



South Asian Vernacular Architecture

**Challenges to its Continuity and Strategies for its future
CONFERENCE, DEMONSTRATIONS AND EXHIBITION**

11-13 December 2015, IGRMS, Bhopal, Madhya Pradesh, India

BOOK OF ABSTRACTS

The SAVA Conference Secretariat
School of Planning and Architecture, Bhopal, Madhya Pradesh

**South Asian Vernacular Architecture
Conference, Demonstration and Exhibition
11th - 13th December 2015**

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Message from the Chairperson, SPA Bhopal

The School of Planning and Architecture Bhopal is located in the heart of India, in the cultural context of the ancient geographic regions of *Malwa, Mahakaushal, Vidarbha, Gopa Kshetra and Bundelkhand*. The Institution has the mandate, privilege and opportunity for drawing inspiration and support from the communities around us. It is perhaps not surprising that the first conference on South Asian Vernacular Architecture should be organized by SPA Bhopal, in recognition of the traditional knowledge which has continued to survive in Madhya Pradesh for generations, in spite of modernization. Vernacular Architecture continues to inspire, as a rich and vast archive of the knowledge of human settlements. In a rapidly changing world, threatened by a near realized perception of an International Style across world geographies, Vernacular Architecture remains a reminder of our culture and context. In a world threatened by the energy crisis, consumerism and climate change, it is a safety valve. SPA Bhopal has conducted many Vernacular Architecture Studios at the IGRMS-Museum of Mankind, and it is my personal pleasure that we should have come together to organize this event, which enriches both our institutions. I thank the director and staff of IGRMS for their continuous and unconditional support.

I thank the Trust for Rural Heritage and Development for their motivational support and for bringing their rich experience in planning the event. The SPA Bhopal team has put in countless hours of efforts for planning and organizing the event with the only wish that South Asian Vernacular Architecture finds its rightful place in our architecture and planning. We all look forward to a memorable and successful event.

Sunita Kohli
Chairperson



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Message from the Director, SPA Bhopal

The South Asian Vernacular Architecture (SAVA) Conference was due for a long time and it is a privilege that the School of Planning and Architecture (SPA) Bhopal should be organizing this, together with demonstrations and an exhibition by the Indira Gandhi Rashtriya Manav Sangrahalaya (IGRMS), and the cooperation of the Indian Trust for Rural Heritage and Development (ITRHD). The knowledge base of the three institutions unleashes a vast potential and this SAVA event marks the beginning for retrospection on our indigenous architecture and its continuity.

Vernacular architecture, by its very nature and definition, has stayed outside of formal architecture education and practice, but there is growing knowledge about its appropriateness and utilitarian values, its role in cultural expression and identity, and its climatic responsiveness and energy saving. In a world threatened by human-spurred climate change, the relevance of vernacular architecture is being better understood. Besides the many scientific reasons for the continuity of vernacular architecture, the most important is that it has a special place in our hearts, and it would be tragic not to see beautifully crafted houses built by people in locally available materials, with wisdom and loving care; graceful settlements that appear to grow out of the landscape, co-existing with the local environment.

It will be interesting to follow the debates, during these three days. There are many challenges and the answers are not easy. On behalf of SPA Bhopal, I welcome all participants to the Conference and Discussions leading to the Charter on SAVA.

Chetan Vaidya

Director (Additional Charge)



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Message from the Director, IGRMS Bhopal

IGRMS has a vast archive of research and documentation of vernacular settlements in the different geographic regions of India, which is continuously growing, thanks to our researchers. Our mandate is to disseminate this knowledge to all who care, and it is our immense pleasure that we should share platform with the School of Planning and Architecture and the Trust for Rural Heritage and Development, in bringing together crafts persons, scholars, professionals and stakeholders, to discuss the challenges to the continuity and future of vernacular architecture.

As anthropologists and social science researchers, we have studied the close relationship between humans, their traditional habitat and the environment. Even as I write this message, threats of climate change are being discussed in Paris by 140 countries to find ways of safeguarding our environment. The role of people and their cultures and societies in shaping their environment and safeguarding it, has never been better understood than now, in the 21st Century.

We have planned an exhibition on the Vernacular Architecture of India and have included architectural documentation by students of SPA Bhopal. We have also invited 120 crafts persons and artisans to demonstrate their skills and techniques in building, which is available for all participants and the public to see and learn. The special demonstration of the construction of a Yerkula hut in 3 hours, is an amazing and truly unique experience, arranged especially for the SAVA event. Our scholars are presenting papers in the SAVA conference, and this interdisciplinary gathering and collaboration is expected to bring a holistic understanding of the issues involved in the future of vernacular architecture in the 21st century. It is my heartfelt wish, as of all my colleagues at the IGRMS, to see the continuity of vernacular architecture. We wish for the success of the SAVA event in contributing to this.

Sarit Kumar Choudhuri

Director



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Message from the Chairman, ITRHD

The Indian Trust for Rural Heritage and Development (ITRHD) was set up to focus on the conservation of the rural heritage of the country while simultaneously initiating the economic development of the rural areas of the country. It has already initiated several craft development and livelihood improvement initiatives in several rural communities to promote sustainable economic development. It is also undertaking the conservation of the terracotta temples of Maluti in Jharkhand with integrated objective to enhance the tourism potential of the region. ITRHD believes that an important component of the rural heritage is its vernacular architecture which is slowly being replaced by modern buildings which seldom meet the social, economic or environmental expectations of rural communities. Thus, in a recent project to promote education among the children of rural artisans it is also building a school complex for the community using local materials and technology. In this spirit to contribute to a better understanding of the problems being created by this process of modernisation ITRHD in association with the Indira Gandhi Rashtriya Manav Sanghralaya (IGRMS) Bhopal and the School of Planning and Architecture (SPA) Bhopal is happy to organise this international Conference, workshop and exhibition in Bhopal from December 11-13 2015.

We look forward to the success of this Conference and the wider dissemination of the important ideas it has generated.

Shashi Kant Misra

Chairman



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Concept Note

The South Asian geographic region shares a common cultural landscape which is also evident in its vernacular architecture, arts and crafts. The built environment is representative of traditional beliefs and values which have related the human body to the earth and the sky, and is therefore full of meanings for each individual and for the community who have built it. The conscious act of participation of the community in the rituals and seasons of its planning, construction and maintenance hold important ecological lessons for a sustainable future. The conscious use of locally available resources for living and occupation, and measures for the continuity of these resources can be understood as useful approaches in the conservation and sustenance of the social, economic and physical environment. Vernacular architecture is representative of local cultural identities, unlike contemporary practices in modern architecture which generates forms which could be anywhere and everywhere.

The rejection of vernacular architecture by the States in South Asia has many reasons, of which perceptions of modern as against backward, formal as against informal, rich as against poor and *pucca* as against *kutcha*, have played an important role in the formulation of policies, regulations and standards which prohibit its continuance. In spite of this, vernacular architecture continues to be the most popular form for the masses in villages and as informal settlements notified as 'slums' in urban areas. Unfortunately traditional materials are being replaced by cement & reinforced concrete. The materials of construction in vernacular architecture are stone, mud, bamboo, timber, thatch and grasses, some perishable and in need of frequent maintenance and renovation. Rural housing schemes such as the Indira Awas Yojana, and others, do not permit the use of these materials or the traditional methods of construction. Because vernacular architecture is easily and quickly constructed, it has been accepted as temporary emergency shelters. This has been the case in Bhuj (Gujarat, India), Kashmir, Nepal, Pakistan, Bangladesh and Indonesia, after earthquakes or tsunamis. Depending on the geographic region, the techniques of construction are rammed earth, sun dried mud brick, *dhajji deewari*, *leepa*, *taq*, wattle and daub and others. Some techniques have been documented, published and made freely available on websites. Ironically, nature based high-end tourist destinations have also employed vernacular architecture with success. But vernacular architecture has a marginal recognition in education, mostly for its energy efficiency, and practically none in professional practice.



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The ICOMOS Charter on Built Vernacular Heritage (Mexico, 1999), recognises that the conservation of vernacular architecture requires a different approach, "with the involvement and support of communities; and legislative, administrative and financial support of governments, in recognition of the rights of people to their traditions." The current approaches to conservation of built heritage cannot be applied to vernacular architecture.

Conference Themes

The themes of the conference as categorised for the purpose of presentation of papers and for the ensuing discussions are as follows:

1. Documentation and Conservation of Vernacular Architecture
2. Adaptation and Innovation in Techniques of Construction for the Future of Vernacular Architecture
3. Policy, Legislation and Regulations Changes Needed for the Continuity of Vernacular Architecture
4. Need for Human Resource Development for the Continuity of Vernacular Architecture for the Future

Prof. (Dr.) Rachna Khare

Convenor, SAVA Conf.

