscape on Learning Environment

Evolution of landscape on learning environment as put forward by Takahashi (1999), expressed that going outside is regarded as a natural and healthful component of the regular school day in an educational landscape perspective. Going outside has benefits beyond simply playing or using the playgrounds to release pent-up energy. In fact, academic studies have shown that specific landscape planting characteristics, such as colour contrast (Polat and Akay, 2015), naturalness (Gungor and Polat, 2018; Wang and Zhao, 2017), openness (Wang, *et. al.*, 2016; Wartmann, *et. al.*, 2021), and species richness (Southon, *et. al.*, 2018), play an important role in learning environment and landscape quality. When the entire educational setting is viewed holistically, learning activities are actively arranged outside of the school's boundaries (Parker, *et. al.*, 2022). Learning environments have also given significant consideration to gathering and teaching in outdoor spaces that complement and diversity inside spaces. Similar to how engaging with plants can enhance emotional states and cognitive function, there is a lot of data to support this claim (Van Den Bogerd, *et. al.*, 2018). It is therefore logical to assume that thoughtful planting in the environment will have positive effects on school children.

Students use of green spaces is influenced by the school's surroundings and is intended to fulfil that objective. The advantages of developing a connection with plants have also been thoroughly studied (Hanan, 2013, Stepan, *et. al.*, 2014, Li and Sullivan, 2016). Reducing stress, enhancing health and wellbeing, and raising awareness are a few of them. As a result, the integration of courtyards, gardens, groves, patios, pavilions, and walks within and around the building can improve the complementary relationship between a structure and site. Every school can create its own feeling of place thanks to the current educational environment. This identity may be founded on the natural essence of the place, or it may be sought in the community's cultural and architectural past. By finding these ways to incorporate a place or region, schools can take on a place of cultural and civic significance in the community's architectural fabric, helping to create a more memorable and potent sense of place.

Landscaping and Learning Environment

The role of landscape in schools are enormous as it aids in preserving the environment and also create conducive environment for learning. Landscapes surrounding the school's property either directly or indirectly has been observed by numerous researchers (Dyment and Bell, 2007; Loebach and Gilliland, 2014; Van Dijk-Wesselius, *et. al.*,

2018), to support the learning process. The relationship between landscape and the academic setting is enormous as it generates a unique role establishing discipline, provides a sense of direction, conducive environment which serves as an essential component of an academic setting (Burt, *et. al.*, 2017). Wells (2000) proposes that the temperature of the area around the schools may be lowered by the landscape. This is due to how important it is for plants to produce oxygen and then absorb carbon dioxide emitted into the atmosphere during the photosynthesis process. This helps to control the thermal effect of the surrounding environment, which makes learning very conducive.

In terms of aesthetic value, the landscape offers an alluring component (Rasidi, *et. al.*, 2013). A beautiful scenery can considerably lessen the emotional load on both students and teachers. It is reasonable to predict that public school students can benefit from well-designed planting in the school environment. This is supported by substantial evidence suggesting that interacting with plants contributes to improved emotional states and cognitive performance (Van Den Bogerd, *et. al.*, 2018). Similar to this, in-depth studies (Hanan, 2013; Stepan, *et. al.*, 2014; Li and Sullivan, 2016) have also investigated the advantages of connecting to plants, which lead to reduced stress and enhanced health and wellbeing. Meanwhile, as a plant's impact on human psychology is seen, interactions between students and plants can make the students feel better physiologically, think more favourably, experience less stress, and show a greater excitement for studying.

In addition, Dyment and Bell (2007), research on promoting physical activity through school greening shows numerous benefits of landscaping in a school setting. In the study, 105 questionnaires were distributed to teachers, parents, and administrators in 56 schools. The results show that school grounds should be planned to offer enough space, a variety of play opportunities, and opportunities for contact with the environment in order to encourage active learning. The integration of landscape elements has been of good benefit to the learning environment, which aids in the provision of a good and appealing environment for learning and has good security benefits. Research has also indicated that people's wellbeing depends on having a connection to the natural world. Dowdell, *et. al.*, (2011) suggested that as access to the environment continues to decrease, young children get more and more cut off from their natural surroundings. Thus, the importance of education and environments before schools in acclimating youngsters to their surroundings had been acknowledged.

Other research has shown that children might use the outdoors as a location for play-learning while also being encouraged to engage in imaginative play and develop pro-behavioural ties in natural outdoor settings. According to Dowdell *et al.* (2011), early childhood learning centres should give children access to a natural outdoor setting and teachers who are supportive of their growing relationships with nature in order to employ outdoor play-learn settings effectively. A pleasantly designed environment may support learning directly or indirectly in a number of ways, including by offering areas for recreation, socialising, interacting with landscape elements, or even reviewing teachings outside of the classroom. One of the specific purposes of the study is to ascertain the positive impacts of soft and hard landscapes on the learning process and improve academic accomplishment in the learning environment.

In addition to imparting knowledge and developing specific abilities, school serves as an educational institution that actively shapes a child's perspectives, values, sense of self, and other perceptions (Brandisauskiene, *et al.*, 2021). The teaching and learning processes are shaped by the school environment, which can either support or hinder these activities. A supportive school setting fosters student success, efficient instruction, fewer behavioural and emotional issues, and a decreased likelihood of dropping out of school (Mahlomaholo, 2012). The behaviourism school of thought, also referred to as the behaviour learning theory, is a well-known theory that focuses on how students learn. The fundamental idea behind behaviourism is that all behaviours are learned through interactions with the natural environment. According to behaviourism, the learning environment is the most crucial component of the educational process (Ngandu, *et al.*, 2013).

Impacts of Landscape on Children Well-Being

Theories as established by numerous researchers (Bagot, *et al.*, 2015; Pirchio *et al.*, 2021; Collado, *et al.*, 2013) along their empirical findings on restorative environments and the theoretical underpinnings of traditional pedagogical approaches exist in literature. The theories acknowledge the importance of first-hand exposure to natural elements and the resulting psychological and educational benefits. For instance, Fyfe-Johnson, *et al.* (2021) posited that children's health is improved by natural surroundings. The effects of outdoor environment features in early childhood education settings on children's health are little understood. Ole (2019) examined how children's health and outdoor

surroundings are related by looking at how well-being and physical exercise are experienced by children in various environments.

One of the main goals of outdoor environmental education interventions is to give children the chance to learn pertinent information about the ecological processes of natural habitats and to foster positive attitudes and behaviours towards environmental preservation. Children's participation in outdoor play has been linked to beneficial outcomes for their cognitive, physical, affective, and moral development as well as their level of independence and autonomy (Bento and Dias 2017). Meanwhile, researchers (Benfield, *et al.*, 2015; Hussein, 2017) have also discovered favourable effects of landscape on behaviour as well as improved social, economic, and aesthetic features of a location.

METHODOLOGY

Study Area

The study area, Ilorin, is located in Kwara State, Nigeria, roughly 8°30' north of the equator and 40°35' 4035' east of the Greenwich Meridian. It is about 100 km² in size. According to the 2006 census, the estimated population of Kwara State was 2.37 million people, with an estimated growth rate of 2.3% (National Population Commission, 2006). Ilorin has a tropical wet and dry climate with 1,200 mm of annual precipitation on average (Olaniran, 2002). In March, which is the hottest month, the temperature ranges from 25 to 30 degrees Celsius. In order to create an external environment that is both visually beautiful and useful, landscape design is a complicated process that takes many different elements into account. The local climate and topography of the area, client preferences, pricing, usage, materials, and orientation are just a few of the variables that may have an impact on how a landscape is designed and implemented. This is in accordance with Tyisha (2023) study which identified a few variables influencing the presence of landscape in the environment. According to the study, the kind of climate is a crucial consideration in landscape design since it affects the area in which buildings are constructed. For the design to be low-maintenance and sustainable, natural plants that can withstand drought should be used. The study also emphasised how important it is to consider elements like customer preferences, pricing, usage, and direction when designing a landscape in order to ensure that it is safe and comfortable. Figures 1 and 2 show a map of Nigeria with Kwara state, whose capital is Ilorin.



Figure-1: Map of Nigeria Showing Kwara State.

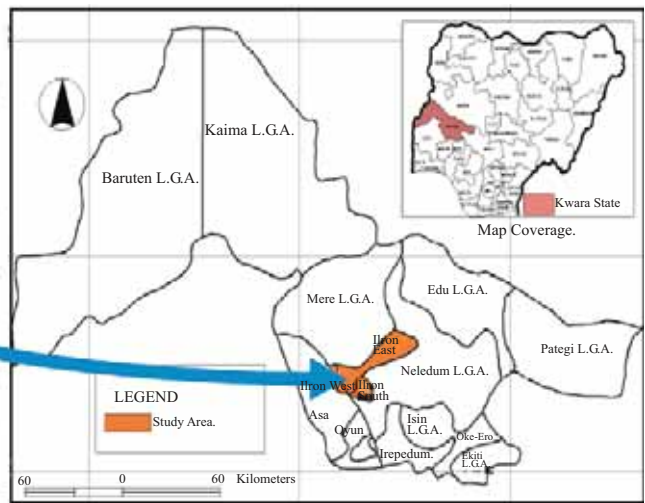


Figure-2: Map Showing Kwara Iloron.

POPULATION SAMPLING TECHNIQUE AND SAMPLE SIZE ESTIMATION

As of 2019, there were 63 public and 82 private registered secondary schools with estimated 42,195 students (Ibraheem *et al.*, 2022). Ilorin is divided into three local Government areas (LGA) which are Ilorin West (have 26 public secondary schools); Ilorin South (have 22 public secondary schools); and Ilorin East (have 15 public secondary schools). The current population of estimated number of students for enrolment is taken as 65180 students. Using a multistage sampling technique, the lists of public schools was arranged in alphabetical order and the number of schools to be picked from each LGA was allocated determined. Random sampling was used to select two participating schools from each LGA (i.e., Ilorin West, Ilorin South and Ilorin East). Based on Yamane (1967) for determining sample size, the sample size for this study was obtained using the following formula:

$$n = N / (1 + N(e)^2)$$

$$n = \frac{N}{1} + N(e)^2$$

Where:

N = Population

n = Size of Sample

$$e = (0.05)^2$$

$$\frac{65180}{1} + 65180(0.05)^2$$

n = Size of Sample 398

Table-1: Respondents Response Rate

| Location | No of Questionnaires Sent Out | Returned (No) | Response Rate (%) |
|----------|-------------------------------|---------------|-------------------|
| SSA | 67 | 15 | 23.4% |
| SSB | 66 | 20 | 30.3% |
| SSC | 66 | 14 | 21.2% |
| SSD | 67 | 21 | 31.3% |
| SSE | 67 | 21 | 31.3% |
| SSF | 67 | 27 | 40.3% |
| Total | 400 | 118 | 29.5% |

Table-2: Gender of Respondents.

| | | Frequency | Percent | Cumulative Percent |
|-------|--------|-----------|---------|--------------------|
| Valid | Male | 64 | 54.2 | 54.2 |
| | Female | 54 | 45.8 | 100.0 |
| | Total | 118 | 100.0 | |

Table-3: Classes of Respondents.

| | | Frequency | Percent | Cumulative Percent |
|-------|-------|-----------|---------|--------------------|
| Valid | JSS1 | 11 | 9.3 | 9.3 |
| | JSS2 | 20 | 16.9 | 26.3 |
| | JSS3 | 14 | 11.9 | 38.1 |
| | SSS1 | 21 | 17.8 | 55.9 |
| | SSS2 | 21 | 17.8 | 73.7 |
| | SSS3 | 31 | 26.3 | 100.0 |
| | Total | 118 | 100.0 | |

Table-4: Survey on the Presence of the Landscape Element.

| | | Frequency | Percent | Cumulative Percent |
|-------|-------|-----------|---------|--------------------|
| Valid | Yes | 85 | 72.2 | 72.0 |
| | No | 33 | 28.0 | 100.0 |
| | Total | 118 | 100.0 | |

From the above calculation, using a 95% confidence level, three hundred and ninety eight (398) was needed as the sample size for the survey. Thus, total of 400 questionnaires was distributed among the six selected schools based on the population of students of each school (Table 1). A total of a hundred and eighteen (118) were returned, obtaining a response rate of 29.5%.

DATA COLLECTION AND ANALYSIS

The study, which was quantitative research, implemented a descriptive research design using a survey as the main strategy for data collection. To offer a description of the occurrence and the experiences of the respondents, data for this study was gathered from primary and secondary sources. Primary data was collected via a field survey from the users of the six selected public schools. For the purpose of confidentiality the schools were coded from A to F i.e., Secondary School A (SSA) to Secondary School F (SSF) to know the availability of landscape elements in their school. The acquired data was evaluated using IBM SPSS Statistics 23 to understand the results, which will provide significant insights into the characteristics of the landscape planning and the school design. Finally, these findings can be used to drive future strategic public school landscape planning for sustainable design.

RESULTS AND DISCUSSION

A reliability value of 0.704 was obtained from Cronbach's alpha. According to Taber (2018), the reliability of the questionnaire tested using Cronbach's alpha is one of the most important and pervasive statistics in research involving test construction and use" and is frequently used for multiple-item measures in academic work. This suggests that the reliability value is stronger the closer it gets near one. Table 2 illustrates the gender of the respondents. The male respondents constitute the largest gender with (54.2%), followed by females with (45.8%). The survey shows that they are more male than females among the respondents. This result contrast those of (Garcia-Gonzalez, *et. al.*, 2019), who stated that integrating gender analysis into research is an important step in promoting gender equality and creating more inclusive research findings.

Table 3 shows the respondents' classes, and it can be seen that 26.3% of SSS 3 students filled out the questionnaire, followed by 17.8% of SS2 and SS1 children, 16.9% of JSS 2 students, 11.9% of JSS 3 students, and 9.3% of SSS 1 students. Given that the majority of respondents are seniors, it may be assumed that they will be knowledgeable of the advantages and disadvantages of landscape in a school setting.

Table-5: The Cut--Off Point.

| Mean Score | Interpretation |
|------------|-------------------|
| 1-1.80 | Strongly Agree |
| 1.8-2.60 | Agree |
| 2.61-3.40 | Neutral |
| 3.41-4.20 | Disagree |
| 4.20-5.00 | Strongly Disagree |

Table-6: Survey on the Influence of Landscape Elements in Aiding the Learning Process and Learning Abilities

| | | Frequence | Percentage | Standard Deviation | Mean | Ranking |
|--|-------------------|-----------|------------|--------------------|------|---------|
| Landscape influences the mood of student | Strongly Agree | 43 | 36.4 | 1.310 | 2.20 | 5 |
| | Agree | 29 | 24.6 | | | |
| | Neutral | 31 | 26.3 | | | |
| | Disagree | 9 | 7.6 | | | |
| Landscape influences the attention span student | Strongly Disagree | 6 | 5.1 | 1.440 | 2.66 | 3 |
| | Strongly Agree | 21 | 17.8 | | | |
| | Agree | 40 | 33.9 | | | |
| | Neutral | 23 | 19.5 | | | |
| Landscape promotes the health and aid students learning abilities | Disagree | 26 | 22 | 2.505 | 2.36 | 4 |
| | Strongly Disagree | 8 | 6.8 | | | |
| | Strongly Agree | 53 | 44.9 | | | |
| | Agree | 25 | 21.2 | | | |
| Landscape adds aesthetics health and aid students learning abilities | Neutral | 10 | 8.5 | 2.208 | 3.88 | 1 |
| | Disagree | 5 | 4.2 | | | |
| | Strongly Disagree | 25 | 21.8 | | | |
| | Strongly Agree | 14 | 11.9 | | | |
| Landscape is an important part of schools | Agree | 14 | 11.9 | 1.913 | 3.88 | 2 |
| | Neutral | 11 | 9.3 | | | |
| | Disagree | 12 | 10.2 | | | |
| | Strongly Disagree | 67 | 56.8 | | | |
| Landscape is an important part of schools | Strongly Disagree | 12 | 10.2 | 1.913 | 3.88 | 2 |
| | Agree | 12 | 10.2 | | | |
| | Neutral | 13 | 11 | | | |
| | Disagree | 24 | 20.3 | | | |
| Landscape is an important part of schools | Strongly Disagree | 57 | 43.3 | 1.913 | 3.88 | 2 |
| | Agree | 12 | 10.2 | | | |
| | Neutral | 13 | 11 | | | |
| | Disagree | 24 | 20.3 | | | |

Table 4 shows that 72% of respondents have a landscape element in their school, whereas only 33% do not. The surveys show that the selected schools have limited landscape elements present in the school environment. In the survey, the respondent stated there are stones, unwanted grasses, and unplanned landscaping in the school environment. Elmaghraby and Kenawy (2016), in their study on the impact of outdoor landscape on students' social and environmental behaviour found that having a landscape in education facilities is important for reducing stress and anxiety that kids experience throughout the school day and boosting academic achievement. This indicates that appropriate steps should be taken to ensure the accessibility and upkeep of the landscape components in the school's setting.

The cut off point in the ranking used in Table 5 and 6 is finding the mean score and can be applied when there are categorical variables. To determine the cut-off point following formula was applied.

The upper limit for each cell is determined by $y=a+bx$ Where a is the constant = 1,

$$b = \frac{\text{maximum scale} - \text{minimum scale}}{\text{Number of scale}} = \frac{5 - 1}{5} = \frac{4}{5} = 0.8$$

cell is determined by $y=a+bx$

Where a is the constant = 1,

And x= the scale: 1,2,3,4,5

The upper limit is obtained as follows:

$$Y= 1 + (0.8)1=1.8; Y=1+ (0.8) 2= 2.6; Y=1+ (0.8) 3=3.4; Y=1+ (0.8) 4=4.2; Y=1+ (0.8) 5=5.2$$

Table-7: Survey on the Level of Management of Landscape Elements in the School to Promote its Existence.

| | | Frequence | Percentage | Standard Deviation | Mean | Ranking |
|---|------------|-----------|------------|--------------------|-------|---------|
| How would you rate the appearance of the landscape surrounding your school | Excellent | 30 | 25.4 | 1.178 | 2.2.5 | 3 |
| | Good | 48 | 40.7 | | | |
| | Average | 21 | 17.8 | | | |
| | Poor | 15 | 12.7 | | | |
| | Don't Know | 4 | 3.4 | | | |
| How would you rate the maintenance of the landscape elements surrounding your school building | Excellent | 30 | 25.4 | 1.377 | 2.44 | 2 |
| | Good | 35 | 29.7 | | | |
| | Average | 31 | 26.3 | | | |
| | Poor | 15 | 12.7 | | | |
| | Don't Know | 7 | 5.9 | | | |
| How would you rate the management of landscape of your school building | Excellent | 33 | 28 | 1.497 | 2.45 | 1 |
| | Good | 32 | 27.1 | | | |
| | Average | 27 | 22.9 | | | |
| | Poor | 19 | 16.1 | | | |
| | Don't Know | 7 | 5.9 | | | |

The survey questions used to ascertain how landscape features aided learning and student learning capacities are displayed in Table 6. Additionally, the respondents were given the choice between four options: highly agree, agree, agree, neutral, disagree, and strongly disagree. The fifth-ranked survey question, "Landscape influences students' mood," has a mean value of 2.20 and a standard deviation of 1.310; the second survey question, "Landscape influences students' attention span," has a mean value of 2.66 and a standard deviation of 1.440; which ranks 3rd, The third survey question, "Landscape promotes health and aids students' learning abilities," has a mean value of 2.505 and a standard deviation of 2.505 and ranks 4th. The fourth survey question, "Landscape adds aesthetics to the school environment," has a mean value of 3.88 and a standard deviation of 2.208, which ranks 1st; the fifth survey question, "Landscape is an important part of schools," has a mean value of 3.86 and standard deviation of 1.913. Dongying and William (2015) involved 94 high school students from five high schools in a randomised controlled experiment. Participants were assigned at random to classrooms with windows that opened into built-up areas, or windows that opened onto green areas. The results demonstrate that pupils' performance on focus tests and their capacity to bounce back from stressful conditions are both improved when there are views of greenery in the classroom. This implies that landscape elements have benefits and improve learning abilities, influence the mood of students, promote their health performance, and reduce stress. Landscape elements are therefore encouraged and considered to be part of the planning and design process to promote student welfare in an academic environment. The

survey results on the degree of management of landscape aspects in schools are shown in Table 7. The respondents were presented with four options: "excellent, "good, "average, "poor, and "don't know."

The data collected shows that the survey question, "How would you rate the management of the landscape surrounding your school building?" ranks 1st with a mean value of 2.45 and a standard deviation of 1.497, and the second survey question, "How would you rate the maintenance of the landscape elements surrounding your school building?" ranks 2nd with a mean value of 2.44 and a standard deviation of 1.377. According to Ali et al., (2019) with proper upkeep and access to landscaping elements, it contributes to a healthy environment and helps balance atmospheric conditions, among other things, in the areas of climate change or global warming, sustainability, to name a few.

Table 8 illustrates the survey taken on the level of landscape elements present in the school environment. The respondents were presented with four options (strongly agree, agree, neutral, disagree, and strongly disagree). These options were to ascertain the state and availability of landscaping elements present in the schools visited. The collected data shows that there are few or no landscape elements present in the schools visited. According to the collected data, for the survey question, "There are too many stones everywhere," respondents agree with a percentage of 23.7; for the second survey question, "There are unwanted grasses everywhere," the percentage is 25.4. The survey shows there is no adequate planning of landscaping elements in the respective schools visited.

Table-8: Survey on the Influence of Landscape Elements in Present School.

| | | Frequence | Percentage | Standard Devation | Mean | Ranking |
|--|-------------------|-----------|------------|-------------------|------|---------|
| There are presence of too many stones everywhere | Strongly Agree | 23 | 19.5 | 1.118 | 2.58 | 3 |
| | Agree | 28 | 23.7 | | | |
| | Neutral | 47 | 39.8 | | | |
| | Disagree | 16 | 13.6 | | | |
| | Strongly Disagree | 4 | 3.4 | | | |
| There are unwanted grasses everywhere | Strongly Agree | 12 | 10.2 | 1.114 | 2.88 | 1 |
| | Agree | 30 | 25.4 | | | |
| | Neutral | 43 | 36.4 | | | |
| | Disagree | 26 | 22 | | | |
| | Strongly Disagree | 7 | 5.9 | | | |
| There are unwanted water bodies everywhere | Strongly Agree | 35 | 29.7 | 0.752 | 2.00 | 6 |
| | Agree | 55 | 46.6 | | | |
| | Neutral | 23 | 19.5 | | | |
| | Disagree | 3 | 2.5 | | | |
| | Strongly Disagree | 2 | 1.7 | | | |
| Other Landscaping elements | Strongly Agree | 33 | 28 | 1.600 | 2.45 | 5 |
| | Agree | 55 | 30.5 | | | |
| | Neutral | 23 | 17.8 | | | |
| | Disagree | 3 | 16.1 | | | |
| | Strongly Disagree | 2 | 7.6 | | | |
| The landscaping is attractive | Strongly Agree | 36 | 30.5 | 1.807 | 2.48 | 4 |
| | Agree | 31 | 26.3 | | | |
| | Neutral | 22 | 18.6 | | | |
| | Disagree | 16 | 13.6 | | | |
| | Strongly Disagree | 13 | 11 | | | |
| The landscaping is well maintained | Strongly Agree | 30 | 25.4 | 2.067 | 2.75 | 2 |
| | Agree | 28 | 23.7 | | | |
| | Neutral | 22 | 18.6 | | | |
| | Disagree | 17 | 14.4 | | | |
| | Strongly Disagree | 21 | 17.8 | | | |

THE RESPONDENTS PREFERENCE OF LANDSCAPING MATERIALS

A survey was taken on the preference for landscaping elements in the school environment. This is to ascertain the most desired landscaping materials needed by the respondents that can promote their learning abilities. Figures (3–5) show different landscaping materials and the respondent’s respective choices of the listed materials. Figure 3 shows different landscape materials for plants. The respondents were presented five (5) landscape elements of plants, namely shrubs, climbers, trees, creepers, and covered walkways. The research showed that 60 percent of respondents want more trees to be planted as a landscape element, followed by climbers (17), shrubs, creepers, and covered paths.

According to Seth (2003) and Zhao *et al.* (2018), a comfortable educational environment needs trees and shrubs because: (i) Users require environments with comfortable temperatures and microclimates. (ii) In hot climates, cool shade is required; pollutants that pose serious issues should be removed. Dense populations, as in the case of institutions, need vegetation for gaseous exchange. This implies that the presence of trees is very important as they aid in creating an educational environment conducive to learning.

Different landscape water bodies were presented to the respondents as shown in figure 4. The water bodies presented to the respondents are fountain, pools, ponds, sports and artificial waterfalls. The majority of respondents preferred building fountains as landscape features for the schools'

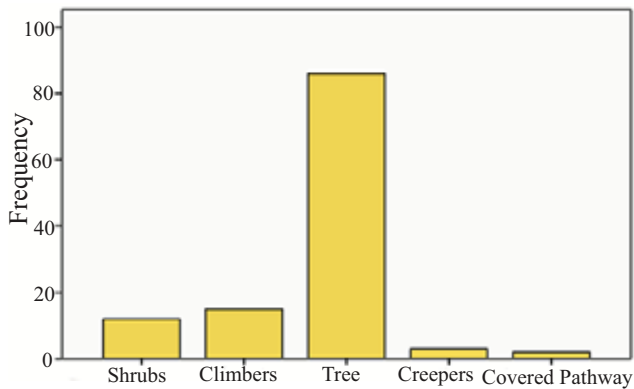


Figure-3: Landscape Element of Plants

water features. According to the data, fountain has the frequency of 57 followed by Ponds with the frequency of 25, pools with the frequency of 15, artificial waterfalls with the frequency of 10 and sports with the frequency of 5. Although the amounts vary greatly, Levy & Mensah (2020) claimed that water is necessary for all gardens and landscapes, even in the desert. The qualities of water as a design feature include coolness, dampness, sparkle, lightness, depth, and tranquillity, the potential for aquatic flora and animals, and recreation. According to the study, water also contributes in lowering the scorching temperature, and minimises noise pollution.

