

Islamic Values in Landscape & Architecture - Case Studies, Contemporary Relevance & Strategies

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Abstract: There is a global interconnection that has been prospering since the dawn of mankind. The process of connecting the world started thousands of years ago. The ancient world saw the establishment of two major globalizing forces - Christianity and Islam. These forces spread throughout the world and with them spread power, culture, values and principles. These were simultaneously adopted, abstracted and implemented in architecture, planning, art and design. Rapid modernization and globalization in today's world has transformed cultures, concepts and planning ideologies which has affected the spatial development and the pattern of urban spaces. The Muslim world cannot stand idle amidst the forces of global change and technology. There is a need to study and examine the urban and architectural fabric in the Islamic world, effects of globalization and analyze how excessive consumption, in a broader sense, has changed our spaces into meaningless realities. The aim of the paper is to review, analyze, and focus on the use of urban open spaces in the cities planned according to Islamic principles and understand the present day scenario of the same by descriptive research methodology (surveys and case studies). This paper will include the history of Islam & Islamic values with their relevance and justification in landscape and architecture. The case studies taken up for research will be Shahjahanabad (Old Delhi), Delhi, India and Isfahan, Iran to understand the derivations of Islamic principles in architecture and landscape. The conclusions will include strategies and concepts related to the enhancement of built environment quality which is more correspondent to Islamic culture, harmonized built environment and Islamic lifestyle & successful urban open spaces for quality living.

Keywords: Globalization, Islamic Architecture, Islamic Principles & Values, Landscape Urbanism, Urban Open Space

1. Introduction

The Islamic world has shaped a unique tangible and intangible heritage with its vast geographical expansion and very rich cultural history. Islamic heritage has richly enriched human history with its prolific and artistic achievements and contributed to the Islamic borders and other geographical boundaries. Islam is a religion of peace and it is for all people, irrespective of race or region. Hence, it is a symbol of unity which stands against any ethnic or racial discrimination. Numerous smaller units along with various larger civilizations like Arabs, Persians, Malays, Turks, Indian, Africans, and Chinese etc contributed to the enhancement and development Islamic civilization. All these civilizations adopted learning's from various previous civilizations whilst incorporating their own science, culture and technologies and worked together to emphasize on Islam

as a whole. The scenario today has changed and there is a need to go back to the roots from where we started. The main aim of this paper is to review, analyze, and focus on the use of urban open spaces in the cities planned according to Islamic principles propose strategies for the changes.

1.1. ISLAM

The religion of Islam spread with electrifying speed from the oasis cities of Medina and Makkah Islam still continues to grow not only in Africa but in Europe and America. The global Islamic civilization activated the mind and thought of people. Hence, Islam created ways for people to become torch bearers of science and learning. Islamic civilization spread its extents and with it spread Islamic power, culture, values and principles. The field of Islamic architecture is one of the great examples of rich inheritance of Islamic values in design, planning, art and architecture. Islamic architecture

demonstrates the personification of Islamic values through the local and regional genius which was achieved by exploration of various styles and forms of Islamic values.

1.2. Islamic Values

The various Islamic values include:

Islamic discipline is one of the foremost values gifted to people by ALLAH. The 5 pillars of Islam namely, Namaz (Salah), Zakat, Shahadah, fasting in Ramadan and performing Hajj help people achieve discipline and establish social order in society.

Islam is Universal, rational, comprehensive, positive, pragmatic, simple and egalitarian.

Islam is a way of life. Islamic ideals are very just in all religious, social, intellectual, cultural and political aspects.

Islam combines the grandest and most prominent features with moral intuition of man and reasoning behind them.

Islam is based on science and logic. It binds its followers

to gain education and attain knowledge.

