



RESEARCH PAPER

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Iranian modern cultural complex design according to patterns is defined on the basis of traditional Iranian architecture

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Abstract

The present state of architecture in the city reflects a “failure” in of this process of adaptation. ‘Keeping in mind the cosmopolitan nature of the city’, it is important that the city continues to adapt to various architectural. The architect’s of tehran today pair neo-classical pseudo-Corinthian columns with ultra-modern circular windows and tops the ensemble with a Florentine dome, as if they were elements from a prefabricated catalogue. Lack of imagination is leading to the production of roman architecture or architecture that still copies and duplicates old classical elements in an irrelevant manner. There are a few indigenous iranian architects who are trying to create architecture, which Iranian people can identify with; they are creating. Analyzing the work of these masters and how they have applied traditional elements in their designs in a modern language would help to design principals that could be adopted within tehran to make the architecture more interesting and as well help the city to establish an identity and relate to buildings that are being built in the city of Tehran for reach the goal, researcher for the sample, try to study a part of Traditional Iranian Architecture then enter them to contemporary architecture. The end of article, There is a table that use for architects.

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Introduction

Tehran has adapted to various styles of architecture and overtime it is felt that keeping in mind the cosmopolitan nature of the city it is important that the city continues to adapt to various architectural influences but in the right spirit. Even today, what serves as image centers are preindependence buildings (Kulterman, 1999). None of the buildings, except a few in the last half-a-century evoke the same kind of public identification and pride. There are a few contemporary indigenous Iranian architects who are trying to create architecture that Indians can identify with; they are creating architecture that is modern in construction technology as well as has an Iranian spirit. Few overall have succeeded in creating a national identity after centuries of domination by the colonizing empire.

The post-Independence period saw the emergence of two schools of thought in architecture – the Revivalist and the Modernist (Andreas, 1969). The Revivalists, who advocated "continuity with the past", could not break the shackles of the colonial legacy and left no significant impact on the neo-Iranian architecture. The Modernists depended too heavily on the European and American models and tried to adopt them in India without taking into consideration the regional aspirations, diversities and requirements of the people. The contemporary Indian architecture was also beset with problems like population explosion, lack of vision among the planners, lack of support from the government and a less than satisfactory standard of architecture education. The result was that, during the initial years after Independence, foreign architects continued to play a leading role in Iranian architecture. Reza Daneshmir, Kamrandiba,... represent contemporary indigenous Iranian architects..

Our architect's (Tehran city) today pair up neo-classical pseudo-Corinthian columns with ultra modern circular windows and top the ensemble with a Florentine dome, and Roman arch (Fig. 1) this photo of Roman architecture that uses its elements and elevation for a project of Kish City in Iran (Fig. 2),

this is a big problem and creates some risks for Iranian architecture. (Chadiri, 1989)



Fig. 1. A building in Roman.



Fig. 2. A building in Iran.

It seems like picking elements from prefabricated catalogue (Lack of imagination is leading to the production shoe box architecture or architecture that still copies and duplicates old classical elements in an irrelevant manner. Whether this is the result of a creative bankruptcy or the crass commercialization of architecture, it is a disheartening reality and does not bode well for the architectural scenario of the city of Tehran. Tehran city evolved like a canvas, which got enriched with various Architectural expressions, but it is felt it is losing its nature to adapt and produce buildings we can cherish for always (Bianchi & Al, 2000). Also it makes one think if it's stagnation and if it is what it could lead to.

Material and methods

Various traditional elements that can be used for designing

Contemporary structures

Inspired from traditional elements of design various elements can be incorporated in modern designs in order to create buildings in Tehran that are built using modern construction method and technology

but incorporate basic elements and ideas from traditional Iranian architecture such as courtyards colonnades pergolas, trellis (jails), step-wells to name a few. These can be incorporated in buildings of various scales such as small scale, medium scale and large scale. (William J, 1988) The following papers deals with incorporating these features in various scale structures. This will give more creativity to architecture and improve the architectural scenario of the city of tehran. This will give an opportunity to recognize the city with new land marks rather than factory designed monotonous buildings. The nature of the city to adapt will lead it to produce buildings it can cherish for always and break the present state of stagnation in architecture.

Courtyards

Courtyards have always been an integral part of Iranian architecture. Courtyard buildings were developed in a period when air-conditioning was an unknown concept. In the Iranian culture, courtyards were built as an important part of the house design to combat the hot summers. Functions of Courtyard with respect to design and climate:

1. The courtyard shades building surrounding such that the microclimate is tempered. This shading effect lowers the overall cooling load (Fathepursikri, 1992)
1. The courtyard shades building surrounding such that the microclimate is tempered. This shading effect lowers the overall cooling load.
2. Courtyard is a simple design strategy that enhances daylight availability in every room. In an indirect sense, daylight being a cool source of light, it further helps reduce the cooling load.
3. Court yards both internal as well as external. Creating a cooling effect as the shaded earth provides both coolness and can heat up due to the sun.
4. It can prove to be a natural source of humidification by adding plants and trees. It is a source of diffused light.

Various design solutions can be achieved buy means of arrangement of the structure around the courtyard. Similarly light wells were created in response to climate.

Court yard design principal can be achieved to enhance design in modern residential, commercial as well as institutional structures. The size of the courtyard would vary with the size of the structure built around it. It can be used as a design application in different buildings in different ways so that it not only serves climatically useful function but also integrates various masses to create visually pleasing aesthetic at the same time perform a specific function. Court yards are ways of life of the people. Its a common place of interaction where people get together discuss their day to day lives and events. In open spaces the courtyard acts as coolness generators (Fig. 3) when the cool air flows into the surrounding rooms. This keeps the rooms surrounding the courtyard pleasant during the day time. During the day time the courtyard gets heated up by the combination of direct, diffused and reflected solar radiation. Figure 3 shows how the heat from sun is transmitted to the courtyard and the building shadows the internal courtyard. (Bhatt & Scriver, 1990) The courtyards in open spaces in evenings began to radiate the absorbed heat to the surrounding areas (Fig. 4). The temperature is more temperate during evening hours. During night it reflects heat it absorbs from sunlight during the day time. Thus it ideally functions at different periods of the day providing heat and shade as and when required.

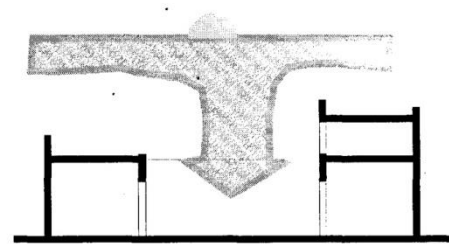


Fig. 3. Courtyard in open space in morning.

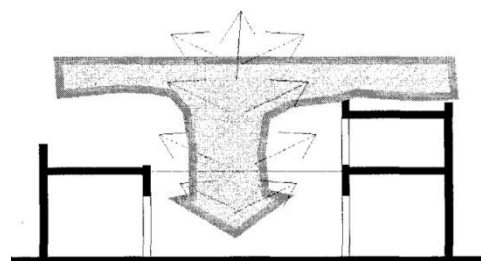


Fig. 4. Courtyards in open space in evening.

Courtyards in Small Scale Structures

Courtyards in small scale buildings can perform the function of light wells when used internally within the structure. Fig. 5 shows an internal court yard that can be used for small scale residential homes or low rise apartments.