Figure 5 shows that the respondents data of landscape elements of stones. According to the research, respondents concur that decorative stones should be used as a landscape element with the frequency of 50 followed by pebbles with the frequency of 35, marble with the frequency of 19 and Gravel with the frequency 13. According to Elmaghraby and Kenawy (2016) the interior and outdoor environments must be well-designed to create a good learning environment that will improve kids' academic performance, social behaviour, self-confidence, environment health, and sense of belonging.

FIELD RECONNAISSANCE SURVEYS OF LANDSCAPE ELEMENTS IN THE SCHOOL ENVIRONMENT

Surveys were conducted in the designated schools of the study area and pictures were taken to show the Level of the presence of landscaping elements. The survey (Figures 1-6) shows that most of the school environment possesses no landscaping features and only this necessitates taking necessary precautions to avoid its present condition and also to promote adequate comfort to the users of the environment.

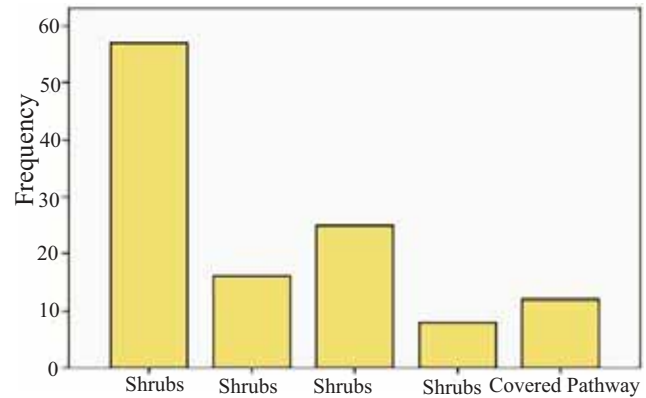


Figure-4: Landscape Element of Water Bodies

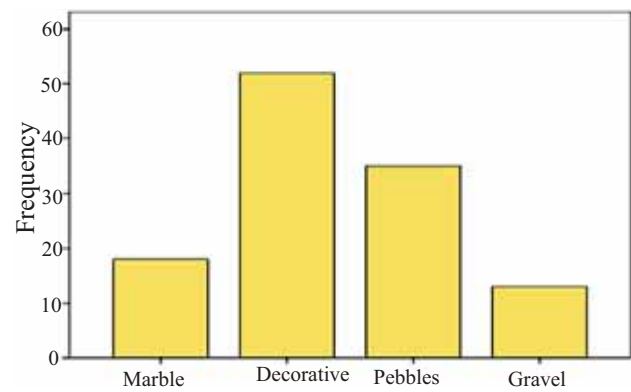


Figure-5: Landscape Element of Stones

Figures 1 and 2 illustrate the spaces of the laboratory linking the hall and entrance to the administrative block. In line with the views, it is observed that there are no existing landscape elements in that area. Emechebe (2019), in the study where 370 structured questionnaires were randomly distributed to residents of Abuja Municipal Area Council (AMAC) to determine the significance of green spaces and landscape components, retrieved 322 out of the total. The study accessed four (4) factors for the need of integrating landscape components in built environments, namely adequate comfort, a good climate, good air quality, and good health. This implies that appropriate measures must be taken to encourage and promote the existence and maintenance of landscape components in school environments, which have a positive impact on students' learning capacities figures 3 and 4 demonstrates the entrance and classroom of the school environment. Based on the view there are no landscape elements present. Berto (2005) stated that outdoor spaces with vegetation, water features, landmarks, and structures contribute to the creation of a better and more sustainable environment. This encourages people to be there and to provide the highest possible quality of life. This implies that an identification of inadequate landscape and its effects in school environment is a prerequisite to the improvement of its integration in the school environment.



Figure-6: School Hall Environment



Figure-7: Administrative Building Environment



Figure-8: Entrance into the School Environment.



Figure-9: Class Room Environment

Figures 6 and 7 depict the administration and school hall environments, respectively. The panorama obviously reveals poor factors that are part of the environment. Blair (2009) proposed in the study a review of the American literature on children's landscaping, taking into account potential effects, school gardening outcomes, teacher appraisals of gardens as learning resources, and methodological difficulties. The study indicated that school gardens enhanced students' science proficiency and that gardening regularly benefited students' environmental views or social actions.

Based on the literature analysis and study findings, inadequate funding and a lack of policy continue to be the main impediments to the promotion of landscape existence in the school setting. In light of these constraints, Louman et al. (2022) proposed certain criteria that support or inhibit finance and projects across sectors for inclusive landscapes in ways that cumulatively lead to more sustainable landscapes in the tropics. Landscape governance, local stakeholder financial literacy, access to finance technology and services, inclusive finance facilities, and related mechanisms for integrated (i.e., multi-project, multi-sector, spatially coordinated) landscape finance are key components in the design of inclusive landscape finance.

The study stated that the main difficulties faced by the recipients were their lack of financial literacy, their lack of technical expertise in converting conventional land-use practices into sustainable ones, their lack of collateral (often related to their insecure land tenure), and their inability to access financial institutions, their lack of capital or income, and their poor organisational skills. The study recommended that landscape governance necessitates institutions that involve all necessary parties from the public, private, and civil societies in order to bring about systemic change. Clarifying norms and regulations and making them easier to apply are both benefits of inclusive landscape governance.

RECOMMENDATIONS

The following suggestions are given in light of the study's results;

- The administration of the school should focus on and pay particular consideration to the landscape elements that are present within the school compound for the benefit of learners and for their continued survival.
- The authorities should renovate its secondary schools and incorporate ecologically friendly landscape designs for the benefit of students.

- This study suggests that the state's decision-makers in charge of setting educational policy should make it a requirement that all secondary schools, whether they are public or private, have a viewable landscape.
- Trees and plants of various types should be added to parking lots, strategic locations, and open places to control global warming and act as wind breakers.
- The government should make provision for financial adequacy in the budget that will help finance the landscaping in the school environment.
- The architects must carefully consider the planning of the outside environment as well as the school structures or the interior of the classroom, resulting in an acceptable setting that supports student comfort and dedication to studying.

CONCLUSION

There is a strong connection between academic accomplishments in schools and the way the landscape functions to support the learning process generally. The effectiveness of the functions performed by the school's landscapes would be at its highest if they were properly managed, particularly the hard and soft aspects. The same holds true for the respective school's academic performance. Also, teachers may use the school's garden to teach classes in the arts, science, and geography. When artificial landscape features like fish ponds or fountains are present, teachers might use them to instruct children about the habitats found there. There is a strong correlation between how important a school's atmosphere is for fostering and encouraging respect for the environment and how successful that environment is.

This study has shown the benefits of integrating landscape into schools and the link between students' performance both academically and socially and the physical environment

outside of school. The result of the study shows a lack of landscaping elements in the selected schools, and the respondents expressed their concern and the relevance of integrating the landscaping elements in the school environment in the hot, humid climate of Ilorin to enable a sustainable environment conducive to learning. It is obvious that this shows that the environment has a big impact on learning and creates an appreciation for and enabling environment for students.

Landscapes may generally improve the attractiveness, usability, and sustainability of cities, schools, and the overall built environment, as previously stated in the literature and findings, but they also confront many problems. Adequate study must be done on the site context, including climate, terrain, hydrology, soil, vegetation, animals, history, culture, and regulations, in order to address these concerns with landscape implementation. Analysis of the user's needs, preferences, and behaviours is also necessary. These include things like accessibility, safety, comfort, and enjoyment. The material can be gathered and organised using a variety of techniques, including site visits, surveys, interviews, maps, pictures, and data sources. Additionally, the current landscape strategy has to be updated, with a focus on lessening soil degradation and making greater use of new remote sensing technology to comprehend Earth surface processes.

Simulations of potential water flow paths and sediment delivery, along with identification of potential solutions (i.e., suitable drainage systems), should be part of guidelines about the most suitable (regarding erosion mitigation) agronomic practise to cultivate agricultural terrace systems. Keeping up with the demands of the present output while the climate is changing is a constant struggle. A comprehensive viewpoint, such as the one put forward, can be quite helpful in overcoming these difficulties. To establish a pleasant environment for the users, the government should provide adequate funding to encourage the inclusion of landscape elements in the learning environment.

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EXPLORING THE RELEVANCE OF CULTURAL CAPITAL THEORY FOR ARCHITECTURAL EDUCATION IN PAKISTAN

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ABSTRACT

Bourdieu's theory of cultural capital is used in literature for a wide range of investigations. However, most of these investigations are based in the context of western society. The current study attempts to explore the relevance of this theory in Pakistan's context. It attempts to do so by exploring students' cultural capital through the investigation of the factors used as indicators of it in the literature, and employing them in the context of Pakistan. In the next stage, this study attempts to understand students' learning experience shaped up by their cultural capital to understand the cultural relevance of the theory. This is a quantitative study conducted through a questionnaire survey with a total response of 1330 students from 14 architecture schools in Pakistan. Findings identified 4 cultural capital clusters in the data. A direct correlation was found between clusters and students' learning experience of Architecture, showing a strong relevance of cultural capital theory in the context of Pakistan.

Keywords: Cultural Capital, Pakistani Society, Cultural Relevance, Architectural Education, Quantitative Study

INTRODUCTION

In order to study social inequality and its long-term effects on education, Bourdieu's idea of cultural capital is widely used in literature. Cultural capital is the familiarity with the dominant culture in society. Bourdieu introduced this idea in his book (Distinction, 1984), where he discussed that how the acquisition of cultural capital is the defining factor for the legitimacy of taste. Meaning those who do not possess the cultural capital will have to follow the superiority of those who do. The acquisition of cultural capital is often associated with the social class, as by being part of a higher social class provides the opportunity to engage in cultural activities. Many times, these activities are part of school education as this is the time where young members of the

society learn about it. Bourdieu also identified that education is the system through which social elite pass on their cultural capital to the next generation and maintain their superiority in the society. This is identified as the system of cultural reproduction by Bourdieu (Nash, 1990).

This is the reason many studies have used early schooling as a means to investigate the cultural capital, and to understand its impacts on decisions individuals take in life, particularly in higher education. Explored cultural capital through involvement in cultural activities during early education, and explored how it impacted their choice of subjects in higher education. Used the idea of cultural reproduction and identified how schooling system contributes to social inequalities by impacting the higher education.

Multiple studies identified how parents' cultural capital guides younger generation in their early school years which dictates their achievements in higher education as well (De Graaf, et. al., 2000; Dimaggio, 1982). So, it is established through literature that cultural capital is investigated by exploring the participation in cultural activities during early education, there are some other factors as well that will be discussed in detail in the sections below.

The origin of cultural capital theory and its usage in understanding of educational achievement in literature is mostly exclusive to western society. Even though none of these studies claimed that their results are exclusive for any one culture, but it is important to be careful in the generalization of these ideas. Therefore, it is important to test the suitability and relevance of this theory in the context of Pakistan.

Using the theory of cultural capital in Pakistani context possess two potential benefits, 1st is that it provides an intellectual link of social stratification in Pakistan and its role in education with the rest of the world. This theory can be extremely useful in a highly stratified society like Pakistan, where even fundamental needs like food, shelter, health care, and education are determined by social class. It can provide insight into how access to cultural practices defines students' path to success in higher education.

The second potential benefit is that it enables the researchers to understand how the social stratification dictates the chances of success in higher education. Architectural education is used as a case study for higher education because of its close association and dependence on cultural familiarity or "cultural capital". Bourdieu claimed and later research supported that cultural capital plays a role in all subject areas of higher education. However, Stevens (2002) made a strong case that architecture being a form of art is impacted by students' social background and their familiarity with the culture more extensively, making it an appropriate choice to explore the impact of cultural capital. For this reason, this study explores the relevance of cultural capital in Pakistani society through its ability to produce diverse learning experiences in architectural education. It attempts to do so by exploring the cultural capital of students of architecture through their involvement in cultural activities in early schooling and then finding the relevance of this cultural capital with their architectural learning. This is important to investigate because students in the school of architecture come from vastly diverse social backgrounds. It will be helpful for teachers to understand this diversity impacting students' abilities to learn, which can lead them to provide more targeted guidance and support.

The hypothesis of this study is that "a direct correlation of cultural capital theory with architectural learning will suggest the relevance of the theory in Pakistani society".

SYMBOLIC POWER AND CULTURAL CAPITAL

According to Bourdieu, all civilizations are divided into several clusters and are constantly struggling to gain power. Certain groups are more successful than others in achieving their goals; since they have greater access to resources, they are better equipped to sway the public. They maintain control by making sure that their way of living, acting, thinking, and behaving is recognized as genuine, so they don't just have control in a specific moment but for generations. Cultural capital is the way to pass on these values to the next generations (Bourdieu, 1984).

Cultural capital is the set of abilities and knowledge that a person can utilize to make progress in their social life. A person's "Cultural capital," which is a reflection of their cultural values and encompasses characteristics like communication skills, dressing sense, posture, academic qualifications, and other things, is defined by their acquaintance with the dominant culture of society and is an indicator of a person's cultural values. These values eventually determine a person's identity and position within the larger social structure. In a stratified society, social class determines who has power over the resources and opportunities that are accessible to them, which determines their success. In order for a student to succeed, according to Bourdieu, they must possess a high cultural capital, which can only be achieved through exposure to the dominant culture in the society, often claimed by the social elite. This makes it very difficult for students from lower social classes to possess it.

This lack of cultural capital can impact their ability to learn in an educational setup. According to Bourdieu, this is particularly evident in campuses where students are more hesitant to acknowledge how ignorant they are. Because of this, it can be difficult for individuals to fit in within the educational system and later in society, which diminishes their chances of succeeding. As a result, the education system plays a crucial part in upholding the status quo.

It is important to understand the scenario of early education in Pakistan because this is the time when an individual's cultural capital is formed, as discussed through literature review in the section "cultural capital investigation". According to Naveed and Sutoris (2020), access to and the standard of education are impacted by poverty in South Asian nations. Pakistan's primary, middle, intermediate, and higher education systems are all incredibly segregated and

socially stratified (Khalid and Khan 2006). This split is based on a number of variables, including socioeconomic background, gender, place of schooling, and urban versus rural locations (Andrabi, Das, and Khwaja, 2006; Rahman, 2004).

As mentioned above Bourdieu (1984) claimed that a person's social class and family background define their cultural capital, that is shaped up by their early upbringing in life, and schooling has a big role to play. According to this claim, the stratified early education system in Pakistan must be playing a vital role in developing students' cultural capital that can impact their learning in higher education. According to literature, the learning system in Pakistan is focused on rote learning, with an emphasis on quantity rather than quality (Ishfaq, 2019; Raja, 2019). These institutions consequently fail to introduce their students to the cultural facets of society. These students frequently struggle to do effectively when they enrol in higher school, which makes their path to success challenging (Iqbal, et. al., 2022). Since architecture is a type of art, students are expected to think critically, reflect, and forge their own paths (Gross, and Do, 1997), this conflict is particularly noticeable in architectural education. Here, the lack of cultural familiarity has a far more significant effect on the odds of success since it shapes how students learn at architecture schools (Stevens, 2002). Therefore to investigate the effects of students' cultural capital on their academic success, architectural education is a suitable case study. Relationship of architectural education with cultural capital is further explored in the section below.

ARCHITECTURAL EDUCATION

Architectural education has a pedagogical approach based on studio model. Design studio that is the most dominant subject for five years of education is a problem-based learning environment that is focused on critical thinking (Barker, 1994). Students are given problems to stimulate the real-life scenarios and they evaluate these scenarios and provide interventions in the form of spatial designs (Lueth, 2008). This model of learning is often very unique for most students, particularly in Pakistan, where their early education does not prepare them for this model of learning (Iqbal, et. al., 2022). In this learning method, teacher students interactions and teaching styles become very important (Attoe and Mugerauer, 1991). Stevens (2002), makes a case through detailed discussion that students' social background becomes very important in architectural learning as it dictates their confidence among other things, this is in line with Bourdieu's claim of the impact of early life on higher education. Literature also talks extensively about the importance of review and

critique in architectural learning, identifying it as the single most important event in the school that impacts students' learning (Doidge, et. al., 2007) Webster (2005 and 2006) uses Bourdieu's theories and discussed how students' chances of success in reviews are often dictated by their habitus and cultural capital. Iqbal, et. al. (2022) claims that in Pakistan, often students joining architecture do not have an idea of the special requirements this profession holds. So, to understand the impact of students' cultural capital on their learning in architecture, five questions are asked in the second part of the data collection. This includes their reason to join architecture, their experience of new kind of learning in the school, their confidence in the beginning of a design project, their experience of interaction with teachers, and experience of design juries.

Cultural Capital and Pakistani Society

This section discusses the role of cultural capital in Pakistani society from two perspectives, first is its role in research on education, and second is the use of the theory for research on any other aspect of society.

In the literature, the application of the cultural capital theory to Pakistani education system is seldom ever discussed. Most of the research focused on education is based on empirical data or statistics as discussed in the section "Education in Pakistan", rather than linking it to some developed theoretical base. Moreover, literature is devoid of any examples of how the educational stratification in early life in Pakistan impacts individuals' abilities and decision making in the later part of their life. Moreover, the handful articles on Architectural education talks about some specific topics, for example the history of the subject in the country (Naz, 2010), the role of architectural education in the context of practice of the profession in the country (Brohi, et. al., 2020). But none of the research talks about students' learning experiences in the architectural design studio and how it might be impacted by their social background and early education.

Most of the sparse examples that we do discover that uses the notion of cultural capital only scratch the surface. A literature review investigating the use of cultural capital reveals very few examples. Muhammad, et. al. (2017) talked about social and cultural capital in relation to entrepreneurship, but they don't go into detail on how they looked into and evaluated the cultural capital of the families they interviewed. Instead, it is regarded as a given idea in the study. Khalid and Sunikka (2017) employed the idea of cultural capital to examine how it would impact the demand

for energy in Pakistan, but they did not really look at the participants' cultural capital. Farid, et. al. (2020) examine the role of cultural capital and use a number of questions to probe it as they evaluate the class reproduction theory in southern Pakistan. They did not, however, explain the motivations for these inquiries or how they are portraying Pakistani culture. The same is true of Uzair-ul-Hassan, et. al. (2019) who are investigating the effects of cultural capital on women's participation in higher education and social mobility. The above-mentioned examples used cultural capital as a theoretical approach without embedding the concept into the methodological approach. Reay (2004) has warned against this superficial use of the concepts of Bourdieu and made a point that the methodologies should be designed based on these ideas for an in-depth investigation of the ideas involved. The most relevant study is by Iqbal and Roberts (2019), where they explored the teachers' perception of students learning in architecture schools in Pakistan and used the idea of cultural capital as theoretical and methodological framework.

METHODOLOGY

This is a quantitative study that was investigated using a questionnaire survey; the justification for using this methodological approach is provided in the next section. The questionnaire is used to gather information for an inquiry into cultural capital as well as for the learning experiences of students. The survey's questions are based on a thorough assessment of the literature to examine how various studies have looked into cultural capital and how these characteristics may be applicable to Pakistani society. To prevent neutral answers, the survey uses a 4-point Likert scale.

The Welsh School of Architecture's ethical committee gave its approval for the study, which was carried out as part of PhD at Cardiff University. A total of 1330 replies were gathered from 14 architecture colleges across four locations in Pakistan. In the architecture schools, survey forms were issued, and ethical consent was obtained. After being gathered and prepared, the data is examined using the software Statistical Package for Social Sciences (SPSS). In order to explore cultural capital, exploratory factor analysis (EFA) is employed, and four clusters of cultural capital are produced. The association between freshly established cultural capital clusters and the learning experience of architecture is investigated in the following stage using cross-tabulation and the Chi-square test.

Cultural Capital Investigation

Bourdieu doesn't offer a conceptual framework or empirical techniques for analysing cultural capital. However, there are several examples in the literature where cultural capital is explored by investigating the participants' experiences in life.

The most popular and effective strategy for examining cultural capital has been recognised in the literature as looking at students' early participation in cultural activities. Additionally, it is acknowledged that the best way for gathering data to examine cultural capital in literature is a quantitative questionnaire survey. An extensive examination of the most relevant research on cultural capital is done in order to determine what questions should be added to the questionnaire survey. Sullivan (2001) discusses how the cultural capital plays a role in educational attainment, for this he investigated participants' involvement in cultural activities in early schooling, their knowledge of cultural activities in the society, and the fluency of the mode of expression. Bennet, et. Al. (2009) talk about the role of cultural capital for achieving success in life, for this the study explores the participation in the cultural activities, along with cultural taste, and parents' education. Noble, and Davies (2009) explored how cultural capital plays a role in the variation of participation in higher education, for this they investigated cultural capital of students through the involvement in cultural activities in early education, along with parents education. (Payne, 2015), explored the impact of cultural capital on the learning experiences and explored the cultural capital using students' cultural activities in early life, including the family and school's cultural activities as well as parents' education. Sortkaer (2019) explored how students' cultural capital impacts their perception of the feedback they receive in education and used involvement in cultural activities in early schooling and with family in early life as a measure for cultural capital.

Based on this literature review, the current study used three aspects for exploring students' cultural capital. First is students' involvement in the art and culture activities in early education, second is family cultural activities, and third is the parents' education level. A detail of these activities and their adaptation for Pakistani society is given (Table 1).

Table-1: Questions to Explore Cultural Capital and their Significance for Pakistani Society.

| Cultural Activities in Early Education | | |
|---|--|---|
| Questions asked in the questionnaire | | Justification for asking this question. |
| 1. | How often did you attend art class in school | Art is highly valued and seen as a sign of cultural sophistication. This is due to the subcontinent's extensive art history, which continued to develop after independence (Dadi, 2009). |
| 2. | How often did you attend creative writing class in school | Another significant component of Pakistani culture is literary writing; This region has long been a hub for poets and writers and Lahore was formerly known as the "city of literary writers" of the Indian subcontinent. Literature continues to play a significant role in Pakistani art culture, making it a crucial gauge of the country's cultural capital (Hashmi, 1986). |
| 3. | How often did you attend music/dance class in school | Different genres of music have always been a component of Hindu and Muslim religions, and music has always been a significant aspect of Indian sub-continent culture (Qureshi and Qureshi, 1986). Pakistan has given the world numerous well-known singers who have left their imprint on the global music scene making music a significant component of art and culture in Pakistan and a sign of the country's cultural capital. Dance, also recognized as a cultural activity is not very frequently taught and practiced due to society's disapproval of it as Pakistan is a Muslim nation. However, it is also a well-liked pastime in some circles, so this question is not dropped but instead included in the music activity. |
| 4. | How often did you participate in extracurricular activities in school | Literature talks about the importance of extracurricular activities in schools (Massoni, 2011), for its positive impacts on health as well as social and cultural development. In Pakistan's most elite schools, extracurricular activities like sports and debate tournaments are included in the curriculum and are seen as a key measure of the country's cultural capital. |
| Family Cultural Activities | | |
| 5. | As a child how often you used to go to Public library | Reading is an important indicator of cultural capital as identified in the literature measuring it by finding how frequently people used to visit a public library as children and how frequently their parents encouraged them to read books other than textbooks. According to Dilshad et al. (2013), reading is significant and has cultural significance and parental support for reading is found to be crucial in the development of reading habits (Van Kleeck, et. Al., 2003). |
| 6. | As a child how often you were encouraged to read (other than curriculum books) by your parents | |
| 7. | As a child how often you attended cultural centers (Museum/ Theater/ play)? | Youth gain exposure to culture through visiting art galleries (Hooper-Greenhill, 2004). Although they are not extremely prevalent, Pakistan does have art centers, particularly in the major cities where this survey was undertaken. In order to determine how familiar students are with the culture, it is crucial to look into how frequently they visit these centers. |
| 8. | As a child how frequently, you used to go for family holidays (Pakistan or abroad)? | Family vacations are not included in the literature as a measure of cultural capital, yet this study includes this question. The reason for this is that despite the fact that it is not extremely frequent or viewed as a luxury pastime in Pakistan, traveling and taking vacations are known to help people become more accustomed to other cultures (Osborne, 2000). |
| Parents Education Level | | |
| 9. | What is your father's education | Since parental education is one of the most significant elements in literature determining pupils' cultural capital, it is also examined by inquiring students about their parents' qualifications, ranging from high school to Doctorate. |
| 10. | What is your Mother's education | |

EXPLORATORY FACTOR ANALYSIS

Using SPSS, an exploratory factor analysis (EFA) is carried out to see whether the variables examining cultural capital are correlated. By combining the variables that have a high association, EFA combines a high number of components into manageable data sets, called factors (Moutinho, et. al., 2014). To create these factors, observed associated variables are divided into fewer variables. EFA accomplishes this by investigating how variables load together to form factors. EFA is based on the steps mentioned in the literature (Henson, and Roberts, 2006; Williams, et. al., 2010).

The first step is to determine the suitability of EFA for the study, a sample size of 200 to 1000 is considered suitable to ideal for this test. The 1300 responses of this study make it the ideal sample size for EFA. The statistical significance of the data is determined through the Bartlett test and the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy. The results of both these tests identified that the data is suitable for EFA analysis. As the second step, the right extraction method was to be identified for the study, there are multiple extraction methods used in EFA, but since the sample size is large, the literature says that the sample size will not affect the integrity of the test, therefore, the default setting of extraction method in SPSS is used.