Islamic civilization is majorly characterized by Quran and Sunnah. Islamic architecture can be thought of to be an outcome of interaction between customs, beliefs and traditions along with the physical environment factors. The use of Islamic values in architecture is the meanings abstracted from it. So, the form is actually the physical image perceived by man and its meaning is the spiritual extension of art and architecture. In the process of abstraction of Islamic spirit and values to art and architecture, the religious beliefs are often kept fixed and the form is variable. For example, privacy is one of the foremost Islamic principles. This value is used in architecture by providing inward building orientation and minimizing external window openings and covering them with different treatments like "Roshan and Mashrabiya" etc. and provision of bent entrances and inward oriented homes as seen in Figure 1.

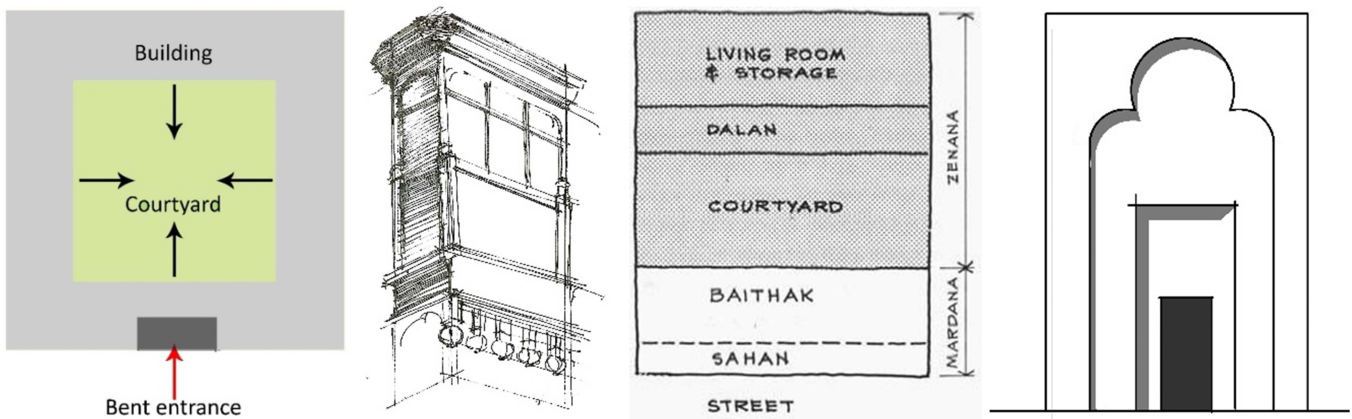


Figure 1. Inward building orientation (top left), Mashrabiya (top), typical Islamic house zones (middle) and bent entrance (bottom).

1.3. Verses from Quran

The following verses from Quran clearly depict the presence and emphasis on the need of open spaces, simplistic houses and sustainability factors.

"Do you not see that Allah has made what is in the heavens and what is in earth subservient to you, and made complete to you His favors outwardly and inwardly?" (31:20) [1].

"And remember when He ... lodged you in the land, taking to yourselves castles of its plains, and hewing its mountains into houses." (7:74) [1].

"O Adam! Dwell thou and thy wife in the Garden; and eat of the bountiful things therein as (where and when) ye will; but approach not this tree, or ye run into harm and transgression." (2: 35) [1].

(Here is) a Parable of the Garden which the righteous are promised: in it are rivers of water incorruptible; rivers of milk of which the taste never changes; rivers of wine, a joy to those who drink; and rivers of honey pure and clear. In it there are for them all kinds of fruits; and Grace from their Lord. (Can those in such Bliss) be compared to such as shall dwell forever in the Fire, and be given, to drink, boiling

water, so that it cuts up their bowels (to pieces)? (47: 15) [1].

2. The Islamic City

Generally, a city is formed by 3 factors namely, human, behavior and skeleton. However, an Islamic city is formed by three factors which are- monotheistic view (intellectual aspect), morality and Islamic behavior (practical and behavioral aspect) and action and Islamic connection to the world (objective aspect). The main characteristic that separates Islamic cities from any other city is the existence of a large number of Muslim populations in there. The fundamental and decisive factor for the city to be called Islamic lies in the concept of "Tawhid" or oneness which binds the society together. The faith of Tawhid is present in every attribute such as social, economic, physical, political and cultural etc.

