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RESEARCH ARTICLE

INTEGRATING VERNACULAR MATERIALS INTO CONTEMPORARY DESIGN

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Abstract

Vernacular architecture is characterized by its **reliance on needs, construction materials and traditions specific to its particular locality**. It is a type of architecture which is indigenous to a specific time and place and not replicated from elsewhere. It is relatively energy efficient and sustainable. Providing a vital connection between humans and the environment in which they live. For this reason, they are unique to different places in the world, becoming even a means of reaffirming an identity. On the other hand, Contemporary architecture is a form of construction that embodies the various styles of building designs stemming from a wide range of influences. Clean lines, open spaces and a lack of fuss and ornament are the hallmarks of contemporary architecture. This paper discusses the vernacular architecture, vernacular materials and contemporary architecture based on available literature. The study finds that vernacular architecture can be integrated with contemporary needs taking stone as the vernacular material keeping sustainability as a priority.

Introduction:-

In the haste to develop rapidly, one thing that is taken for granted and invariably neglected was climate and environment. To break this cycle, the need of the hour is to find a viable solution that causes minimum damage to the environment. With millions of years of experience and knowledge at our disposal, an alternative is to study the erstwhile architecture and analyse the efficiency and applicability to our present day needs.

"Every district has its own traditions and, by trial and error, over thousands of years, people have learned how to use, and to cope with, all the many factors which are involved in Architecture."- Laurie Baker

Vernacular buildings are good examples of climate-responsive, energy-efficient, and cost-effective architecture that reflects cultural and ethnic values. It can be defined as "**a type of local or regional construction**, using traditional materials and resources from the area where the building is located." For this reason, they are unique to different places in the world, serving a means of reaffirming an identity. India has rich vernacular traditions. Indian Architecture presents a varied range of vernacular styles. Figure 1 and Figure 2 are examples of vernacular architecture.

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Figure 1:- Bhunga house, Kutch, Rajasthan
Source: google images

Figure 2:- Zawlbuk house, Mizoram
Source: google images

Vernacular architecture usually serves immediate, local needs; is constrained by the materials available in its particular region; and reflects local traditions and cultural practices.

Vernacular architecture encompasses cultural building traditions that have been passed down through several generations. While the styles and techniques evolve, each vernacular structure is modest, cost-effective, and sustainable.

Methodology:-

The study is primarily qualitative and uses descriptive analysis. Three prominent Indian architectures; Sun Temple, Kornark, Laxmi Niwas Palace, Bikaner and Masjid Moth, Delhi are used as case studies to supplement the argument of the paper. These buildings are significant and particular to each region and time which justifies them for case studies. Secondary materials such as books, articles are used to answer the research questions.

Defining Vernacular Architecture

Vernacular architecture is broadly defined as an architectural style which reflects local traditions, native to a specific time and place. It is designed with indigenous construction materials and based on the local needs. It originated in a time, where human civilizations have to adapt to the climatic conditions of the region, limiting them to the lone alternative of using natural resources as a shelter. This type of architecture is not copied or replicated from anywhere and uses handmade old construction practices.

Figure 3:-
Source: Google images

Figure 4:-
Source: Google images

It emphasizes sustainability, and using materials which ensure that a structure stay cool from inside without the need of power intensive air-conditioning. It includes the basic green architectural principles of energy efficiency and uses materials in the proximity of the site.

Characteristics Of Vernacular Architecture

There are some characteristics which makes vernacular style different from the other styles:

1. The materials used are generally affordable and locally sourced. In vernacular architecture, design intend is to focus on function over aesthetic.
2. The design evolves**.** People learn from their experiences and tweak homes to reflect that experience.
3. Homes often embody local technology, social conditions, and culture. One will see some common themes among vernacular architecture in a given area. The theme might mean similar materials used or similar design styles that can be a mix of other more worldly styles.
4. You might also see homes grouped closer together or apartment complexes in areas with a dense population. Some homes might feature religious customs.
5. The design is reflective of the climate. For instance, they might consider what direction the home is facing when positioning windows. Specific materials might be used to help with the specific season.
6. For example, interior courtyard – in order to escape the summer heat, sloping roofs in hilly availability of resources
7. Skilled workforce
8. Climatic and geological
9. Historical influence
10. Local culture
11. Environment
12. Natural and local skills
13. Local technology
14. Local materials