The analysis showed that there are two factors in the data, The component matrix (Table 2) shows the factor loading values. The First 8 items include cultural activities in early education and family life load together under component 1, and parents' education load together under component 2. These findings indicate that there are two elements influencing the data: one is parents' educational attainment, and the other is students' cultural involvement in early schooling and family life. These elements make sense given that they share common themes, cultural activities have a tendency to cluster together, and parental education tends to cluster together, these are in fact the two factors in the data.

The next step in the analysis is to place each student in a cultural capital category. The position of the student's responses on the Likert scale is used to code the data for this purpose. For instance, for the question, participation in art class at school twice a month or more receives four points, participation once a month receives three points, participation only seldom receives two points, and participation never receives one point. All data is coded in accordance with this guideline. The values of all the variables in the cultural activities and parents' education are added in two additional columns. Through this process, two new

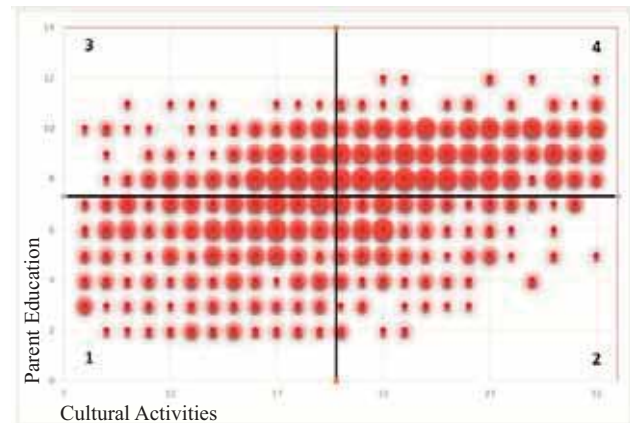


Figure-1: Scatterplot for Cultural Activities and Parents Education

variables are created that are cultural activities and parents' educational levels.

These two variables are plotted on the x- and y-axes to generate a scatterplot (Figure 1) and show each student's location in the two-dimensional plane according to their cultural pursuits and parents' educational backgrounds.

The placements of each student are represented by a dot; the more students a dot represents, the darker it is. Cultural activities on the x-axis have a mean value of twenty, while parents' education on the y-axis has a mean value of 7.32. These mean values are used to partition the axes (Table 3). This segmented the scatterplot into the four categories of cultural capital that are described below.

Cluster 1: Limited cultural engagement and less educated parents

Cluster 2: Engagement in a lot of cultural activities but less-educated parents

Cluster 3: Limited cultural engagement but highly educated parents

Cluster 4: Engagement in a lot of cultural activities and highly educated parents

Based on their position in the scatterplot, each student is assigned a cluster number indicating their cultural capital. (Table 4) identifies the number of students in each cluster.

Impact of Cultural Capital on Learning

As mentioned in the literature review, students are asked five questions to understand the influence of their cultural capital impacts their learning capabilities in architecture.

Table-2: Factor Analysis Result (Component Matrix)

| Component Matrix | | |
|------------------------------|------------------|----------|
| | Component | |
| | 1 | 2 |
| Extracurricular Activities | .749 | |
| Visit to Museums/Art Centres | .743 | |
| Family Holidays | .690 | |
| Creative Writing Class | .675 | |
| Music/Dance Class | .669 | |
| Public Library | .652 | |
| Art Class | .645 | |
| Encouraged to Read | .585 | |
| Father's Education | | .749 |
| Mother's Education | | .749 |

Table-3: Statistics for Cultural Activities and Parents' Education

| Statistics | | |
|-------------------|---------------------|-------------------|
| | Cultural Activities | Parents Education |
| Mean | 20.27 | 7.32 |
| Median | 20.00 | 8.00 |
| Mode | 20 | 8 |

Table-4: Cultural Capital Clusters and the Number of Respondents from each Cluster

| Cultural Capital Clusters | | |
|----------------------------------|-----------|---------|
| | Frequency | Percent |
| Cluster 1 | 385 | 28.9 |
| Cluster 2 | 222 | 16.7 |
| Cluster 3 | 210 | 15.8 |
| Cluster 4 | 513 | 38.6 |

This includes "why did they choose to major in architecture", "is school a suitable place for learning", "are critiques respectful", "do they feel comfortable at the start of a new project" and "do instructors support divergent thinking". Cross-tabulating these questions with cultural capital clusters in SPSS enables the researcher to understand a direct relationship. Cross-tabulation is a test that is used to find the relationship of two variables. It has two benefits, first is that through chi square test it explains if two variables are co-dependent, and if they are not found co-dependent than the hypothesis is nulled. However, for this study, the

null hypothesis is rejected in all investigations because these cross-tabulations demonstrate a statistically extremely significant connection in chi-square results, indicating that here is a statistically significant correlation between cultural capital and students' educational experiences. The second benefit is that it provides a detail response of all variables in terms of percentages, for this study it provides a detail response of different cultural capital students to all five questions as percentages in the form of tables. For this study these tables are converted to pi and bar charts to make the data graphically comprehensible.

(Figure 2) shows students' responses to the question of their motivation to join the school of Architecture. Students who chose to major in architecture because they were drawn to the field tend to have done some background research and developed a grasp of it before being accepted into the programme. 49% of the students in cluster 4 got admission into the school of Architecture because they were drawn to the field of study. The proportion of students who choose this career is noticeably lower in the other 3 clusters. Furthermore, the distinction for admission based on the assigned merit by the university admission system is extremely obvious, and this denotes a very significant outcome that these students have little to no knowledge of architecture and its educational requirements. Only 8% of students from cluster 4 were admitted to architecture school on the basis of merit, compared to a maximum of 31% and 32% of students from clusters 1 and 2, respectively. The majority of students in cluster 3 chose architecture on the advice of their families. Very identical percentages for clusters 1, 2, 3, and 4 exist for the other two reasons for joining architecture, and they do not transmit any appreciable changes in the outcomes.

Figure 3 shows students' responses to the four questions investigating their experience of learning in the schools of Architecture. Cross-tabulation produces the response as tables showing percentage responses on 4-point Likert scale including strongly agree, agree, disagree, and strongly disagree. The percentage responses of strongly agree and agree are added, similarly disagree and strongly disagree are added and shown through bar charts in (Figure 3). This figure makes it clear that cultural capital has a significant

impact on students' learning experiences. Cluster 4 students responded much more favorably than the other three clusters to each of the four questions. Responses to these four questions show that students from cluster 1 are not having a positive educational experience in the school; they believe their ideas are not valued; they believe that the reviews are not respectful and are not assisting them in learning; and they believe instructors do not accept their way of thinking.

FINDINGS AND DISCUSSION

Exploratory factor analysis is a novel approach that has not been employed in the literature previously and is proven to be very effective in this study for the investigation of cultural capital. It draws attention to the factors that have the greatest impact on the parameters that represent the critical elements in enhancing people's cultural capital. This analysis approach is crucial since, as was already said, the literature does not go into enough detail on the relevance of these cultural factors in Pakistani culture. The discussion that follows focuses on the key elements of the study that have the greatest impact on how students learn and how cultural capital is developed.

Different cultural capital clusters signify the ownership of high to low cultural capital, according to the study's findings, which is the first obvious conclusion. Cluster 1 indicates students with lesser cultural activities and parents with lower educational levels, whereas cluster 4 represents students with higher cultural activities and parents with higher educational levels, as seen by the scatterplot. As a result, pupils in clusters 1 and 4 have little and high cultural capital,

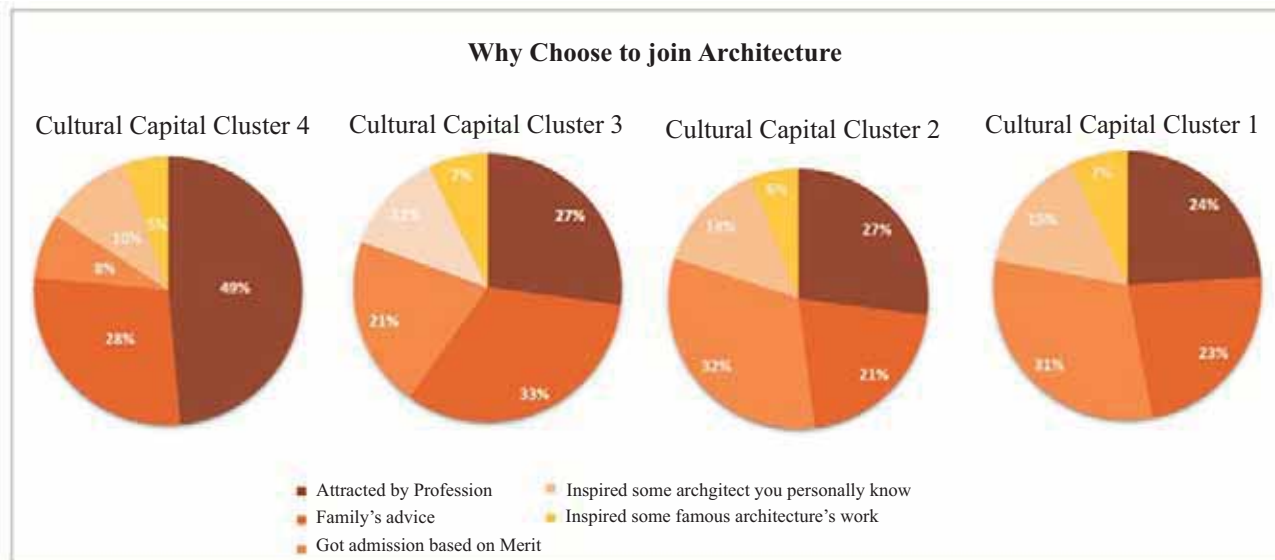


Figure-2: Cultural Capital to the Reasons for Joining Architecture

respectively. However, it is not immediately clear what clusters 2, and 3 stand for; but it becomes clear once their connections to students' learning experiences are examined.

As seen in Figure 3, students in clusters 1 and 4 responded extremely differently to each of the four questions as previously described, and cluster 4 students greatly outperformed cluster 1 in terms of positive responses. The replies from students in Clusters 2 and 3 fall somewhere in the middle, but more significantly, the outcomes for both of these clusters are remarkably similar. These students are classified as belonging to the intermediate cultural capital group in this study. It is crucial to emphasize that cultural capital itself does not have a high or low classification; rather, the term "high cultural capital" refers to the cultural capital of the high or higher socioeconomic class, etc.

It's intriguing to note that results from clusters 2 and 3 are remarkably comparable while having extremely distinct

characteristics. demonstrating the equivalent impact on pupils' cultural capital of parents' lack of education or involvement in cultural activities during their infancy. Both the EFA and cross-tabulation results demonstrate the significance of parents' education; this is also consistent with the literature, as Bourdieu (1979) highlighted parents' education as one of the most crucial determinants of cultural capital. This study demonstrates that participation in cultural events is equally significant, and its absence would diminish the significance of parental education. Another significant discovery is that cluster 3 (Table 4) has the fewest students, which suggests that when parents are educated, it is unlikely that children won't participate in cultural activities. Both the EFA and cross-tabulation results demonstrate the significance of parents' education; this is also consistent with the literature, as Bourdieu (1979) highlighted parents' education as one of the most crucial determinants of cultural capital. This study demonstrates that participation in cultural

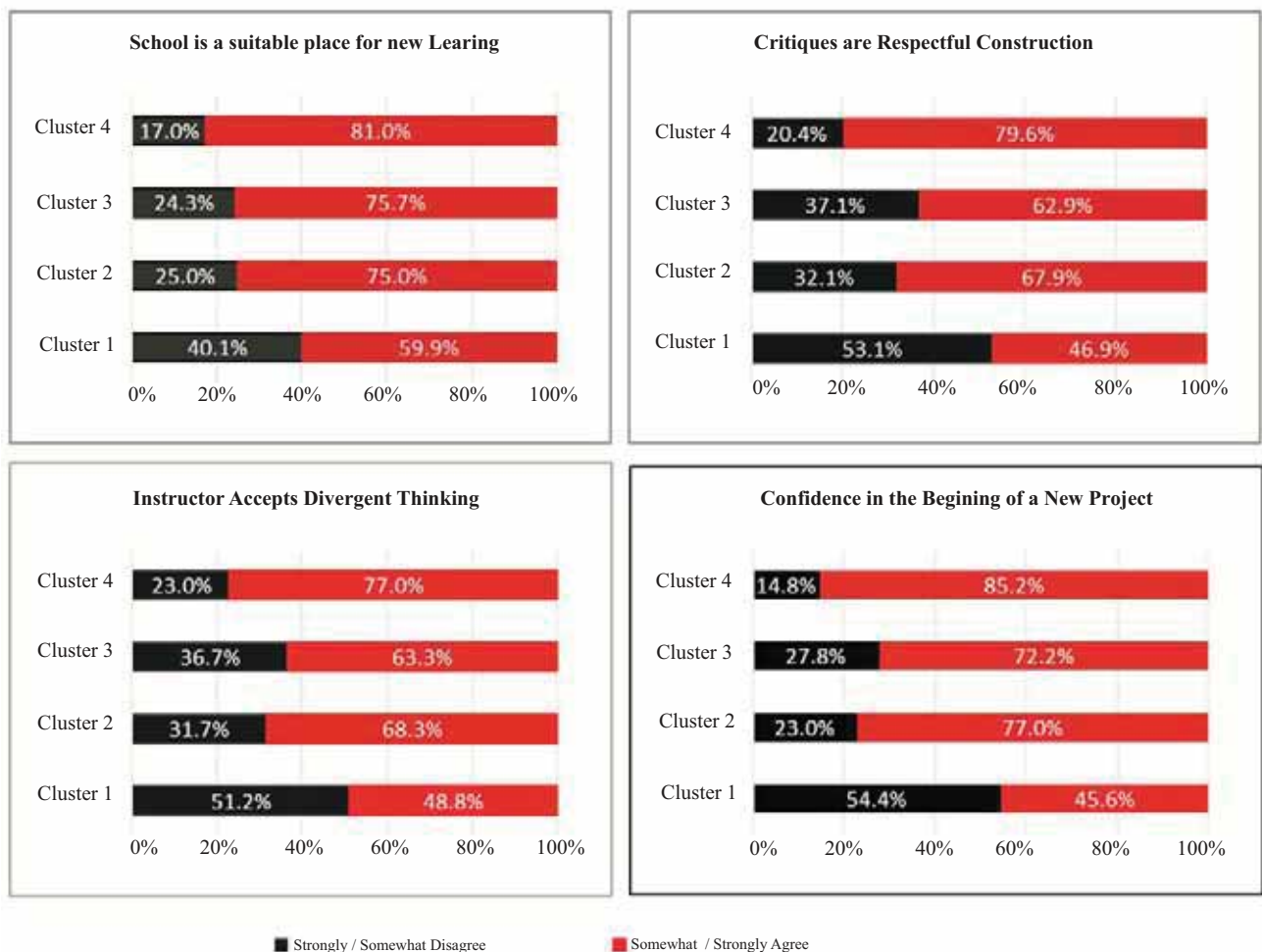


Figure-3: Cultural Capital Responses to Learning Experiences

events is equally significant, and its absence would diminish the significance of parental education. Another significant discovery is that cluster 3 (Table 4) has the fewest students, which suggests that when parents are educated, it is unlikely that children won't participate in cultural activities.

The motivation behind why students decide to pursue careers in architecture communicates several noteworthy findings that emphasize the need for parental education. The majority of students (33%) who pursue careers as a consequence of parental counsel belong to cluster 3, demonstrating that students who were not involved in extracurricular activities as children still rely on their parents' guidance. The most notable result based on this question is that 49% of students in cluster 4 were admitted to the school due to their interest in the profession. This demonstrates that while the number of students choosing to enroll in a school decrease in other clusters, a maximum number of pupils with high levels of cultural activities and parental education are aware of their career before attending the school. Furthermore, the distinction for admission based on the assigned merit by the university admission system is extremely obvious, and this denotes highly significant outcomes. It demonstrates that these students lack knowledge of the profession and its educational requirements and that they just entered this field because it was given to them. A maximum of 31% and 32% of students from clusters 1 and 2 respectively entered architecture school after receiving merit-based admission. Although just 8% of students from cluster 4 entered the school, for this reason, the ratio is still greater for students in cluster 3, at 21%. The conclusion of Van De Werfhorst, et. al. (2003) is supported by this study, which states that cultural capital influences career choice.

These findings show that good exposure to cultural activities and a high level of parental education enables the majority of cluster 4 students to have a working knowledge of the profession of architecture, and they are admitted to the school of their own free will and aptitude for the field. A student's motivation for pursuing a job shift from a knowledge of the profession to depending on others' opinions and adhering to merit-based allocation when the value of cultural activities and parents' education declines. Clusters of cultural capital have a significant influence on students' educational experiences.

CONCLUSIONS AND LIMITATIONS

The literature review on the theory of cultural capital, and on the methodology for investigating it has been extremely helpful for the current study. It helped to develop the

theoretical and methodological base, with the adaptation to the context of Pakistan (by designing the questions based on the dominant culture in Pakistani society shown in Table 1). This confirms the first potential benefit identified in the introduction and using Bourdieu's concepts provides an intellectual link of exploring the impact of social stratification on education in Pakistan with the world knowledge. This study helps to develop a framework for exploring the impact of social stratification embodied through cultural capital development in early life on higher education, proving the second potential benefit identified in the introduction to be true.

The key argument is based on the relevance of the cultural capital theory for understanding the impact of social background embodied through cultural capital on architectural education. The impact of social background on learning experience is a very sensitive issue, on one hand it may seem like a norm, something that is understood, but at the same time it is a very underexplored issue. It is not important to just claim that there is a relation of social background with learning which seems like a norm, but to dig deeper into this relationship and to see how exactly it affects the learning. This study attempted to do this and concluded that cultural capital affects students' motivations for studying architecture as well as their educational experiences. Students with high levels of cultural capital are already familiar with their chosen professions, making the road to success easier for them. The stark disparity in the experiences of the students seen in these clusters suggests that the cultural capital theory is very much applicable to the context of Pakistan, proving the hypothesis mentioned in introduction.

This is a significant discovery because it opens the door for further investigation, the current study was limited to architectural education, it might be important to see how cultural capital impacts other disciplines of higher education. This is a longitudinal study, exploring the impact of students' social background and cultural capital at one point in time, it did not explore how students cope with the difficulties they are facing in learning over a longer period of time. As Bourdieu (1984) claims that students cultural capital evolves with the time spent in the school, so it will be important to explore how the years spent in the school of Architecture might rectify or strengthen the impacts of social background. Also, it does not explore how the differences in learning experiences transforms into practice of architecture as these students graduate from the schools of architecture.

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EXPLORING THE POTENTIAL OF VERTICAL LIVING FOR SUSTAINABLE URBANIZATION IN LAHORE, PAKISTAN

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ABSTRACT

This study aimed to examine the potential of vertical living for sustainable urbanization in Lahore, Pakistan. Through a cross-sectional survey of 400 residents using a structured questionnaire with Likert scale items and demographic questions, valuable insights are gathered from the city's diverse population, particularly those in congested areas experiencing urbanization implications. The demographic data reveals a balanced representation of gender, age, marital status, and education among the respondents. The findings highlight the positive perception of vertical living in addressing the increasing demand for housing in Lahore, with 60% of respondents agreeing it can meet this need. Additionally, 70% of respondents believe vertical living can promote efficient land use and reduce urban sprawl, while 83% see it as a means to conserve green spaces and protect natural habitats. Furthermore, 76% agree that vertical living can contribute to a more sustainable and balanced urban development in Lahore. Moreover, 64% of respondents find vertical living as a solution for affordable housing options and 69% believe it can improve transportation efficiency by reducing the need for long commutes. The study concludes that a significant portion of respondents have a positive view of vertical living's potential benefits in Lahore. However, it also reveals concerns and neutral views, indicating the necessity for further research and increased awareness to better understand the concept of vertical living and its relevance in the context of Lahore's urban development. This research can assist in making informed decisions about sustainable urban planning and housing initiatives in Lahore and potentially in other similar urban settings.

Keywords: Vertical Living, Sustainable Urbanization, Lahore Pakistan, Sustainable Urban Development, Urban Planning, Housing Demand

INTRODUCTION

Urbanization

Urbanization refers to the process by which an increasing proportion of a country's population moves from rural areas to urban areas, leading to the growth and expansion of cities and towns (Gallagher, 2015). It involves the transformation of agricultural and rural landscapes into urban centres characterized by a higher concentration of people, infrastructure, and economic activities. This process is often

driven by various factors, including industrialization, economic development, and population growth (Encyclopaedia Britannica, 2021; UNDP 2018).

Factors Behind Urbanization

There are many factors that contribute to urbanization, including economic opportunities, access to education and healthcare, and the search for a better quality of life. As people move to cities, they bring with them their cultures, traditions, and values. This can lead to a mixing of cultures

and the creation of new urban identities. Urbanization has both positive and negative consequences. On the one hand, it can lead to economic growth, improved infrastructure, and access to services. On the other hand, it can also lead to social problems such as poverty, crime, and pollution. The future of urbanization is uncertain. Some experts believe that the trend will continue, leading to even larger and more populous cities. Others believe that urbanization will eventually plateau, as people become more aware of the challenges of living in cities (World Bank, 2020; UNDP, 2018; WHO, 2010).

Urbanization in Pakistan

Pakistan, a developing nation in South Asia, has experienced rapid urbanization, surpassing other countries in the region. Factors like internal and external insurgencies, economic opportunities, and high population growth have led to increased migration to cities for security and livelihoods (Kugelman, 2013). Projections indicate that half of the country's population will be living in urban areas by 2025, with a significant portion being under the age of 30. This rapid urbanization has resulted in challenges, including a severe housing shortage, with an estimated backlog of approximately 10 million housing units needed. As the urban population continues to grow, addressing this housing demand becomes crucial for sustainable and balanced urban development in Pakistan (UNDP, 2019).

Urbanization in Lahore

Lahore, the capital city of the Punjab province in Pakistan, is one of the country's most populous cities. With a rich cultural heritage, historical landmarks, and economic significance, Lahore has experienced rapid population growth over the years. As of March 2023, Lahore's population was estimated to be over 13.5 million, making it one of the most densely populated cities in Pakistan (Macrotrends, 2023). The city's population has been steadily increasing due to natural growth and rural-to-urban migration, driven by the search for better economic prospects and improved living standards.

Lahore, like many other major cities in Pakistan, faces a severe housing problem. The rapidly growing population has led to an increasing demand for housing, surpassing the available supply. This has resulted in various housing challenges, including:

- **Housing Shortage:** The demand for affordable and adequate housing far exceeds the supply, leading to a shortage of affordable homes for the city's growing population.
- **Informal Settlements:** The lack of affordable housing options has resulted in the growth of informal settlements, often referred to as slums or *Katchi Abadis*. These settlements lack proper infrastructure, sanitation, and access to basic services.
- **Urban Sprawl:** The demand for housing has led to urban sprawl as the city expands horizontally into its surrounding areas. This expansion can put additional pressure on agricultural land and natural resources.
- **Housing Affordability:** Many residents find it difficult to afford housing in the formal market due to high property prices and limited access to mortgage financing.
- **Housing Quality:** While there are some high-end housing projects, there is also a lack of quality housing options for middle and lower-income groups.
- **Infrastructure Strain:** The rapid increase in the population has put a strain on existing infrastructure and utilities, including water supply, sanitation, and transportation.
- **Land Use and Zoning Issues:** Inefficient land use and zoning practices may contribute to the misallocation of land resources and the lack of suitable areas for housing development (Malik et al 2019; Kugelman, 2013; Fatima et al., 2021; Nadeem et al., 2021).

VERTICAL LIVING

Vertical living refers to residential buildings that are designed and constructed with multiple floors or stories. Instead of spreading horizontally across a large area, vertical living utilizes the vertical space by stacking residential units on top of each other within a single building. These buildings often have elevators and staircases to facilitate access to different floors (Khan and Tariq, 2019). The concept of vertical living has gained popularity in urban areas with limited available land for horizontal expansion. It allows for increased housing density, which is particularly important



Figure-1: Population Trends of Pakistan.
Source: World Population Prospects, UNDP

in densely populated cities to accommodate a growing population while conserving land and promoting sustainable urbanization. Vertical living can take various forms, such as: high-rise apartments, skyscrapers, condominiums and mixed-use developments. Vertical living offers several potential benefits, including: Efficient land use, access to amenities and reduced commute sustainability (Sadiq et al., 2019, Ahmad and Naseer, 2019; Khan and Tariq, 2019).

VERTICAL LIVING IN LAHORE

Choosing Lahore for this study is ideal due to its rapid urbanization and population growth, presenting a relevant case for exploring sustainable housing solutions. With a rising demand for housing, vertical living offers a compact and eco-friendly option (The Business Year, 2020). Limited land availability in Lahore underscores the need for efficient land use through vertical living. Addressing sustainability concerns, this study aids policymakers in formulating effective urban planning. Conducting this research fills a gap in vertical living studies specific to Lahore, offering valuable insights for future urban projects. Lahore's socioeconomic

diversity enables a comprehensive understanding of vertical living feasibility and acceptance. Lessons learned can have broader applications for other urban centres facing similar challenges (Fatima et al., 2021; Nadeem et al., 2021).

PROBLEM STATEMENT

The increasing demand for housing in Lahore presents a pressing urbanization challenge. To address this, exploring the potential of vertical living is crucial. This study aims to investigate the perceptions and opinions of residents regarding vertical living's ability to cater to housing demands, promote efficient land use, conserve green spaces, and contribute to a more sustainable and balanced urban development. Additionally, the study aims to assess vertical living's potential as a solution for affordable housing options and its impact on reducing long commutes and improving transportation efficiency. Understanding residents' willingness to consider living in vertical housing will provide valuable insights for sustainable urban planning in Lahore.

- To evaluate residents' perceptions and opinions on the potential of vertical living in addressing the increasing demand for housing in Lahore.
- To examine the impact of vertical living on promoting efficient land use and reducing urban sprawl in Lahore.
- To investigate residents' views on the role of vertical living in conserving green spaces and protecting natural habitats, contributing to a more sustainable and balanced urban development in Lahore.