This characteristic is represented and abstracted by different means in architecture such as inward orientation, privacy, building outer protection, sustainability and environmental design and open green spaces.

The various design principles of Muslim city include:

(1) Nature

This includes the adaptation of built form to the natural

landform and environmental cues of a place or region. This can be seen as adoptions in building forms as courtyards, narrow lanes, covered streets, terraces and gardens.

(2) Religious beliefs

The concept of providing mosque in the central position in institutional and spatial hierarchies enables people to be equidistant from the main place of congregation.

(3) Cultural beliefs

The concept of 'purdah' is maintained by providing separate spaces for men and women. Also, the separation of public and private lives regulates the spatial order of used and unused spaces. Provision of separate commercial and residential areas is taken care of by spatial planning.

(4) Sharia Law

The concept of privacy and physical and social relations between public and private realms is maintained by providing spatial hierarchy.

(5) Social principles

Social organization of the city is based on social gatherings which share the same ethnic origins, same blood and cultural perspectives. Such groups lived together and spaces were designed and planned accordingly.

(6) Sustainability

The use of resources judiciously and multifunctional use of vegetation, water, open spaces, topography, climate etc. was the major criteria.

(7) Open spaces

The concept of gardens as mentioned in Quran symbolizes the importance of greenery and its plentiful use. Such interpretations play a major role in designing great Islamic gardens.

All these principles are used and implemented on all scales of art, architecture, planning and design of cities. A typical Islamic city model can be seen in Figure 2 which has the mosque as the central node with bazaars surrounding it and residential quarters farther away. The cemeteries are on the outskirts of the city. The idea is to have the congregation space in center. This allows everyone to be at an equal distance from the center. Focusing on human scales while constructing spaces and buildings in material and psychological dimensions: In Islamic city, harmonic spaces are formed with human capabilities and features. [2]

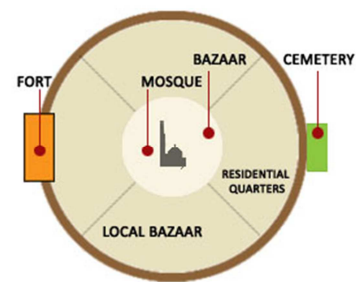


Figure 2. Typical Islamic City model.

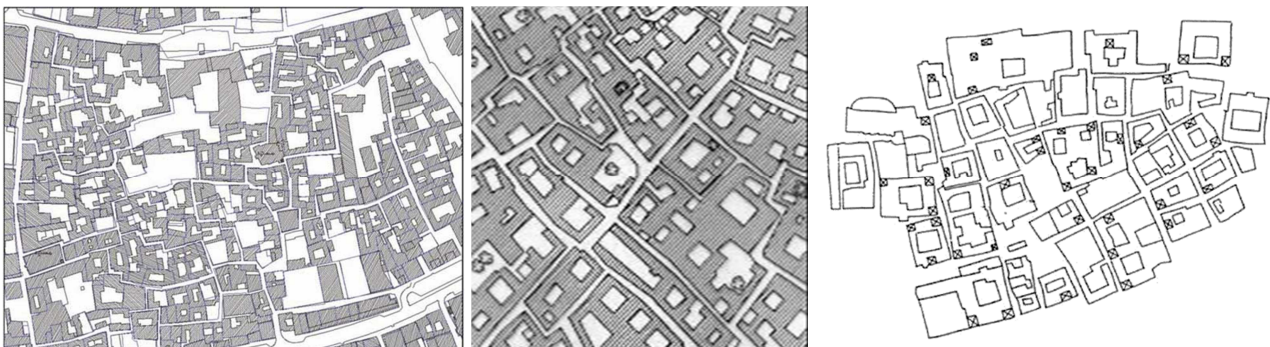


Figure 3. Plans of Old city of Kuwait (top), Bahrain (center) and Old city of Dubai (bottom).