Reproduced

Figure 5 shows a small scale structure which is provided with a courtyard which is semi covered to block the harsh sun but at the same time allowing natural light and air to filter within.

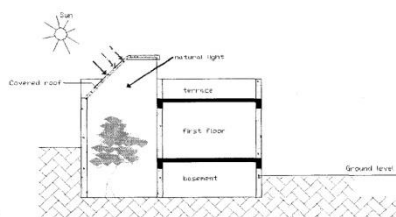


Fig. 5. Section through a small scale building.

The climate and soil in tehran provides ideal situations of basements. A wind shaft can help to cool weather with the help of a courtyard in the basement that is provided with a water feature. This could be ideal way of beating the heat in the summers and a more sustainable architecture. The similar concept can be applied to various building types which are small scale. Figures 6 and 7 show a small scale residential unit planned around the courtyard with respect to the north. The ground floor is planned keeping in mind the rising and setting sun. Thus morning period sees pleasant temperature. Activities are planned around the court, example and sitting area opening in the courtyard area. The above floor plan show rooms that can be used for resting /bedrooms. It has an covered patio and a terrace that further enhance the courtyard.

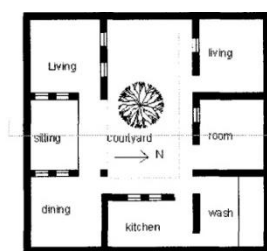


Fig. 6. Ground floor plan-planning around courtyard.

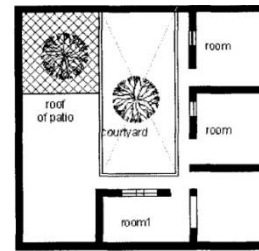


Fig. 7. Ground floor plan-planning around courtyard.

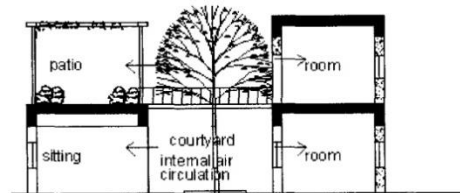


Fig. 8. Section through the building shows the air circulation and the interesting spaces within the structure.

Courtyards in Medium Scale

Structures Courtyards can be used in medium scale buildings such as apartment complex, hostels and boarding schools. They become an area of public interaction; the children from the complex can play in this court under parent supervision under close proximity of home. It not only acts as aesthetic element but also function with respect to the climate. Courtyards don't only serve a climatic function but can also help to design buildings according the social patterns and life style of a particular region. The become spaces of community interaction. Courtyards traditionally were places were people gathered to discuss day to day matters. Courtyards provide day lighting which is adequate lighting to classrooms /medium scale offices maintaining the typical building configuration, even under cloudy Conditions, if the internal surfaces are light colored in each of the interior rooms.

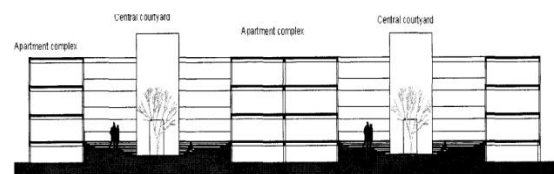


Fig. 9. Section showing arrangement of apartments around central courtyard which is shows central spaces that are ideal for community interaction.

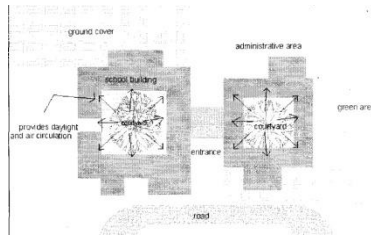


Fig. 10. Plan showing a medium scale building incorporating daylight and air circulation from courtyard.

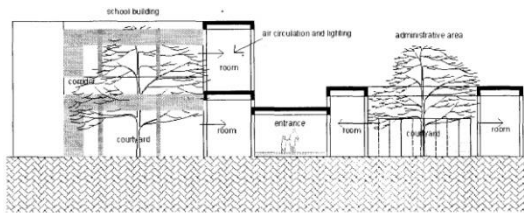


Fig. 11. Section showing a medium scale building incorporating daylight and air circulation from courtyard.

This is not only an efficient use of saving energy as done by traditional architects but recent studies have concluded that day lighting from elements such as courtyards helps to attain those results like creative thinking, work efficiency and easy learning. Integration of interior and exterior spaces together can create not only interesting interior spaces but exterior ones too such as an exterior teaching area or meeting area/discussion area etc. Court yards in large scale buildings cannot be narrow or of small spans as they create insufficient lighting. In large scale building court yards can be reduced to vertical stacks that perform the function of air circulation as well as act as light wells. Figure 13 shows how stacks can perform similarly to courtyard making the hot air rise up and creating circulation of air within the structure. Also it can also act as a light well.

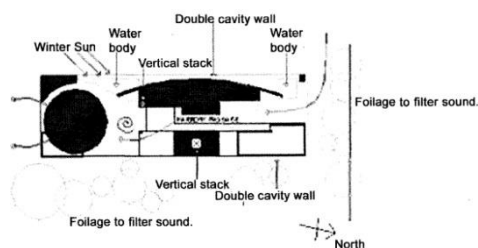


Fig. 12. Plan of a large scale building showing the vertical stack.

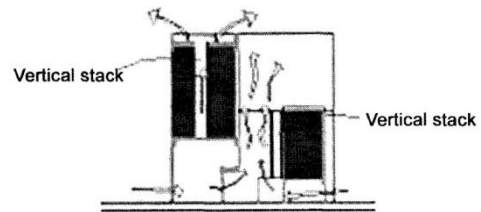


Fig. 13. Section shows courtyards reduced to vertical stacks.

Double cavity walls (Fig. 14 & 15) can be a concept evolved from the principal of courtyard design. In case of large scale structure where internal courtyards may not be practical. These walls are set around balconies or niches allowing air from niches or balconies to penetrate through the cavity in to the rooms.

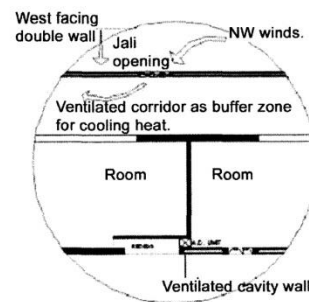


Fig. 14. Detail shows the double cavity walls around the balcony.

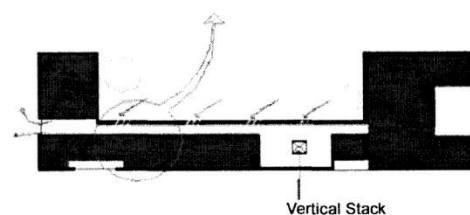


Fig. 15. Plan shows the double cavity wall located in the structure.

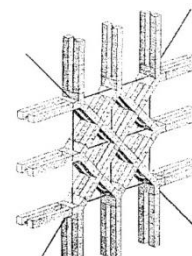


Fig. 16. Typical module cast in cement concrete to help with faster and economically viable construction.

1. Jails have served various functions:
2. They ensure seclusion prevent occupants of the house from being watched by other people, at the same time it allows the occupant to look outside.
3. It helps to admit breeze within the room at the same time it filters air from the dust before it enters, the curvilinear form of the bars helping to remove the dust from the air.
4. It reduces the rate of heat transfer through the window this is achieved through restricting the solar radiation transmitting. Function Jalis/Trellis with respect to design and climate.