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Foreword

The idea of a South Asian Vernacular Architecture Conference has received an overwhelming response. Sociologists and social anthropologists were ahead of architects in recognizing the role of culture and occupation on built form. But then, we have to also remember that while sociology's concern is with communities, cultures and products of cultures, architecture in South Asian countries has been engaged with modernity and technology in its responses to new economies, functions and lifestyles. Among the papers we received for the conference, most are documentation of vernacular architecture and the communities that have built them. These papers uniformly show that vernacular architecture is climate responsive, energy efficient and representative of cultural identities across geographic regions, who live in harmony with nature with bare essentials. The widespread prevalence of pre-industrial occupations and their continuity in vernacular settlements throughout South Asia, is thought provoking. Most tribal or ethnic communities are not a part of the formal economy. The papers are about settlements in different geographic regions, the North Eastern regions of India, the *Juang*, the *Meitei* and the *Moran* communities; settlements in the Bharmour, Kangra and Uttarakhand region; the *Halakki* tribe in Karnataka, weavers' towns in Tanjavur and Kanchipuram; Todas in the Nilgiris; Shekhawati Havelis and Nawabi Kothis in Gujarat and Rajasthan. Two papers about tribes in the Andamans and Lakshadweep Islands continuing a very primitive lifestyle, raise important questions. By conserving the settlements and their lifestyles are we depriving them of development which we seek for ourselves? Will education not change these societies and is that not desirable? The implications must be understood fully well for any vision for the future of vernacular architecture.



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Papers on adaptation and innovation of vernacular architecture lament the transformation from natural materials to reinforced cement concrete. The consistent finding is that rural areas are abandoning the use of vernacular materials, whereas most researchers observe that passive design of built forms for climate and energy saving is best achieved with these. A lone paper on colonial vernacular and a complementary paper on Kotachi-wadi show that vernacular architecture has been adapted in colonial architecture, and such buildings are good examples of how a different culture can borrow a form for climatic comfort, while adapting a vernacular house layout to a different lifestyle.

Surprisingly, there were no papers on the urban vernacular, where rural migrants carrying entrepreneurial skills to urban markets, settle in squatter settlements on marginal lands in the city. They adapt their building techniques to use new materials available in the city. Use of vernacular construction techniques in tourist accommodation and tourist resorts was mentioned in passing in some papers. Laurie Baker brought local vernacular into mainstream architecture in urban areas in Kerala, as a natural response to affordable and sensible building style. There is a growing number of architects who are consciously using mud or bamboo, or a combination of natural materials for a variety of reasons such as climatic comfort, affordability, aesthetics, or even as a rational approach to building construction. But there was little contribution on these adaptations of vernacular architecture and their potential for the future.

Papers received in the section on policy are mainly about conservation policies or strategies. Unfortunately, there were no papers on how regulations have discouraged use of natural materials, or how architecture could be made more community responsive by tweaking policies on housing or by changing regulations which brand mud and bamboo as temporary construction materials with a short life span. While there is a larger consensus that vernacular architecture has important lessons to offer, there is a paucity of ideas on how these may be used through a larger overarching policy. There are few studies to show how vernacular principles and techniques may be adapted in planning settlements, or water management systems, or in ecologically sensitive buildings.



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In the theme on Human Resource Development, it is heartening to see that vernacular architecture is now included as part of mainstream design studios, however limited that may be at present. Students are sensitized to vernacular architecture as climate and culture responsive, they are given documentation exercises, and limited research is being conducted. But skill based education is limited to vocational training institutions in our current education system and vernacular architecture is based on apprenticeship. There are large gaps between the formal architectural professional practice framework and vernacular construction practices.

The prevailing perception that vernacular architecture is backward needs to change. The vision for the future of human development is urban, with socio-economic changes accompanied by changes in lifestyle. The general perception is that traditional lifestyles and occupations have to be eventually abandoned in favour of those in the formal economy. But is that a choice which we have already made? Is the homogenous culture, which will ensue from such a choice, the best way forward? Or will South Asian traditional settlements and their traditional economies continue to co-exist with metropolises, skyscrapers and high technology?

Manjusha Misra
Coordinator
SAVA Conference



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Theme 1

Documentation and Conservation of Vernacular Architecture



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Keynote Speaker - 'Conservation and Continuity'



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The importance of vernacular architecture needs to be understood as the expression of our ethnicity, or indigeneity. There is, however, no consensus on the meaning of 'vernacular'. The common understanding is that 'vernacular' is co-terminus with 'native', which suggests belonging to the land where one was born. It is instructive to read a judgement of the Supreme Court of India on the question of our ethnicity. This order[1], delivered on 5 January 2011, by a double bench of Justice Markandey Katju and Justice Gyan Sudha Misra, examines in some detail who are the original inhabitants of this country. They find that 92 percent of our population are descendants of immigrants, and only 8 percent, now known as 'Scheduled Tribes' are the original inhabitants of the subcontinent. In their view this accounts for the great cultural diversity found in this country. While we celebrate this diversity, we are also aware of the increasing fractionation of our polity and the consequent breakdown of orderly governance. It is with this background that the need for cultural continuity arises so that principles of **coherence** may be established. These principles will inform the practice of conservation, which in recent times has stressed on the importance of documentation as the primary method of understanding our cultural heritage. This led to narrowing of our appreciation of indigeneity and the pauperisation of vernacular values, since the focus of documentation has become the production of measured drawings and photographic reproduction. The logic of this approach is to package cultural expression for ease of marketing. This is taking us away from our native or vernacular forms to promote a less than authentic cultural landscape for transient tourists.



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To develop a more effective documentation practice is therefore important to promote a conservation ethos which is based on knowledge rather than marketing techniques. The production and maintenance of built environment offers an opportunity to engage with culture in a comprehensive manner. It offers scope for the inclusion of all basic art forms into a coherent whole, embedded in vernacular values focused on indigenous reality.

Keywords: Vernacular, Indigeneity, Cultural Continuity

[1] Criminal Appeal No. 11 of 2011, arising out of Special Leave Petition No. 10367 of 2010 in Kailas & Others versus State of Maharashtra TR. Taluka P.S.



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Keynote Speaker - The Vernacular Concern - 'To Maintain'



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The term vernacular has its roots in Medieval Latin *Vernaculus*, which means domestic, indigenous, of or pertaining to home-born slave.[1] This meaning is derived from the Latin root of this term *verna*, which means a slave born in the master's house. In the light of the social structure of the times this meaning of the term was constructed by the masters to refer to the time and space of the dominated slaves-who were just masses, without face(s). Here this term designates 'absolute otherness' and by extension it reflects the nonexistence of questions concerning the bearing of life processes on an understanding of 'truth and reality' of the world. Today, the vernacular continues to be the 'other' but not in the 'absolute'. The publication in 1988, of the first “Encyclopedia of Vernacular Architecture of the World” [2] pulled out the vernacular from the master-slave social structure, it included buildings made by people, folk, peasants and popular societies who were not architect, or a specialist designer and these vernacular builders acquired a noticeable position in the public domain. This opened the space for looking at the social, cultural and symbolic significance of the 'vernacular'. However, the 'vernacular architecture' still occupied a marginal position-recognition and support from social sciences, professional architecture, and policy makers and from people at large was not forthcoming. By and large this continues to be so today in 2015 with the real estate economy taking over building. Nazar AlSayyad[3] proposes that the vernacular now be a political project, whose mission is a dynamic interpretation of the various traditions of building in the light of ever changing present. He points out that vernaculars have so far been object oriented, socially oriented or culturally oriented and he suggests that there



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is need to be activist oriented. Accordingly, the notion of the vernacular needs to be reworked and recalibrated in the light of technological advancement and increased communication-to this one may add, changing political structures and the politics of knowledge legitimacy. Today with globalization, industrial technologies have proliferated and infiltrated every nook and corner of the geographies of our social life. Correspondingly, political systems have intensified regulatory institutional regimes over the production and reproduction of intellectual, cultural, emotional life. There is perhaps little left of the 'local'-the world is now a global village. Like all sectors of production and reproduction architectural constructions are global as well-mud, wood, grass, lime (some elements of vernacular building traditions) are depleted and need to be got from far off places and not without ecological damages and losses. Vernacular builders need not be unskilled, non-literate, technologically ignorant or isolated from the world of global communications. Vernacular forms need to be examined for their sustainability, efficiency and affordability!!!! In the globalizing world what then remains of the vernacular? Is there a notion of the vernacular that can withstand the dissolution of the local or rather can stand up to the infiltration of globalizations? Perhaps a response to this situation is to try and show that the notion of, 'vernacular' and 'vernacular architecture' have been embedded in life processes and for this reason its foundational element is the transmission of the necessity 'to maintain'. Thus its contemporary concern is with the question what is it 'to maintain'? This paper explores this political question.

Keywords: Vernacular, Vernacular Architecture

[1] <http://www.wordsense.eu/verna/>

[2] Paul Oliver (ed), 1988. Encyclopedia of Vernacular Architecture of the World. Cambridge University Press, Cambridge.

[3] Nezar ALSayyad, Foreword in Lindsay Asquith and Marcel Vellinga, 2006. Vernacular Architecture in the Twentieth Century-Theory Education and Practice. London, Francis and Taylor



Documenting the Yûmjao: Understanding the Vernacular Architecture of the Meitei



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Architecture has the capacity to connect to the self, our interpretation of places and things, and often who we are and what we would like to project about ourselves to others (Bugni & Smith, 2006:129). Historical monuments, archaeological sites, museums represent a part of a people's cultural heritage - they hold in them the memory of an era or an event gone by, the values and meanings which a people identify themselves with. Similarly, traditional dwelling houses (being distinctive to a particular group of people) constitute a symbolic representation of a people as it is "a model which is a result of the collaboration of many people over many generations as well as the collaboration between makers and users of buildings and other artefacts" (Rapoport, 1969:6). In consonance with these arguments, this paper which is based on the field work done in Andro, Manipur, will argue that the Yûmjao- traditional dwelling house of the Meitei in Manipur, are not just static structures but an embodiment of shared goals, values, beliefs and symbols handed down over generation. It will also explicate how the incorporation of certain features of traditional architecture in the present day dwellings can be seen as indicative of the collective need to hold on to a sense of belongingness to a group or community. The look of the Meitei *Yûmjao* has undergone change, so much so that it is now difficult to find it. It is already on its way to becoming a part of history. This work is an attempt towards documentation of the Meitei Yûmjao.