Features Of Vernacular Architecture

1. Plinth: It is the lowest part of the vernacular hut.
2. Walls: The walls used are mostly load-bearing structures except for the fact that can also be wooden framed structures
3. Openings: To maintain the thermal balance, the vernacular huts have minimum possible openings.
4. Roofs: They do not end touching the wall, but project outwards creating a large overhanging in order to protect the wall from sunlight and rain. They are usually sloping in form and their pitch varies according to the wind speed of that area.
5. Loft: It is the overhead storage in the built structure. This loft space separates the upper hot zone from the lower cool zone of the building

The above-mentioned features are clearly depicted in figure 5 and figure 6; plinth, walls, opening, roofs and lofts.

Figure 5:-
Source: Google Images

Figure 6:-
Source: Google Images

Elements Of Vernacular Architecture

1. Water: It is the most important resource which has to be utilized cautiously. For this, there are strategies like water harvesting and recycling which have to be adopted.
2. Structural Longevity: The materials used in the building decide the life cycle of the building. The materials that cost more and consume more energy and resource in their manufacturing can be used to generate more benefits basis their recycling potentials and disposal.

3. Light and Ventilation: The climate responsive buildings reduce consumption of artificial lighting and air conditioning systems.
4. Technology: The technologies through features like jails, fountains, water to cool building fabrics, etc. add sustainable features at a macro level.

Materials:-

Vernacular materials can be defined as **a type of local or regional construction**, using indigenous materials and resources from the area where the building is located. These Materials are generally affordable and locally sourced.

As vernacular architecture is all about using locally available materials for construction, the materials used in this architecture vary from place-to-place. It is sheltered in response to climate; culturally connects with the surroundings; and uses materials that are available locally.

Figure 7:-
Source: Google Images

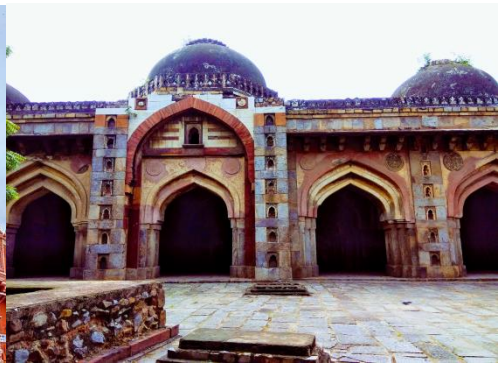

Figure 8:-
Source: Google Images

Various vernacular practices have evolved over the years with locally available materials and new techniques to fulfil the needs of the people. Climate is the factor responsible for influencing the architectural forms and keeping the inhabitants comfortable. In a climate-response aspect, the building designs have incorporated various elements and different characters.

For example, areas rich in trees will develop a wooden vernacular, while areas without much wood may use mud or stone.

There are different vernacular materials of different regions like:
1. Sandstone in Rajasthan
2. Bamboo in Arunachal Pradesh, Assam
3. Timber in Kerala, Karnataka
4. Mud blocks in Maharashtra, Karnataka etc.

Thatch

The Indian vernacular style can be observed in different rural areas of the country, whereby structures are built with native materials designed to meet the needs of the local people. It has evolved gradually over time with the help of skilful craftsmanship. It is one of the most beautiful styles of architecture.

Thatch is one of the oldest materials that was used in the construction of houses and is used even today in many parts of India. Thatch roofing is a traditional roofing method that involves using dry vegetation such as straw, water reed, rushes, sedge, and so on to create a roof covering.

Thatch roofing originated in mid-18th century where straw or reeds were used as roofing material. Thatch was used because it requires little construction to build and roofs could be made easily. Straw mixed with lime, clay or cow dung juice to make a dense foam that would hold heat well.

It is a great building material that is sure to add a unique look to any home or business. It keeps out rainwater, can stand up to heavy winds, can last **up to 60 years** with proper care and maintenance, and give your building a timeless look that turns heads.

Figure 9:-
Source: Google Images

Figure 10;-
Source: Google Images

Environmentally friendly.
One of the most environmentally friendly roofing materials available is thatch. Thatch reed is grown and harvested without machinery and is usually sourced from rural communities. This means the industry also creates jobs, which are much-needed in South Africa, considering the high unemployment rate.