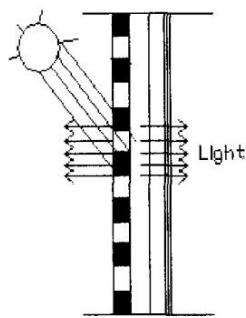


Fig. 17. To diffuse rays of sun before entering the room.

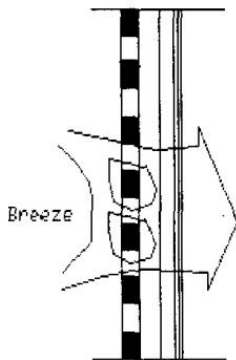


Fig. 18. To admit breezes into the room.

1. Jalis help to diffuse in sunlight and prevent heat from entering in to the room.
2. It allows admitting breeze in to the room.
3. As the jails are laid at an angle they reduce the heat transfer through the opening.
4. They not only let in cool breeze but also filter the dust from entering in.
5. These modules are based on mathematics and geometry, creating interesting aesthetics and perform climatic functions.

Trellis / Jalis in Small Scale Structures

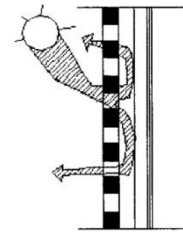


Fig. 19. To reduce the rate of heat transfer through the openings.

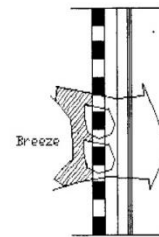


Fig. 20. To filters air of dust.

Jalis can be used both in small scale residential, institutional as well as commercial structures. Within each individual unit in a residential complex it can be used as partition members between the kitchen and the living area (Fig. 21).

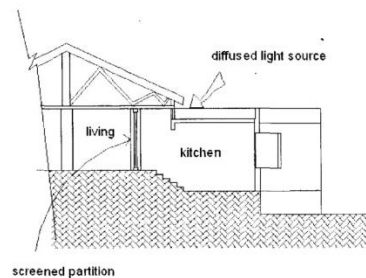


Fig. 21. Jails used as partition between kitchen and living area.

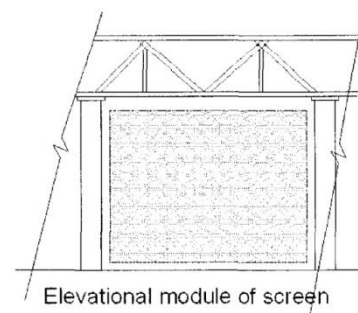


Fig. 22. Elevation of screen.

providing an ideal separator between the areas. Recast concrete modules of various geometric patterns can be laid down. These can be assembled on site according to the requirements. These can further be used in balconies to create the parapet that would filter in sunlight. These similar partitions can be used as separator between various spaces. These pierced screens can be filled with glass members who would help it to be sound proof so that only light gets transmitted but not the sound. These prefabricated members can be used in order to create parapet walls of balconies and terraces rather than using solid walls. This would not only give good aesthetics but shall also help to filter the light within the structure.

Trellis/Jalis in Medium and Large Scale Structures

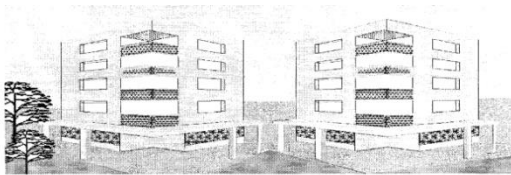


Fig. 23. Jalis used as balcony parapets and dead walls as seen above.

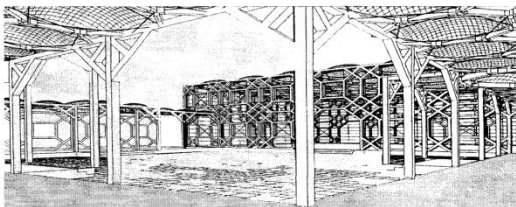


Fig. 24. Jalis used internally within a medium scale /large scale commercial or institutional structure.

Jalis /Trellis can be used for aesthetic reasons and they contribute to the elevation of the facade of the building (Fig. 23 & 24). They can be used for terrace and balcony parapet walls as well as dead walls in public spaces that would allow light and air to filter through. The geometry of Jalis will help to produce numerous designs; the frames can be designed to be precast concrete members that are laid together using mortar (cement and sand). The building facade can be designed totally on an geometry pattern, designing openings within the voids of the frame work and projecting and recessing masses wherever required.

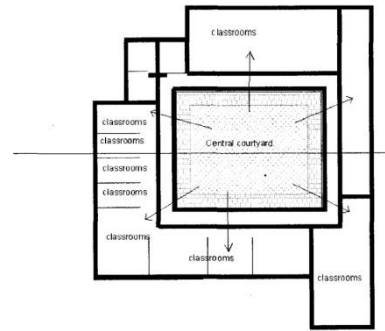


Fig. 25. Plan of medium scale building where jalis used around corridor area.

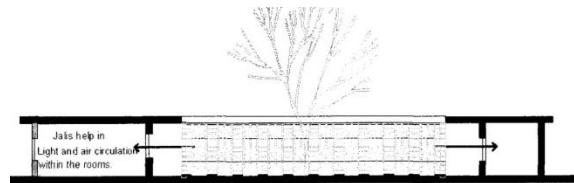


Fig. 26. Section through medium scale structure showing use of jalis around circulation corridors.

Jalis can be used internally around corridor walls for medium and large scale structures. They become a natural source of light and ventilation of the corridor area. They create excellent cross ventilation (Fig 26). The following figure shows a school design in which the class rooms are arranged along the length of the corridor. It creates interesting play of light and shadow within the corridor areas 'as well as aesthetically is pleasing'.

Pergolas

Pergolas are conceived for hot climate providing protection from heat and rains. This feature has been used traditionally in the architecture of Gujarat and Palaces of Rajasthan. Series of spaces can be created by use of pergolas that explore and challenge normative notions of spatial perception through varying degrees of opacity, transparency, overlap, adjacency, expansion and compression. The pergola frame allows openness in both plan and section, creating spaces prescribed only by one's movement through them via such connecting devices as the horizontally biased architectural. Pergolas are members used to cover internal or external spaces creating interesting spaces that helps tie spaces together and creates a rhythmic

movement Pergolas shade the building and outdoor spaces, reduce summer temperatures, improve comfort and saves energy. Deep verandahs, balconies or pergolas can be used to shade east and west elevations, but may still admit very low angle summer sun. They are used in combination with planting to filter unwanted sunlight. Pergolas can also be covered with deciduous vines, providing self adjusting seasonal shading.

Pergolas in Small Scale Structures

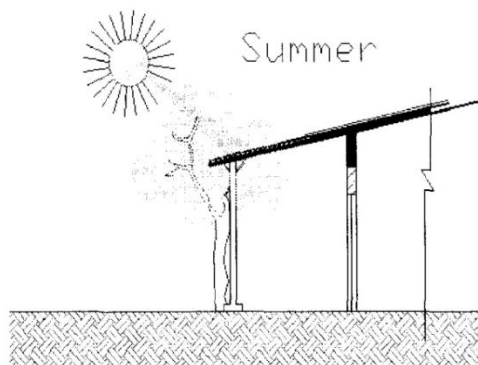


Fig. 27. Pergoias designed with respect to summer sun.