Key words: Architecture, Dwellings, Meitei, Yûmjao



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Vernacular Architecture of Gujarat Through Time



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'Vernacular architecture has been evolved through time in response to the actual needs of respective communities based on the availability of raw materials in different regions. The linguistic region of Gujarat, located in the western part of India had been an area of synthesis from ancient times till date. The material evidences from prehistoric to historic periods authenticate that, the vernacular architecture of this region has been growing over time with continuities, changes, transformations and adaptations befitting to different climatic, social and economic conditions. The prehistoric circular huts, rock shelters; proto-historic rural structures; early historic huts of wattle and daub, brick houses, rock cut caves and the early medieval wooden *havelis*, elucidate the saga of continuities, changes, transformations and adaptations. The present paper is an effort to sketch the cultural historic perspectives of these structures, in terms of adaptations and transformations from prehistoric to modern times. This paper also discusses the current trends in creating sustainable vernacular structures with modern amenities and also integrated comprehensive conservation and transformation of vernacular wooden *havelis* by maintaining potential integrity of these traditional buildings to promote ethnic and eco tourism in the state.

Key Words: Historic transformations, adaptations, rock cuts, wooden structures.



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Sustainable Strategies for Conservation of Traditional Architecture of Todas in the Nilgiris



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The Nilgiris are the one of the oldest mountain ranges in India. Located at the confluence of Karnataka, Tamil Nadu and Kerala, these hills are the abode of the Toda community. Believed to be descendants of the Dravidian race, this nomadic tribe has a unique culture which is attuned towards living in these hill ranges in and around Ooty. Besides a unique culture and historical value, the community is also recognised for its unique building style. Their architecture is mainly planned around the Toda temple and hutment, the latter being a semi-barrel shaped structure made of bamboo and wood with straw roofing. Their material selection is based on the locally available materials within the Nilgiris bio reserve and is one of the best examples of vernacular architecture in India. However, rapid urbanisation has had a big impact on their existence with the community now facing a big challenge of being extinct. Through this research, the authors document the Toda culture and lifestyle and study their architecture along with mapping of existing Toda settlement structures. The paper studies and analyses the building structures for their rich artistic presence and unique constructional aspects, along with a recording of their settling patterns across local sites around Ooty and presents sustainable strategies for their preservation and sustenance, suggesting methods for adaption of Toda architecture in modern day design solutions.

Keywords: Toda, Nilgiris, Vernacular, Conservation



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

Conflicting Intertwined Heritages- The Case of Lakkundi, Karnataka



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Abstract

India's multi faceted collective heritage protection requires an all inclusive approach. This paper addresses the complexities involved in documentation and protection of conflicting intertwined heritage. One such settlement, Lakundi, in Karanataka, has 6 Archaeological Survey of India (ASI) listed and several other State listed monuments. The existing settlement built over the former ruins, is a prosperous agricultural community with varied allied occupations, deternining the layout of its neighbourhood units, called 'Onis'.

But this living thriving settlement with a rich vernacular fabric is threatened, to facilitate archaeological excavations. With increasing scope for future archaeological excavations the hope for survival of vernacular dwindles even faster. At this juncture one cannot help but wonder at the wisdom in preferring one layer of history over another? This paper makes a case for this through a study to understand this complexity and inter-relationship between the vernacular and archaeological. A detailed documentation of the settlement and its neighbourhood pattern has been conducted. Our studies show that the local community could play a positive role in understanding the various historic layers of the settlement.

Keywords: Intertwined Heritage, Neighbourhood Units(Oni's), Community Participation.



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

Sustainable Approach of Chettinad Vernacular Residential architecture: Case Study of a Dwelling at Karaikudi, Tamilnadu, India



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India is known for its rich cultural heritage. The culture plays an important role in defining the architecture of a place or people with time. Karaikudi is one of such places in Tamil Nadu. Various other parameters such as geographical location, climatic conditions, occupation of the community, come together to make the structure sustainable in all the probabilities. Vernacular buildings, in particular, were envisioned to deal with climate passively, through proper design, building materials and construction techniques. Vernacular architecture has been evolved through a process of trial and error for ages. There was a proper handling of energy in buildings using passive techniques to maintain the quality of air. There has been a momentous energy crisis in developing countries especially during summer season primarily to cool the buildings. Natural and passive systems using non-mechanical methods to maintain a comfortable indoor temperature are a key factor in justifying the impact of buildings on the environment. This study of the dwelling helps to understand how efficiently the play of architectural design element such as courtyard, the clearstory windows, treatment of materials, the adaptation of appropriate technology using locally available materials and construction techniques which imparts the importance given to the thermal comfort and sustainability at each level. This study can help in learning and appreciating the principles of vernacular architecture and integrating it with the contemporary design of the built environment.

Keywords: Vernacular Architecture, Thermal Comfort, Culture, *Chettinad*



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

Nawabi Kothies and Shekhawati Havelis: Comparative Study of Desert Architectural Marvels



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Residential dwellings in Awadh (Lucknow) province were known as “Kothies” and the dwellings in Shekhawati (Sikar, Jhunjhunu, Churu districts in Rajasthan state) province as “Havelis”. These dwellings are one of a kind in India and are considered marvels in the architecture of India. Though neglected for the years these dwellings still have the soul of the glorious past it had experienced. Although developed in the same time period, these dwellings have different architectural styles and different architectural techniques, yet making them sustainable buildings. Buildings in the past contained cultural as well as social values, but modern buildings have developed a sense of functionalist aesthetics which neglects the regional cultural context. These dwellings were built by making various uses of vernacular as well as innovative techniques of their time without losing traditional and cultural characteristics. By integrating the principles of vernacular practices mixed with today's technology we can create the combination of modern and vernacular architectural context for a region.

Keywords: Haveli, Kothi, Culture, Climate



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

Indian Vernacular Architecture: Innovation, Adaptation, Sustainability



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The simplicity of vernacular architecture and its virtues of environmental sensitivities are inspiring anthropologists, architects and geographers to undertake studies of the interrelationship between Man and his culture and the environment. Vernacular architecture demonstrates the adaptation of human societies and cultures to their respective environment. In the study of architecture, western building technologies are predominant. In India, our focus on traditional architecture is limited to temples and large heritage structures. We have not understood how our own societies have been building houses, using local traditional indigenous materials like mud, stone, bamboo, and thatch etc. They have learnt through generations and not through formal training, showing extraordinary skills and techniques. In the past, studies have typically focused on descriptions and typologies of indigenous building types and techniques, often from a comparative perspective. The present paper is based on field work data records, using observation and interview methods in four tribal communities of each region selected in two groups, Jatapu tribe in Andhra Pradesh, Toda tribe in Tamil Nadu, Korku tribe in Maharashtra and Gond tribe in Madhya Pradesh, to cover the two large regions of Eastern Ghats and the Satpura Ranges which are geographically distinct and culturally diverse. Each tribe has its own community architecture, innovation in relation to environment and ecological factors. Altitude and climate plays a significant role both in structural and cultural adaptations.

Keywords: Vernacular Architecture, Culture, Climate, Materials



Majang : The Youth Dormitory of Juang Tribe, Its Persistence and Change



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The potential role of dormitory organization is in the process of disintegration now-a-days due to the impact of both internal and external forces. Opening of the area with more and more outsiders and developmental interventions by Government and NGOs have induced severe changes in their living style as well as in dormitory constructions. The tradition of dormitory among the Juang tribe of Odisha is in the verge of extinction from some of the areas of Odisha. The community house Majang with its carved wooden pillars, mud walls and beams richly engraved with beautiful animal and human figures have been replaced by simple houses laid with cement walls. Customs like burning the sacred fire day and night throughout the year in *Majang* has gradually lost its importance which according to their belief marks their origin. The chaos of community participation is gradually disappearing among the *Juangs* while making *Majang*. The dances and songs that form important characteristic features of the *Juang* dormitory life, are losing their importance because of Government interventions. The *Majang*, as an institution of the *Juang* tribe represents one of the traditional aspects of their culture which is filled with astounding traditional wisdom from the perspective of vernacular architecture. It is a center for all their activities relating to social, economic and cultural spheres. The structural design of *Majang* and its associated motifs plays a very significant role in guiding the youths to maintain social solidarity and loyalty to their customs and traditions. This paper explores the dimensions of cultural and architectural importance of youth dormitory and its persistence in the contemporary changing situation of the *Juang* tribe. It is noteworthy that this particularly vulnerable tribe in Odisha Province, India has a special role to offer in the context of vernacular architecture. This paper also draws attention to how effectively they use the available potential resources.

Keywords: Majang, Mandaghar (Dormitory), Change, Persistence.