Excellent insulation.
Thatched roofs provide excellent insulation, so your home will stay warm when it's cold outside and cool during the hot summer months. In addition, this superb insulation enables you to save on electricity for heating and cooling.

Durability.
Thatched roofs are typically last longer and are very durable. With appropriate maintenance, they can last up to 60 years or more. In addition to proper maintenance, the length of time a thatched roof will last depends on the original materials used and the skill and experience of the thatcher.

Ages well.
Thatched roofs age well and will shape into natural forms that add to their charm. As it darkens with age, thatch tends to blend into the surrounding greenery.

Adds character.
A thatched roof adds warmth and character to a property. Brick, steel and glass can create a clinical atmosphere, which is softened by thatch to produce a welcoming ambience.

Stone
Stones form one of the most important building materials. Stones are derived from rocks, which form the earth's crust and have no definite shape or chemical combination but are mixtures of two or more minerals. The mineral is a substance which is formed by the natural inorganic process and possesses a definite chemical combination and molecular structure. They are strong, durable and descent in appearance.

Stone is a solid portion of the earth’s crust it has no definite shape and size. It is firm and it provides support to the structure. It is available easily in abundance.

As a building material, stone requires virtually no manufacturing and is so durable that stone structures-built thousands of years ago are still used today.

Bamboo

Bamboo is one of the oldest and traditional construction material used in different construction activities. This is one of the most flexible materials. Bamboo has high tensile strength. It is a raw material which can be easily cut, handle, repair and maintained without use of extra fancy equipment which has rapid growth rate.

Bamboo is light weight and highly elastic in nature. This material is also earth quake resistant because it absorbs shocks. Bamboo as a building material has greater compressive strength so it is widely used as a construction material.

The demand for timber is increasing day by day all over the world. But due to short supply of timber, bamboo is suitably used as a replacement of the construction material.

In India, they are found growing naturally in almost all parts of the country except Kashmir. India- Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura and West Bengal are the regions where bamboo is majorly found.

Figure 11:-
Source: Google Images

Figure 12:-
Source: Google Images

1. Bamboo is easier for transportation and construction.
2. Bamboo is an environment friendly construction material and does not cause pollution.
3. Bamboo is more durable as compared to other construction materials.
4. Bamboo has good elastic property so that it is widely used in the earthquake-prone areas.

Lime

Lime is one of the oldest and most vital chemicals. It is used as a binding material in the construction of buildings. The ancient Romans used lime in building and road construction, uses which continue to the present day. From earliest times, lime has been made by heating limestone (calcium carbonate) to high temperatures.

The main sources of obtaining lime are the stones which possess clay, magnesium carbonate, soluble silica, alkalis and metallic oxides, sulphates, iron compounds and carbonaceous matter.

Porous and open textured materials such as lime plasters, help to stabilize the internal humidity of a building by absorbing and releasing moisture. This makes for a more comfortable environment and reduces surface condensation and mould growth.

In construction, the dominant use of lime is in soil stabilization for roads, earthen dams, airfields, and building foundations. Lime can be combined with certain additives to produce other metals and is also a key ingredient in mortar and plaster in **lime slurry** form. As an additive in asphalt, lime improves its cohesion, reduces stripping, and retards the aging process. There are additional chemical and industrial uses of lime, such as manufacturing chemicals and production of precipitated **calcium carbonate**, described below in this area of the website.

It is used in plastered surfaces for whitewashing. It is used as lime mortar (a combination of lime and sand) for plastering and pointing works. It is used as a Lime Surkhi mortar for foundations, thick masonry walls, etc., where surkhi is the powder obtained by pounding burnt bricks.

Properties

1. It should possess good plasticity.
2. It should be flexible and easily workable.
3. When used in mortar, it should provide greater strength to the masonry.
4. It should solidify in less time and become hard.
5. It should comprise of excellent binding properties which adhere to brick or stone masonry units perfectly.
6. It possesses high durable properties as it is less shrinkable when used in mortar.
7. It should be highly resistant to moisture and can be used for pointing works.

Chettinad Attangudi Tiles

Chettinad architecture is a very vibrant style that has intricate and exquisite details. The rich and innovative material selection acts as a source of knowledge and cultural identity today. The attangudi tile is a handmade cement tile similar to a mosaic, initially made by the indigenous people in the Attangudi village in the Chettinad region.