The following features are typical of Islamic cities- central mosque, souqs, citadels (casbah), residential quarters, street network, boundary wall, cemeteries on outskirts etc. Some ancient Islamic cities can be seen in Figure 3. The cities that are studied in detail are Shahjahanabad (Old Delhi) in India and Isfahan in Iran.

3. Case Study 1- Isfahan, Iran

Isfahan is located in the center of Iran and is the third most populous city in Iran. [3] It is one of the prime examples of city plans which have been influenced by garden plans. It is a semi-desert area with the river Zayandeh Rud developed during three major periods in Islamic era. Figure 4 shows the location of Isfahan in Iran and its neighboring countries. Firstly, Isfahan developed under Abbasid caliphate in medieval era. Secondly it

developed under the Seljuks and finally under the Safavids era during the reign of Shah Abbas. The city grew in response to the inhabitants needs. Shah Abbas I designed the city plan on a monumental scale in garden fields which integrated river Zayandeh Rud into the formation of new palatial city. Shah Abbas ordered a series of building campaigns in anticipation of official transfer of capital in 1598. The major works included refurbishment of old bazaars, maidaan e kohna and reconceptualization of the city as the imperial capital. The seventh century Iran was built to facilitate the workings and constituent parts of the new imperial composition of economic, political, religious and social convergence. Isfahani's were always proud of the exceptional fertility and fruitfulness of Isfahan's earth, its bounteous rivers and good climate. The location of Isfahan in this world system has been used to explain its outstanding fertility and has played an important role in justification of its eminence as a

city and the attributes of its paradisiacal qualities.

The first structure was maidaan-e-naqs-e-jahan and Charbagh promenade. The function of a square is to connect social, commercial, sport and governmental army with each other. [3] It was a massive urban project at an extraordinary scale. This development took several decades to complete. The maidaan was a major urban project to connect old city square to the new city. It is one of the largest squares in the world. This maidaan served multiple uses. A three storied building surrounded the maidaan ensemble which catered to court functions, ceremonies, markets etc. There were temporary tents set up on market days which enlivened the scene.



Figure 4. Location of Isfahan in Iran.

There were two mosques within this square and Ali Qapu was a gate complex that was a connection to the royal gardens of Charbagh. The gardens spread on both sides of the river Zayandeh Rud. The natural elements such as water, soil, plants and climate and Islamic concepts of geometry, space, architecture and teachings from Quran were understood and adopted in designing of the city. [4]

The Zayandeh Rud (river) passing through it which was chosen as the East-west axis and a North-south axis was created at right angles to this river forming a Charbagh pattern at City level. Figure 6 shows the axial planning of the city and Figure 7 and Figure 8 show the presence of Water channels and Baghs spread across the city. These major axes were flanked by smaller Charbaghs on either side. The Muddies (streams) from the river ran into the gardens along the natural slope making it a very wise drainage and irrigation strategy.

Safavids Designers had caused sustainability in the green urban spaces by the intelligent use of the Zayandehrood water all over the city. In addition to water, the use of plants was particularly very significant. Safavid designer built Charbagh Street as major new city axis. This street connected new and old sections of city. Charbagh had created as the most important element of Isfahan urban design and a Safavids invention in the new city section. It was used as one of the major open public promenades. It was intercepted by