By achieving these research objectives, the study aims to contribute valuable insights to inform urban planning, housing policies, and sustainable development strategies in Lahore.

Significance of Research

This research holds significant implications for sustainable urban development and housing planning in Lahore. By exploring the perceptions and opinions of residents on vertical living, the study addresses key aspects that can shape the city's future such as meeting housing demand, efficient land use, conservation of green spaces, sustainable urban development, affordable housing solutions, transportation efficiency and resident perception. This research contributes to evidence-based decision-making for urban planning and policymaking in Lahore. The findings can guide the city's authorities and developers in creating a more sustainable, liveable, and inclusive urban environment that meets the evolving needs of its residents. Moreover, the study's insights can have broader implications for other cities facing similar challenges, paving the way for innovative and sustainable housing solutions on a global scale.

Review of the Significant Literature

The study by Nadeem et al. (2021) focuses on scaling the potential of compact city development in Lahore, Pakistan. It explores how compact city planning can address urbanization challenges, promote sustainability, and improve urban livability. The research examines the impact of compact city development on land use efficiency, transportation, infrastructure, and environmental sustainability in Lahore. By analysing the case of Lahore, the study provides insights into the opportunities and challenges of implementing compact city strategies in rapidly growing cities.

The results of 2017 Pakistan Census showed that the total population of Pakistan was 207.8 million, positioning it as the fifth most populous country globally and it highlighted the significant housing shortage in the country, particularly in urban areas. According to the census, there were 32.2 million households in Pakistan, an increase of 32.2% from the previous census in 1998 (Tariq et al., 2018). Urbanization has led to a rapid increase in the population of cities like Lahore, leading to the demand for more housing and infrastructure (Hassan and Khan, 2014).

However, limited land availability, due to urban sprawl and land-use regulations, has resulted in a shortage of affordable housing in many cities worldwide, including Lahore (Jabeen et al., 2015). Consequently, informal settlements have become widespread, lacking basic facilities like water, electricity, and sanitation. UI Hussnain, et. al., (2020) emphasized that the lack of community and stakeholder participation has been a significant obstacle in the success of past urban plans. The inclusion of stakeholders is crucial for achieving social sustainability within the community (Kohon, 2018). Recognizing this finding, it becomes imperative to acknowledge that the key stakeholders in any urban plan are the citizens who will be directly impacted by the planning decisions on a daily basis. Their active involvement in the planning process is essential for ensuring sustainable urban development (Lindenau and Bohler-Baedeker, 2014).

Notably, young people, although they may not have decision-making power in choosing their residence, are profoundly influenced by their environment, which significantly impacts their socialization (Osborne et al., 2017). Therefore, fostering meaningful engagement and representation of stakeholders, including young people, can contribute to more effective and socially sustainable urban planning and development.

Bharti and Mehrotra (2020) discusses Ahmedabad's urban development approach using contiguous replication of town planning schemes for coherent and organized growth. It explores benefits, challenges, and lessons for urban planners and policymakers in other cities facing similar urbanization issues, emphasizing sustainable practices. Kaczorowska (2020) examined the urban transformation and implementation of green development strategies in the city of Gothenburg. The prime focus was on analysing the city's efforts to adopt and execute sustainable development practices.

The research, Bibri et al. (2020) explored various practices and strategies to promote the compact city concept, focusing on urban sustainability. The study examined the implications of compact city planning on land use, transportation, infrastructure, and environmental aspects. The findings offer valuable guidance for urban planners and policymakers seeking to adopt sustainable urban development practices in the context of increasing urbanization and environmental challenges. Malik et al. (2019) examine the lack of tenure security, poor housing conditions, and limited access to water, sanitation, and healthcare. The research sheds light on the vulnerability of these marginalized communities to evictions, displacement, and environmental hazards.

While Jucu and Voiculescu (2020) investigate abandoned places and urban marginalized sites in Lugoj municipality, Romania, three decades after the socialist-state collapsed. The research explores the impact of the collapse on urban development, resulting in neglected and abandoned areas within the city. The study examines the social, economic, and environmental implications of these abandoned sites. It aims to shed light on the challenges faced by Lugoj municipality in revitalizing and integrating these marginalized areas into the urban fabric. Bhagwat and Devdas (2020), explore the concept of compact city development and its potential to address urban sustainability challenges. It examines strategies and approaches for achieving a sustainable compact city, focusing on land use efficiency, transportation, infrastructure, and environmental considerations. The study provides a roadmap for urban planners and policymakers to promote sustainable urban development and create more liveable and resilient compact cities.

Liaqat et al. (2017) explore urban sustainability in Lahore using the compact city approach. The study focuses on evaluating the city's sustainability by assessing its compactness and efficiency in land use, transportation, and infrastructure. The research investigates how compact city planning can lead to sustainable development, reduced urban sprawl, and improved accessibility. Jim (2013) highlights the importance of urban greening in promoting environmental sustainability, improving quality of life, and addressing urban challenges in densely populated areas. The research examines various green infrastructure practices, such as urban parks, green roofs, vertical gardens, and urban forests, and their potential benefits for compact cities.

The study by Tariq et. al., (2018), highlights how built houses can control residential land speculation in Bahria Town, Lahore. It explores their impact on real estate dynamics, regulatory implications, urban development, and liability. The findings emphasize the potential role of built houses in sustainable urban planning, offering valuable lessons for managing urban growth, land speculation, and ensuring affordable housing options in rapidly growing cities.

Maloutas et al. (2023) explore how different social groups tend to concentrate on specific floors or sections of the buildings. Factors influencing residential preferences, social interactions, and community dynamics are analysed. The research highlights the implications for urban planning and design to create more inclusive and cohesive neighbourhoods in high-rise developments. Understanding the phenomenon of vertical segregation is essential for promoting social diversity and building sustainable and harmonious living environments in apartment buildings in cities.

Horizontal planning, which involves the development of low-rise buildings and single-family homes, has been the traditional approach to urban development in many cities, including Lahore. However, this approach is not sufficient to meet the housing needs of the growing urban population, particularly low to middle income families (Latif and Tao Fang 2020). Limited land availability, coupled with increasing demand for housing, has resulted in rising housing costs, making it difficult for low to middle income families to afford decent housing (World Economic Forum, 2019).

Vertical planning, such as high-rise apartment buildings, provides a potential solution to the issue of limited land availability and increasing demand for affordable housing (Hanif et al., 2015). High-rise buildings can increase the density of urban areas, reducing the need for new land development and preserving open spaces. Furthermore, high-rise buildings can provide more affordable housing options for low to middle income families, as they can be constructed on a smaller land area than low-rise buildings, reducing land costs. However, vertical planning also has its drawbacks. High-rise buildings require higher initial costs and may have higher maintenance costs than low-rise buildings, making them less accessible to low-income families. Additionally, high-rise buildings may have limited

privacy and can be more vulnerable to noise and other disturbances, affecting the liveability of the building (Fatima et al., 2021).

Similarly, a study found that vertical accommodation can provide a solution to the housing affordability and availability challenges in Lahore. The study highlighted that affordable housings can be developed in areas that are close to employment centres, public transportation, and other amenities, which can help reduce transportation costs and improve access to job opportunities for low to middle income families (Tariq et al., 2018). However, the literature also highlights some of the challenges associated with vertical living. Building safety and accessibility are major concerns in the development of high-rise buildings in Pakistan. The study suggests that building codes and safety standards must be enforced to ensure that high-rise buildings are safe and structurally sound (Hasan, 2021).

RESEARCH METHODOLOGY

Research Design

The research will adopt a cross-sectional survey design to gather data from respondents in Lahore. This design allows the researchers to collect information at a specific point in time, providing insights into the participants' perceptions and opinions about vertical living and its role in sustainable urbanization. The survey questionnaire is used to assess the respondents' attitudes towards vertical living, addressing various aspects such as its ability to address the growing housing demand, promote efficient land use, conserve green spaces, and contribute to sustainable urban development.

Population: Lahore is a vibrant and diverse city in Pakistan, making it an excellent choice as a survey population. With a population of around 13.5 million (Macrotrends, 2023), the city offers a wide range of socio-economic backgrounds and housing conditions. Conducting a survey in Lahore can provide valuable insights into various urbanization challenges and opportunities, including affordable housing, sustainable urban development, and the potential of vertical housing solutions. The findings from such a survey in Lahore can have broader implications for urban planning and development in other rapidly growing cities facing similar issues.

Sampling: Considering the constraints of limited financial resources, human resources, and time, the current study opts for a convenient sampling method. This method involves selecting participants who are readily available and accessible for data collection. The selection criteria focus on residents living in areas of Lahore characterized by congestion and high population density. These individuals are considered the best respondents for this survey because they directly experience the challenges and implications of urbanization and housing demand in their daily lives.

Sample Size: To calculate the sample size using Taro Yamane's (1967) formula on 13.5 million population of Lahore, a desired level of precision (e) of 5% is taken, which can be expressed as 0.05.

Using the Formula

$$n = 1 + N(e^2)N$$

$$n = 13,500,000 + 13,500,000(0.0025)n = 1 + 13,500,000(0.025)13,500,000 \quad n = 13,500,000 + 33,750n = 1 + 33,75013,500,000$$

$$n = 400.035$$

Therefore, the estimated sample size required for the population of Lahore with a desired precision of 5% is approximately 400.

DATA COLLECTION

Data for this study is collected through a structured questionnaire designed to assess respondents' perceptions and opinions regarding the potential of vertical living for sustainable urbanization in Lahore. The questionnaire comprises 7 Likert scale items, which allow participants to express their level of agreement or disagreement with specific statements related to vertical living. Additionally, the questionnaire includes 4 demographic questions to gather information about respondents' gender, age, marital status, and education level. The data collection process involves distributing the questionnaire in-person to the selected participants. This approach enables the researchers to directly engage with the respondents, ensuring a higher response rate and the opportunity to clarify any questions or concerns the participants may have.

Table-1: Demographic Statistic

| Gender of the Respondents | | | | |
|----------------------------------|--------|-----------|---------|--------------------|
| | | Frequency | Percent | Cumulative Percent |
| Valid | Male | 240 | 60.0 | 60.0 |
| | Female | 160 | 40.0 | 100.0 |
| | Total | 400 | 100.0 | |

| Age of the Respondents | | | | |
|-------------------------------|-------------|-----------|---------|--------------------|
| | | Frequency | Percent | Cumulative Percent |
| Valid | 18-25 | 8 | 2.0 | 2.0 |
| | 26-35 | 16 | 4.0 | 6.0 |
| | 36-45 | 104 | 26.0 | 32.0 |
| | 46-55 | 184 | 46.0 | 78.0 |
| | 56 or Above | 88 | 22.0 | 100.0 |
| | Total | 400 | 100.0 | |

| Marital Status of the Respondents | | | | |
|--|-------------------|-----------|---------|--------------------|
| | | Frequency | Percent | Cumulative Percent |
| Valid | Single | 48 | 12.0 | 12.0 |
| | Married | 320 | 80.0 | 92.0 |
| | Divorced/Seprated | 16 | 4.0 | 96.0 |
| | Window | 16 | 4.0 | 100.0 |
| | Total | 400 | 100.0 | |

| Education of the Respondents | | | | |
|-------------------------------------|----------------------|-----------|---------|--------------------|
| | | Frequency | Percent | Cumulative Percent |
| Valid | Primary Education | 8 | 2.0 | 2.0 |
| | Secondary Education | 56 | 14.0 | 16.0 |
| | Higher Sec.Education | 184 | 46.0 | 62.0 |
| | Masters Degree | 104 | 26.0 | 88.0 |
| | Bachelors Degree | 40 | 10.0 | 98.0 |
| | Doctors Degree | 8 | 2.0 | 100.0 |
| | Total | 400 | 100.0 | |

Data Analysis

In this study, descriptive statistics will be employed to analyse the demographic data of the respondents. The survey questionnaire data will be analysed using SPSS version 26, a statistical software package commonly used for data analysis in research. This statistical analysis to provide a clear understanding of the participants' characteristics and perceptions regarding vertical living, enabling meaningful interpretations and conclusions from the collected data.

Data Analysis and Interpretation

Data analysis and interpretation are essential steps in any research study, including the current investigation on the potential of vertical living for sustainable urbanization in Lahore. After collecting the data through the survey

questionnaire, the next phase involves processing and analysing the responses using appropriate statistical methods.

Table 01 presents demographic statistics from a survey conducted with 400 respondents. The respondents were categorized based on gender, age, marital status, and education level.

Demographic Profiles of the Respondents

Gender of the Respondents

- 60% of the respondents were male (240 out of 400).
- 40% of the respondents were female (160 out of 400).

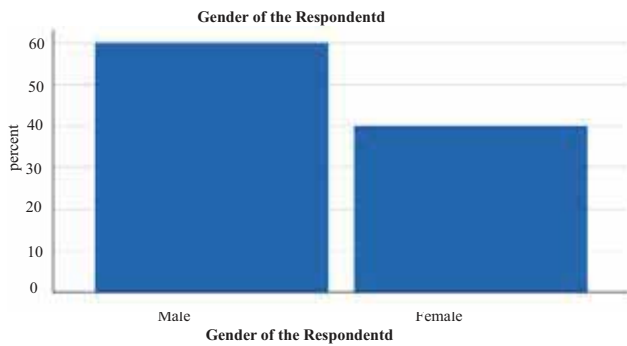


Figure-2: Gender of the Respondents

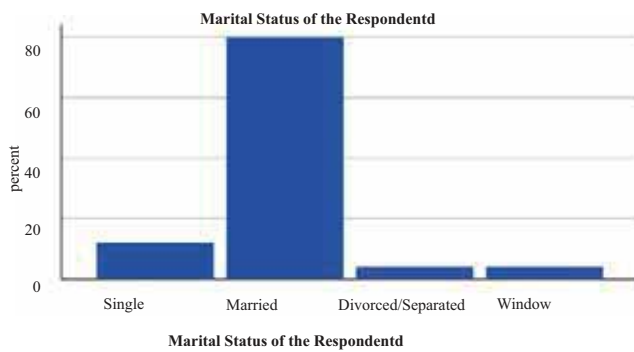


Figure-4: Marital Status of the Respondents

Age of the Respondents

- 2% of the respondents were aged 18 to 25 (8 out of 400).
- 4% of the respondents were aged 26 to 35 (16 out of 400).
- 26% of the respondents were aged 36 to 45 (104 out of 400).
- 46% of the respondents were aged 46 to 55 (184 out of 400).
- 22% of the respondents were aged 56 or above (88 out of 400).
- 40% of the respondents were female (160 out of 400).

Marital Status of the Respondents

- 12% of the respondents were single (48 out of 400).
- 80% of the respondents were married (320 out of 400).

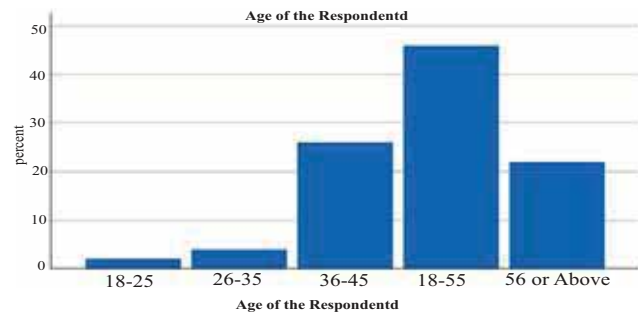


Figure-3: Age of the Respondents

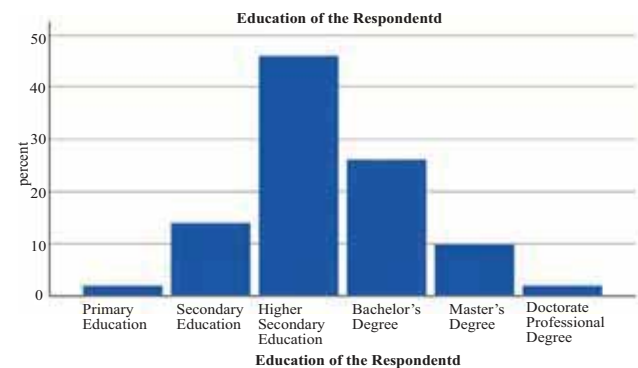


Figure-5: Education of the Respondents

- 4% of the respondents were divorced/separated (16 out of 400).
- 4% of the respondents were widowed (16 out of 400).

Education of the Respondents

- 2% of the respondents had primary education (8 out of 400).
- 14% of the respondents had secondary education (56 out of 400).
- 46% of the respondents had higher secondary education (184 out of 400).
- 26% of the respondents had a Bachelor's degree (104 out of 400).
- 10% of the respondents had a Master's degree (40 out of 400).
- 2% of the respondents had a Doctorate or Professional degree (8 out of 400).

Table-2: Responses About Potential of Vertical Living in Lahore.

| 1-Vertical living can help Address the Increasing Demand for Housing in Lahore | | | | | |
|--|-------------------|-----------|---------|---------------|--------------------|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Strongly Disagree | 16 | 4.0 | 4.0 | 4.0 |
| | Disagree | 32 | 8.0 | 8.0 | 12.0 |
| | Neutral | 24 | 6.0 | 6.0 | 18.0 |
| | Agree | 160 | 40.0 | 40.0 | 58.0 |
| | Strongly Agree | 168 | 42.0 | 42.0 | 100.0 |
| | Total | 400 | 100.0 | 100.0 | |
| 2-Vertical Living can Promote Efficient Land Use and Reduce Urban Sprawl. | | | | | |
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Strongly Disagree | 36 | 9.0 | 9.0 | 9.0 |
| | Disagree | 44 | 11.0 | 11.0 | 20.0 |
| | Neutral | 40 | 10.0 | 10.0 | 30.0 |
| | Agree | 172 | 43.0 | 43.0 | 73.0 |
| | Strongly Agree | 108 | 27.0 | 27.0 | 100.0 |
| | Total | 400 | 100 | 100.0 | |
| 3-Vertical Living can Help Conserve Green Spaces and Protect Natural Habitats. | | | | | |
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Strongly Disagree | 20 | 5.0 | 5.0 | 5.0 |
| | Disagree | 16 | 4.0 | 4.0 | 9.0 |
| | Neutral | 32 | 8.0 | 8.0 | 17.0 |
| | Agree | 220 | 55.0 | 55.0 | 72.0 |
| | Strongly Agree | 112 | 28.0 | 28.0 | 100.0 |
| | Total | 400 | 100 | 100 | |
| 4-Vertical Living can Promote a more Sustainable and Balanced Urban Development in Lahore | | | | | |
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Strongly Disagree | 32 | 8.0 | 8.0 | 8.0 |
| | Disagree | 24 | 6.0 | 6.0 | 14.0 |
| | Neutral | 40 | 10.0 | 10.0 | 24.0 |
| | Agree | 184 | 46.0 | 46.0 | 70.0 |
| | Strongly Agree | 120 | 30.0 | 30.0 | 100.0 |
| | Total | 400 | 100 | 100.0 | |
| 5-Vertical Living can Provide a Solution for Affordable Housing Options in Lahore. | | | | | |
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Strongly Disagree | 56 | 14.0 | 14.0 | 14.0 |
| | Disagree | 40 | 10.0 | 10.0 | 24.0 |
| | Neutral | 48 | 12.0 | 12.0 | 36.0 |
| | Agree | 176 | 44.0 | 44.0 | 80.0 |
| | Strongly Agree | 80 | 20.0 | 20.0 | 100.0 |
| | Total | 400 | 100 | 100.0 | |

6- Vertical Living can Reduce the need for Long Commutes and Improve Transportation Efficiency.

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly Disagree | 36 | 9.00 | 9.00 | 9.0 |
| | Disagree | 40 | 10.0 | 10.0 | 19.0 |
| | Neutral | 48 | 12.0 | 12.0 | 31.0 |
| | Agree | 192 | 48.0 | 48.0 | 79.0 |
| | Strongly Agree | 84 | 21.0 | 21.0 | 100 |
| | Total | 400 | 100 | 100.0 | |

7- I Would be Willing to Consider Living in a Vertical Housing Structure in Lahore.

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly Disagree | 28 | 7.0 | 7.0 | 7.0 |
| | Disagree | 44 | 11.0 | 11.0 | 18.0 |
| | Neutral | 72 | 18.0 | 18.0 | 36.0 |
| | Agree | 176 | 44.0 | 44.0 | 80.0 |
| | Strongly Agree | 80 | 20.0 | 20.0 | 100.0 |
| | Total | 400 | 100 | 100.0 | |

Overall, the table provides a useful overview of the demographic characteristics of the respondents. This information can be used to understand the population of Lahore and to make informed decisions about marketing, product development, and other business initiatives.

Frequency Distribution of Survey Responses

Table 2 presents the results of a survey conducted to explore the perceptions and opinions of residents in Lahore regarding the potential of vertical living as a sustainable housing option.

The Table 02 presents survey responses on seven statements related to the potential of vertical living in Lahore. Each statement was rated on a scale from "Strongly Disagree" to "Strongly Agree." The table provides a breakdown of the frequency and percentage of respondents for each response category.

Vertical living can help address the increasing demand for housing in Lahore: 60% of respondents "Agree" or "Strongly Agree" that vertical living can address housing demand. Vertical living can promote efficient land use and reduce urban sprawl: 70% of respondents "Agree" or "Strongly Agree" that vertical living can promote efficient land use.

Vertical living can help conserve green spaces and protect

natural habitats: 83% of respondents "Agree" or "Strongly Agree" that vertical living can conserve green spaces.

Vertical living can promote a more sustainable and balanced urban development in Lahore: 76% of respondents "Agree" or "Strongly Agree" that vertical living can promote sustainable urban development.

Vertical living can provide a solution for affordable housing options in Lahore: 64% of respondents "Agree" or "Strongly Agree" that vertical living can offer affordable options. Vertical living can reduce the need for long commutes and improve transportation efficiency: 69% of respondents "Agree" or "Strongly Agree" that vertical housing can improve transportation efficiency.

I would be willing to consider living in a vertical housing structure in Lahore: 64% of respondents "Agree" or "Strongly Agree" that they would consider living in vertical housing.

Overall, the responses indicate a positive perception of vertical living's potential benefits in Lahore. A significant portion of respondents agreed that vertical living can address housing demand, promote sustainability, and provide feasible solutions for affordable living. However, some respondents also expressed concerns or neutral views, emphasizing the need for further research and awareness on the concept of vertical living in the context of Lahore's urban development.

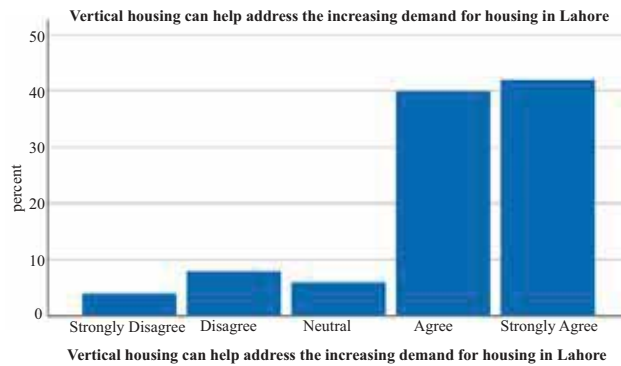


Figure-6: Vertical living can help address the increasing demand for housing in Lahore

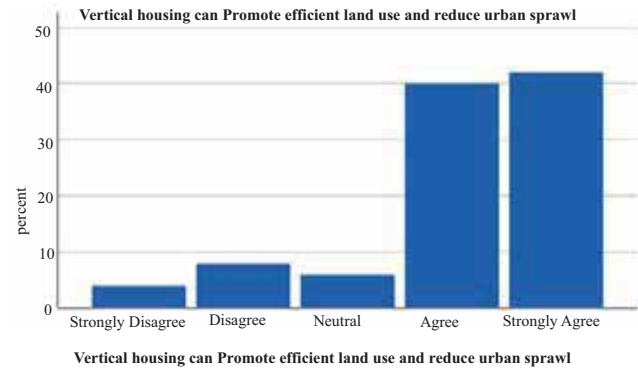


Figure-7: Vertical housing can promote efficient land use and reduce urban sprawl

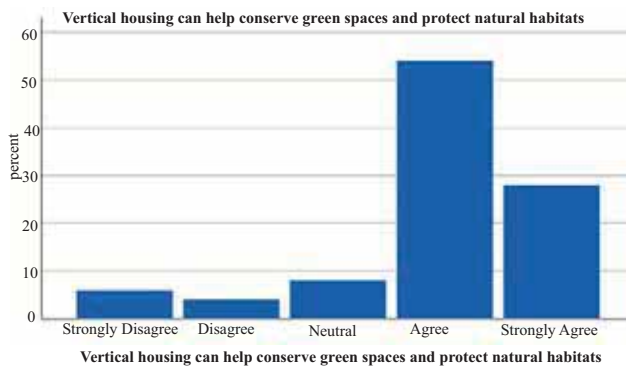


Figure-8: Vertical housing can help conserve green spaces and protect natural habitats

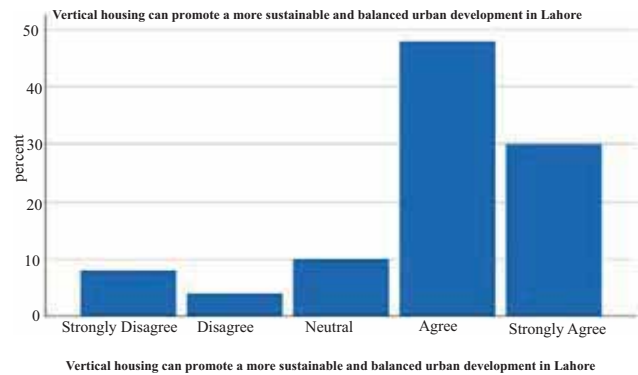


Figure-9: Vertical housing can promote a more sustainable and balanced urban development in Lahore

DISCUSSION CONCLUSION AND IMPLICATIONS OF THE RESEARCH

The discussion, conclusion, and implications of the research are essential components that follow the data analysis and interpretation phase.