Figure 13:-
Source: Google Images

Figure 14:-
Source: Google Images

The floral and geometric patterns painted a picture of grandeur and traditional values during that time. Locally sand and clay ground together was mixed with cement and water to form the base material. Natural, cement-based colours were prepared for the tiles by the masons.

The 500 years old tile making process produces a glossy tile that is durable and easy to maintain. These beautiful tiles have proved over time that they retain their colour even after hundreds of years.

Mud

Mud is the raw material which is available everywhere and anywhere. It can be used in various manners in terms of construction as a building material.
It is a widely used material when we talk about vernacular architecture because it is affordable for everyone. It can be used in various forms like:

Mud has other inherent advantages:

1. It is extremely malleable and offers better insulation than steel-and-concrete structures.
2. it decentralises the construction process because it utilises local material and technology and thereby obviates the need for a contractor, and
3. it costs much less to maintain mud buildings.

These bricks are made of mud. Used for the construction of walls in any vernacular building. Mud bricks are made up after few raw materials joining together.

Figure 15:- Mud Plaster.
Source: Google Images

These materials are raw mud, water and straw or any other fibrous material. After mixing these materials the mixture is poured in the moulds made up of same size. Then they are sun dried for few days till it gets hard and dry completely.

After that these bricks are ready to use for constructing the walls. The advantages of these mud walls that they are low on cost, high thermal behaviour, and environment friendly.

Stone

Stone was one of our first building materials. It is firm and it provides support to the structure. It is available easily in abundance. This material has been used since ancient times and traces of its use can be seen in many old civilizations.

It has been used to construct everything from humble dwellings to our most iconic structures. As a building material, stone requires virtually no manufacturing and is so durable that stone structures-built thousands of years ago are still used today.

It requires almost no chemicals to produce or maintain, it emits no VOCs or hazardous airborne pollutants, and it is water-resistant and durable. It is also an attractive material that will outlive most structures built today.

Stone cladding is used on new buildings to match original historic structures, and in the right application or climate—such as in areas with large temperature fluctuations—stone can be used as thermal mass for space heating and cooling. Some stone even has good solar reflectance.
The primary types of dimension stone sold today are granite, limestone, marble, slate, and sandstone—but there are many others, including basalt, soapstone, and quartzite.

Stone can be used in the vernacular construction in numerous ways as stone foundation and stone walls

Stone Foundation:

This is one of the hardest material one can find on earth. In order to make a building stand strong the foundation of the structure has to be stronger. There is no other material suitable for foundation more than the stone. It provides the stability and durability to the structure. The greatest forts, palaces and other historical building's foundation has been made in stone which allow them to stand still till now.

The purpose of the stone is to provide strength to the walls by transferring the load to the soil beneath. Generally, for 1 to 2 floor (approx. height: 6 meters) the depth of foundation varies from 0.6-1 meters. The foundation stone will keep the structure intact and safe.

Stone Walls:
Stone walls is the type of masonry construction which is practiced from thousands of years. It is still in practice for the construction of buildings all around the world. The width of the stone walls can vary from 9″ double to 18″ or more. Stone wall is one of the strongest of all and also sustainable to the environment.

Understanding Contemporary Indian Architecture
Contemporary architecture is the movement where modern styles blend, sharing various features. And these styles rely on fewer classicized building ideas. The dawn of modern architecture came at a time when hand-laboured craftsmanship was being replaced with machine-made industrialization. Contemporary architecture is a style of building that emphasizes function and a streamlined form over ornamentation.

Figure 16:- Heydar Aliyev Center
Source: Google Images

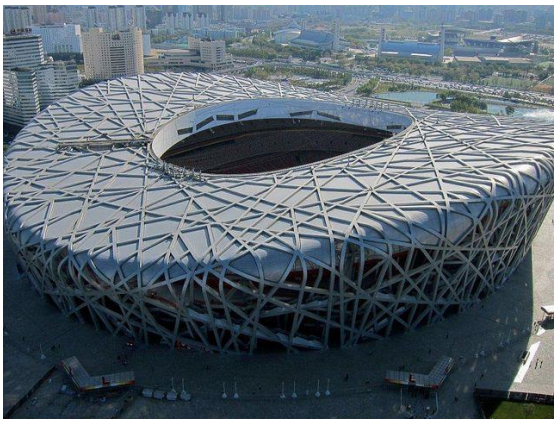

Figure 17:- Beijing National Stadium
Source: Google Images

One of the important elements of contemporary architecture is the expressiveness of form and design. This form of architecture is dominant across the world. Contemporary architects focus on Eco-friendly designs that are energy efficient and incorporate recycled materials in the design. It is inventive and showcases a sleek and neat aesthetic which is devoid of exterior detailing. It tends to create harmony with structure and nature.