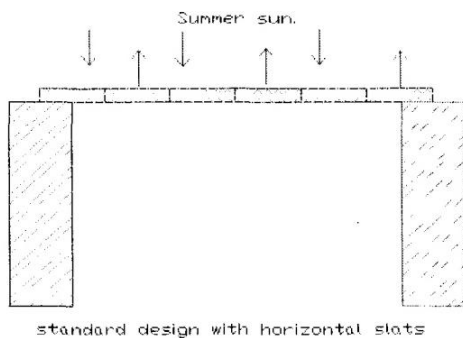


Fig. 28. Detail of slats to prevent entry of sun.

The standard pergola design, with horizontal slats, provides some shade all year round. The solar pergola has slats, which are tilted to allow access to sun in winter (Fig. 127), but provide a continuous barrier to summer sun (Fig. 125). Slats can be placed closer together to block out sun during spring and autumn as well. The angle and spacing of the slats in the picture are designed to suit different places.

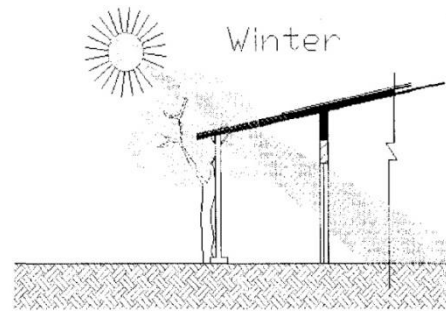


Fig. 29. Pergolas designed with respect to winter sun.

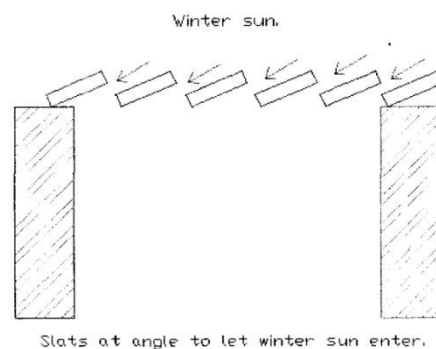


Fig. 30. Detail of slats at angle to let in the winter sun.

Pergolas can be used to shade east and west elevations, but they may still admit very low angle summer sun. Pergolas can be used in combination with planting to filter unwanted sun. These can not only be used as a climatic feature but can be used innovatively as an aesthetic feature as seen in (Fig. 31).

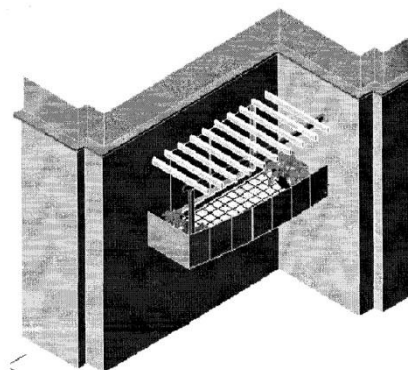


Fig. 31. Pergolas over balconies and terraces in small scale structures.

Pergolas in Medium and Large Scale Structures

Figure 32 Entrance to an institutional building, an element of design feature Pergolas in medium scale structures can be used to create ambiguity and duality to articulate space, creating fluidity and continuity Punctured openings as seen in the above Fig. 32 are elements used to reach this goal and create climatically responsive structures.

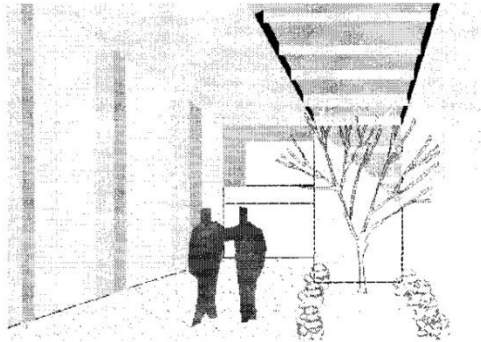


Fig. 32. Entrance to an institutional building, an element of design feature.

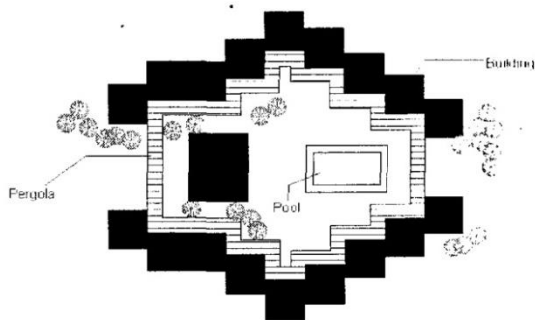


Fig. 33. Plan of a housing complex showing pergola linking them together.

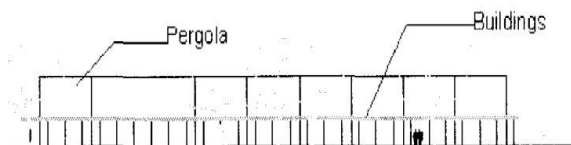


Fig. 34. Section through the pergolas showing them visually connecting different houses.

In medium scale structures such as a complex of houses or Apartments can all be linked together visually with pergolas as seen in the adjoining figure.

These are individual buildings by themselves only linked visually by pergolas around periphery this also creates a semi-covered corridor or walkway.

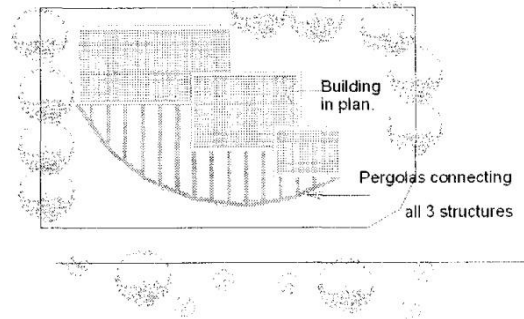


Fig. 35. In a medium scale structure the pergolas can act and perform the same function of space frame as seen in plan above.

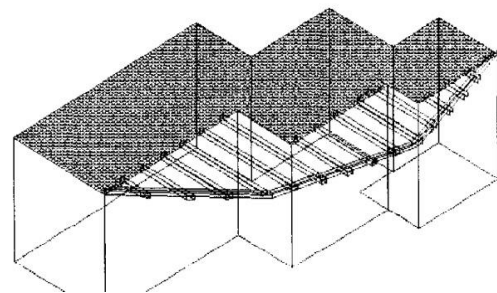


Fig. 36. In a medium scale structure the pergolas can act and perform the same function of space frame as seen above.

Step Wells/Kunds/garden pit

Step-wells are most certainly one of Iran's most unique, but little-known, contributions to architecture, and it is uncertain whether they are to be encountered anywhere outside the Iranian sub-continent.

Function of Step wells/Kunds.

1. To achieve a balanced climate
2. The actual function of well was the location of the water body that was used for the particular function of serving a particular community.
3. These wells were also of aesthetic value as they have various ornamental decorations on it, in earlier times idols of God glorified the step wells.

Step Wells in Medium and Large Scale Structure

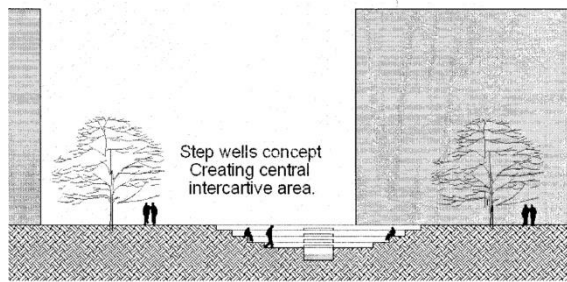


Fig. 37. Section showing activity around the step well in the complex.