Discussion on the Key Findings

The survey results on the potential of vertical living for sustainable urbanization in Lahore reveal a generally positive outlook among respondents. The majority "Agree" or "Strongly Agree" that vertical living can address the increasing demand for housing, promote efficient land use, conserve green spaces, and contribute to sustainable urban development. This indicates that the concept of vertical living is perceived as a viable solution to the city's housing challenges and environmental concerns.

The positive attitudes towards vertical living align with the research topic of exploring its potential for sustainable

urbanization in Lahore. The findings suggest that vertical living can play a crucial role in meeting the city's housing needs while ensuring efficient land use and preservation of green spaces. Additionally, the survey results highlight the importance of considering affordability, accessibility, and transportation efficiency when implementing vertical living initiatives.

These results are aligned with the previous studies (Khan and Tariq, 2019; Sadiq et al., 2019; Ahmad and Naseer, 2017; Malik and Tariq 2020; World Economic Forum, 2019) while findings contradicted with (Hanif et al., 2015; King et al., 2017; Tariq et al., 2018).

CONCLUSION

The survey results on vertical living's potential for sustainable urbanization in Lahore demonstrate a positive reception among respondents. The majority agree that vertical living can address housing demand, promote efficient land use, conserve green spaces, and contribute to sustainable urban

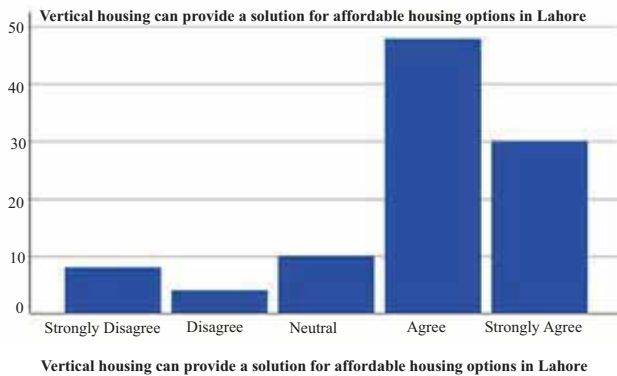


Figure-10: Vertical housing can provide a solution for affordable housing options in Lahore

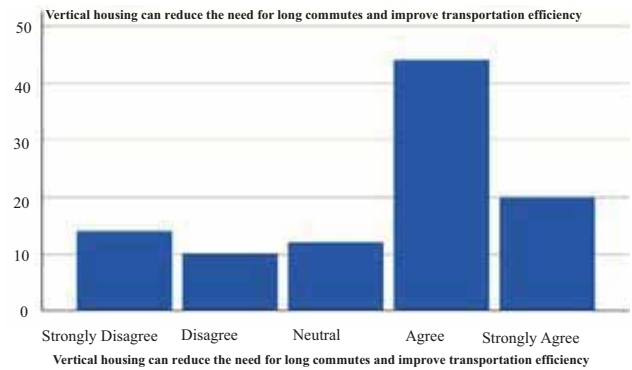


Figure-11: Vertical housing can reduce the need for long commutes and improve transportation efficiency

development. This highlights its viability as a solution to the city's housing challenges and environmental concerns. Policymakers can use the findings to design strategies that meet housing needs while ensuring sustainable development. Incorporating vertical living into Lahore's plans could lead to a more balanced and eco-friendly urban landscape, addressing the housing crisis and promoting sustainability. However, challenges such as potential resistance and accessibility for people with disabilities should be addressed proactively to create an inclusive and sustainable environment. Overall, the positive perceptions offer valuable insights and opportunities for Lahore's sustainable urbanization journey. The findings serve as a foundation for informed decision-making, fostering a resilient, livable, and environmentally conscious city. By embracing vertical living, Lahore can embrace sustainable urban development and improve its residents' quality of life.

Research Implications

The research on the potential of vertical living for sustainable urbanization in Lahore has several implications for stakeholders. Urban planners and policymakers can use the positive reception of vertical living to prioritize and strategize its development, focusing on creating policies that encourage sustainable options and address concerns related to affordability and accessibility. Real estate developers can invest in vertical housing projects with energy-efficient design practices to meet the increasing housing demand.

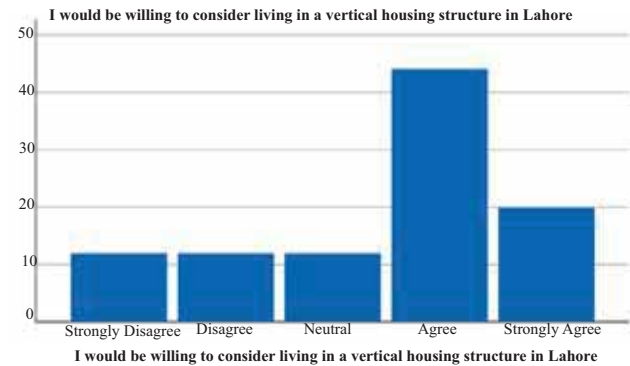


Figure-12: I would be willing to consider living in a vertical housing structure in Lahore

Engaging residents in the planning process can foster community support, and policymakers can advocate for green building regulations. Embracing vertical living can lead to a more sustainable and efficient urban development, promoting resource utilization and infrastructure efficiency. The findings provide a foundation for future research on social impacts, economic feasibility, and sustainable design, supporting Lahore's journey towards a more liveable and eco-friendly urban environment. Overall, the research showcases vertical living as a viable solution for Lahore's housing and urbanization challenges, with potential benefits for various aspects of sustainable development.

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ANALYZING THE SATISFACTION INDEX FOR THE NEED OF PUBLIC PARKS IN HYDERABAD CITY, SINDH

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ABSTRACT

Social cohesiveness and recreational activities depend on a favorable natural environment surrounding the community. The psychology and behavior of users (humans) in response to the interaction of inhabitants with their environment have received increased attention in public parks. When tackling these concerns, public parks' significance is becoming more and more apparent. The study characterizes the attributes of public parks and spatial distribution, found in Hyderabad city. Evidence of clustering of both present conditions and mislaid aesthetic quality postulates spatial analysis of the public parks of Hyderabad city. The study assesses the impact of public parks on inhabitants' social lives in Hyderabad. For evaluating the research, SPSS-20 and ArcGIS software were used to do the statistical calculations for the study analysis. The various studies show that standard analysts, recommend 380 interviews for cities with populations of more than one lac; in shaping social cohesion among the inhabitants of the city, 480 interviews were taken from locale to gauge the impact of public parks and analyze satisfaction of users. The research confronted Hyderabad, numbering about 22 various parks. However, based on this analysis, the backlog for active and passive use was 225 acres and 150 acres, respectively, for the 2 million population intake. The Yeh's Index of satisfaction equate, the distinctive satisfaction index of 27.582 percent of the user gauged by investigating various responses from inhabitants. A summary of the current situation between public parks and the effects on social cohesiveness among the populace revealed a significant, high level of dissatisfaction among city inhabitants. In the urban areas to support public park resilience, spreading sustainable behavior is suggested as the potential benefit of social cohesion. This study's findings may be used to develop suggestions for strategies that can be used to enlighten planning research studies and more evidence emerges become available. Some recommended policies encourage coordination and cooperative efforts, the development of new urban territories, and development with improved long-term sustainability.

Keywords: Natural Environment, Recreation, Public Park, Social Cohesion, Resilience, Hyderabad.

INTRODUCTION

Hyderabad is a city that is located along the Indus River. The terrain of the Hyderabad tract has historically not supported robust greenery or vegetation. Through past decades with the constructive passage of time, in road development of the city, many public parks on the outskirts were established within different periods. Nevertheless, as

the population grew, most of them were either destroyed, left abandoned, or brought under irrelevant use. Despite the fact that there is a lot of room inside the city boundaries for further growth and there is enough provision for the people to accommodate in better means. In the review of an analysis of Hyderabad's development trends, the municipal government planned operations to maintain public recreational amenities and infrastructure for its citizens.

Where the most effective method for defining settlement design patterns and analyzing urban clusters in a city is a visual language. People who reside around public parks have access to conveniences and recreational opportunities. As a result of the numerous parks neglected, facing the lack of development of a sufficient leisure or sports infrastructure; the spaces in public parks should be classified specifically for identification. Hyderabad's youth and senior inhabitants had few options for leisure time or to breathe in a clean natural atmosphere. In spite of Hyderabad's high ranking as Sindh's second-largest commercial and industrial city after Karachi, there are very few recreational alternatives for visitors traveling from all over Pakistan. Planners and decision-makers can benefit from this study and use it as an approach to facilitate public park space planning and research in the future.

Contemporary urban landscape problems are frequently solved using a variety of innovative paradigms. Computer programmers can combine various pieces of land to determine which one is best for certain land use activities, (Kyushik, 2001). The capability of computers to retain geographical data makes it useful for planning land use, including landscape design. A number of tools and procedures are being made available for discovering problems with land-use planning, thanks to advanced technological advances in computer-related sectors (Seong-Hoon, et al., 2007; Chandio, et al., 2011).

AIM AND OBJECTIVE

This study's overarching goal is to assess the inner-city landscape of Hyderabad and identify its public park provisions i.e. with respect to the present and future growth scenarios. The research investigates the existing conditions of public parks which may help in identifying the satisfaction of users and causes of urban regions' disregard for planning of public parks in the urban areas.

METHODOLOGY

The interviews and questionnaire survey conducted mainly from authorities and inhabitants of the city. Statistical Package for Social Sciences (SPSS-20) and ArcGIS were utilized in this study to achieve the research's aim and objective; it helps to gather analytical and graphical representation respectively. Whereas Yeh's index of satisfaction is used to evaluate each frequency analysis and determine the degree of ignorance and backlog instance.

Analysis and Interpretation of Data

The obtained data is examined in two phases; the first stage determines the level of inhabitant satisfaction or dissatisfaction with the current system, which aids in highlighting the concerns that are being disregarded in the planning of public parks and landscapes of urban areas. It examines how people use the facilities provided for recreation and how they perceive the expenses associated with those facilities. It raises concerns about why individuals engage in this type of pastime nowadays and their attitude toward more contemporary forms of recreation, while performing a survey for Hyderabad city's open-space planning and design support the formation of ecological networks. By using the satisfaction index formula, which is given below, the overall Yeh's index of satisfaction (YIS) of the user has been calculated.

$$100 \times \frac{\text{Satisfied-Dissatisfied}}{\text{Total no. of Respondent}} = \text{YIS}$$

This formula evaluates the satisfaction or dissatisfaction level as a whole, by subtracting responses from the respondent; i.e. satisfied and dissatisfied respectively and dividing from the total number of responses and getting the respective percentage by multiplying the whole by 100 (Batool, et al., 2016).

RESULTS AND DISCUSSION

In order to investigate the issues and their scope, the data analysis's findings are of utmost significance. The purpose of this work is to observe and gather numerous interrelated data from the questionnaire survey and ArcGIS analysis, as seen in the SPSS and ArcGIS data analysis results, and to discuss these results. More of the graphical representation shows the availability and distances of Parks with respect to residential area densities.

Analyzing Provision Division and the Availability of Parks

An authoritative test for the goodness of fit is the statistical technique (Justel, et al., 1997). SPSS is particularly supportive in examining results acquired by surveys (Chandio, et al., 2013). For investigating the distribution and availability provision of urban public park areas, SPSS-20 has assisted in presuming occurrences for the analysis of the availability and provide distribution in Hyderabad city. The analysis of frequencies beheld at the variables that were least likely to

be present when determining whether a public park or active/passive recreation facility existed.

While going through the survey the provision offered in parks has a cumulative percentage of 46% for passive and active use, according to survey, compared to 34% and 31% for playgrounds and rides for children, respectively. In fact, different age groups visit these locations at a cumulative rate of 49%, as shown in figures 1 and 2.

The aforementioned diagrams show the percentages of passive and active provision and the availability of parks. Figure 2 reveals a frequency analysis of the respondents' responses about the availability of kids rides, visits by age groups primarily, and playground provision, whereas figure 3 is a digital high-resolution image from the Arc GIS, showing public parks availability within Hyderabad city.

Figure 3 presenting the Public Parks in Hyderabad, digital high resolution image from GIS shows the availability of public parks. The image also shows the map of Hyderabad indicating its position in province Sindh, road patterns within city and integration of road/street and parks with in city.

Area Standard for Both Active and Passive Recreation (per population intake)

The USAID report from the 2010 census (USAID, 2014) states that the population of Hyderabad City is rapidly increasing, reaching a population rate of 1919053 and expanding over an area of 1020 sq. km. The standards stated in the national reference manual NRM (Division, 1986) state that 242 acres should be the total area for passive recreation for the 2 million population intake; however, the

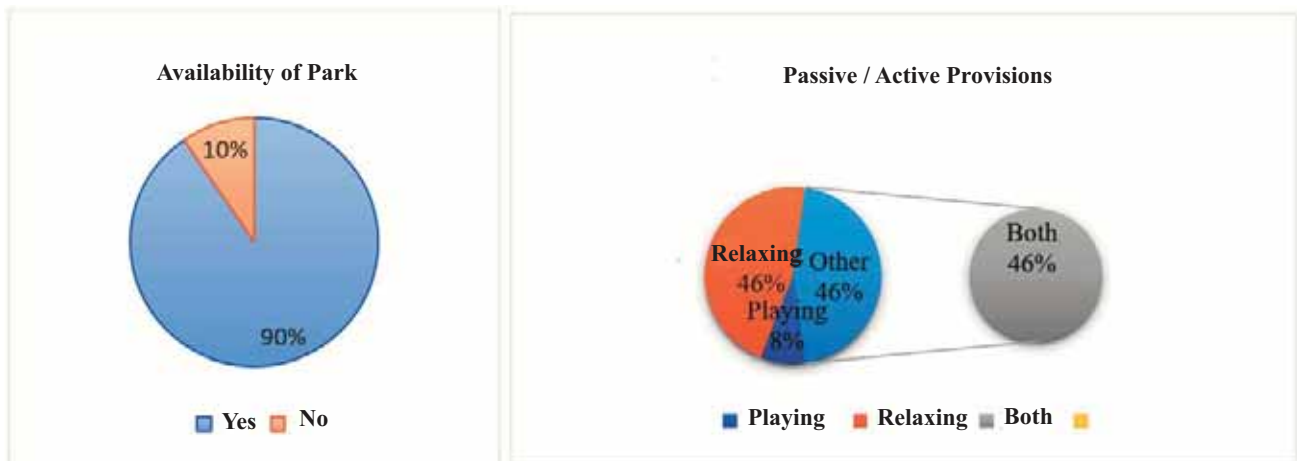


Figure-1: Parks Availability Frequency Analysis Provisions.

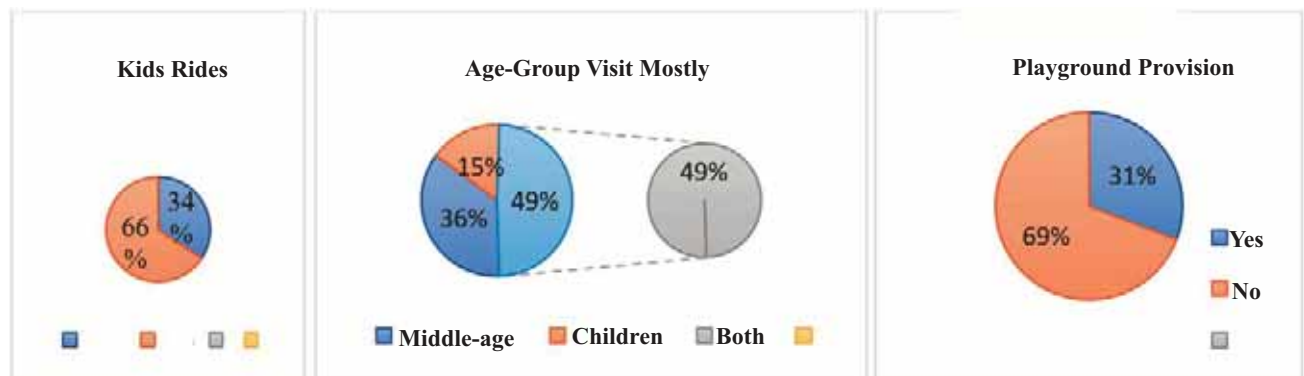


Figure-2: Existing Attributes Frequency Analysis Diagram

amount of parkland actually available is only 92.08 acres, as determined by ArcGIS, for a population of 1919053. While NRM estimates that for a 2 million population, the active recreation area should be 445 acres, there are only 220.18 acres as calculated by means of ArcGIS; as shown below in table 1.

Hyderabad's district administration provides information on a variety of parks and open spaces, (District Govt. Hyderabad, 2009). The approximate total area for active use is 220.18 acres, while the approximate total area for passive use is 92.06 acres, according to surveys and spatial analysis done with Arch GIS. In contrast, the Hyderabad region has 312.84 acres (126.28 hectares) of designated urban open space for active and passive uses, which is a very modest size by national standards (Division, 1986). Tables 2 and 3 list the quick computations that were produced from the examination of spatial data.

Figures 4 and 5 show the evaluation of the current recreational spaces, both active and passive; in conformity with the necessary national standards to meet the demands of Hyderabad residents, they demonstrate the backlog areas of 225 acres for active recreation use and 150 acres for passive recreation usage, respectively.

The space that is currently available for active usage, is only 220 acres, although standards state that it should be 445 acres to accommodate a population of 2 million.

Figure 5 shows only 92 acres are currently available for passive usage, but requirements state that for approximately 2 million population intake there should be 242 acres available.

Analyzing The Condition of Public Parks Spaces

The sub-criteria for the variable for urban open spaces in the current scenario has been used frequently to examine

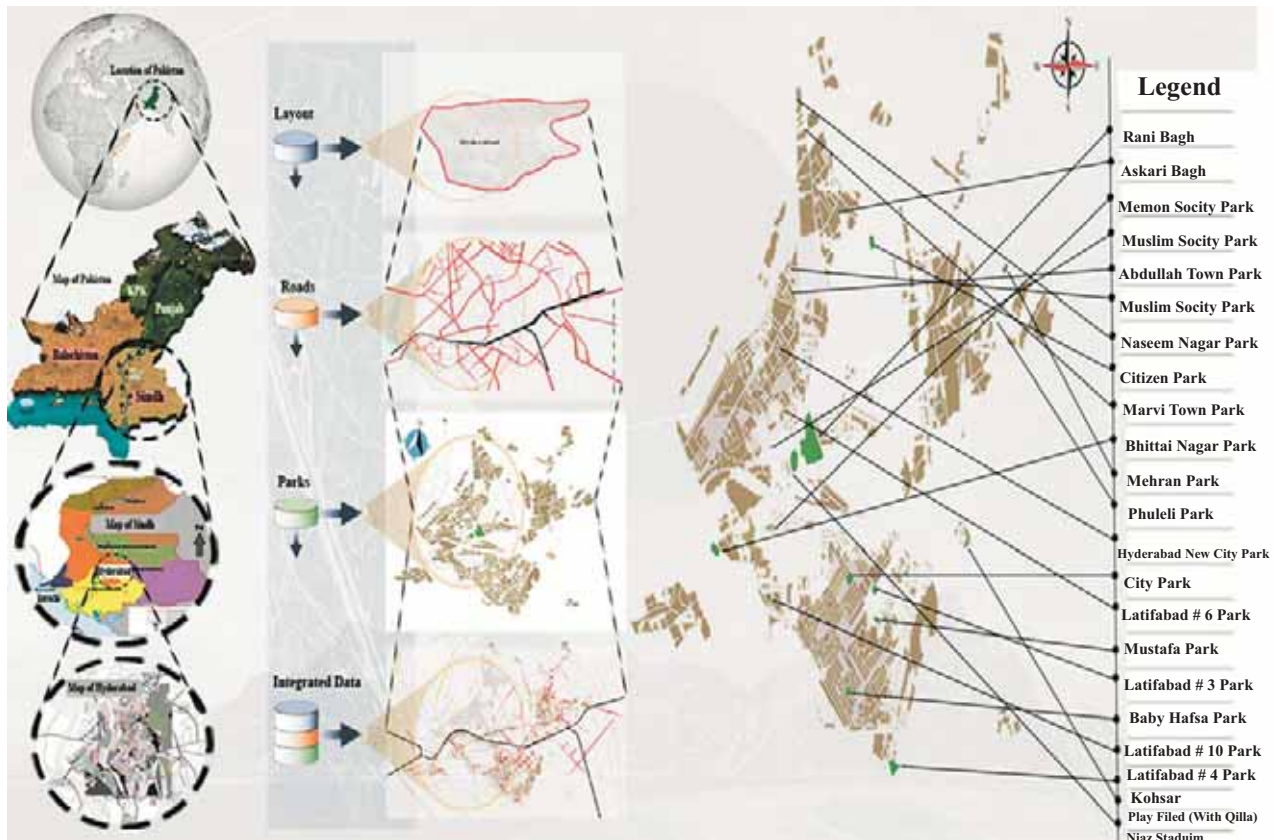


Figure-3: Public Parkistan in Hyderabad, Digital High Resolution Image from GIS

Table-1: Standard Area

| 2010 Census Population (USAID) | 1.9 Million Population | Entailed Standard Area (2 Million Population) |
|---------------------------------------|-------------------------------|--|
| Passive Recreation (Existing Area) | 92.08 acres | 242 acres |
| Active Recreation (Existing Area) | 220.18 | 445 acres |

Table-2: Enlisted Hyderabad City's Public Parks (Passive Recreational Use) Hyderabad Master Plan, 2009

| Public-Park (Passive Recreational Use) | Size in Area | Public-Park (Passive Recreational Use) | Size in Area |
|---|---------------------|---|---------------------|
| Mehran Public-Park | 05 | Rani Bagh Public-Park | 50.76 |
| Phuleli Public-Park | 03.96 | Askari Park Public-Park | 03.45 |
| New Hyderabad City Public-Park | 07.86 | Memon Society Park | 00.34 |
| City Public-Park | 00.86 | Muslim Society-Park | 00.46 |
| Latifabad unit no.6 Public-Park | 03.55 | Abdullah Town Public-Park | 00.12 |
| Musttafa Public-Park | 01.88 | Naseem Nagar Public-Park | 00.42 |
| Latifabad unit no.3 Public-Park | 00.51 | Citizen Public-Park | 01.23 |
| Baby Haffsa Public-Park | 02.04 | Marvi Town Public-Park | 00.12 |
| Latifabad unit no.10 Public-Park | 02.75 | Bhettai Naggar Public-Park | 00.27 |
| Latifabad unit no.4 Public-Park | 02.49 | Bhettai Naggar Public-Park | 00.18 |
| Kohisar Public-Park | 02.40 | Muslim Society Public-Park | 01.31 |
| Accumulated Area | | 92.06 (in acres) | |

Table-3: Enlisted Hyderabad City's Public Parks (Active Recreational Use)

| Active Recreational Use | Play Pitch (inside Qilla) | Niyaz Stadium | Sport Complex Hyderabad | Accumulated Area in Acres |
|--------------------------------|----------------------------------|----------------------|--------------------------------|----------------------------------|
| Size in Acres | 2.93 | 27.25 | 242 acres | 220.18 |

conditions (Chandio, et al., 2013; Fang and Julie, 1998). In Figure 6, the frequency analysis chart for evaluating the state of public park places is mentioned. According to survey responses from 138, 332, 210, and 298 respondents (out of 480), the size of the park, the availability of playground equipment, the architectural aesthetics, and the welcoming atmosphere are all in poor condition. The survey shows that neighborhood parks are rarely maintained whereas community parks' open spaces have been completely ignored. As a result, no statistically significant change has been found among the sub-criteria variables examining the state of urban open spaces, indicating that the observed variables' availability is not sufficient.

Analyzing the Physical and Functional Aspects Ignorance Level

A survey covering the pertinent characteristics of urban open spaces has been done in order to investigate the reasons why landscape provision and public park design are neglected in urban areas, which are given in Table 4. The ignorance level is defined, with respect to the activity criteria of the physical and functional aspects attributes, investigating ignorance level respectively.

The analysis through questionnaire survey shows that Taluka Municipal Authority (TMA) exhibits the least concentration in upholding such spaces for inhabitants of Hyderabad city and became the cause that occupant may not get proper places for social cohesion, cultural ethics and recreational activities as these should be the defining characteristics of any urban open space that may be recognized at a very elementary level. However, the survey found that these particular areas are not self-maintained or self-organized, despite the fact that accessibility and connection within the specific region are acceptable and give access to all age groups up to the least-ignored level; therefore, they give up providing the potential user a good impression of being

secure and appealing. The ecological activities highlight the relationship between characteristics created by man and characteristics created by nature, which is an uncommon phenomenon and somehow manifests at an unnoticed and ignored level.

Satisfaction Index Assessment

The satisfaction-index aids in suitable contribution through analysis of significant frequencies for the reasons why public park design is ignored in urban areas. The YIS (Yeh's index of satisfaction) equation uses two points as the satisfied and unsatisfied states to determine the degree of satisfaction. Where the total 480 responses gathered (as per population need) to analyze the statistical impact of each variable.

Table 5 shows the satisfaction level does not fluctuate significantly, but the varying frequency percentages of the various variables emphasize the variance in the satisfaction index. According to the satisfaction index for the relevant urban open space variable, Hyderabad has an abundance of open spaces, albeit they may not fully satisfy the needs of the city's current population in accordance with the necessary standards for area distribution.