Traditional House of the Elephant Keepers: A Study Among the Moran People of Assam



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The Morans inhabiting the easternmost corner of Assam, traditionally known as Samarpith region, identify themselves as true friends of elephants. They constitute one of the very old ethnic communities who had an independent kingdom in the Eastern part of ancient Assam. Homogenously pocketed villages of *Moran* people in the Samarpith Region are surrounded by dense natural forest cover extending up to Myanmar to the East and Arunachal Pradesh to the North. This region is home to a large number of wild elephants. Traditionally, *Morans* inhabiting in this region are elephant catchers and caretakers who used to give service of elephants to kings. The present paper explores the cultural reflection of this occupation in the construction of the traditional house and granary among the Moran people. An attempt has been made to know the traditional wisdom concerning with the keeping of elephants in their settlement areas and nearby forest. It discusses the traditional practices and belief system that confers to set a unique example of cultural and biological co-existence of the Morans with their elephants. Among the Morans, the elephant is not merely an animal but an important member of the family. This paper also incorporates the changing trends and world view of the Moran people.

Key Words: *Morans*, Elephants, Beliefs, Traditional House, Granary



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

Vernacular Architecture as Mark of Identity of a Culture: Special Reference to the House Type of Kom Tribe, Manipur.



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India has a rich diverse climatic and morphological character with regional variation in natural resources. To meet the challenges of this unique set of diverse condition, each community produces its own architectural forms with local materials of construction. The North-East Region of India has extensive hilly tracks, largely covered with dense forest and inhabited by diverse ethnic and tribal groups. Traditional architecture of North-East India is a product of natural environment and cultural ecology of the settlement. Building materials are procured from the nearby surroundings and all kind of construction work involves a cooperative effort whether it may be personal or social building. The present paper attempts to focus on the typical house type of Kom tribe of Manipur. The houses built of wooden posts and bamboo splits, with a thatched grass roof held in place by bamboo splits and lashing. Apart from the architectural concern, the Kom house is an expression of their cultural history and belief system. The Kom house is a repository of cultural traits like kinship, family type, social customs, social hierarchy, gender specific etc. Now- a- days this type of house has almost disappeared from the original habitats or appears with lot of modifications due to local culture and environment, wider force of economic, technological and political changes.

Keywords: Traditional Architecture, Habitat, Building Material, Culture



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

A Study of Vernacular Architecture in Thanjavur Region



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Globalization has contributed to economic growth, improved standards of living and imported trends and fashions throughout the world, with advanced technological developments, as well as the need for sustainability. The term 'Vernacular Architecture' is the art of constructing buildings and shelters with climate and geographic conditions to achieve human comfort. Nadu kavary is a village in Thiruvaiyaru Taluk, located 11 km towards North from Thanjavur. The village is an *agraharam* settlement with grid pattern of North, South, East and West streets. The settlement consist of 400 houses near the river Kaveri. The occupation is agriculture. A house constructed in the year 1934 and sanctioned by the Thanjavur collector R.B. Wood is the subject of study. The main house consists of double storey tiled structure with Madras Terrace roofing. The house has a central open court with rectangular plan and *thinnai* in front. It is constructed with local available materials like lime and brick. The plan has climate responsive architecture which provides good ventilation, air movement and reduces heat. The study explains the way in which the vernacular architecture imparts cost effective methods and technologies and adds to the character and culture of the space.

Key words: Climate Responsive Architecture, *Kutch*a Construction



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

Photographing Built Monuments and Excavation Data: An Experience Sharing in Heritage Conservation



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The paper would discuss the role of photography in documenting architectural and archaeological resources. It hopes to explain how photographic documentation can be a tool in heritage conservation. The springboard of this enquiry is the author's experience in the photographic documentation of built heritage and real-time documentation of the fifth season Pattanam Archaeological excavation, Muziris Heritage Project, Kerala. The presentation hopes to take you along the author's experience-trail in order to discuss the new trends and techniques in photographic documentation. It also aims to share some of the techniques that can be adopted in documenting built monuments and excavations. Visual documentation of architecture, especially built heritage, poses a unique set of challenges, which requires imaginative, systematic and scientific methods. The proper application of these methods and techniques helps to use these photographs for generating scaled drawings and thereby minimizing the time for field work. The paper also discuss on the visual documentation methods and the integration of photographic data into the digital database of Pattanam archaeological research. The paper would address the problems of real-time documentation and the possible improvements.

Keywords: Photographic Documentation, Digital Database, Pattanam, Conservation



Challenges in Documenting the Vernacular Architecture of Minicoy Island, Lakshadweep



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This paper, examines the various challenges and issues relating to the documentation and study of vernacular architecture. The complexity of vernacular architecture lies in the intertwining of its various parameters, namely: culture, values, ecology, need, material availability, economy and political status. In order to study the same, it is necessary to understand the roles of all these parameters, in the specific context of a particular community. Its study derives from various disciplines: aesthetics, anthropology, ecology, and evolutionary, behavioural and cognitive sciences. And, it reveals a wider perspective of the building process that goes beyond just the physical product, as seen in architecture. The island community of *Minicoy*, Lakshadweep has been selected to provide the context for our study. *Minicoy* is the southernmost atoll of the Lakshadweep group, which are islands of coral origin. It consists of the island *Minicoy* and a small inhabited islet named *Viringili*. We attempt to devise a methodology that will help us understand and document the island's *vernacular heritage* through this paper, which may later be utilized to document the vernacular across various contexts. An effort has been made to understand the culture and values of the community, in addition to its physical attributes, the built environment. The paper also investigates the threats faced by the island community through climate change and identifies issues such as urbanization and tourism which challenge their cultural continuity.

Keywords: Vernacular Architecture, Documentation Methodology, Parameters,



Socio-Cultural and Occupational Impact on the House Form: Sadhwara, Farrukhabad



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“Man's use of space is a specialized elaboration of culture” [1]. Vernacular architecture evolves over time to reflect the cultural, environmental, and historical context in which it exists. It has often been dismissed as crude and unrefined, but has proponents to highlight its importance in current design. [2] The study explores the role of social cultural components in determination of built environment of Sadhwara. The interaction of physical factors like geographical location and prevailing climate; whereas the cultural and occupational aspect would encompass the need and preferences of the society that would define another set of parameters, those that influence architecture by the structure of everyday life, beliefs and social organization at settlement, cluster and unit level. Sadhwara is situated in Farrukhabad. It belongs to the Sadh sect, followers of Kabir Panth. This community originated around 350 yrs back. Because of their roots in Rajasthan, unique faith and the fact that Farrukhabad was ruled by a Muslim ruler named Farrukh Siyar, this settlement has developed a unique style of architecture which is a combination of different cultures. The research is aimed at studying and documenting a rapidly transforming community, its culture and built form. This is to draw the attention to the uniqueness of the community, their socio-cultural practices and its impact on their house form. It will become a basis for conservation of artifacts as well as the built environment.

Keywords: Settlement, House Form, Climate, Occupation

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[2] Vernacular architecture, Available online at: https://en.wikipedia.org/wiki/Vernacular_architecture (accessed 16.02.2014)



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

Threads of Sustainability in the Complex Fabric of Vernacular Architecture: Case Study of a Weaver's House at Kanchipuram, Tamil Nadu



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With the notion that vernacular architecture has features of sustainability, this study aims to analyse the sustainability in a weaver's house at Kanchipuram, Tamil Nadu. The selected dwelling is 105 years old and it is located in a hot-humid climatic zone. The house has typical vernacular elements such as raised platform at the entrance, central courtyard and sloped roof. Walls are generally 0.6m thick and constructed with an indigenous technique adopted in the region. The study analyses not only the form, orientation, materials and construction techniques but incorporates the spatial analysis as well. In this mixed method study, quantitative data related to thermal parameters such as temperature, humidity and air velocity were recorded on field. Semi structured interview with occupants provided the necessary qualitative data. Several passive techniques such as the orientation of the building, spatial flexibility, presence of internal courtyard, use of locally available materials and methods of construction, together improved indoor environmental quality. By analysing socio-cultural and environmental factors in vernacular architecture, this study provides significant insights and lessons in the design and development of sustainable buildings.

Keywords: Vernacular Architecture, Thermal Comfort, Hot-humid Climate



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

Koti Banal Architecture of Uttarakhand: Indigenous Realities and Community Involvement]



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'Koti Banal' architecture of Uttarakhand is a reflection of indigenous realities and vernacular values. It involves community participation and demonstrates a profound knowledge of local materials and native sensibilities. Investigations suggest that this is an earthquake-safe construction style done in timber and stone, which evolved as early as 1000 years ago. This paper is an attempt to study the Koti Banal architecture of Uttarakhand and the craft nurtured by the indigenous communities using locally available materials in response to earthquakes. In fact, the koti banal architecture is much like the framed construction of modern times. The structural design suggests that the 'makers' of these buildings had fairly good idea of the forces likely to act upon the structures during an earthquake. The paper further investigates to what extent it is possible to carry forward the learning from this style of architecture. This is a deductive research based on a case study approach, which focuses on vernacular architecture, indigenous communities and craft skills of Uttarakhand.