Step wells can be designed to fit into large an medium scale complex, not only do they act as an landscape feature that would act as interactive areas where people from the complex can gather address issues as well it would prove to be an excellent landscape feature.

Terraces

Roof terraces have always been an essential component of the architecture in Iranian cities. Terraces were also important portion of the palace. They perform various functions as listed below. They provide welcome outdoor space during summer nights in the dry, hot climate when the interior rooms retain the heat absorbed during the scorching day. Terraces provide extension to living areas at an upper level during sunny winter days when interior rooms can be cold. Traditional housing in warm places is designed on roof terraces design and functions as acclimatic relief. Terraces can have aesthetic value as well and can be a welcome place for a breeze.

Terraces in Small Scale Structure

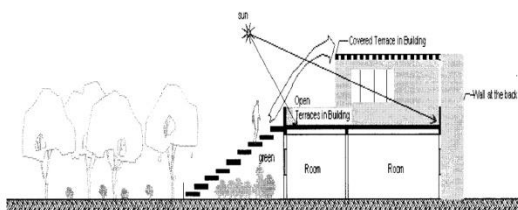


Fig. 38. Roof terrace in a small scale structure.

Terraces in small scale structures provide occupants with a second form of outdoor space that functionally

complements the courtyard area. The function served by a roof terrace in a small scale structure is directly affected by its location and its orientation. As seen in Fig. 38 frequently the roof terraces are placed in front of winter rooms orientated towards the south or on the west side of the structure orientated towards the east. These terraces are positioned in such a way that in winter the rays of the morning sun can reach the occupants to maximum degree. A portion of the terrace is covered with grape vine trellis to enhance cooling effect. The parapet wall is so designed that it doesn't block sunlight from entering any adjoining room. Traditionally in an individual small scale dwelling which may be a house, terraces perform many domestic functions. In hot summers people enjoy sleeping on terraces as they provide a cool relief. They receive ample sun light during morning and afternoon hour's. This period is most house hold to dry down stuff like dry snacks which they make at home and lay on terraces for days to dry.

Terraces in Medium Scale Structure

Terraces in can be used in design of medium scale structures as seen below.

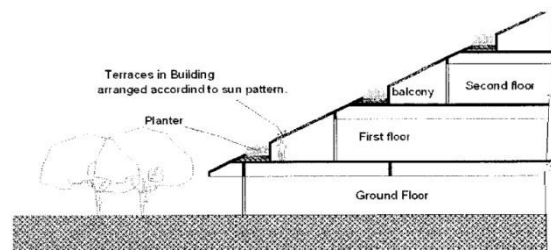


Fig. 39. Terraces can be designed to recess with the angle of sun provides maximum heat protection in summer also provides adequate sunlight.

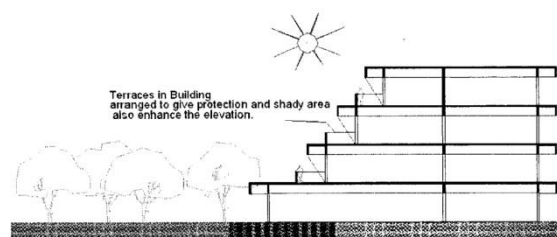


Fig. 40. Terraces can provide an interesting extension to the living area so one can enjoy the sun even in an apartment complex.

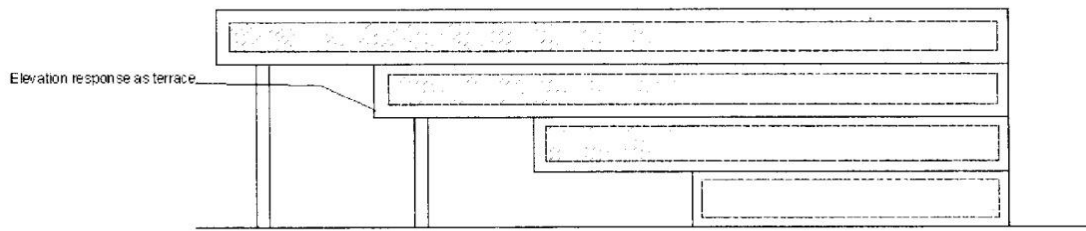


Fig. 41. Terraces can act as an elevation response further providing natural shade.

Terraces in medium scale structures can be used as an element of aesthetic at the same time as they can help to create socially interactive areas (Figure 140). These terraces can be designed to recess with the angle of sun providing maximum heat protection but provide adequate sunlight and also terraces can provide interesting extension to the living areas so one can enjoy the sun even in an apartment complex.

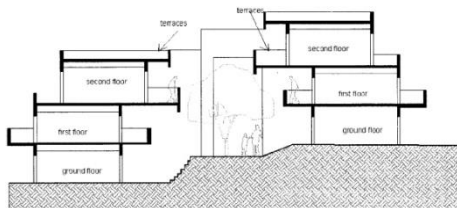


Fig. 42. Terraces as area of social interaction.

Terraces in Large Scale Structure

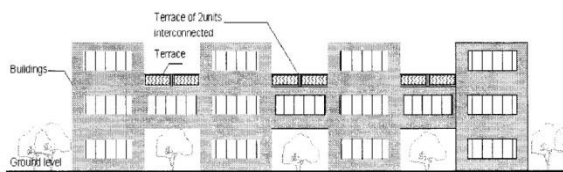


Fig. 43. Shows elevation of buildings that are linked by terraces in a large scale complex.

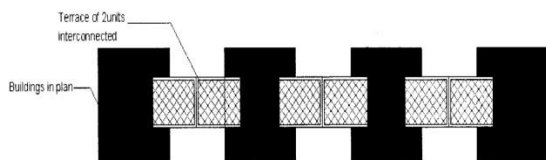


Fig. 44. shows plan of buildings that are linked by terraces in a large scale complex.

In large scale structure's terraces can be used in many ways with similar function as in medium scale, in large scale building terraces can act as links that can

merge the entire complex into one. Terraces can act as both a visual as well as a functional link between various buildings in a large scale complex. These terraces can be used in large scale buildings such as a hostel complex to tie the entire structure

Results

Climate concepts: Iranian sustainable architecture

The main problem in contemporary architecture in the world today, disconnect between traditional architecture and modern requirements. It is necessary the methods used in the ancient world as a symbol of green solutions and then they adapted to the new world by the technological advances of our time. Because of the need to review the solutions for adapting to climatic conditions, is that the architecture of those days, the result of a continuous process of local architecture has been transferred from generation to generation and status and continuity over a long period of trial by error and have been tested for hundreds of years. There is no doubt that the climate is one of the elements affecting the architectural design processes that ignoring it would be a waste of time and money (Golsanam, 2012).

Physical phenomena and Iranian architectural events deal with this phenomenon include soils, topography, water, sunlight, wind, rain, snow, outside temperature, humidity, vibration, noise and vibration, biotic factors, abiotic factors. Effective use of natural resources not only economic, but also reduces the amount of environmental pollutants caused by the equipment....