In contrast to the overall availability of playgrounds and kiddie rides, which are hardly ever observed even with the slightest satisfaction, architectural appearances have diverted their places. Most likely both trees and plants suffer from the same level of ignorance, as do the pedestrian paths, which are present but in the worst condition. Paddocks are offered, but safety precautions are infrequent or absent in some areas, where it is said that there are a rising number of antisocial acts; as a result, locals avoid or rarely prefer visiting these places. Meanwhile, such areas somehow display a lack of vegetation and water features, as well as a lack of furniture and lighting fixtures, and the state of the plant life adjacent to the road or street is at its most unpleasant.

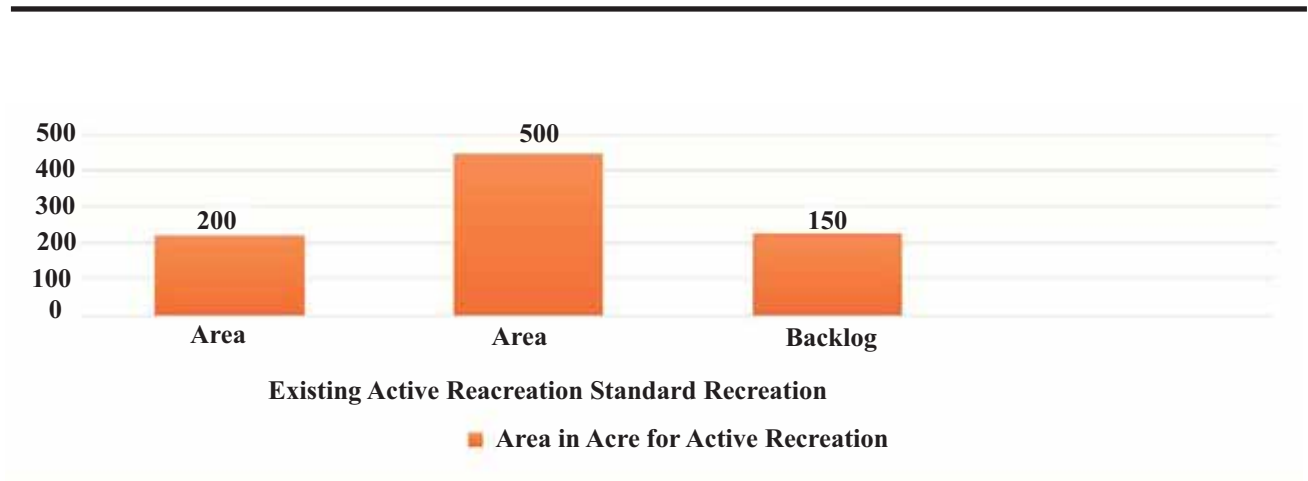


Figure-4: Public Parks in Hyderabad, Digital High Resolution Image from GIS

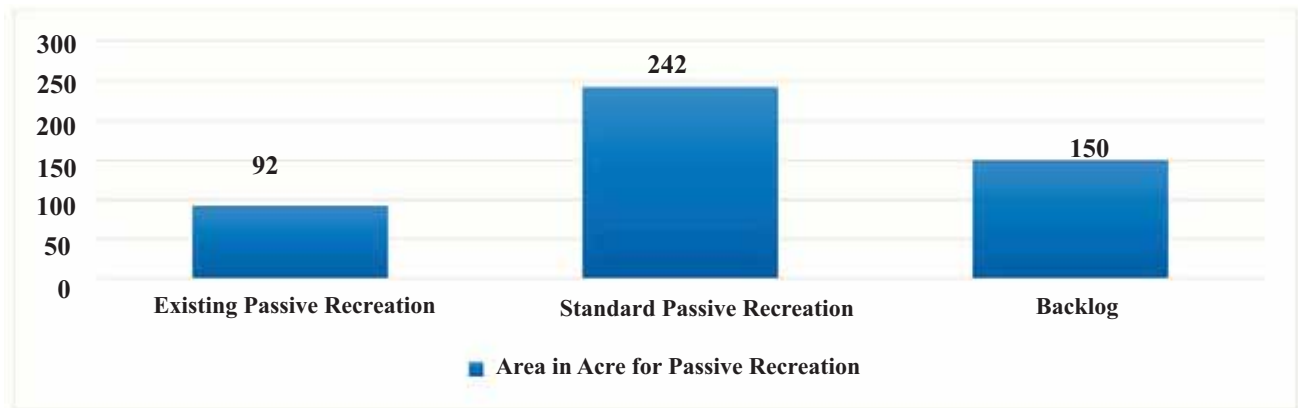


Figure-5: Passive Recreation Area Assessment

Whereas the frequencies of each variable are evaluated through Yeh index of satisfaction subtracting satisfied responses from dissatisfied responses of occupants and dividing the whole from the total number of responses and multiplying by a hundred. However, the research discovered that the average satisfaction index as whole was 27.582 percent when putting the satisfaction index via the Yeh index calculation. This represents a level of discontent with Hyderabad's public parks, and numerous modifications are required to address these problems.

CONCLUSION

The research underscored Hyderabad with a growing population intake of around two million, lacking public park facilities. The spatial analysis is done by using Arc-GIS for assessing availability and area assessment since it can pinpoint the location and expected park boundary limits, within the city. The questionnaire survey and interviews were conducted to analyze the impact and conditions of various attributes and assessed by using frequency analysis in SPSS-20 as they

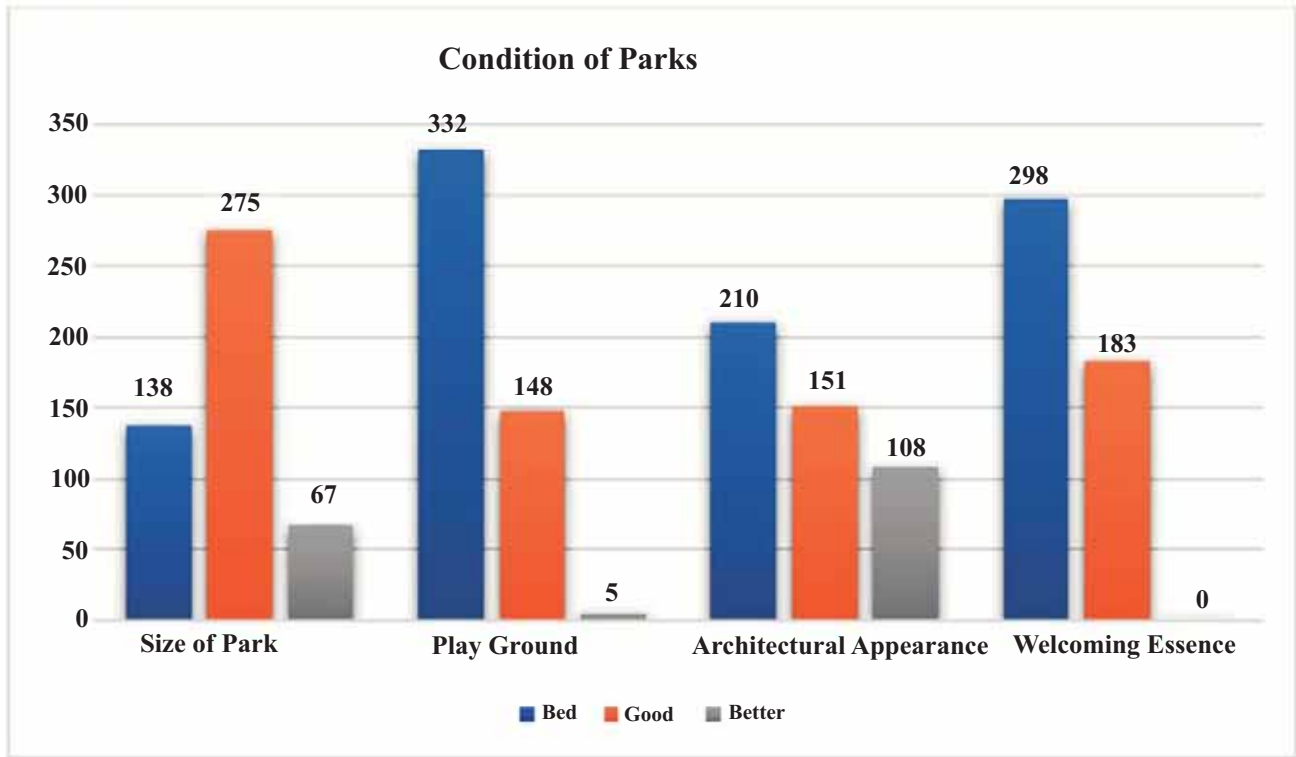


Figure-6: Analyzing Condition of Public Park Spaces

Table-4: Assessment for Physical and Functional Aspects

| Aspect | Activity | Attributes | Ignorance Level |
|------------|------------|--|-----------------|
| Physical | Profound | Connectivity & Accessibility Self-Organization Self-Maintained Enclosure Complexity | Less Ignored |
| | Ecology | Greenery and Water Bodies Legibility Landmarks & Image Ability | Being-Ignored |
| Functional | Receptive | Social Cohesion Sports and Games Cultural Ethics | Less Ignored |
| | Democratic | TMA Maintenance Involvement All Age-Groups Access | Least Ignored |

Table-5: Assessment of Satisfaction - Index

| Variables | Satisfying | Dissatisfying | Frequency Percentage | Satisfaction Index |
|-------------------------------------|-------------------|----------------------|-----------------------------|----------------------------|
| Park Presence | 434 | 45 | 81 | Satisfying |
| Size | 171 | 138 | 33 | Mediocre Satisfying |
| Architectural Appearances | 248 | 232 | 3.33 | Below Satisfying |
| Presence of Rides | 165 | 315 | -31.25 | Un-Satisfying |
| Provision for Playgrounds | 148 | 332 | -38.33 | Un-Satisfying |
| Security Measure | 192 | 289 | -20.208 | Un-Satisfying |
| Sitting Fixtures | 297 | 183 | 23.75 | Mediocre Satisfying |
| Lighting Fitting | 270 | 210 | 12.5 | Mediocre Satisfying |
| Enclosure Facility | 337 | 143 | 40.416 | Mediocre Satisfying |
| Pedestrian Passages | 309 | 171 | 29 | Mediocre Satisfying |
| Pathways Conditions | 209 | 271 | -12.9 | Below Satisfying |
| Tree and Plants Availability | 407 | 73 | 70 | Satisfying |
| Tree and Plants Condition | 219 | 261 | -8.75 | Below Satisfying |
| TMA Maintenance | 136 | 344 | -43.33 | Below Satisfying |
| Locale/Residents Involvement | 167 | 313 | -30.416 | Below Satisfying |
| Aniti-Social Activity Intake | 217 | 263 | -9.58 | Below Satisfying |
| Vehicular Parking | 155 | 325 | -35.416 | Below Satisfying |
| Street/Road Greenery | 385 | 132 | 52.5 | Satisfying |
| Street/Road Lightening | 281 | 199 | 17.08 | Mediocre Satisfying |

were being interviewed by diverse respondents. Any city's sustainability can be greatly influenced by its urban landscape, the research conclude that the needs of potential consumers are largely disregarded, which provides a highly unsatisfactory impression of the city's public parks and urban landscape as a whole. This investigation determined that the average satisfaction index was up to 27.582 percent, with 225 acres and 150 acres backlog area for active and passive recreation respectively (for a populace intake of 2 million). The research demonstrates that these areas give city dwellers a very limited

opportunity for social cohesion connection and share constructive time together. Acquired results revealed a sizable backlog region, which amply demonstrates that current scenarios may not fully satisfy the needs and necessities of the current population in order to provide standard services. Authorities must create plan that can provide a future development program for managing Hyderabad's residents significant need for public parks, where they can interact among each other with standardized facilities.

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POWER, POLITICS AND SPACE: MAPPING THE TRANSFORMATION OF GREATER IQBAL PARK, LAHORE, PAKISTAN

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ABSTRACT

Public spaces are political in nature as they serve as an arena for ideological contestation, for the inhabitants. Public spaces are defined by the social activities of the people. These public spaces also symbolize people's resistance and state's hegemony and work as a medium where the two comes in contestation with each other. A public space itself is political, manipulated through planning by different power structures and are often used by ruling regime to exhibit its power over space, in this regard the design and planning activity has been reduced to provide fodder for establishing ideological supremacy of the regime.

The research will identify and analyze the transformation of public space by the regime to surveil and to control public activities through the case study of Greater Iqbal Park, which has diverse qualities of urban public spaces for citizen's political action, as well by the ruling authorities, discussed with reference to the work of Henri Lefebvre, in order to examine the spatial aspects of the relation between state and society. To understand the spatial characteristics, it is important to understand its transformation which can be due to external forces, these forces can be political, economic systems or social and geographical conditions. It discusses the value of public spaces as space for meeting and interacting between public and focus on inclusivity of public space.

Keywords: Democracy, Public Spaces, Inclusive Spaces, Urban Social Space, Spatial Politics, Greater Iqbal Park.

INTRODUCTION

Public spaces are the culmination points in the city, reflecting on the people's thoughts, activities, tradition and culture. For ages, splendid gardens and public parks have been serving the city of Lahore and they are identified as cultural hubs. These public spaces have the quality to bring the people of the city together as community through spatial accessibility and feasibility. Public parks in Lahore have seen a drastic shift, the comparative urban footprint dedicated for public parks transformed but also these public parks have morphed their size, context, and function. In the tangible

and urban environment of Lahore, the physical transformation of parks has affected and produced evolving urban culture, reflective of its time. Evolving morphology of the city is treating land as commodity, too valuable to be wasted for public parks, dedicated for public well-being. Lahore was once famous for its open public spaces which was established in the era of Mughals. It has always been a center of attraction for every ruler which includes the Mughals, Sikhs and British. Mughals introduced gardens as a representation of *Chahar Bagh* mentioned in Quran. Mughals and nobles were the sole visitors of those gardens and no member from general public was allowed to visit them. Those gardens

were the clear depiction of royalty. They remained royal gardens in Sikh era. Some examples of the gardens still exist today like Shalimar garden, Jahangir tomb Garden, Lahore Fort gardens etc. Although the form, scale and context of these gardens transformed due to many reasons among which urbanization and encroachment by the people was dominant one. When British came to Lahore, they gave a new ideology to the Gardens, as they introduced botanical Garden in Lahore like Model town Garden, Race Course Park (now known as *Jillani Park*), and Lawrence Garden etc. They designed privatized public spaces which were strictly for the upper class usage only (Mustafa, 2020). The trend to build and promote botanical garden was the result of “rational recreation”, a movement which was famous back home. Later, parks of post-colonial era built were inclusive and diverse with respect to the user and their activities which shaped the form and scale of the public parks. These parks are meant to be open for all genders of any age, income, and social group.

After independence Lahore was known as a culturally and politically rich city. People used to come from all around the country to support different political parties and their rallies, and also celebrate festivals like *Basant*, *Eid* and many more. For this purpose, parks of Lahore and roundabouts are occupied as highly attractive political public spaces. Due to different public agendas, political parties or the representatives control those public spaces through urban planning and to control the citizen’s mass gathering which can be alarming for different power structures.

Presently, we observe that due to changing social political and economic structures, most of the public spaces of Lahore have been transformed. Located at a focal point in physical and mental geography of the city, the public spaces attract political action as well. Secondly, the connection of social and political domains in this way politicizes everyday activities in public space. The political character of public space, in return results in the intervention of state power in its reproduction (Batuman, 2015).

OBJECTIVES

The aims of this study are as follows:

- To map out the spatial transformation of the Greater Iqbal Park over the past two to three centuries in particular.
- To study the implication of power and spatial politics on development of Greater Iqbal Park.

METHODOLOGY

For primary methodology, data collection was applied to understand the historical transformation process, the research included historiographical analysis which is based on primary as well as secondary data.

Furthermore, a comprehensive analysis was done for critical essays, scholarly articles, photos, and literature related to the case study area. The transformation process of Greater Iqbal Park was mapped, through literature research.

To analyze the context of the site which is Greater Iqbal Park, the new plans are acquired from NESPAK Archives. As a primary source, surveys of the site are also done to analyze the functionality of Greater Iqbal Park and to investigate the physical characteristics of the Greater Iqbal Park and its transformation over centuries. The contextual analysis includes the form, scale and function of the respective site.

LITERATURE REVIEW

The public spaces act as social spaces (Lefevre, 1992) where individuals gather freely to discuss and identify societal problems and state’s action, these discussion steer their political actions (Nez, 2008). Public spaces should have three major characteristics that includes free access, participatory and anti-hierarchical so it become a symbol of freedom and democracy (Ashraf, 2013). Therefore, it is impossible to understand our cities without the analysis of these public spaces and how those spaces effect our cities (Batuman, 2015).

Production of Public Spaces

Henri Lefebvre in his book “Production of Space” gives approach toward analysis and possibilities of planning, urban design and landscape of the city. It will be argued that knowledge and understanding of Henri Lefebvre spatial thinking is crucial in creating a more humane and inclusive socio-spatial environment that oppose the increasing prioritization of privatized public and social space (Lefebvre, 1992). The state has been a major actor defining the politics of public space for a long time, however it was not the only agent capable of producing representations of space and trying to reproduce the social space accordingly (Harvey, 2012). Yet, it is necessary to segregate the means and methods of politicization utilized by the state and by other actors seeking participation in public sphere. Lefebvre suggests the ideas of “domination” and “appropriation” of space for this dissimilarity. According to him, “Domination of space”

in planning is the top-down approach by the state policies, regulations for reproduction and reorganizing the space. The second, on the other hand, namely, the bottom-up politicization of space, can be defined as “appropriation” (Lefebvre, 1992). The subordinate social groups do not have the means to participate in the formal processes of the production of space. However, they reproduce the space and appropriate it through their everyday practices. Appropriation for Lefebvre, does also operate representational: “Appropriation, ... even if it is concrete and effective, ought to be symbolized-ought, that is, to give rise to symbols that present it, that render it present” (Batuman, 2015).

Furthermore, as an example, Liberty Roundabout has been used several times as a platform for protest and for different social and political activities. These roundabouts are much inclusive than privatized public spaces. It is the commercial center of the Lahore City located at Gulberg Main Boulevard surrounded by Liberty Market, Qaddafi Stadium and the roads are link with high end area like Lahore cantonment and commercial market at M.M.Alam road etc. Due to its location, it facilitates the political activists. It once was a clear roundabout where the movement of vehicles become

slow and protestors can exhibit their influence on the space however over the past few years, it was redesigned to become part of signal free route. Resultantly, the traffic started moving at relatively higher speed and restricts the protestors. There are no pedestrian bridges or zebra crossings for social activists to use as a medium for heavy traffic speedy road. Its role has been transformed from a central node of the city to the intermediary space between two roads. Liberty roundabout is a political public space, which is manipulated through planning in the name of development by different power structures. This is one of the examples of tactfully controlling the steering and strategically limiting the role of public using planning as a tool.

To understand space, Lefebvre proposes an analytical tool and its impact on the form, structure and all together the lived experience of that space (Zhang, 2006).

- ‘Spatial practices’(perceived space), which represent the society’s structure of daily life and a wider urban reality. It is the reproduction of social relation in urban space of the society. The space defined itself to navigate and consistent way to make sense and function in the world. (Lefebvre, 1992).

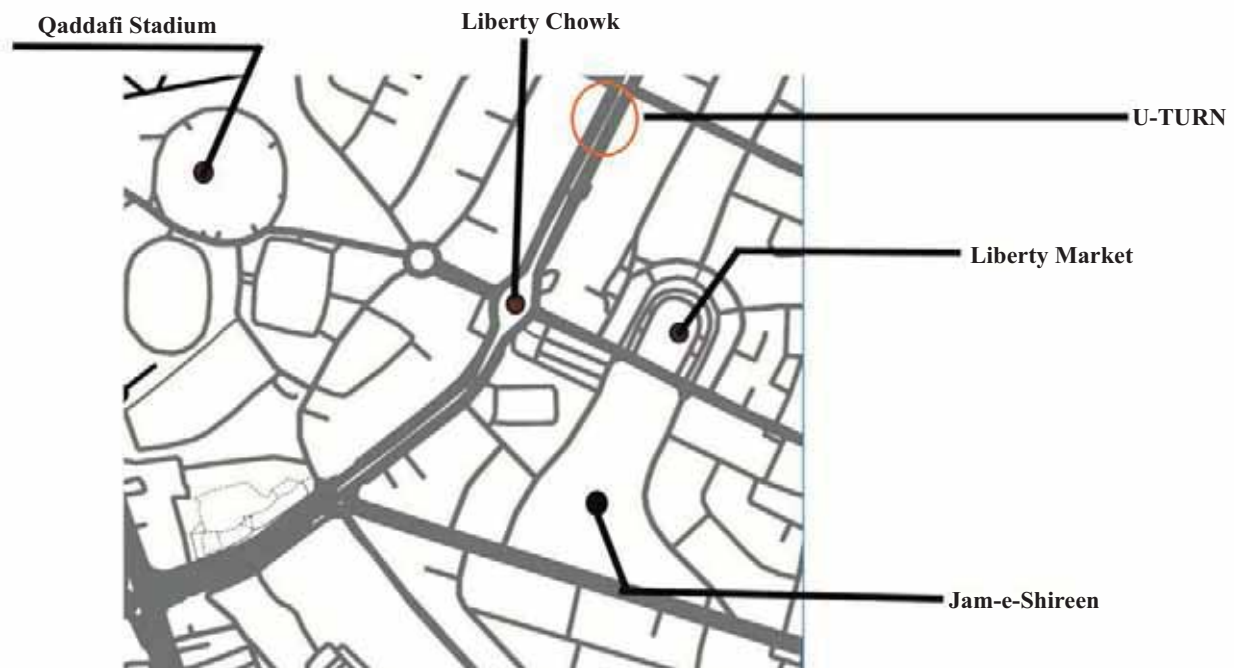


Figure-1: Liberty Chowk Plan after 2016.

- ‘Representations of space’(conceived space), Lefebvre define this space as space of planners, urbanists, scientist etc. the domination space by the planners (top-down approach) of any society. It gives authority to different power structures to control public spaces. Therefore, for Lefebvre, those who conceive space and characterize it in maps, plans, reflect how power creates dominant discourses through the ways in which space is surveyed, surveilled, controlled or organized to meet particular ends (Lefebvre, 1992).
- ‘Spaces of representations’ (lived space), which may be defined as “mental space”, that creates new possibilities for spatial practices” (Harvey, 1990). Lefebvre argues that this space is directly lived through memories, association and this belongs to the users and inhabitants. Furthermore, this is the space which the imagination seeks to change and appropriate. It overlays physical space, making symbolic use of its objects. We therefore live in and through space made and controlled by others (those with power to shape, form and represent to us its appropriate use) and which we have to navigate to make ‘sense’ of and function in the world. (Lefebvre, 1992).

The interlinked elements of his dialectic analysis (spatial practices, representations of space and use of space), provide a theoretical structure for the analysis of modern, increasingly urban capitalism. Conceived, perceived and lived spaces overlap, not juxtapose, one another.

SPATIAL TRANSFORMATION OF GREATER IQBAL PARK SINCE PRECOLONIAL ERA TILL 2012

Historical Background

According to Henri Lefebvre to study the production of space, we should look thoroughly toward the history of space, not just its history but also the representations along with the practices and ideology of that space (Lefebvre, 1992). History helps us to know, not only the meaning of the origin of concerned space but especially its interconnections with the spatial practices of the particular era (Zieleniec, 2018). Multifaceted systems of the hierarchies of society, class differences, oppression, or domination of fascist society have been some of the major concerns for governing the function, scale, and access of the public space which includes Greater Iqbal Park as National Monument Park.

The Timeline of Lahore is divided into three eras in which we discussed its history; the Pre Colonial Era (Mughals and Sikh Eras), Colonial Era, and Post-Partition Era till today.

PRE-COLONIAL ERA INCLUDING MUGHALS AND SIKH ERA

Mughal Era and Sikh Era Gardens Context, Form, Scale and Function

The royal gardens of Mughal era are the clear depiction of royalty and power over the suppressed public in terms of

Table-1: Time Period for the Transformation of Iqbal Park

| Year | Time Period/ Ruling Authority | Function of Greater Iqbal Park |
|--------------------------|---|------------------------------------|
| 17 th Century | Pre- Colonial Mughal Era | Mughal Era: Royal Garden |
| 18 th Century | Pre-Colonial Sikh Era | Sikh Era: Parade Ground |
| 19 th Century | Colonial (British) | Minto Park |
| 1974-2014 | Post Partition (Government of Pakistan) | Minto Park incl. National Monument |
| 2014-Present | Present (Government of Pakistan) | Greater Iqbal Park |

its form and scale, through which the royals enjoyed their royalty and magnificence. Therefore, they have resting places, grandeur pathways followed by trees, pavilions, exclusive courts etc. that were surrounded by landscape features including water features within the fortified boundary of imperial gardens, covering noticeable scale.

Royal Fruit Garden beside Royal Fort

In the Mughal era, Greater Iqbal Park was once a huge fruit garden for the royal family among Ravi River, fort and walled city of Lahore. In fact, today the area known as

Badami Bagh was once huge almond gardens. The middle area of the garden has mango trees and at the periphery of garden, there are plum and other trees. A major area of this royal garden had open green space where the emperors and rulers carried out ceremonial military parades (Sheikh, 2014).