fountains and pools and was completely shaded by trees. Vegetation was variously used in terms of color variety, density, dimension and fabric of environmental design. Trees created lively and dynamic spaces which further caused freshness and variety in space. In fact, the Muddies spread just like capillaries with moisture all over the city and enhanced greenery into urban space. The plants represented life, youthfulness, productivity and immortality. Another major public space was the city was designed and planned for enhancing citizen's health and well-being. The new city of Isfahan was close to an ideal figure of heaven which was integrated with the beauty of gardens and nature. The sustainable measures adopted in the city planning helped in regulating the microclimate of the region. The historical city of Isfahan made the best and the complete connection with earth and sky, plants and animals, people and water, wind, light and soil. It was a city which had the dark and light, hard and soft, water and stone, earth and sky, compression and aperture, dryness and freshness all together. The natural element of water, the Zayandeh Rud was branched into streams or muddies which played a significant role to amalgamate the four natural elements of nature- wind, water, plants and soil (earth). [5] Isfahan was a coherent soul and body and hence a sustainable city. The remarkable background of Isfahan's existing natural bounties that included city formation in relation with natural and climatic factors on one hand, and water management system of muddies, sense of appropriate plantation, use of compact and traditional architecture, etc. suggest the realization of sustainable development goals. The bazaars or souqs were also designed keeping in mind the hot weather conditions. The travelers used to call Isfahan as one of the most beautiful cities in the world. [6]

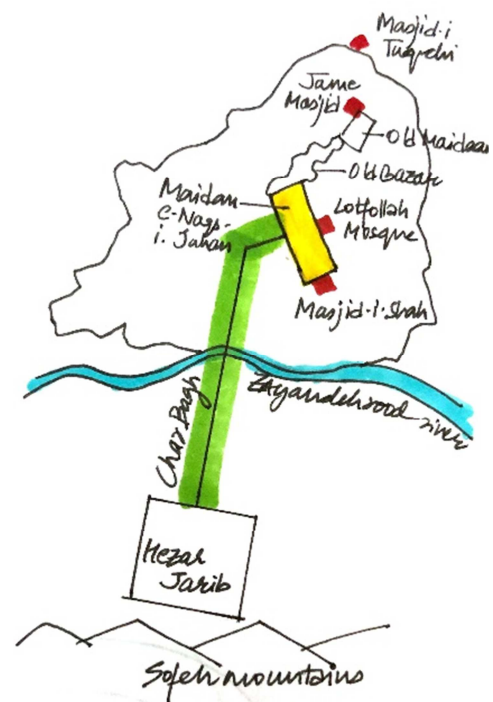


Figure 5. Isfahan city with landscape elements.

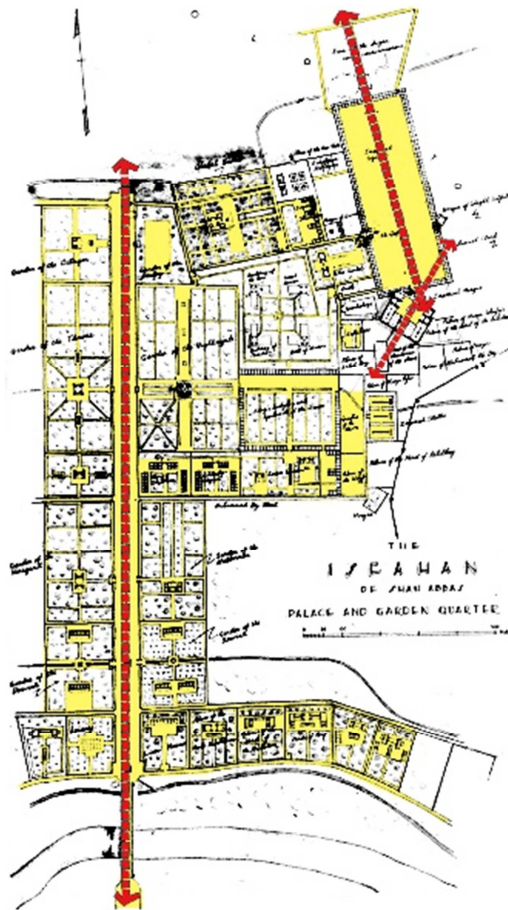


Figure 6. Axial Planning in Isfahan.