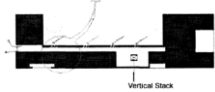
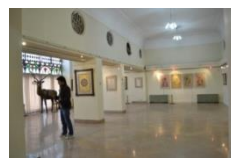



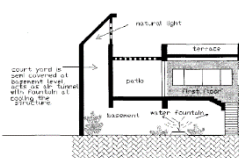
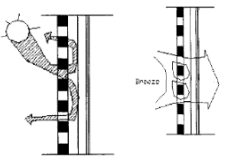
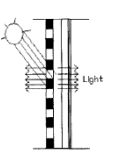
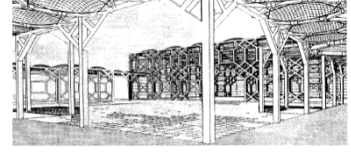
Iranian traditional architecture based on the elements of the environment, the process of design, inspired by nature and in harmony with nature and the potential

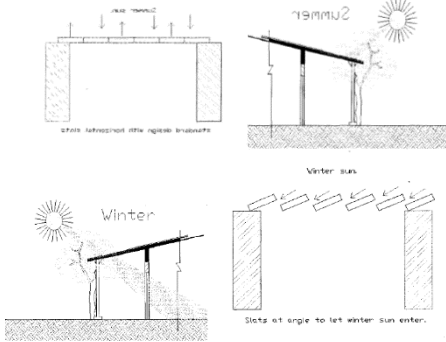
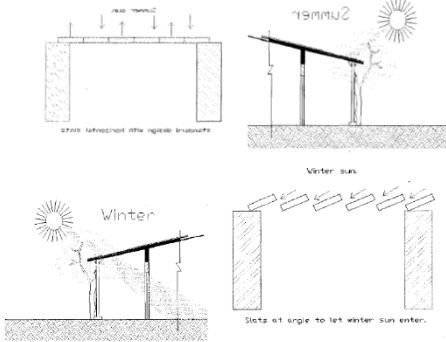
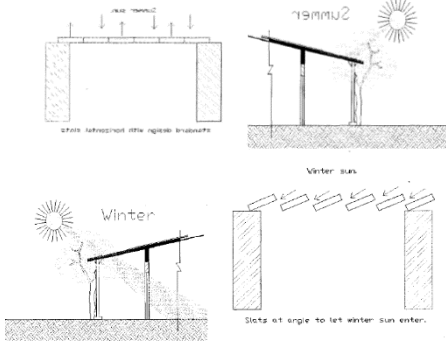
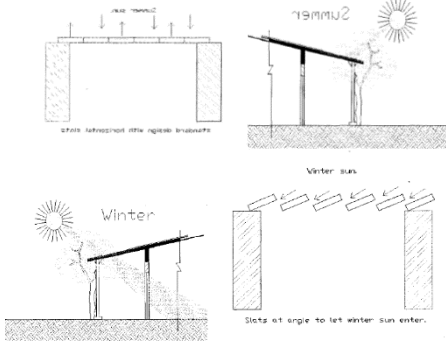
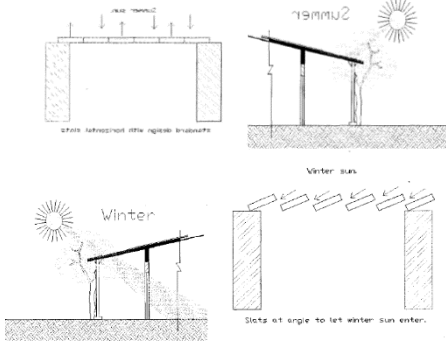
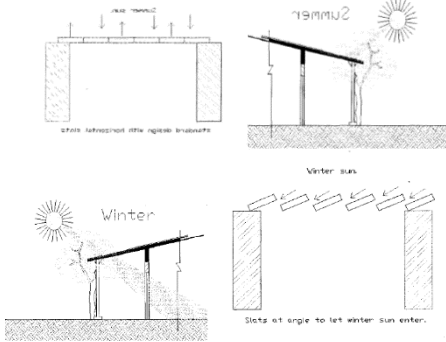
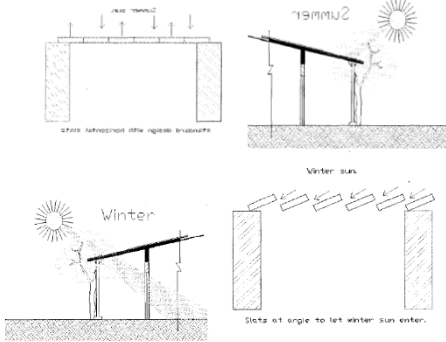
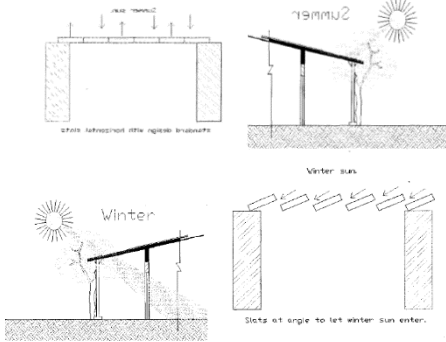
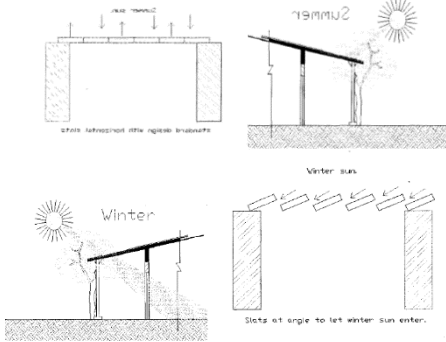
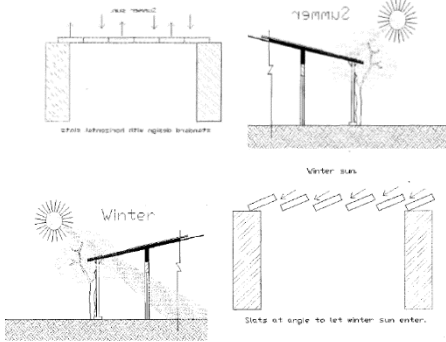
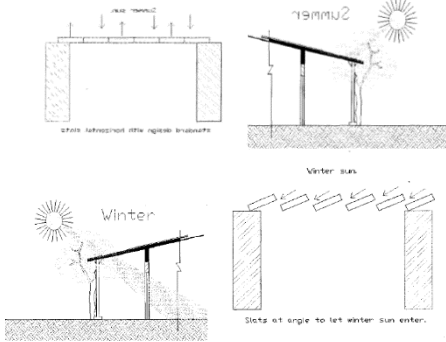
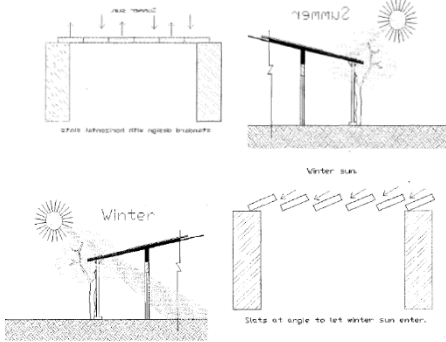
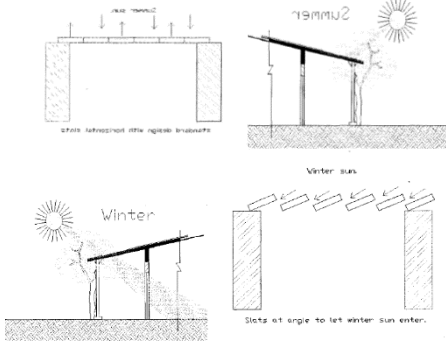
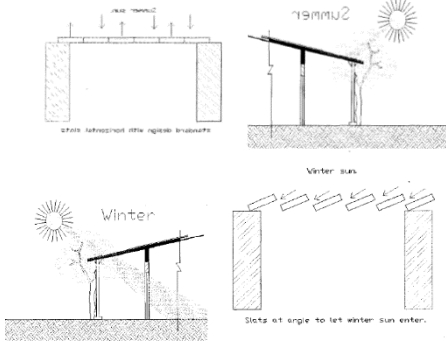
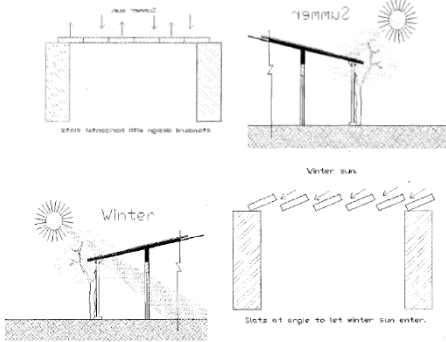
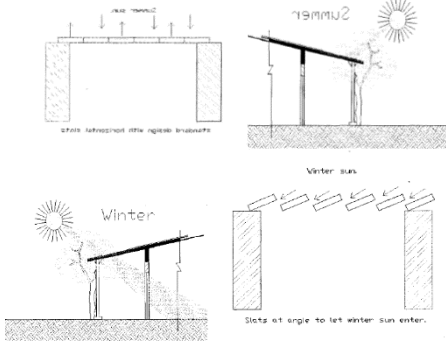
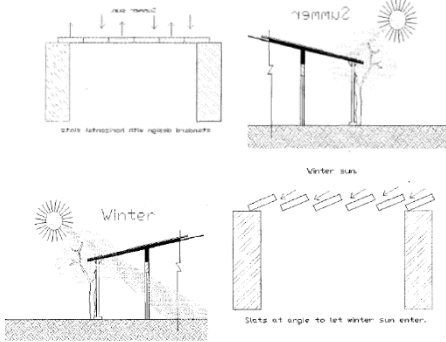
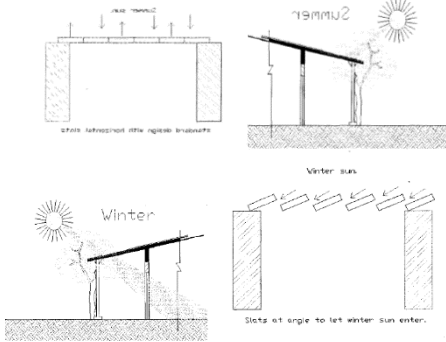
nature has increased potentially. Traditional architecture by use of nature as wind towers. As well as climate and vegetation are the most important factors affecting the traditional architectural forms. Water has a very important role in architecture. Water used in homes for pleasure and visual comfort.