Sikh Era Parade Ground

By the time the Sikhs came to power in 1799, the royal garden was known by the people of Lahore as ‘parade ground’ (Adeeb, 2018). In the Sikh period, Sikhs extended

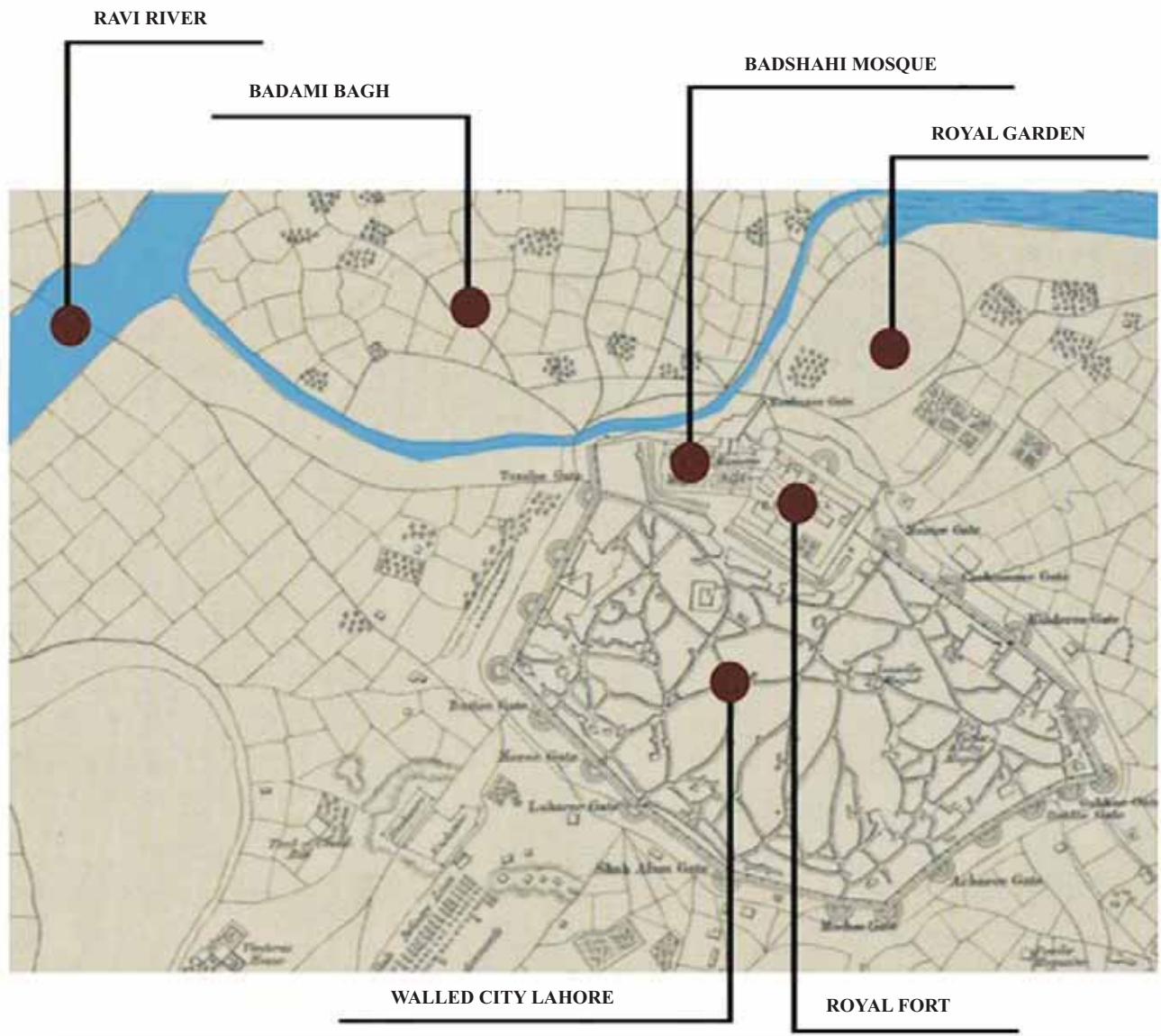


Figure-2: 1846 Map of Lahore, including Royal Garden.
Source: Punjab Archives

the fruit gardens and planted trees right up to the river till as far as Maharajah Ranjit Singh could see seated on his simple throne on top of the *Sheesh Mahal* inside the Lahore Fort (Sheikh, 2014). The French assisted by carrying out excellent horticultural work for the maharajah. Later Maharaja Sher Singh with his son sat inside the baradari (pavilion) and watched Khalsa army parade from there. So, the parade ground itself is the significance of power of the regime of that time (Sheikh, 2014).

COLONIAL ERA CONTEXT, FORM, SCALE AND FUNCTION

The form, scale and function of colonial gardens are very good example for how they demonstrated the power on local people through their social and cultural landscape. They designed privatized public spaces which are strictly for the upper class. Those landscapes have some foreign features in parks such as polo ground, libraries, race course, tennis

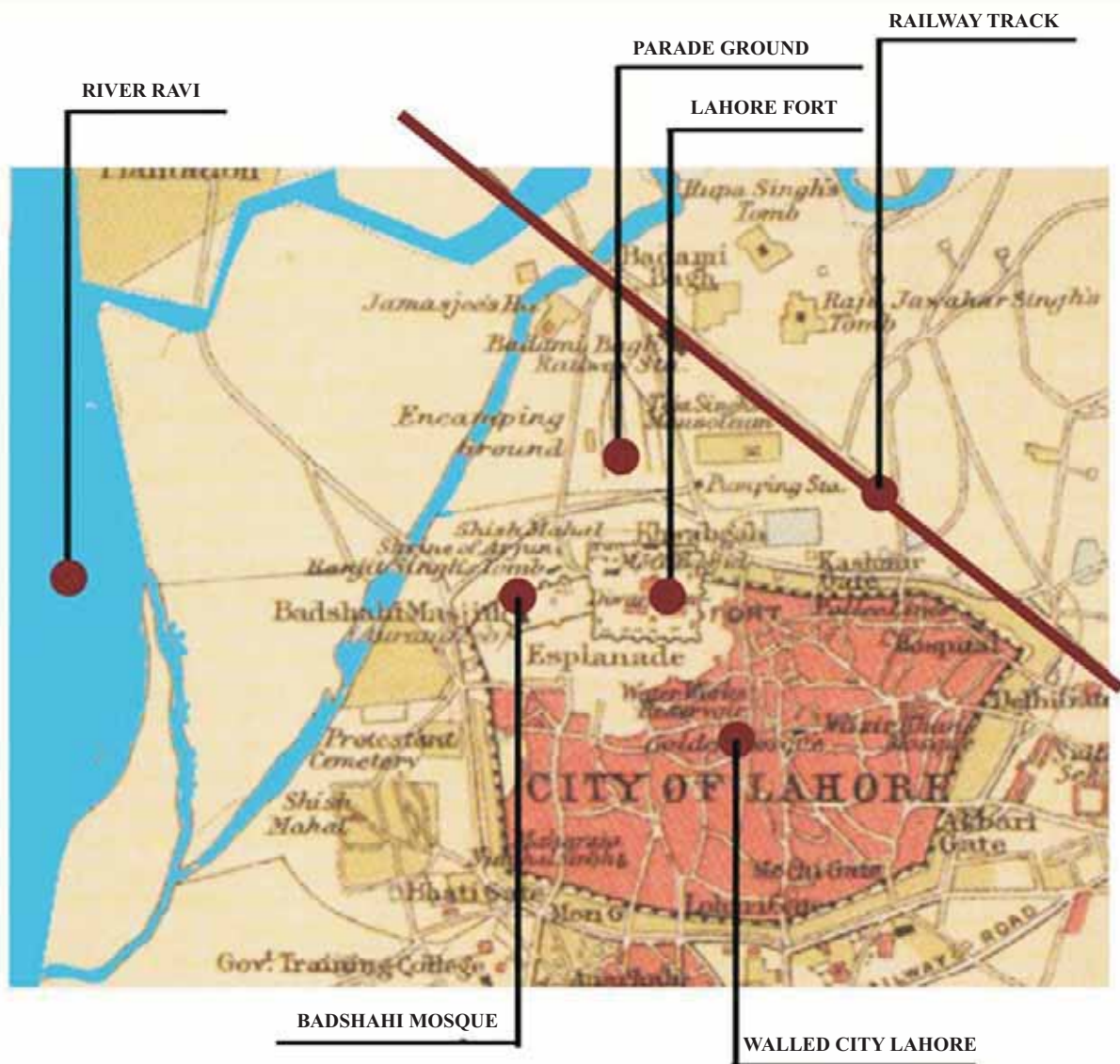


Figure-3: 1893 Map of Lahore, including Parade Ground.
Source: Punjab Archives

or cricket area that define their architectural language which represent their homeland. Colonial rulers developed botanical gardens and grounds of considerable urban footprint. The trend to build and promote botanical garden was the result of “rational recreation”, a movement which was famous back home (Glover, 2008).

Parade Ground Minto Park

By the time the British came in Lahore the parade ground

was seen as “an exceptionally beautiful garden as mentioned by John Lawrence in his book (Lawrence, 1868).

The name parade ground remained until 1910, when it was renamed as Minto Park. Many old residents of the Lahore walled city still call it “Parade Ground”. The parade ground has no boundary as shown in map, but after naming it Minto Park the space later, defined by the boundary. The Parade Ground area was shifted on British’s territory which is far from Lahore city, the cantonment area (Sheikh, 2014).

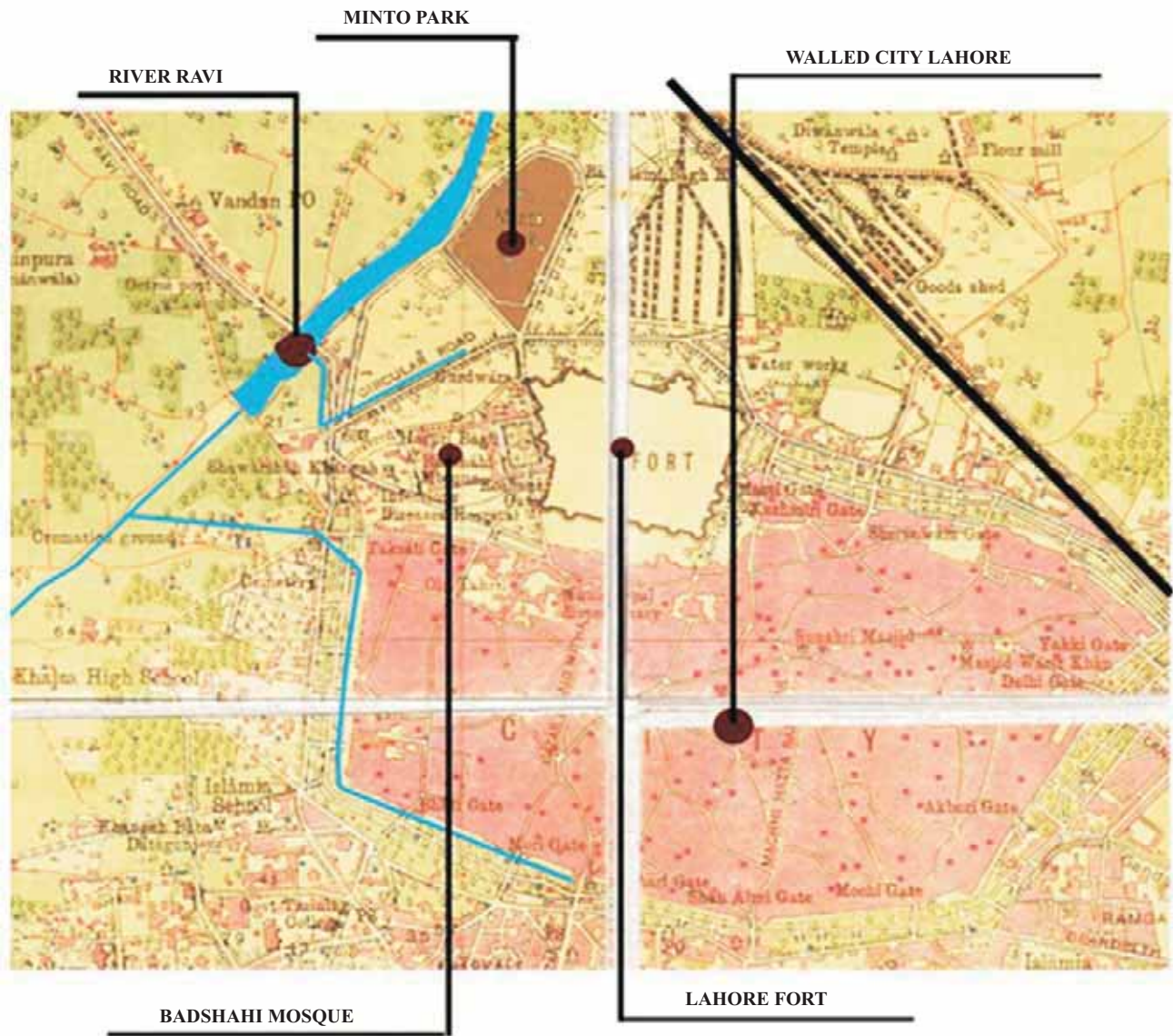


Figure-4: 1927 Map of Lahore, including Minto Park
 Source: Punjab Archives

Pakistan Resolution

The annual session of All India Muslim League was held from March 22-24, 1940 at Lahore Minto Park near Badshahi Masjid and Lahore Fort. During his speech the Quaid quoted the letter written by Lala Lajpat Rai in 1924 to C.R. Das in which he clearly mentioned that the Hindus and the Muslims were two separate and distinct nationalities which could never be merged into a single nation (History Pak, 2008).

Post Partition Till 2012 Context, Form, Scale and Function

Post-Colonial Till 2012

Parks of post-colonial era are inclusive and diverse with respect to the users and their activities which shaped the form and scale of the public parks. These parks are meant to be open for all genders of any age, their income, and

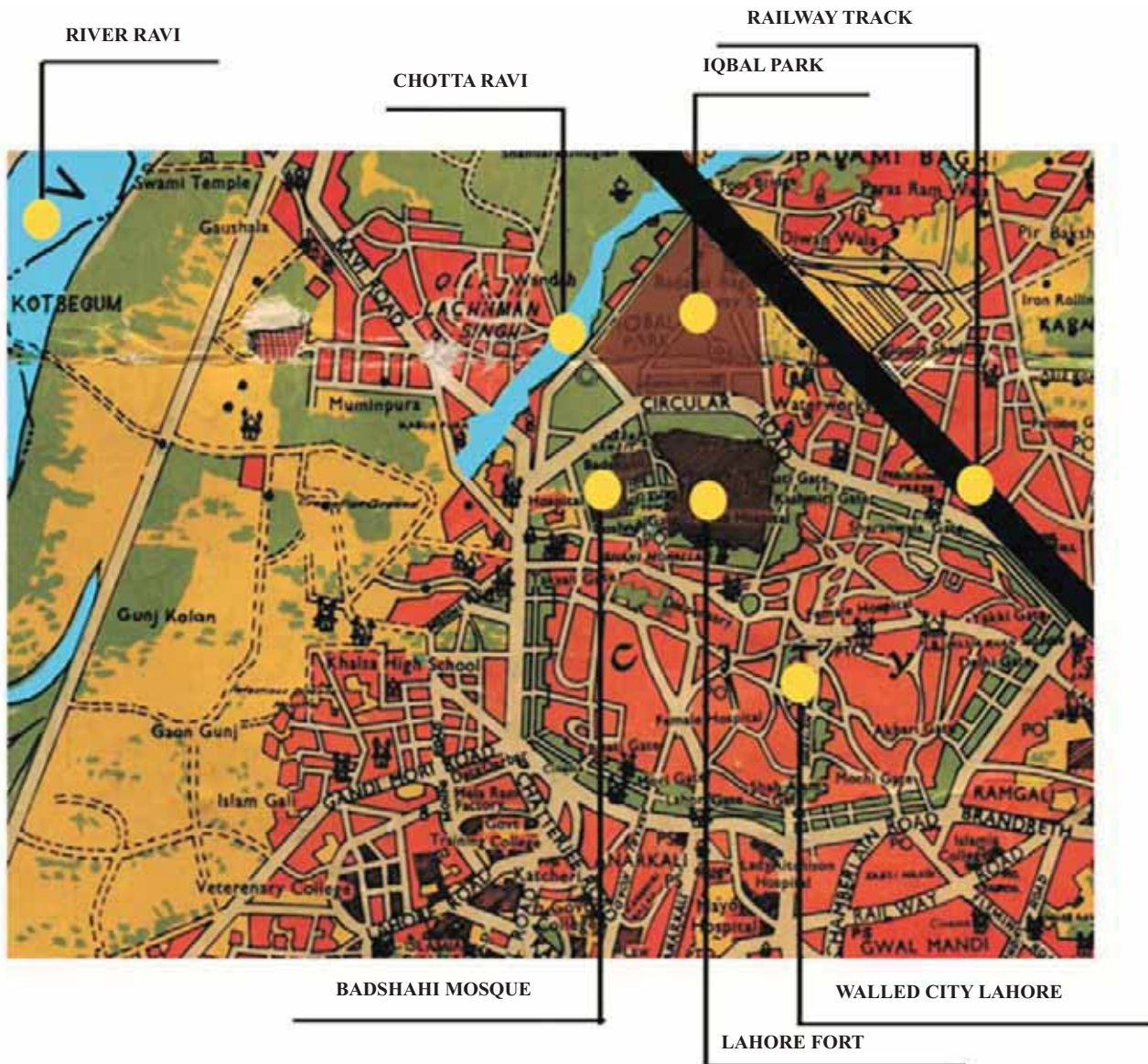


Figure-5: 1960 Map of Lahore, including Minto Park
Source: Punjab Archives

social groups (Mustafa 2020, Sheikh, 2014). All income group can afford to come to these parks as it has no ticket or have free entry. Those parks have different activities which accommodate different people for example they have play grounds, picnic spots, boating, exercising area and jogging etc. with food courts including tuck shops, burger point and tea stalls (Adeeb, 2018).

These parks gave social environment to public which provide public meeting spaces, public demonstration and also included the national monuments and features that promote national harmony. Those public parks form have been morphed after the terrorist attacks in 2000's. The fenced walls, gates and check point installed for security and surveillance purpose. Public parks including many important parks such as Greater Iqbal Park, Gulshan Iqbal Park, and Jallo Park developed within the residential area which belonged to middle or lower middle class and witnessed intense urbanization and gentrification. Post terrorism attacks effect those public



Figure-6: Construction of Minar-e-Pakistan
Source: Khan, 2015

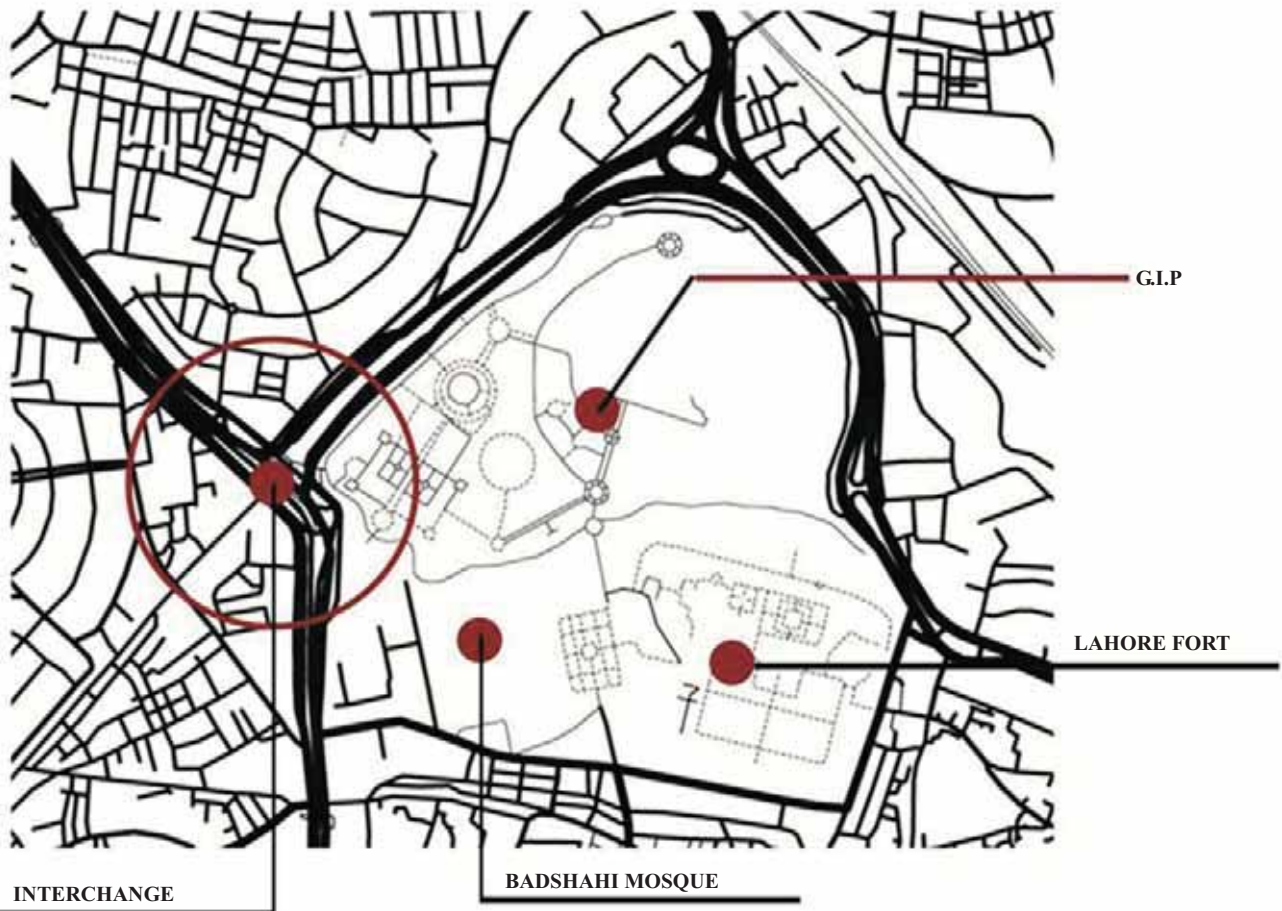


Figure-7: Azadi Chowk Flyover in the context of Greater Iqbal Park in 2014

spaces inclusivity and added strain on public spaces. Power by means of different infrastructure impose surveillance on public which minimize the diversity of public activities in public parks. The residential area surrounded the public parks are converted into commercial area.

Post-Partition, Greater Iqbal Park formally known as Minto Park was the political center of the city and play a very essential role as a medium between representatives and the citizens, this open public space gathered many political parties or political agendas. After independence there is very famous notion “*Chalo Chalo Minar-e-Pakistan Chalo*” (let’s go to Minar-e-Pakistan) which was used by every political party for the purpose of rallies, protest against the political party in power (Sheikh, 2014).

Minto Park as Social Space

Post- partition *Minto Park* was used as a multi purposed space in which different musical concerts have been organized including. *Saigals* concert in 1977. It housed royal gymnasium (*shahi dangal*) with spectator seats built on the longer sides of the field. Minto Park is also famous for story telling gatherings, the *thara* system which is one of the major social activity in walled city of Lahore (Adeeb, 2018). *Malshi* culture which is the culture we saw in public parks, in which the men belonging to lower class or lower middle class go into the parks to have massage with oil. Those *Malshis* with different oils move in the park and knock those glass bottles with the steel in order to attract customer with this noise. People used to come here and play all sorts of games including cricket, hockey and kite-flying. There was also an *akhaara* or wresting ground and *Attique stadium* that hosted competitions on weekly basis, attracting crowds of people from adjoining areas.

National Monument

In 1960, within *Minto Park*, renamed as The Greater Iqbal Park, the Pakistan Monument was constructed in the middle of the park. A law described by a ruling of the Supreme Court, specifies that no public building or construction can be undertaken within a 200-meter range of any historic and protected monument. But *Minar-e-Pakistan* has been built in that range from Lahore fort and *Gurdwara*. *Minar-e-Pakistan* tower was 203 ft high and was constructed between 1960 and 1968 at the Greater Iqbal Park to honor the first official call for a separate homeland for the Muslims of India. This monument was completed on October 21, 1968.

The design of *Minar-e-Pakistan* is an obelisk structure, and its base is about 26ft above the ground level. The tower is 203ft from the base. Its design includes the petal like shape which surrounded the obelisk structure. The base of *Minar-e-Pakistan* has four platform, the concept behind this is to show the struggle of Muslims for their freedom. The *Minar* took eight years to be constructed. It was designed by the Russian born Pakistani architect, *Naseer-u-din Murat Khan*. *Murat Khan* also designed Qaddafi Stadium in Lahore and later he also recieved *Tamgha-e-Imtiaz* which is an honorable award in Pakistan by General Ayyub Khan in 1963 (Adnan, 2016).

Political Events

Minto Park witnessed nearly every political gathering like before and after partition, the All India Muslim League the event that had provided the roots to the movement that led to the division of British India in 1947, and after Khaksar Tehreek, PML-N, the Pakistan People’s Party, JUI-F, Pakistan Awami Tehreek, the MQM and the General Musharraf-led PML-Q, in 2013 PTI political gathering etc. Later in 2020 funeral prayer of Maulana Kadim Rizvi was held in Iqbal park which was a recent event that captured mass gathering (Shah 2020)

Spatial Organization of Iqbal Park in 2012

The programs within Iqbal Park include Attique stadium for kabbadi (wrestling), also used as stadium for the cricket matches, a Hockey Stadium; *Budha Ravi* lake, which has been there since Mughal Era; a small swings area for children called “*Yadgaar Mela*”, and Guddi ground once used as a space to fly kites majorly and also for other sports like cricket and football. In 2005, one of the most celebrated event of Lahore, Basant got banned in Pakistan due to loss of lives by the chemical string and therefore, this ground is used as a playground by the youngsters only. Locals came there to play cricket and watch Kabbadi player’s wresling (Adeeb, 2018).

The monument park known as *Yadgaar Park* was used by the families for picnics and social gatherings. However the other ground, Guddi ground, was used as playground by the young boys and men for different sports. Due to the boundary of trees between guddi ground and national monument ground, it seperates the family park visually (Sheikh, 2014).