Keywords: Koti Banal, Vernacular Architecture, Indigenous, Craft



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

Study of Settlement Pattern of a Weavers Village and Their House Form in Tamil Nadu



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Valadasanpatti is a rural settlement located in Salem district of Tamilnadu and comprises of a population predominantly engaged in weaving of silk saris and allied cottage industries. The settlement pattern of the village is based on caste and community lines with 65% of occupants belonging to Mudaliar and Naicker caste. A survey of the village to determine the various aspects of settlement planning, vernacular architecture, visual studies and socio economic parameters was undertaken by architecture students of SRM University in the year 2014. It was found that settlement planning had integrated open spaces which catered to their social and occupational needs along with the built form, also existing natural slope of the land was utilized for storm water drainage and water supply. The typical weaver's house has two front rooms of which one was dedicated to the handloom machinery, since weaving was their predominant occupation and the other one was a store for finished goods. The windows were located just above the floor level since the weaving activity was done sitting on the floor. The rear part of the house was used for dwelling purpose and comprised of multipurpose hall and a kitchen. The back of the house opened on to a cluster court which served as a utility yard and as a socializing space for woman folk. The dwelling units of the workers in these cottage industries were mostly rudimentary houses built of mud walls and palm thatched roofs. The study revealed how vernacular architecture and settlement planning responded not only to the occupational needs & their life style, but also to the climate and socio economical factors.

Key words: Settlement Planning, Built Form, Vernacular Architecture



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

A Study of the Vernacular Architecture of the Halakki Tribe: The Cultural and the Material Aspects



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On both the sides of the National Highway 17 in the Uttara Kannada district of Karnataka, India, there is a tribal community on the verge of extinction, called “Halakki Vokkaligas”. The Halakki tribes have settled predominantly in seven regions. Their religious and cultural rituals are characteristics of these regions which are Chandaavara, Gokarna, Kadavaada, Ankola, Nushi Kote, Kumbaara Gadde and Haritte Seemey. The Halakki tribes are very unique in cultural (Hali painting, Halakki folklore, rituals, festivals, distinct way of clothing, jewellery) and architectural ways (furniture design, individual Halakki huts as earthen houses with thatched roof or dry leaves of coconut or palm trees as sloping roofs, cluster pattern of huts in a koppa). The Halakki culture has regional variations in their lifestyles. Variations in the availability of vernacular materials and geographical locations influence their regional architecture. The paper aims at studying the spatial and architectural expression of the Halakki culture through their traditional use of vernacular materials in the seven predominant areas of settlements. The satisfaction of the tribal community about their present vernacular settlements and their future habitat aspirations have been highlighted in the paper.

Keywords: Halakki Tribes, Koppa, Seemey, Vernacular Materials



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

Regional Architecture Tradition of Bharmour, in the Himalyan Range



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The paper discusses the cultural impact of land form on the architecture of the Himalayan Region, the correlation between the regional architecture and the norms of builders, designers and its users, and climate comfort. The house design is based on participation, engagement and an egalitarian political ethic. Loss of vernacular tradition is usually associated with the creation of barriers to direct social interaction, compartmentalization of function within a building. This study relates architecture to 4Ps- People, Place, Purpose and Period. The aim of this paper is to suggest solutions to enhance the study of vernacular architecture of the Himalayan region in terms of 4P (People, Place, Purpose and Period) by using description and case study analysis methods

Keywords: Himalyan Architecture, Traditional, Vernacular



Documentation of Naddi Village in Dharamsala, India



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Naddi village is situated in lap of great Dhauladhar range in the beautiful valleys of Dharamshala district of Himachal Pradesh. It is located 2000 meters above sea level. This paper explains the vernacular architecture of Naddi village. Extreme climate and the topography of the region are the main features responsible for the construction of these traditional houses. The vernacular houses merge well with the geographical features of the surroundings. Construction techniques are based on the use of locally available materials. These traditional houses are constructed in clusters for social and cultural set up of the place as well as a solution to the extreme cold climate. The load-bearing walls, pitched roofs, slate tiles as roofing material, timber members for beams and columns are the salient features of these houses. The region being a contoured hill top, the houses are built on various levels. Architectural solutions for constructing houses in these contours are developed with time. The village is a mixture of old vernacular houses and the new architectural solutions developing due to the urbanization. The features of the vernacular houses are incorporated in the new constructions. This paper will explain the old traditional houses of Naddi village in detail and the features which make it climate responsive.

Keywords: Nadi Village, Kath Kuni, Traditional House Form



Bark Weaving: A Vanishing Craft of Nagaland

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The use of tree barks for various crafts such as rope making is commonly known, what is less known is the practice of its usage for hand manufacturing of natural yarns for weaving cloths. Among the indigenous communities of Nagaland, the use of barks for weaving purposes was widely practiced till the early 20th century. In present times, this traditional craft exists mostly in the folklore among the majority of the inhabitants of the state. This article is based on the original unpublished documentation of the bark weaving tradition in Nagaland which was carried out by the author in Choklangan village in Tuensang district of Nagaland which is one of the last and few villages where the tradition still survives. The article presents the various stages and methods along with photographs the processing of the plant extract for making yarns for cloth weaving purposes.

Keywords: Textile Craft, Vanishing Tradition, Tree Barks.



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

Vernacular Architecture of Majhauri Raj



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Vernacular architecture becomes an essential part of a particular place, climate or locality. A striking example of rich vernacular architecture can be seen in Majhauri raj (a small village in Uttar Pradesh). India has a vast diversity in architecture and other areas from ancient time. India is rich in every climatic zone so in accordance with the climate the vernacular architecture for different place is different. The construction techniques, the material and the particular design they use varies from place to place in accordance with the local available materials. It signifies an excellent approach to solve a serious problem of any place with least expenses. The objective of my research is to investigate whether the architecture in Majhauri Raj is purely associated with myths and beliefs or it has a scientific approach as well because Majhauri raj is surrounded by the river *chhoti gandak* but still there is no flood issue and the houses and the buildings are capable of fighting with the adverse climate of Majhauri raj, so is this construction style responsible for it. Suitable guidelines will be proposed to conserve it.

Keywords: Climate, Construction Style, Construction Techniques.



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

THEME 2

Adaptation and Innovation in Techniques of Construction for the Future of Vernacular Architecture



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

Keynote Speaker - Rurality in Transition: Re-phrasing the Vernacular



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'Design creates culture. Culture shapes values. Values determine the future'

....Robert. L. Peters

In the transition from rurality to urbanism, visual memory operates much less consciously.

Urban living demands labour all the year round; there is no time for building and maintenance. Shanty settlement dwellers acquire a new know-how: obtaining waste materials from the city itself with which to make lamps, cookers, rope – and their houses. Eventually, more elegant solutions to the problems of building in the city periphery will evolve, differentiation of skills may appear, know-how will be expanded and passed on to subsequent generations. With the possible growth in literacy, problem isolation and the conceptualizing of solutions may become commonplace. *But if it does, will the resultant forms of shelter still be 'vernacular'?*

The author draws on his experience from housing projects for the disadvantaged and those affected by disasters in Kerala and all over the world. However, it seems likely that we witness the processes of emergent vernacular and the acquisition of new know-how, as successive waves of migrants to the city learn to cope with it. We are in a position, as the traditional builder often is not, of seeing his building types in the context of others, built by comparable cultures in similar physical or economic conditions. With the knowledge to which we have access and with the advantages of mobility, comparative data and the means of information exchange, we are in a position to assist in the sharing of technological know-how. For those who are facing the difficult adjustments necessary in a period of cultural change; for those who have been subjected to fragmentary exposure to modern technology but who are still deprived of the basic necessities of shelter and services; for the victims of natural and man-made disasters who have seen their homes disintegrate; for those who are ciphers in a statistical survey and are numbers to be housed in a planning scheme; for all these and more, we should surely have much of value to offer.

Key words: Transition, innovation, vernacular, traditional.



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

Beyond Bamboo, Stone and Mud: Cultural Implications of Space in Tribal Architecture of North East India



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In any discourse on vernacular architecture, the raw materials or resource, which constitute the texture as well as base of traditional technological knowledge, occupy the center stage. Obviously, this has an additional vantage point considering their functional utilities while formulating policies/charters. However, in the process what has gained less attention is the implications of space or even the shape/size of a traditional house, which is actually overtly or covertly linked with the cultural domain of a community or tribe. This paper actually likes to argue that while underscoring the predicament of vernacular architecture(s) or re-locating its essence in the contemporary context by emphasizing the material base and technological acumen, one should not ignore the cognitive dimensions of space which is deeply embedded in cultural specificity though one may try to understand certain commonalities through structural theory. In order to build up the argument, this paper likes to take into consideration certain case studies of long house tradition or similar upland settlements found among the Nyishi, Adi, Wancho and Mishmi tribes of Arunachal Pradesh - located at the transnational border of India's North East region.

Keywords: Traditional House, Cognitive Dimensions



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

VERNACULAR ARCHITECTURE, WITHER?

Issues of Conflict, Conservation & Adaptation for Protecting Kashmir's Vernacular Heritage.



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It is almost ten years since Kashmir witnessed one of the severe earthquakes in the post-Independence period. The earthquake of 2005 was followed by a series of studies which examined the devastation that took place in the northern mountainous regions of the valley to try and understand the pattern of destruction and damage that occurred. The studies showed the soundness of vernacular building techniques of the region. The unprecedented floods of last year with its widespread damage of the built fabric have again raised the issue of not only how and where we build but also, more importantly what we build.