Skills in water management have been the traditional architectural features.

At the following table 1 with Summarize and sort studies discussed, researcher try the design a building with these role according to the Table 1.

Table 4. Climate concepts: Iranian sustainable architecture.

Contemporary examples	Modern approach	Traditional approach	principles
    http://www.aiatopten.org  Source:author	<p>Creating these spaces no contradiction in contemporary architecture with a modern style</p>	<p>Wind production outdoors Wind, air ducts that pull out from the inside. -Ways to make wind -Make a difference in temperature and air production in space</p> <p>Wind generated inside the building Wind bowls, a window that allow sentry into the air. Access to natural ventilation; three climatic phenomenon: 1 wind speed, 2 Wind direction 3 variations in temperature</p> <p>The presence of water in front of the building</p> <p>The presence of water inside the building</p>	<p>Wind is natural airflow and the relationship of the individual with the environment, provides comfort and psychological security more for him to provide fresh air. Heat convection cooling air for physiological</p> <p>Water</p>
   	<p>Use wind towers for ventilation, Bright and..</p>	<p>Water to air Used in hot and dry areas -Used for interiors</p> <p>-In traditional architecture with fine wooden safety networks were working.</p>	<p>Windward</p> <p>Grid wall Anti-glare and control visibility</p>

Contemporary examples	Modern approach	Traditional approach	principles
 <p>Skylight in the past few ways that architecture can be seen in the photos have been used.</p>	 <p>Skylight in the past few ways that architecture can be seen in the photos have been used.</p>	 <p>Skylight in the past few ways that architecture can be seen in the photos have been used.</p>	<p>Skylight</p>
 <p>Skylight in the past few ways that architecture can be seen in the photos have been used.</p>	 <p>Skylight in the past few ways that architecture can be seen in the photos have been used.</p>	 <p>Skylight in the past few ways that architecture can be seen in the photos have been used.</p>	<p>Sash windows</p>
 <p>Skylight in the past few ways that architecture can be seen in the photos have been used.</p>	 <p>Skylight in the past few ways that architecture can be seen in the photos have been used.</p>	 <p>Skylight in the past few ways that architecture can be seen in the photos have been used.</p>	<p>central courtyard</p>
 <p>Skylight in the past few ways that architecture can be seen in the photos have been used.</p>	 <p>Skylight in the past few ways that architecture can be seen in the photos have been used.</p>	 <p>Skylight in the past few ways that architecture can be seen in the photos have been used.</p>	<p>Soil</p>
 <p>Skylight in the past few ways that architecture can be seen in the photos have been used.</p>	 <p>Skylight in the past few ways that architecture can be seen in the photos have been used.</p>	 <p>Skylight in the past few ways that architecture can be seen in the photos have been used.</p>	<p>Increase mass</p>
 <p>Skylight in the past few ways that architecture can be seen in the photos have been used.</p>	 <p>Skylight in the past few ways that architecture can be seen in the photos have been used.</p>	 <p>Skylight in the past few ways that architecture can be seen in the photos have been used.</p>	<p>Gardening</p>

Discussion

The goal of article is to show that features from Iranian traditional Iranian elements such as Courtyards, Jalis, Trellis, Pergolas and Step wells can all be successfully used in a small scale and medium/large scale design of structures in Tehran city Figure 45 shows a site plan of a building designed to include of traditional features which are described in before part. This site (fig 45) layout shows how elements such as courtyards, step wells, courtyards

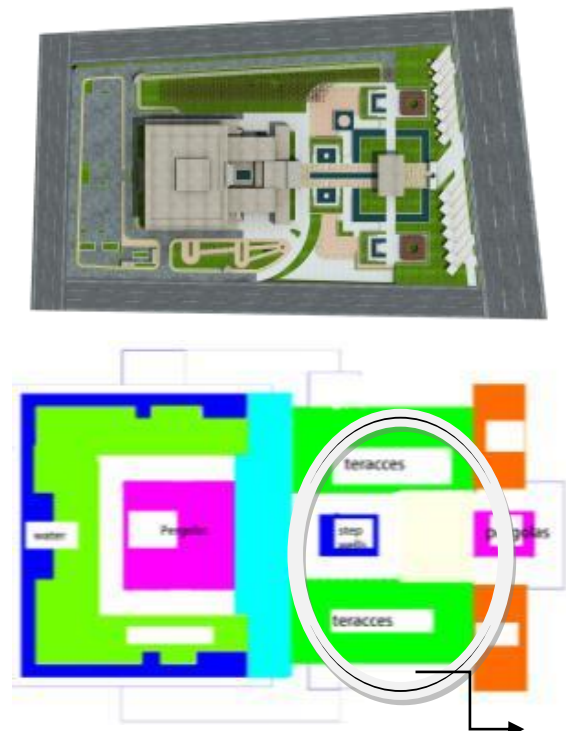


Fig. 45. Site layout of a small scale building composed of various elements discussed in my thesis, courtyards, pergolas, step wells, jalis and terraces.

terraces, pergolas and jails /trellises can be used in a small scale structure. The building is oriented with the four cardinal directions in mind which gives helping in ventilation, adding aesthetics and building with traditional elements as described in The plan above shows each of these units can be composed in a large scale complex where each of these units would function as an individual but at the same time a part of the whole. In the plan above all the units are composed around a central courtyard area along with its existing features such as pergolas, terraces, internal court yards, terraces and step wells.