Since there are so many styles of contemporary architecture, there are several defining characteristics.
Clean, minimal lines.
These lines lack additional ornamentation and are generally a consistent, smooth texture.

Broad roof overhangs.
Several modern homes emphasize low, horizontal structures with large roof overhangs.

Walls of glass and large windows.
You will find a very generous use of glass, which allows a significant amount of natural light into the interior.

Open and well-defined floorplans.
Since modern architecture focuses on form over function, architects sought to include large, spacious floorplans with dining and living spaces that flowed into one another.

Modern and traditional building materials.
Some common materials in modern homes include steel, concrete block, iron, and glass. More conventional building materials like wood, brick, and stone were used in more straightforward ways to show off their natural beauty.

A relationship to the outside environment.
A lot of thought went into building sites and how buildings would relate to the natural landscape surrounding them.

Asymmetrical designs.
Modern architects played around with large, smooth shapes and asymmetrical compositions that were cleanly planed and lacked any additional decoration.

Modular structures:
The modular architecture is the design approach which divides a system into smaller parts called modules. These modules are created independently and then used in different systems. It is characterized by functional partitioning into different reusable modules and making the use of industry standards for interfaces. The benefit of the modular design is that you can replace or add any component without affecting the rest of the system. Modularity means using the same module in various configurations enabling a variety of designs without the use of many component types. Through modularity, you can achieve various designs in terms of flexibility along with cost saving in design, low cost for development and construction. They are also referred to as volumetric construction. The materials in modular construction include wood, concrete, and steel.

Figure 18:- Modular Structure.
Source: Google Images

Sustainability And Vernacular Architecture
In the past three decades, the world witnessed great awareness towards environment dilemmas such as global warming, resources depletion, energy, air and water pollution, waste, population growth and globalization. These issues come within the responsibility of arguments on sustainability indicating the necessity for sustainability integration in the ways we live, act, use of resources and build.

Vernacular buildings around the world are a great example of sustainable solutions to building problems. The buildings are energy-efficient and highly sustainable due to the use of local material and building technology.

Case Study 1: Sun Temple, Konark
A UNESCO World Heritage Site, Konark Sun temple is a striking model of ancient artistry, fluidity of ideas, and a pedagogic treasury.

It was built in the 13th century CE. The temple was built by the King Narasimhadeva I hailing from the Eastern Ganga dynasty between 1238-1250 CE. The temple was commissioned by the king while Samantaraya Mahapatra was the one in charge of its construction. 'Konark' means the sun and the four corners. The temple was called Black Pagoda attributing to its dark façade.

Figure 19:-
Source: Google Images

The temple is known for its impressive Kalinga architecture. It includes a depiction of a 100 ft high chariot being pulled by horses and wheels carved out of a single stone. The monument portrays the imposing chariot of the sun god.

The exterior is variegated into projections known in this style as rathas or pagas which create effects of light and shade. The original temple had 230 ft high sanctum which no longer exists, 128 ft high audience hall, dance hall, dining hall which survive still.

The entrance leads to the shrine of the deity of Surya made of chlorite stone. The walls of the temple are adorned with reliefs – intricate carvings of various figures including Hindu gods, images of the everyday mortal life, birds, animals and more.

Analysis:

1. Khondalite stone weathers faster over time, and this may have contributed to erosion and accelerated the damage when parts of the temples were destroyed.
2. It has high melt-bearing nature that is the reason it was used in sun temple.
3. Khondalite keep the building cool in the summer season as they are quarried natural stones.
4. Chlorite stone provides a rustic natural look to the building.
5. Laterite stones have good thermal insulation properties.
6. Laterite stone hardens & gains strength as time progresses.
7. Plastering is not compulsory for laterite masonry works thus they were joined using iron clamps
8. Environment friendly as they do not emit CO2 & greenhouse gases.