Figure 7. Charbagh Planning in Isfahan.

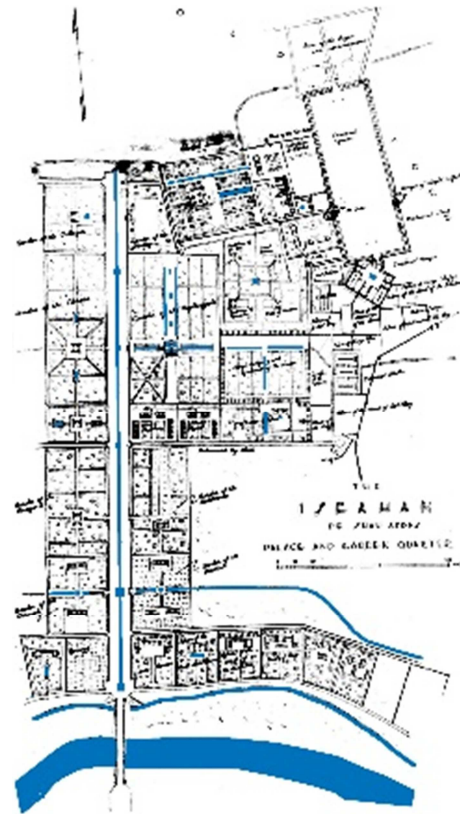


Figure 8. Water Planning in Isfahan.

This was the idea of city planning based on Islamic values and principles, very less of which remains now. Expansion took place in Qajar dynasty and trees were cut down and sold and the gardens were brought down. [7] The Charbagh Street is now a vehicular road with no water channel in between and the gardens have become victims of urbanization. However, in recent days, Isfahan has become a large, tourist-oriented industrial city with a huge legacy from past but massive changes in its original garden design plan. [4]

4. Case Study 2- Shahjahanabad, India

Shahjahanabad, seventh city of Delhi has seen both glory at its peak and destruction. In its history, it has been ruined and plundered many times only to become the capital of one of the most powerful dynasties. The city continues to be alive even today. Emperor Shah Jahan chose a site south of Saleemgarh to establish a new Mughal capital. Shah Jahan was an orthodox Muslim and he wanted to build a city based on Islamic values and principles. The attributes of a typical Islamic city could be easily seen in Shahjahanabad's city planning. The planning of Shahjahanabad clearly shows imitation and adoption from Isfahan's city planning. The river Yamuna was used as North-South axis and a horizontal axis was designed to create a Charbagh pattern on city scale. There were gates pointing in different directions, named after the cities to which they pointed. Figure 9 shows the axial planning of the city and Figure 10 and Figure 11 show the presence of greens and water channels spread across the city.

The central bazaar began at the palace, grew towards Jama Masjid and continued towards city gate. The smaller streets inserted themselves into the built fabric and vital points like bath houses, tea houses, schools, sarais, bakeries, water cisterns and shops developed in the proximity to the skeletal center. The city wall and gates defined and protected the volume of city. There were many designed open spaces like Chowks, Baghs courtyards etc. which served people in a multi-purpose manner. The largest street/ open linear space was Chandni Chowk which had trees on either side and water channel which was fed by Faiz/Paradise canal ran through the center of the street. The water channels ran throughout the city in an elaborate system which provided respite from scorching Delhi heat. There were boulevards with Channels, grand mosques, havelis, arcaded bazaar streets, baolis, sarais, kotwalis, garden retreats, baradari, chattas, kuchas, galis, kattras, madarsas, maktabas, khanqas, khirkis, ganj's and host of other elements of material culture. [8]



Figure 9. Axial Planning in Shahjahanabad.



Figure 10. Charbagh Planning in Shahjahanabad.