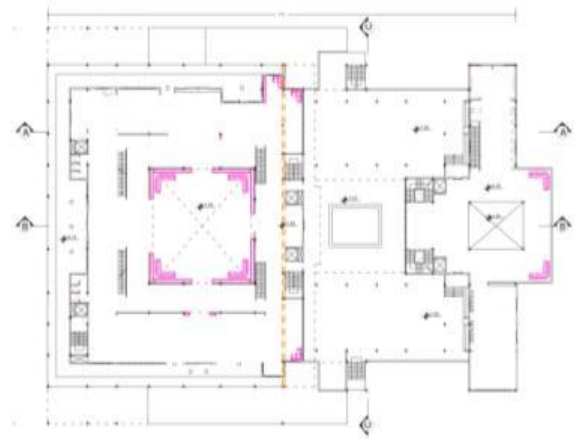


Fig. 46. Ground floor plan showing use of courtyards, jalis, step wells and pergolas.

Figure 46 show the ground floor plan of this building shows the composition of two internal court yards covered with pergolas along its walkway to further enhance the play of light. Use the water is other element of Iranian traditional architecture surround around the first half plan. The plan of floor (Fig. 46) above shows the two individual units connected together by means of a common terrace. The step well is used as a landscape feature taking discussion areas or meeting areas from within the structure to outside the structure. The window openings throughout are designed so that mesh and trellis /jails can be used in certain opening's not only for aesthetic reasons, but also to contribute to natural lighting and protecting against harsh sunlight. The Figure 45 shows the roof plan showing two terrace as a connection between exit place and interior. or large scale buildings. Integrating such traditional Iranian features in design would help the city of Tehran to break out of the use of the repetitive classical orders of architecture in a mindless manner and explore its own roots in a better manner. These features were created with intention to suit the climate of the region and aesthetics'. The city of Tehran has been adapting to various architectural influences over a period of time. Traditional Iranian architecture has rich elements of design that can be adapted to architecture of Tehran city. Few contemporary architects have succeeded in incorporating these traditional elements in their design.



Fig. 47. enter of site.

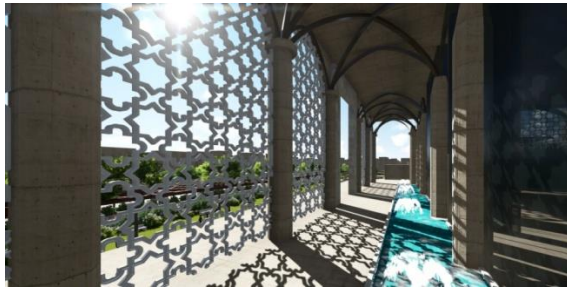


Fig. 48. water of plan.



Fig. 49. Terraces with cell and view of iranian traditional architecture.



Fig. 50. Courtyard, terraces and pergola.



Fig. 51. back of the building that show the second shell façade.



Fig. 52. Pergolas of site.



Fig. 53. step well/darden pit.



Fig. 54. Terraces and the mesh for elements of iran.

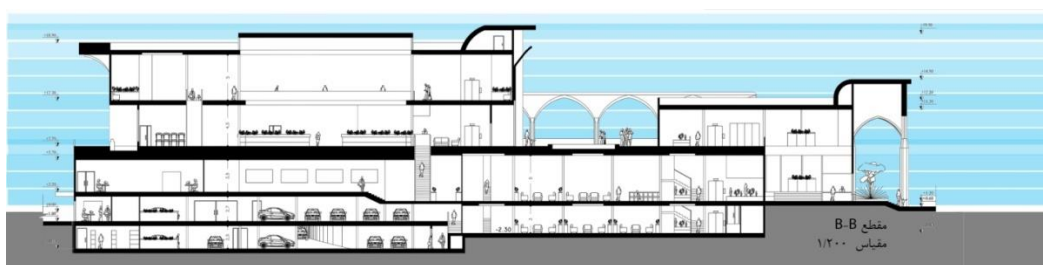


Fig. 56. Detailed section showing courtyards, pergolas, step wells, jalis and terraces. Thus we can see that these traditional features can successfully be applied to small, medium.

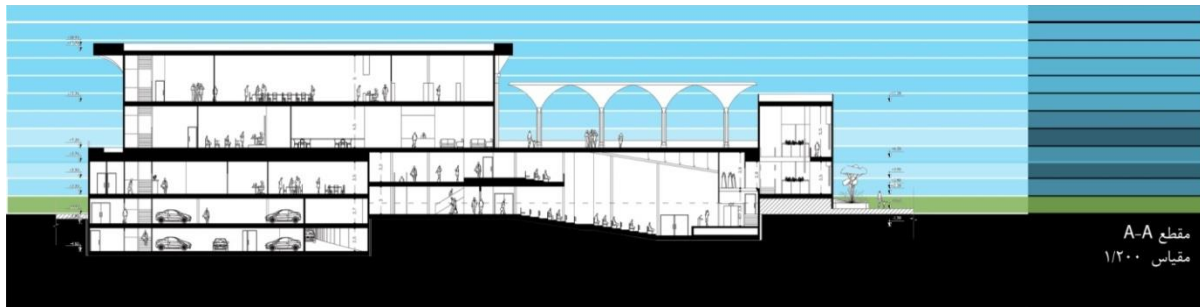


Fig. 57. Detailed section showing courtyards, pergolas, step wells, jalis and terraces.

The reason behind exploring elements of past is Tehran cities architecture is still living and building, buildings in neo-gothic and preindependence style of architecture. Huge domes and columns in classical orders adorn facades in an distorted manner. This creative bankruptcy can be fulfilled by means of exploring ideas from the traditional roots of Iranian architecture. Studying these elements and incorporating in design will help to produce architecture that is regional in its approach and people can identify with. Going back to the roots often leads to ideas that would help create architecture that is more viable and adaptive to that particular region. Features such as courtyards, jalis/trellis, pergolas, terraces and step wells are traditional Iranian elements. ideas is essential as each culture has an definite identity which is rich with respect to people, practices, social customs, religion and architecture. So rather than trying to adapt what western nations or other countries are doing, cities such as Tehran can create its own identity as it has a different geographical location, social life style and economical background just like any other place in the globe. Studying the traditional elements will help build building the city and people can identify. each culture is rich in its own way an we can explore it to relative context to get best results. In my thesis I have tried to justify the use of traditional elements to build structures in Tehran city and returning to roots can be a solution to establish architecture for a city.

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