Keywords: Vernacular Heritage, Kashmir, Conflict, Natural Disaster



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

Revival Strategies: for Bamboo Architecture of Tripura, India



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Today's era of consumerism and laissez faire economics of our times has resulted in exerting tremendous amount of burden on the available natural as well as non-renewable resources. In this scenario it is most appropriate to seek clues from the lessons that can be grasped by taking a cursory view of Vernacular Architecture and finding ways to innovatively introduce a pragmatic and sustainable contemporary interpretation so as to revive them through a process of renewal. This paper takes up Tripura as a region and reviews the vernacular Architecture of the state focusing mostly on Bamboo Architecture, as the state is blessed by the versatile material. The Climate, topography and terrain of Tripura promotes extensive growth of bamboo. In spite of being blessed with a versatile building material like bamboo, because of urban myths and dogmas, the use of Reinforced Cement Concrete (RCC) is increasing day by day. Lack of exploration and experimentation with the material is stopping from its full potential use. Using case studies from Asia as a point of reference, this paper will attempt to change the notion of bamboo structure being shabby structures and not a very prestigious thing to live in. This paper explores a developmental paradigm for using bamboo for constructing in modern buildings.

Keywords: Revival, Review, exploration, experimentation.



Transition, Adaptation and Continuity: The Narratives of a Modernizing Heritage Village



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Shelter is one of the basic needs of human beings, which has evolved over time in response to climate, culture and capacity. Rural habitation and vernacular settlement has undergone transformation, and has adopted building design and techniques with solutions oriented to meet the increasing aspiration of possessing comfort and convenience, that can be created in a short duration and can last long. Time and cost efficiency have dominated the requirement to address imminent need of affordable dwelling and modern aspirations of the traditional rural community. As a result there is a shift in the pattern of lifestyle, practicing of traditional profession, loss of cultural identity of the place and unsuitable environmental conditions. This paper discusses the pertinent causes and impact attributed to unconscious transition of the modernizing rural settlement, which was once rooted to traditional way of living and practiced the rich art forms, that have been carried down the ages through hereditary lineage by skilled craftsmen who depend on their crafts for livelihood. Transition, adaptation to this transition and the effect on sustenance and continuity of the traditional practices are explored by comparing the vernacular dwellings and settlement morphology with the modern transformations in the context of artisan village of Raghurajpur.

Keywords: Vernacular, transition, adaptation, sense of place, continuity



Architecture of Naga Tribes: Constancy and Change in Traditional Housing



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The Naga people are a conglomeration of several tribes inhabiting the North-Eastern part of India and North-Western Burma, with significant presence in Nagaland, Manipur, Arunachal Pradesh and some small population in Assam. The tribes have similar culture and tradition and their built form has responded efficiently to cultural needs, together with climatic challenges. The houses were built by themselves, without any formal training in construction and thus their architecture has evolved gradually. These houses, built with locally available materials, were in accordance with the particular tribe's social structure and the environment. The built form fits well in the landslide and earthquake-prone North-Eastern region of India. However, due to the influence of modernisation, lesser life span of traditional building materials and coupled with supply of typical shelter units by the Government, there is a rapid shift towards conventional building practices. Hence, the indigenous built form is becoming a matter of the past. To revive, preserve and popularise the indigenous architecture of the Naga tribes, there is a need to incorporate and develop buildings which ensure sustenance of the tribes identity. Studying of old traditional houses in villages and modernised Naga houses in towns will help to understand the principles and adapt the designs. The paper aims to highlight ways of adapting traditional designs and practices to contemporary needs so as to eventually conserve the unique heritage of Naga Housing.

Keywords: Naga vernacular architecture, revival, adaptation, innovation



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

The Need for Vernacular Mud Huts of Ranchi to Re-adapt in Response to the Changing Climate of Ranchi Over the Last 30 Years.



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Mud huts with thick mud walls and clay-tiled or thatched roofs are a commonly practiced form of vernacular architecture in areas around Ranchi in Jharkhand. These huts have 450 / 500 mm thick mud walls and planning with courtyards is often practiced in these huts. These huts were essentially vernacular solutions to the then prevailing climate of Ranchi. However, the climate of Ranchi and its surrounding areas has changed to a certain extent over the last three decades. The design features of the existing mud huts of Jharkhand are discussed with reference to the prevailing climate of Ranchi over the years. Thereafter, the changes in the climate over the last three decades are pin-pointed, with the required modifications in the existing design features identified in response to the changes in the prevailing climate of Ranchi. The methodology adapted is temperature and humidity measurements inside a few sample mud huts including huts with courtyards during different times of the year. These measurements are



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studied with respect to the general conditions of thermal comfort according to the Adaptive Comfort Model for naturally ventilated spaces and Nicol's comfort model for the Indian sub-continent. The results are interpreted in terms of modifications in design and innovations in techniques of construction with respect to the properties of mud like thermal capacity, thermal insulation and thermal mass. Detailed studies on the thermal insulation, thermal mass and thermal capacity of mud has been carried out by Soebarto (2009) and Fix & Richman (2009).

Key Words: Mud-huts, climate, Adaptive Comfort Model, thermal insulation, construction-techniques, thermal capacity



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

Metamorphosis and revival of vernacular settlement in Mumbai: Case study of Khotachi Wadi.



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The term vernacular architecture is synonymous with ethnicity and identity in the design and ambience of built spaces. It imbibes the relationship between social integrity and built environment. Mumbai has gone through a metamorphosis in terms of functionality, adaptability and appearance and the survival of its vernacular heritage representing its multiethnicity has become a challenge. This paper is an attempt to confront the sustenance of vernacular expressions within cultural identities in the Khotachi wadi area within Mumbai..

Keywords: Vernacular, Urbanization, Metamorphosis, Adaptability, Revival



Comparative Assessment of Climatic Performances of Regional Vernacular Architecture of India - Case Study I.G.R.M.S., Bhopal



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India is a large subcontinent having many diverse regions, each having its own vernacular architecture tradition. Indira Gandhi Rashtriya Manav Sangrahalaya (IGRMS), the National Museum of Mankind, at Bhopal, showcases these diverse examples of vernacular architecture as full scale buildings built by the respective tribal groups. Although they are climatically and geographically most suited to their original context, there remains a question as to how well they may perform when transplanted to an alien region.

This paper aims to assess whether vernacular architecture performs consistently in regions other than its own when transplanted. Climatological data like ambient temperature, wind velocity, relative humidity for some of these vernacular huts belonging to diverse regions has been recorded and quantified. These data have been compared and analysed to find their dependence on their design, construction and thermal performances in an iso-climatic framework. The findings have been used to assess and compare the relative performance of these houses brought together in a single place under the same climate.

Keywords: Vernacular architecture, Climatic data, Thermal performance



Development of Traditional Building Materials and Techniques for Energy Efficient Contemporary Building



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It's a known fact that the rate of energy consumption will gradually increase due to the ever increasing population, the rise in the standards of living and technological development. The sources of energy are limited and in such a situation it is the foremost duty of all architects and engineers to think of ways and means of construction which will lead to least energy consumption. Careful selection of environmentally sustainable building materials and techniques is the easiest way for architects to begin incorporating sustainable design principles in buildings. Mud is the oldest building material known to mankind. Buildings made of mud are environmentally friendly. This material and technique, aims to save energy by providing a more stable temperature and reduces heat losses. Sustainable construction is achieved using natural resources, such as mud to conserve the energy both during construction as well as for achieving thermal comfort inside the building. The knowledge of these traditional building materials and techniques can be easily adopted to make the buildings energy efficient. With the rising awareness for sustainable development, from past few decades, earthen architecture and construction has witnessed a renaissance of the tradition, which benefits now from scientific researches. This paper tries to bring forward how we can refine and develop the use of mud for energy efficient contemporary building.

Keywords- Mud, Environment Friendly, Traditional Architecture, Thermal Comfort, Energy Efficient, Sustainable Architecture.



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

Origins, Continuity & Prospects of Vernacular Architecture



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Architecture based on local needs, evolved informally by the local people, is broadly termed as vernacular architecture. Sundry aspects are considered for the design to meet the local needs of the people. In India's diverse climate in various regions, the informal architectural design of the local people reflects local craftsmanship, local building materials, intricate details and the continuity of social customs and culture. This is not a process of consciously designing and executing, but the informal design of the structures, making an allowance for functional aspects, aesthetic aspects by the people for a specific society. The purpose of the paper is to aspect into works of selected architects in Srilanka, India, Bangladesh who have made use of rural architecture as an inspiration for innovations in environmental and sustainable design and planning. The prime focus of this paper is on continuity and prospect of the vernacular architecture in the present context of the contemporary buildings. By adopting methods like clustering, grouping, unit dwellings, open houses, method of providing space differentiation in dwellings, common open spaces for a group of houses productive results can be obtained.