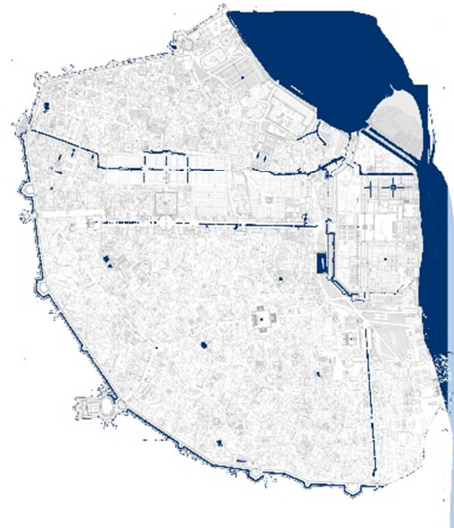


Figure 11. Water Planning in Shahjahanabad.

Courtyard houses were of different scales, complexity and ornamentation which signified the status and social ranking of the owner. [9] There were kuchas, kattras and galis which were named according to occupation of the people who lived in them. There was a concept of eye on the street. People would be safe since the streets were always busy and shaded. The residents of the city were primarily identified through their mohalla. Each mohalla had an enclosed space created residential and commercial buildings having entry to a katra made through a gate. [9] The mohallas of the city were homogenous units whose spatial system was made legible through a hierarchy of gates which defined the thanas and the smaller residential precincts sitting within each mohalla. Mohalla had a system of interior courtyards which were not visible from the spine. It was more of an introvert garden city, where open spaces were shared by community. Mohalla created a system of security envelopes. The resident travelled initially from the most private interior space to the land outside his door which was the second degree of privacy to the main bazaar. Galis were semi private space and courtyards were the most private areas. There were many gardens in Shahjahanabad which served as venues for celebration of various festivals by the ladies. Besides the walled area, the urban complex extended miles into countryside. The gardens occupied an importance position in city planning. [10]

At present, the 'integrity of composition' of historic Shahjahanabad is retained to a great degree: its geometric scale, size and layout survive to present day. The various mohallas, kuchas and kattras may have changed in nomenclature in some instances, but the traditional urban hierarchy of spaces is largely retained. Many of the mohallas are still identifiable. Figure 12 depicts the current situation of the city with considerable changes in terms of open spaces. The purpose of open spaces has drastically changes in terms of area and function. [11] While the functional integrity of Shahjahanabad may have been compromised because it is no longer an imperial capital and commercial land use has replaced some of the original residential land use, it continues to be a pre-eminent trading town serving the region – as it was at the time of its founding –

with most of the traditional bazaars continuing as wholesale markets just as before. Much of the original fabric of intricate street facades and deep houses with courtyards for light and ventilation still survive. A similar scenario as in Isfahan is met in Shahjahanabad. The gardens and all the water channels have vanished. The values on which it was planned is not seen

anywhere. The concept of purdah has weakened in the society. The mohallas do not serve the same purpose as planned. These changes have led to a change in the perception and reality of this city being a beautifully planned Islamic city with water channels and gardens to a congested and overpopulated one. [12]













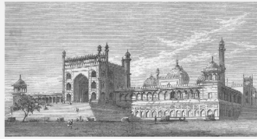





Figure 12. Streets of Shahjahanabad as seen today.

5. Comparative Analysis

The comparative analysis of these two case studies is listed below in the table.