Case Study 2: Laxmi Niwas Palace, Bikaner

The Laxmi Niwas Palace was commissioned by His Highness Sir Ganga Singh Ji in 1904. It was designed by Sir Samuel Swinton Jacob.

Laxmi Niwas Palace is constructed in an Indo-Saracenic style that was popular in 19th-century India. The magnificent palace was named after Laxmi, the Hindu Goddess of wealth, prosperity, and beauty.

Figure 20:-
Source: Google Images

Figure 21:-
Source: Google Images

The impetus behind it was two-fold – to provide employment to the townspeople and to create a stately residence worthy of the royal house of Bikaner.

The palace is made from red sandstone material and has been decorated with the handiwork of several artisans and masons.

This stone was known for boasting a brilliant palate to complement the intricate symmetrical structural design of the intended palace. Sir Samuel Swinton Jacob defined the building's exterior with canopied balconies that were adorned with intricate filigree.

Many of the friezes on the palace's walls, the geometrically perfect symmetry of its outlay, the ornate filigree work and latticed screens may all be attributed to his artistic vision and temperament.

Inside, visitors could find carved friezes, ornate ceilings, and golden frescoes. The grounds were replete with marble courtyards, and colonnaded corridors of stone lattice work.

Analysis

1. Some sandstones are resistant to weathering, yet are easy to work. This makes sandstone a common building and paving material including in asphalt concrete.
2. It is relatively soft, making it easy to carve.
3. Sandstone is popular in constructing buildings because it is resistant to weathering.
4. It is common to find natural gas in sandstone because sandstone is porous and traps it.
5. Because sandstone is porous it can serve as a filter in nature by filtering out pollutants from running water.
6. It can withstand the demands of the elements and time, as it is created due to heat and pressure.

Case Study 3: Masjid Moth, Delhi

Moth ki Mosque is a heritage building located in Delhi, and was built in 1505 by Wazir Miya Bhoiya, Prime Minister during the reign of Sikander Lodi of the Lodi dynasty.

It was a new type of mosque developed by the Lodis in the fourth city of the medieval Delhi Sultanate.This mosque was considered a beautiful Dome structure of the period.

The mosque is now completely enclosed within the modern locality of South Extension Part II. It is surrounded by various other smaller dargahs and monuments. The masjid is known for its Indo-Islamic architecture.

Made in red stone, the mosque has windows with latticework screens, octagonal cenotaphs, a small semi-circular dome, open arches and double-storeyed towers.

The intricate floral designs are a beautiful sight to cherish.

Unlike other traditional mosques, this one doesn't have any minarets, calligraphic decorations or embellishments. The architecture of the mosque has attracted tourists and visitors from around the globe.

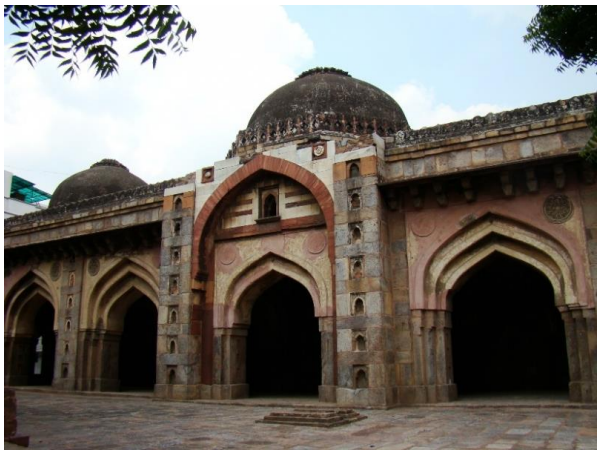

Figure 22:-
Source: Google Images

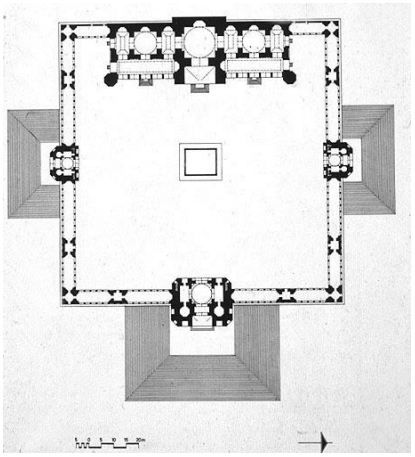

Figure 23:-
Source: Google Images

Moth Ki Masjid was constructed on a raised platform made of stone which were embedded with columns and in the shape of a square.