Keywords: Transformation, Continuity, Evolution, Participation, Environmental Values



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Challenges to its Continuity and Strategies for its future

Innovative Vernacular as a Contemporary Response: Adaptations From South Gujarat Tribal Houses



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Traditional Vernacular Architecture in its original form to struggles to find space in contemporary times. The need is to find a systems approach, wherein innovative technologies are merged with traditional practices to arrive at pragmatic solutions in tune with current times. The availability of quality raw materials, workmanship, skilled craftsmen, face challenges of limited resources and limitations of desired functional performances. The traditional methods in vernacular can be continued while introducing innovation. The paper discusses the spatial quality of built form based on 'functional flexibilities' as observed in the traditional tribal houses of South Gujarat. Configurations experimented are found to meet the essence of structural performance within the confines of available material resources for 'optimal performance'. The organized grid structure is used as a system to configure internal spaces in multiple ways. The timeless quality of the spaces derived from such 'flexibilities' provide unique solution to incorporate needs of each family distinctly. The built form is allowed to grow just like any other organic being as a process of procreation and growth. The paper presents a demonstrative experimental project wherein the author participated in study of vernacular architecture and attempted to recreate its essence of a formally planned innovative vernacular. The paper is a firsthand case study performed by the author at the time of thesis work School of Architecture - CEPT 1976 and during the design and execution of a prestigious project of Late Shri. Sanat Mehta (Ex Finance Minister and Member of Parliament, Ex Chairman of Narmada Project) as an experimental house. The paper presents the knowledge generated and shared during the pre planning till the execution of the project.

Keywords: Neo-vernacular, Tradition, Tribal-wisdom, Innovation



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

Aspects Assortment and Energy Performance Test of Ancient Vernacular Architecture



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Available mechanical equipment and new materials of construction, ask for a considerably dramatic change of concept, style of structure and construction. There is a noticeable effect of structure on buildings. The aim of this paper is to identify the technologies used in vernacular structure & to check the efficiency of vernacular used in ancient period. This study includes digitized observation of properties of vernacular architecture as per climate variants. The vernacular evaluation case studies were correlated to the International Energy Conservation Code and access software. The replica miniature product of the energy models offer that in view of traditions observed in vernacular architecture of ancient time as an access to rectifying building energy attainment is a justifiable struggle and a scientific guidance can upgrade performance. The study evaluates vernacular architecture to inform designers and builders. The study concludes that basic vernacular structures are not only informed about climate efficiency but also energy costing and local availability of material.

Keywords: Technology, Digitization, Efficiency, Vernacular Architecture.



Adaptation of Traditional Mud House Process and Possibilities: Kapasia, Gazipur, Bangladesh



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Mud house is an ancient tradition and is considered as the finest example of sustainable green housing choice in the South Asia. With the recent trend in urbanization, mud house construction has decreased at an alarming rate. Mud houses are being replaced with brick houses and corrugated iron (CI) sheet houses. The goal of this research was to look into the factors that are contributing to this decline and compare its sustainability in terms of climate, energy requirement and cost. This article also elucidates factors affecting the adaptability of traditional mud houses into the changing societal dynamics of the post-modern era. A typical village from Gazipur district in Bangladesh was taken as the study area because traditional mud houses are still abundant in this district. Temperature, Relative Humidity (RH) and Light penetration data were collected through field survey in mud houses, brick houses and CI sheet houses. These data were analysed to compare their thermal comfort. Field survey and interview of dwellers and construction workers of these three housing choices were conducted to collect information regarding liveability, cost, time and social aspects that relate to their housing choices. The result of this research shows that though mud houses have better thermal and acoustic comfort, ease of maintenance, cost effectiveness and other positive aspects, mud houses are failing to sustain due to social phenomenon. Economic growth negatively influences mud houses with regards to preserving this tradition. More research on adaptation and modification of traditional mud houses and social awareness programs may help mud houses to stand a chance in this competition. The results of this study can be helpful in developing architectural guideline for saving mud houses and other traditional buildings from becoming extinct.

Keywords: Traditional Mud House, Thermal Comfort, Social Issues



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

Courtyard in the Urban Morphology Integrated in the Red Hue of a Revived Tradition



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The culture, traditions and buildings of Bengal juxtaposed with the climate to synthesize a contextual architecture. The similarity of a central space, in both the urban and rural scenario, remained in one dominating element, the courtyard. This is perhaps due to the constant climatic influence and the need for proper ventilation, a manifestation of a sustainable practice. The central open space mobilized mundane daily chores and is active throughout the day. Earth is a local material providing easy access and a reduced construction cost. The only challenge is the rain and the consequent flood. But traditional earthen dwellings still exist in dry areas of Bengal. The thick mud walls control the interior climate, remain hygienic and are low maintenance. When abandoned they slowly dissociate with the ground causing no environmental damage. The concept of traditional courtyards might now be translated as green plazas, vertical green terraces and staggered voids; serving as urban lungs. These urban courtyards may serve as a multi-purpose space initiating social gatherings. Similarly, if mud building techniques are revived it can serve to solve housing shortages. It has versatile expressions to suit various circumstances. Some techniques were learned practically during a disaster relief operation after Nepal earthquake 2015. With the advent of the evolved courtyards and the use of local materials, we may be able to offer equitable spaces by reemploying traditional architectural elements.

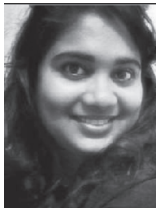
Key words- Traditional-courtyards, Mud-Applications, Innovate-tradition



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

Transition in Vernacular Architecture: A Study of Changing Building Materials and House Form



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We need the rich time dimension to help us avoid the all too common triviality of living in the moment, as a continuous prelude to rushing thoughtlessly into the future. Hence we cannot assume a sudden break with all that went before... While technology may progress, architecture does not necessarily do so - (Rapoport, 1969) The above statement stands true in our current context. There are tremendous endogenous and exogenous pressures on vernacular settlements for development which has led to a faster pace of transition in such settlements. During this transition, some key ideologies that determine house form like response to climate, optimum usage of resources, etc have been forgotten or lost. Hence it becomes necessary to identify such key factors and the changes that have impacted them in order to reduce the disconnect between the past and the present. Kelad in Maharashtra is a 250-year old village which has undergone tremendous change in the last 25 years. Introduction of infrastructure, exposure to information, rising aspirations, availability of government funding schemes for building homes, etc have contributed to the possibility of usage of building materials that are new to the physical and social context. This change in building materials has become one of the major reasons for change in the architecture and settlement fabric of Kelad. The paper traces the change and concomitant changes in the dwelling units at Kelad. It tries to identify impact of the change to the house form, spatial configuration and building components, the process of extension and expansion of the dwelling units built in the traditional and newer materials. The research uses mixed methods of architectural analysis coupled with ethnographic methods such as structured interviews and the go-along method to study people's response to such a change and note what has been adopted and continued.

Keywords: Transition, Vernacular House Form, Building Materials



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

Learning from Indigenous Traditions of Gadhi Dwellings of East Maharashtra, India: A case of Parawa Wada



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Gadhi dwellings of eastern region of Maharashtra, India are known for their peculiarities in terms of high plinth and mud construction. In Yavatmal and Wardha districts, Gadhi (in Marathi) is the term used to describe a high plinth dwelling on a mud hill which is formed by deposition of mud, with mud walls and timber construction. This typology represents socio-political background of the region apart from its multifunctional spatial configuration. The dwelling, typically belonging to jamindar (land owner) is known as wada (multi room house with a courtyard). These wadas with strong architectural character are in the region from several centuries. The construction techniques adopted for mud and timber material are purely indigenous in nature. The special stabilized soil used in construction of gadhi is known as pandhari mati (white soil). Today, such Gadhi wadas are losing their significance because of levelling of mud hills to use the soil for agriculture purpose. The paper discusses the learning from these mud dwellings with specific reference to Parawekar Wada of village Parawa in Yavatmal district of Eastern Maharashtra. The main focus of enquiry is on the investigation of mud construction techniques and evaluation of sustainable approach.

Keywords: Mud Construction, Gadhi *Wada*, Stabilized Earth, Sustainability



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

Agro Tourism as a Strategy to Revive Vernacular Architecture



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Agro tourism and ecotourism are the new forms of tourism which are gaining popularity. People living in the dense urban areas, with their hectic lifestyle want a getaway to nature on the periphery of cities. A retreat on farms offers rich experience of nature, agriculture, local culture and lifestyle and vernacular buildings. This kind of tourism is encouraged by government for the benefit of the farmers to boost their income and mutually benefit both farmers and tourists. Tourists from urban areas are brought close to nature by means of activities such as organic farming, bird watching, botanical garden, medicinal plant gardens, learning local arts and crafts etc. In some resorts even building with local materials and techniques is taught to the tourists. There is a dire need for such get -aways in the vicinity of cities. Today's urban population is under tremendous stress, due to pollution of water, air and noise. These retreats serve as lungs for urban areas. Such resorts use vernacular architecture, or at least local materials and techniques so that tourists become aware of the local culture and architecture. The focus of the paper, through case studies, is on adaptation of local techniques of construction. Although the study aims at revival the use of construction materials as have been used in vernacular architecture may not available in requisite quantity which may force to use alternative eco friendly materials. The study is based on empirical methods, using a case study approach.