Table 1. Comparative Analysis of Case Studies.

| FEATURES | ISFAHAN | SHAHJAHANABAD |
|--------------------------------|--|--|
| Change in built to open ratio. |   |   <p>All the greens are eaten up by buildings and Town Hall building.</p> |
| Main Promenade |   <p>The Charbagh promenade now serves as a vehicular road</p> |   <p>The water channel no more exists</p> |

| FEATURES | ISFAHAN | SHAHJAHANABAD |
|------------------|---|---|
| Mosque & Maidaan |   <p>naqs i jahan now has vehicular access unlike Maidan e Maidane before</p> |   <p>The grand steps of Jama Masjid are flanked by hawkers today, diminishing its grandeur thereby</p> |
| River |   <p>muddies which were derived from the river Zayandehrood The no morw exist</p> |   <p>Faiz Canal is more functional and no water channels exist in Shahjahanabad as before The river Yamuna has changed its course and it no more flows next to Shahjahanabad as before</p> |

6. Conclusion

The two case studies clearly depict the intent of city planning based on Islamic values and principles. The changes that have occurred with time are similar in both the cases. With time, the cities have grown exponentially which has led to cities becoming overcrowded and hence losing on the grace and charm they were originally designed for. The open spaces are completely eaten up by urbanization. There has been a lot of stress on the open spaces which are being constantly consumed. [13] With the increase in population and modernization, a lot of western influence can be seen in these cities which have resulted in adoption of Non- Islamic values too. The concept of privacy and purdah system has diminished.

The sense of balance, appropriateness, spiritual mood and human measures were present in the original cities which are now lost.

The cities today depict disorder, imbalance, psychological pressure and dominance of quantity on human life.

The purpose of almost all elements has changed. The mosques had a political, social, judicial and educational role but today they do not have the same function in attracting people of different classes. This is due to financial problems, lack of appropriate cultural equipment and facilities and not using artistic tools and language in the mosque. The skeletal elements like the banks and malls have dominated on the city and contempt human by their super-human scales. In these markets the relationship of the shopkeeper and the customer is just based on more profit, and there is almost no sign of the Islamic pure values and concepts due to identity transmutation and destroying holiness. The concept of street has changed. The streets were places for social interaction among people but now are only to cater to the never ending parking requirements. [14] The gardens and trees are all eaten up by growing urbanisation and hence there is no breathing space left for these cities to function well. Use of

the natural resources judiciously and in a multipurpose manner has now become a thing of past. The western measures are adopted irrespective of the context. The following strategies need to be adopted in order to understand the importance and need of retaining and bringing back the values of Islam in art, architecture, planning and landscape.

Identifying the values and principles of the Islamic culture discussed above to be manifested in the skeleton of the living spaces and classification of the criteria of Islamic bases in order to analyze the current situation of the cities. [15]

Creating a new concept of public realm and open spaces and redefining district based on the Islamic values and principles and architectural criteria of the Islamic cities.

Publishing new and special guidelines for preservation and restoration of valuable historical data and historical architecture.

Integrating today's technology with philosophical and scientific approaches along with local and native conditions of the place to produce and apply the plans and programs of the city.

Redefining architecture and function of the various places like mosques, bazaars etc. based on the Islamic values (proper size of the place, location finding, to prevent disharmonies by determining the surrounding use, loss of identity and chaos, paying attention to multi-functionality of the spaces, paying attention to the endowment).

Use of open spaces such as streets, kuchas and katras as social interaction spaces while maintaining the zenana and mardana divisions as per law in order to fulfill all values.

Use of traditional practices of rain water harvesting and water movement so as to avoid the present scenario of water logging, floods, water stagnation etc.

Dedicating the specified amount of green cover for each region so as to have breathing spaces intact.

Incorporating the use of wild gardening and fruit trees instead of high maintenance landscapes to help people and nature in a multipurpose manner.

Restoration of the original gardens along with their exact plant species (if known) so as to understand and learn from them the various techniques and plantation schemes adopted.

Restricting further increase in urbanization in already existing Islamic cities to control and maintain the load on services.

The use of traditional practices in terms of use of courtyards of mohallas etc. for productive work by women of the mohalla while maintaining purdah.

Provision of separate zanana and mardana places in mosques, parks, gardens, banquets, markets etc.

These are a few strategies that can be adopted and implemented in Islamic cities which are thriving in today's world. There needs to be an equal participation by the public of the region to make rules and regulations for a particular area.

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