Figure-8: Fence around the National Monument



Figure-9: Entrance toward the National Monument

Mass Transit Metro Line in 2010 and Road Transformation 2014

In 2010, Mass transit also known as Lahore Metro Bus was introduced as a public transport in Lahore. Metro bus created a corridor and connected the north and south ends of the city running through the center of city with the total length of 27 kilometer. The route covers many of residential and commercial areas along the city's main artery of *Ferozpur Road*, generating 27 stops (after each kilometer) along its way.

The location of Greater Iqbal Park connects different gateways of the city which include G.T Road, Multan Road, and Bund Road. Due to its location the Azadi Chowk square remains busy with traffic for the whole day. In order to facilitate heavy traffic, the Government of Punjab decided to construct an Azadi Chowk Flyover on the road in September 2014. The construction project was given to Habib Construction Company which later become the contractors of development of Greater Iqbal Project. According to the Project Cycle 1 2012, the interchange was included in the design of Metro Bus System in Lahore to have a signal free public transport from *Shahdara* to *Gajjumatta* but this phase was left over to complete it in the future and constructed in 2014 (M. Abidi, 2016).

Proposal of Development of Greater Iqbal Park

In 2012, given a major threat of terrorism, the government of Punjab envisioned combining all important historical building surrounding Iqbal Park to constitute "Greater Iqbal Park". Thus the distributed units were bounded within one large park. Entrances and exits to area were reduced to one, making surveillance easy and better controlled.

The sponsored by the development of Greater Iqbal Park was government of Punjab. The execution of the whole development and its maintenance was held by Parks and Horticulture Authority. The objective of the project was to introduce the public with the culture and civilization of Pakistan and represent the Pakistan Movement history. The project included museum of national history and amphitheater, mural walls with photographs of national heroes, and lake containing colorful, musical and dancing fountains, play fixtures for the children including special children, main entrance gate, parking, rotundas, deck fountains, lake bridges, rest rooms, memorial monuments, admin block, art garden, buggy parking, buggy track, walkways, hafiz jalandhar mausoleum, food courts, kiosk, cafe, prayer area, souvenir shops and soft wheel trains (Tribune, August 14, 2016).

The representation of space (conceived space) of the development of Greater Iqbal Park is to enhance the landscape area so it creates a healthy environment amid dense populated residential and commercial area. The proposed design is based to develop a national symbol of star and crescent. These forms resemble the portrayal of mother and child and the depiction of motherland and its provinces.

Implication of Power and Spatial Politics on Development of G.I.P

The open public spaces are produced due to social relation, that's why its a social product. Space is formed by the attempt of manipulating its size, form and function and to control people, activities and define who are allowed and not allowed in the public space like Greater Iqbal Park. Domination of space, as mentioned by Henri Lefebvre, is



Figure-10: Pathway along the boundary of National Monument

the top-down approach of dealing with public spaces. It is the ultimate form of power to control that space by representatives for their own interests. The planning is used to as a control tool for the weaker population or the marginalized communities. The Representation of space (conceived space) gives authority and power to planners, designers, etc. to control the public space with the help of planning.

The ‘Development of Greater Iqbal Park’ is not just a development, it’s a transformation of previous programs and activities. *Guddi ground*, used as a cricket ground and playground, *Attique stadium* and hockey stadium were demolished. In the development plan, planners remove the *Budha Ravi* Lake and developed a crescent form shaped lake at the center of Greater Iqbal Park. *Budha Ravi* was the only lake present in Iqbal Park since Mughal time period. This transformed the activities and demographics of Iqbal Park.

Before the development of Greater Iqbal Park Project, the space was more inclusive. The demographics of the whole public space were changed by the development. Space of representation, as mentioned by Henri Lefebvre is created through association and memories. If the representation of space is more dominating over the space of representation and become more exclusive, it will soon diminish the essence of public space which should be more inclusive. According to interview, no beggars, drug addicts, homeless communities or group of men who play cards are allowed as well as hawkers. Girls or single women are not allowed, also school and college students with bags are not allowed. Greater Iqbal Park is an open public space which is near to *Larri Adda*, a lorry station. Before development many travelers would come to rest there for some time but now due to strict

security, they have to show their bags to the security due to which they now avoid the said space. Once Iqbal Park was open for whole day but now it is opened on a time schedule which is from 5:00 am till 8:00 pm. Due to the manipulation of scale from 55 acre to 126 acre and function of greater Iqbal Park, it affects the demographics of the space. Unfortunately, mass gathering is also not allowed in G.I.P, a park which was known for its political activities, is now being restricted for it. *Nawaz Shareef*, Prime minister of that time said during the inauguration that this public place was not for sit-ins and they had vision to promote tourism. Although after restrictions many political events have been held there, like *Maulana Khadim Rizvi* funeral, PDM (Pakistan Democratic Movement) alliance of 11 political parties against the ruling authorities, assembled at Greater Iqbal Park. The PHA security report an FIR against them. On 14 August 2019, many people gathered at Azadi chowk flyover to celebrate independence of Pakistan in which fireworks from *Minar -e-Pakistan* lit up the whole area. At that time, many people invaded the park by damaging the boundary walls. The Greater Iqbal Park is a space known for mass gathering but the development has controlled that space opposing the idea of mass very gathering.

Lefebvre (1968) discussed that in mid-20th century, due to capitalism the spaces transformed from everyday life into space of consumption. Spatial arrangements of Programs in Greater Iqbal Park creates an unequal social relation in terms of social hierarchy. Instead of facilitating local people, the two high end restaurants (*The poet & Bundu khan*) at location create commercial ambiance. It creates a visible social hierarchy. Not only the food courts but also their access creates a hierarchy as there is separate access for the restaurant and for general use. It changes the social and physical characteristics of the place. The expansion of Greater Iqbal Park is addition of 54.81-acre space which included the area of the people to get together, they have picnic points there. The local youngsters gather there to play cricket, football and hockey every evening. The expansion encroached the public space that was once used for cultural activities such as storytelling and poetry recitation sessions for the local people.

A careful study of the plan of Grater Iqbal Park shows its placement now to a corner of the park. The walkways divert attention away from the national monument and it seems isolated, loosing its identity context. Other buildings are more dominating, in comparison like Heritage Museum, Lake and Dancing Fountains. *Minar-e-Pakistan* was built on the celebration for Pakistan Resolution that came into being with the people’s power. People gathered at Minto

Park to voice idea of two nation theory. The restriction toward mass gathering contradicts the foundation of Minar-e-Pakistan. *Taksim* and *Tahrir* squares exemplify that there is importance of national monuments which attracts the politics of public spaces for the public. Greater Iqbal Park has its importance due to *Minar-e-Pakistan*; it is a controversial symbolic space which is the host for the public political activities. But placing the monument at the corner of park diminishes its importance as symbol national of identity. The form of political power and social structures is reduced to merely an image. The national monument, *Minar-e-Pakistan*, depicts an imprisoned structure when viewed from afar. Due to mass political unrests in previous times, the access at the National Monument has been prohibited by the officials, for the visitors. Due to all the political activities and mass gatherings in the park, the authorities were convinced to put a full stop at approaching the monument. The authorities have been successful in preventing people by applying iron bars at the circumference of the Monument as shown in figure.

CONCLUSION

During an extensive survey it was observed that, regardless of the initial ideology for Greater Iqbal Park, the practical work never came to existence. The representation of space (conceived space) of the development of Greater Iqbal Park is to enhance the landscape area so it creates a healthy environment between dense populated residential and commercial area.

Transformation of a space creates tension between power and different social layers. Government of Punjab have a vision towards the development of G.I.P which is to preserve the heritage but it's more an encroachment on the public space of the locals by the representatives. A space is a medium for social relation thus it is built through public power and gives a platform to express political actions. The increase in surveillance has resulted in creating highly regulated spaces which restricts spontaneous actions of the users. The random activities almost cease to exist in such a case. Thus of places subject to restrictions fail as a space that promotes free actions of the society.

To ensure the rights of marginalized, depends upon the policies and legislation made by the government. To ensure the participation of marginalized and feeble groups spaces should be created in such a way that allows freedom of expression via art, festivals, protesting, or as simple as by expressing affection, which protects the various cultures of

the city and friction among the social classes. For this Greater Iqbal Park need to maintain its identity, facilitate the local people and also provide the opportunities for the festivals and different events. To achieve spatial democracy, a space should be politically, economically and culturally inclusive. As conclusion, one person or a group of people with the full capacity to control a public space via planning, may not result in inclusive public space. It is possible to administer or plan a public space which can form a public relation with the public space while studying the public requirements or behaviors in a public space.

The transformation of public spaces through privatizing public spaces or through any official planning process will affect the social and spatial practices associated with that space. The existing spaces of the Greater Iqbal Park have been more controlled by the state, private owners or by the designers. Who can use or cannot use the space become the primary concern of the people in power, whether we talk with reference to the public spaces of the city or the public spaces inside the communities. Development of Greater Iqbal Park not only transformed its planning, but due to its controlled environment, its social and cultural value has been also transformed. Planning has been used as a control tool for the weaker population. The vision of One-Unit creates more restriction in open public space. Clear demarcation between historical public space and Public Park like Greater Iqbal Park, may result in security and surveillance to be more permissive.

Resultantly, the development of Greater Iqbal Park does not fulfil the requirements of a public space with regards to its relevance towards public culture and politics. Respondent interviews showed that people are more concerned about the social and practical issues related to the control of the public spaces. Discomfort occurs because this public space is not free from cars and surveillance by the Guards and CCTV cameras. Strict regulations hinder cultural representation of the public. In conclusion, spatial democracy of a public space can be defined as an inclusive environment where every citizen plays its own part in various activities offered by the public place. If the public space is built upon the idea that it is open for every citizen, then firstly it should be free from all the barriers like status, class or occupation and such a stance can only be achieved when entrance is free. Greater Iqbal Park, though has an entrance free of charge, but restrict many people to come inside the park like hawkers, beggars, etc.

Public spaces are the culmination points in the city, reflecting people's thoughts, activities, tradition and culture. Splendid gardens and public parks have been serving the city of Lahore since ages and they are identified as cultural hubs. These public spaces have the innate quality to bring the people of the city together as community through its spatial accessibility and viability. In Lahore public parks have seen a drastic shift. The comparative urban footprint dedicated

for public parks has been transformed along with morphing their size, context and function. In the tangible and urban environment of Lahore, the physical transformation of parks has affected and produced evolving urban culture, reflective of its time. Evolving morphology of the city is treating land as commodity, too valuable to be wasted for public parks and dedicated for public well-being.

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HASSAN FATHY EARTH AND UTOPIA

Salma Samar Damluji, Viola Bertini

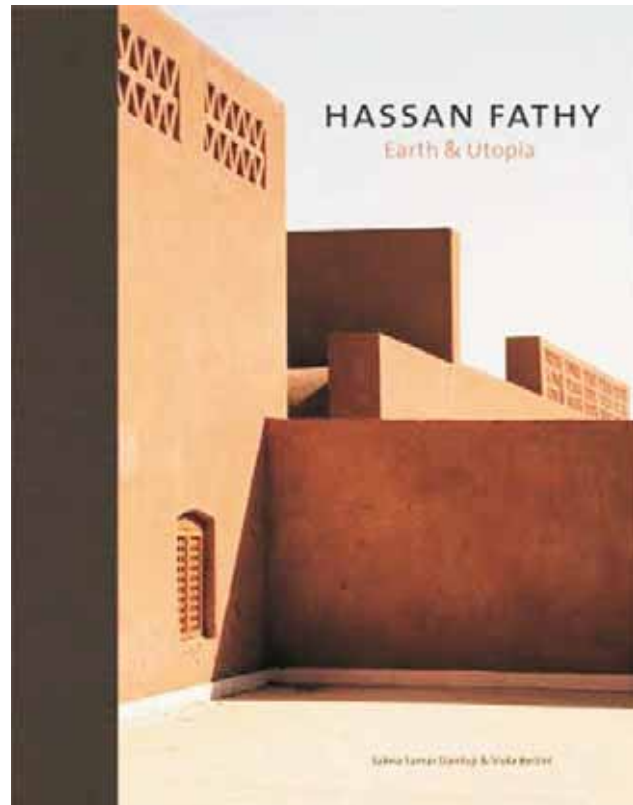
Reviewed by Saadia Bano*

BOOK REVIEW

“Hassan Fathy: Earth and Utopia” is a true labor of love carried out by the duo, Ms. Salma Samar Damluji and Ms. Viola Bertini. Ms. Damluji had a long working association with Hassan Bey (Bey formerly used in Turkey and Egypt as a courtesy title). She got introduced to Hassan Fathy (HF) during her student life at Architectural Associates. Since then, she spent a considerable amount of constructive time working with him on his text and unfinished writings. They completed Mud Brick Manual, Vault and Dome Construction and Mosque Architecture and play “*The story of Al-Mashrabiyyah*” in English. On the other hand, Ms. Bertini is a keen researcher on works of Hassan Fathy did her doctoral research on the subject (2010 - 13).

This book gives a complete insight into the enormous struggle faced by HF due to his design approach, which advocates dome and vault structures with courtyards as temperature regulators for a hot and arid zone like Egypt. This design approach is like swimming against the stream as the mainstream practice has a massive following of modern international architectural design. This book efficiently displays that HF was not only able to swim against the mainstream practice but also creatively portrayed the picture of society and its cultural confusion, self-colonization, and the tale of corrupt bureaucracy in anecdotes and stories like “*The story of al-mashrabiyyah, The land of utopia and The monkeys and the giraffes.*”

According to HF, Arab countries fell into the pit of self-colonization because of their fascination with the international style of architecture (self-colonization is a term coined by Gaston Bouthoul; a process by which a nation copies the civilization of another nation). This betrayal from earth architecture is predominantly an unsustainable and capital-intensive way of construction, which inappropriately became part of the political manifesto of leading political powers,



who promised concrete houses in the context of the desert as a benchmark of modernization.

The book is divided into two parts; Part one: “*The culture and philosophy*” and Part two: “*Design, planning, and earth construction*”. The first part, “*The culture and philosophy*” is an interesting combination of HF’s interviews cladded with thought-provoking dialogue on poetics of space, crafts, geometry and reflections on Arab architecture especially on building for the poor.

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The second section of part one: *Nubia, the original matrix* gives a deep insight into Nubian architecture and how it inspired young HF to revive and endorse traditional forms and construction methods of building with mud bricks. This chapter gives a complete picture that how he visited Nubia with some students and professors along with his friend Ramses Wissa Wassef from the Academy of fine arts, which opened a new trajectory of architectural practice for him. The simple layout of settlements inspired him which consists of mosque, post office, shop, guest houses, and regular houses. During his visit, he made lifelong contacts with master masons, who construct Catenary vaults and domes without formwork, with whom he continued to work in his professional career. He deeply analyzed regular houses with a courtyard as the nucleus of family intimacy, which was sometimes divided into several parts to accommodate livestock or service areas like kitchens and bathrooms.

Later on, HF penned down a memorandum on the design of the higher folk-art institute to the Ministry of Culture, Egypt challenging the design proposal of the open-air Nubian Museum and other sections of the High Institute of Social Anthropology and Folk Art. HF clearly identified the relationless adaptation of the Italian Renaissance style in the design proposal of the museum and fostered the importance of Nubian architecture and decorative arts as Nubian heritage.

The third and fourth sections of part one give a deep understanding of his work association and learning experience with Constantinos Doxiadis and pieces of his creative writing respectively. Dr. Bertini carefully covered HF's work portfolio with Doxiadis in the chapter on the Greek period 1957-1961, in which she showcases works carried out by Doxiadis and Fathy in Pakistan and Iraq. This chapter also includes a very interesting exchange of letters between Doxiadis and Fathy. It also comprises a very thought-provoking chapter on the city of the future: Fragment of an Idea of the City.

Part two of the book titled "*Design, Planning and Earth Construction*", begins with a lengthy letter written by HF to President Gamal Abdel Nasser on Rural housing. This letter is fascinating proof of HF's vigorous advocacy for architecture for the poor. This part also includes a paper written by Hassan Fathy "Comprehensive Design for Rural Living" at the invitation of the American Association for the advancement of science.

This part covers HF's variety of village projects including New Gourna, New Baris, Daral Islam in Mexico, Al Mashrabiyyah Ekistic Village in Cairo along with a major cultural project of Nile Festival village. All these villages

are deeply rooted with references to climate consideration in planning and design, air circulation, pedestrian and vehicular connections, response demographics considering village centres, public buildings, and amenities in relation to the planning of quarters. This chapter is enriched with several hand-drawn and computer-aided architectural drawings.

The chapter on private housing project, "Spatial Invariant System" by Ms. Bertini presents an amazing account of housing designed by HF at the initial stage of his professional practice. Those houses were reflecting HF's beaux-art educational background. The Hamed Said house was the turning point in his architectural practice, before that almost his four years of practice reflect the so-called international style. This chapter also includes the housing project HF carried out for very rich and famous clients at the later stage of his career. Those projects help him to carry out experiments with other sustainable materials beyond mud brick.

A blueprint for Mosque Architectural Design is a very interesting manual on Mosque Architecture (HF unpublished writing), also included in this book. This detailed manual not only sheds light on the spatial requirements of mosque architecture but also interestingly questions the contemporary design elements of mosque design.

Lastly, the chapter "Earth Construction" consists of the memorandum on the creation of the International Institute for Appropriate Technology, which is a concept paper for an institute that disseminates HF's research and practice. This chapter is further enriched with a detailed manual of mud brick construction by HF and Ms. Damluji in 1984 along with an interview of master mason/builder Ala al-Din Mustafa.

Overall, this collaborative venture by Ms. Damluji and Ms. Bertini has resulted in a holistic and comprehensive account of Hassan Fathy's well-conceived and boxed projects with interesting drawings and photographs, along with some priceless unpublished papers, interviews, and correspondence to various governmental agencies. Additionally, this book offers a concise graphic timeline of HF's projects along with a short biography. All this valuable content is creatively crafted in a hardback book with fascinating colored pictures and a rich bibliography. With amazing details, this book is an invaluable source of information for academics, professionals, researchers, and practitioners, who are interested in exploring the development of Arab vernacular architecture and the roots of regional architecture.

THE EYES OF THE SKIN ARCHITECTURE AND THE SENSES

Juhani Pallasmaa

Reviewed by Ghania Shams Khan*

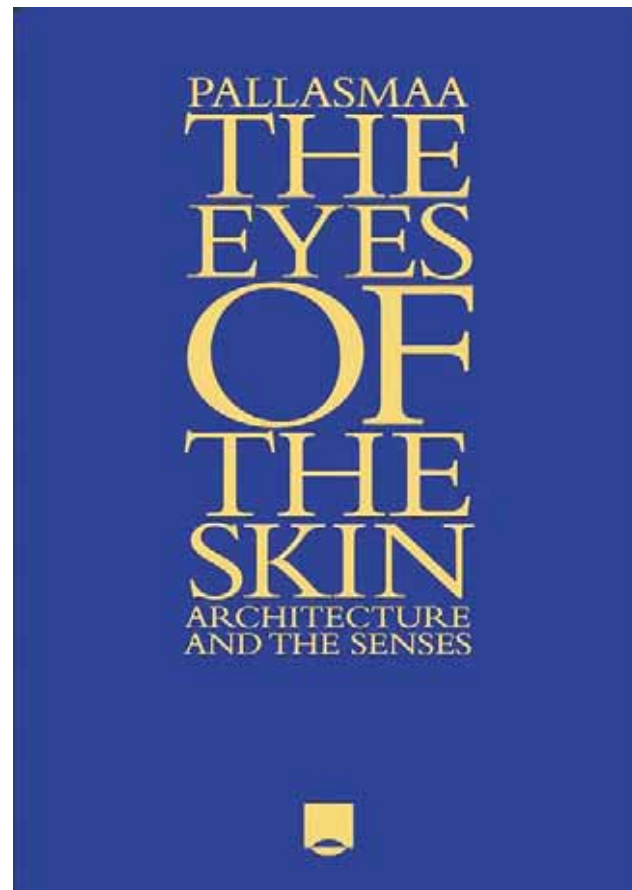
BOOK REVIEW

To know Pallasmaa is to enrich one's architectural perspective with the phenomenological side in theory and practice. Juhani Pallasmaa is a Finnish architect, who is also an academic and a critic. His practice is rooted in the Nordic architectural culture. But his thinking and theory can easily be applied to any region. His philosophy sits well with the diversity of contexts, uniting them in thinking through an embodied knowledge of spaces experienced and designed.

The book 'The Eyes of the Skin: Architecture and the Senses' is an important text to bring attention to moments and details which in modern practices are somehow looked upon as tertiary details. But in the light of Pallasmaa's text, these are the details that are a primary way to understand and create spatial narratives. The book is divided into two parts. The first part is a critique by Pallasmaa on the visual regimes in architecture.

Taking support from philosophers like Friedrich Nietzsche, Jean-Paul Satre, Jacque Derrida, and more, he marks the ocular-centric perspectives that developed across the 20th century and the dangers of this visual hegemony. In the modern world, we perceive life through an 'image' only. In this era, the visual is given preference over other senses. Also due to the rapid technological advancements, a flurry of images and visuals is how we start to make up our own reality as well, evident in today's social media. A visual hegemony has aided the mass production of idealized and manipulated images which are fabricated purely from the ocular perspective.

Followed by this dominance of the eye and the vision, he translates this dominance into the loss of plasticity in architecture. With this term 'loss of plasticity' he brings forward the argument of traditional cultures. Every built within a tradition is embodied and guided through bodily wisdom. He mentions 'Indigenous environment clay and



mud architectures in various parts of the world seem to be born of the muscular and haptic senses more than the eye'. This statement can easily be identified in the mud architecture of villages of Thar and the indigenous wisdom, their living spaces embody. The curves and undulating adobe plaster surface of a *chaura* which signifies the lived experience in a form, stand as an example against the neat and meticulous details that satisfy the eye and the ocular senses only.

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His text also places the departure from the plasticity of architecture with the Modernists. In the practices of Le Corbusier, Walter Gropius, and artist Laszlo Maholy-Nagy, modernism and its preference for visuals have taken strong root. Modernity approaches architecture through the sense of vision only as Le Corbusier says ‘Architecture is the masterly, correct and magnificent play of masses brought together in light’. It confirms the ideology of the ‘architecture of the eye’ that developed so forth. This visual hegemony even translated into urban planning. A top-down view dictated cities, ignoring what kind of contextual relevance can a grid-like plan have in for example, South-Asian cities. Colonization brought a grid and radial plan into major cities as a way to surveil and create dominance. It is a play of the vision that ensured a ruling class. As Pallasmaa talks about this visual hegemony as a loss of plasticity in-built practices, in post-colonial times urban planning still favors the ‘idealizing and disembodied Cartesian eye of control and detachment’.

In the second part of his book, Pallasmaa talks about the embodied knowledge of space. He discusses the role of different senses in shaping our understanding of space as ‘sensory agglomerations’ using Aalto’s architecture as a case study here:

“I confront the city with my body; my legs measure the length of the arcade and the width of the square; my gaze unconsciously projects my body onto the facade of the cathedral, where it roams over the mouldings and contours, sensing the size of recesses and projections; my body weight meets the mass of the cathedral door, and my hand grasps the door pull as I enter the dark void behind. I experience myself in the city, and the city exists through my embodied experience. The city and my body supplement and define each other. I dwell in the city and the city dwells in me.”

In this context, architecture is not just seen as a single image. It is not identified through nouns, but verbs. Spaces have muscular movements, where the design approach is located in the minute movements of these muscles. In the chapter ‘Vision and Hapticity’, he relates the sense of vision to the sense of touch. In this relationship, the space is not an end in itself. In engaging other senses it becomes a script of actions which ‘frames, articulates, structures, gives significance, relates, separates and unites, facilitates and prohibits.’ In looking at architecture through verbs, there is a blurring of purely functional objects. A tension is created between the utilitarian use and abstraction of space.

Throughout the book one understands the terrains of sensory experiences that help draw out the experience of a space. One cannot comprehend a whole architecture through hegemonic eyesight only and as primary. The tactile, auditory, and olfactory details are what define and ground any architectural or spatial practice. He also refers to Junichiro Tanizaki’s work ‘In Praise of Shadows’ which talks about sensing the architectural space in the Japanese context in the dark lacquer of a soup bowl. The levels of intimacy in sensing a space have been brought to the sense of taste to be engaged in understanding space. These sensory layers engage the whole human body with the architecture as illustrated in the chapter ‘The Body in the Centre’.

“Aalto’s architecture exhibits a muscular and haptic presence. It incorporates dislocations, skew confrontations, irregularities, and polyrhythms in order to arouse bodily, muscular, and haptic experiences. His elaborate surface texture and details, crafted for the hand, invite the sense of touch and create an atmosphere of intimacy and warmth. Instead of the disembodied Cartesian idealism of the Architecture of the eye, Aalto’s architecture is based on sensory realm. His buildings are not based on a single dominant concept or Gestalt; rather they are sensory agglomerations.”

Juhani Pallasmaa’s work and this book is a seminal text in understanding the critique of modernity through a phenomenological lens. The era with its scientific clarity reduced space to a visual subject only. The constant focus on utilitarian use, technological advancements, and the distancing from the sensory world has brought spatial practices to a point where the human body as a whole can never become grounded in space. But in the text reviewed, modernity finds its strongest critiques in the way a human body inhabits a space. The human does not experience the space as its surveyor, but he greets it, encounters it, and further explores it through the body and not just the eye. In contemporary practices, Juhani Pallasmaa is as much relevant to combat the visual regimes dominating architectural practices in order to understand our own vernacular relevance.



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- Sustainable architecture
- Urban ecology/ Urban renewal / Urban sprawl
- Urban sustainability / Urban transportation
- Urbanization

BOOK REVIEW: Contributions for our 'Book Review' section are welcome in the form of a brief summary and a sample of the publication related to the field of architecture, planning and development.

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