This entrance gate depicts exquisite Hindu and Islamic designs and patterns which have been neatly arranged especially the arch opening that reveals an arch designed in the Hindu style embossed within the main arch seen in the Muslim style of design.

The mosque is inlaid with carved panels made of red sandstone, plaster, white marble and glazed tiles.

The mosque reveals the absence of minarets or pillars, embellishments and calligraphic imprints which are typical features and designs seen in most of the Islamic Mosques despite the fact that this mosque was designed in the Indo-Islamic style of architecture. The main dome of the mosque is semi-circular in shape.

Analysis

1. Earlier, Moth dal was used as a binding material in many monuments.
2. Over the years it has been deteriorated and has been replaced by lime and mortar.
3. As visible in the pictures, the moth colour has faded off and is now visible as pale green on colour.
4. In contrast to moth dal, now cement, lime, mortar are being used as binding materials on construction of the new buildings.

Integrating Vernacular Architecture With Contemporary Needs

Contemporary defines a type of architecture that's highly progressive, modern, high tech and expressive; while vernacular architecture is associated with traditional, simple, and practical techniques, the simplest form of addressing human needs. While contemporary architecture is of the 21st century, using advanced materials and spread across a global scale, the vernacular is a style that has been existing since the beginning of time, makes use of local materials, and varies from region to region.

Though vernacular aspects are seemingly forgotten in modern architecture, certain architects have now started embracing regionalism and cultural building tradition. With rapid technological advancements and urbanization, incorporating knowledge of vernacular construction has proved to be a step forward in terms of sustainable architecture.

Vernacular architecture features offer dramatic metaphors for regional forms of shelter, as well as rational responses to the harsh climate giving modernism a subtle but telling shove in different direction of regionalism.

Figure 24:-
Source: Google Images

A thorough study of the history, social, cultural, climatic conditions, and techniques of many regional styles have shown that these low-tech methods of construction, perfectly adapt to its locale. Many vernacular structures have been established to be not just energy efficient but sustainable as a whole, by using materials and resources close to the site.

The right amount of involvement of vernacular ideologies in the design of buildings for the future is what can be termed 'contemporary vernacular'. Read on to see how this distinct style has arisen and evolved in numerous parts of the country.

Some modern-day examples include:
1. Kurpacharya farmhouse by q designs in pune
2. Central vista, delhi
3. Prem mandir, vrindavan etc.

Recommendations:-

In today's world – as we make technological advances – the concept of 'in coherence with nature' seems to have gotten lost. The most befitting approach to designing with nature, Vernacular Architecture, teaches the art of perceiving to our immediate environment and responding to it – a concept that does not alienate the community from its context.

Thus, below mentioned are the recommendations for integration vernacular architecture with the contemporary needs taking the example of stone as a building material:
1. The use of stone being one of the strongest vernacular materials should be encouraged in the modern buildings.
2. Considering a few limitations like height restrictions, stone can be used as a cladding material in order to make the building light weight.
3. Considering it to be a sustainable material, it should be used in the contemporary era in order to make more sustainable buildings.

4. Stones could be used for decorative and ornamental applications.
5. Stone could also used as an insulating material.
6. Stones are used as a structural unit for the construction of foundations, walls, columns, lintels, and arches.

Conclusion:-

As quoted by the renowned Indian architect, the late Charles Correa, "In this, the old architecture – especially from vernacular – has much to teach us, as it always develops a typology of fundamental sense."

Architecture is not just about filling the site with steel blocks or construction concrete rather it's about understanding the place with consideration of its social, cultural, and environmental essence. Contrary to traditional architecture, the architectural space in contemporary architecture depends on an artificial urban landscape to harmonize and rationalize it with the individuality of contemporary buildings

In the modern world, vernacular strategies must be applied to modern architecture where the architectural design for homes is incorporated as a vernacular style in the contemporary forms. Many of the sustainable architecture and its design principles depend on the references to vernacular architecture.

Thus, from the medium of my paper, I would like to conclude that vernacular architecture can be integrated with the needs of the contemporary India.

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