Keywords: Agro- Tourism, Local Construction Techniques, Sustainability



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

Affordable and Appropriate Materials and Techniques to Reduce Flood Disaster of Vernacular Rural Housing in Bangladesh

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Bangladesh possesses a rich vernacular architectural heritage and the same time the country is most vulnerable to several natural disasters and every year natural calamities upset people's lives in some part of the country. Flood is one of the disasters that effect directly on human settlements from very beginnings of history of civilization. Still many houses in rural area of Bangladesh are in vernacular architecture facing problem by effects of natural disaster. In Bangladesh flood is the most devastating natural disaster where every year it takes place on a different scale and damage or destroy houses. Though both the rural and urban areas are affected by flood rural housing which is traditional vernacular form is more vulnerable on flood disaster due to its materials durability and techniques of construction. The affordability of durable materials and construction depends on the economic condition of the inhabitants. The people of rural area who are economically disadvantaged they are not able to build houses with high cost. So the affordable low cost housing with durable materials and techniques is necessary for rural housing. The aim of this paper is to find out the appropriate materials and techniques to reduce flood disaster of vernacular rural housing in Bangladesh.

Keywords: Rural Housing, Flood Disaster, Materials and Techniques.



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

Vernosmart: A Step Ahead



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In this contemporary world of smart cities, where people highly depend on IT sector it's not easy to execute the idea of smart city in India where culture, customs, traditions, art and heritage dominate technology. There are lots of chances the project could become futile because the cultural backdrop of India is different from other countries. Integrating the concept of vernacular architecture in smart cities we can protect our heritage. It is incredible to know how dwellings in backward villages of Indian states manage to survive in summers having temperature above 40°C where many of them even don't get electricity supply. Just little more adjustments to these existing concepts may work as miracle to smart architecture. For instance curvilinear streets may act as channel for cool wind to pass. Cladding clay plates and kulharh (conical clay bowl) over wall and roof will act as thermal insulation inside the house. This paper talks about many of such measures keeping in mind of both concepts; smart and vernacular.

Keywords - Vernacular Architecture, Green Buildings, Smart Cities, Energy Efficient Buildings.



Bengal Vernacular Architecture: The Courtyard as a Building Component of Adaptive Climatic Response



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New urban buildings in Bengal lack private open spaces and cross ventilation. In the vernacular architecture of hot humid climate of Bengal, the use of open courtyards provided thermal comfort in different seasons, natural lighting and ventilation. In other hand the presence of water in front of the house imparts an 'Evaporation Cooling' to the building – these ancient techniques can be referred as a well known term 'Sustainability' and 'Green Building' of today's life. Not only that but also the proper projection and orientation of doors and windows according to the sun path and Argo based landscaping can improve public health. Building forms can use vernacular solution to the challenges of maximising natural ventilation, natural daylight and thermal comfort. The objective of the research is to identify the environmental design and climatic response principles of Bengal vernacular architecture and the application and adaptation of these principles in the creation of a modern building.

Keyword: Courtyard, Argo-Landscaping, Climatic Response and Evaporation Cooling.



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

An Appraisal of Vernacular Courtyard Houses of Bikaner for Hot and Arid Climate



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Contemporary architecture consumes significant amount of energy for cooling, heating, ventilation and lighting to create desirable thermal comfort conditions. Traditional architecture, all over the world, had many characteristics which led to thermal comfort. Vernacular architecture has the best pointers in this regard and constitutes outstanding evidence of being climate responsive. The architectural character, physical form and the environment of vernacular settlements is a living collection of long standing traditions of building arts, planning, design and building technique. The vernacular courtyard houses of Bikaner are climate responsive buildings evolved from centuries of experience and observations of climate and nature. The town of Bikaner is situated in Rajasthan, a desert region having a hot and arid climate having extreme diurnal temperature. The courtyard houses of Bikaner have employed ingenious natural and passive techniques to maintain thermal comfort within the building, particularly during the hottest hour of the day. In this paper, various climate responsive passive design features or techniques used in various vernacular courtyard houses of Bikaner have been identified and analyzed so as to enable some of these design features to be used in the changed cultural context of contemporary residential architecture in hot and arid region. Finally some residential building design guidelines for hot and arid region are also summarized in this paper.

Keywords: Vernacular Architecture; Courtyard, Hot -Arid Climate, Jaisalmer.



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

Adaptable Rural Construction Practices for Sustainability



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India is well known worldwide for its different cultures. But all cities are similar with same form of architecture, tall buildings, broad-acre, roads full of vehicles, polluted, full with glare of city-lights and industries on outskirts. On the other hand, it's all different and pleasing in villages. Every capitalist and planner in order to expand cities, is capturing and merging villages into cities. This happens majorly with the villages close to cities, national highways, state highways and air ports. Gradually the village turns into suburb then eventually it becomes part of that city. The place which was once a pleasant and silent, turns into a place full of honking, smokes, dust, waste etc. This paper is a part of research that is been carried on concern of conservation of villages. What is village conservation? What makes villages so pleasant? Why people living in villages do not need conditioned air? How they are really adapted to the climate over there? This paper deals with the study of practices of villages in India, which are adaptable for people living in urban areas to deal with many problems regarding sustainability. The aim is to come up with a model of approach for architects to include vernacular architecture in urban construction practices with acceptance of an urban client. Design examples are given to support the model.

Keywords: Vernacular Architecture, Rural Conservation, Adaptation, Rural Practices.



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

Regional Context of Vernacular Architecture in Modern Urban Vernacular Architectural Projects in India



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Vernacular Architecture is a term used to categorise methods of construction which use locally available resources and traditions to address local needs. Vernacular architecture tends to evolve over time to reflect the environmental, cultural and historical context in which it exists. It has often been dismissed as crude and unrefined, but also has proponents who highlight its importance in current designs. This paper discusses the regional context of Indian Vernacular Architecture based on different regions of India, material availability and suitability in the specific region, its quality enhancement for long term benefits and to increase the long lastingness of these type of structures. This paper aims to study the application of traditional techniques effectively used by prominent Indian architects in modern day urban vernacular architecture thus making them energy efficient and sustainable.

Keywords: Vernacular Architecture, Material suitability, Modern Urban



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Challenges to its Continuity and Strategies for its future

Promoting Traditional Local Wisdom as an Anthropometric and Space Planning Approach in Indonesia's Contemporary Architecture



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As one of the world's biggest archipelago, Indonesia consists of many ethnic and sub-ethnic communities. Stretching from the tip of Sumatra in the West to the East Papua, each of these hundreds of communities produces their own architecture. They value family as the smallest cultural institution and make their traditional houses full of meanings, symbols and rituals during its development. Besides building their houses based on the local context - such as; climate, geography, materials, these traditional houses incorporate values in the process of space planning and anthropometric data. The space planning and anthropometric approach is similar to the Chinese Feng Shui. Indonesia has many such traditions in different regions, such as the Book of Primbon in Central Java, Anthropometric methods in Karampuang House, Sinjai, South Sulawesi, and Balinese Asta Kosala Kosali. However, the development of architectural education in Indonesia, inherited from the western world has changed all these processes to the western and classical methods. Golden section and golden proportion are the new measuring standards, and site analysis is based on physical data. Neufert's Architects' Data, Time Saver Standarts, Panero's Human Dimension and Interior Space have replaced traditional books. This research on Balinese Asta Kosala Kosali can be repeated to other local wisdoms so they will produce new standards methods that can be applied to Indonesian architecture. Building industries in the architectural field in Indonesia could adapt these methods in producing their product to support the development of Indonesian contemporary architecture.

Keywords: Indonesian Architecture, Balinese Asta Kosala Kosal



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

A Study on Rammed Earth Buildings in the Marginal Region of Tengger Desert in China: Comparison of Cases From Two Communities in the Same Region



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The Tengger desert is an arid natural region that covers about 36,700 km² and is mostly in the Inner Mongolia Autonomous Region in China. Because of its arid natural landscape, the vernacular architecture in the marginal region of the desert is mostly rammed earth buildings. My research is primarily about a comparison between the cases from two communities around the edge of the Tengger desert. These two communities are in the same unique topography and ecological environment, however, the vernacular architecture, which are characterized by the different historical background, nationalities and means of livelihood, shows different features. My research was based on a fieldwork about vernacular building, in the form of oral and questionnaire surveys among villagers and recorded major vernacular buildings. And my study intends to turn documentation into interpretation, and gain insight into existing differences of cultural identities between nomad and settlement.

Keywords: Rammed Earth Building, Nomad, Settlement, Arid Landscape



South Asian Vernacular Architecture

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Form Patterns of Vernacular Dwellings in the Fen River Valley



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With the surveying and archiving of Traditional Chinese Villages, launched by MOHURD, vernacular space and social livings of China has become the focus of the mass media, research and practices since 2012. There are three significant elements for traditional villages, such as settlements, buildings and intangible culture. Vernacular dwellings are the main components of buildings in villages, so it is necessary to examine the logic of their spatial configuration. Forms and spatial characteristics of vernacular dwellings of traditional villages in the Fen river valley will be analyzed. Meanwhile, the adaptable adjustment and development of human settlements will be interpreted in micro scale, in order to sum up the impact elements and changing patterns. Firstly, the forms types, space layouts and transformation of vernacular dwellings will be examined. Then there will be some case studies on the function, axis, spatial hierarchy and so forth, focusing on the diachronic changes and spatial replacement. Finally, with multiple cases comparative analyses, three changing patterns will be proposed. In conclusion, forms of vernacular dwellings and changing patterns together compose the main spaces, supporting the development of traditional villages.

Keywords: Form Patterns, Fen River Valley; Shanxi



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THEME 3

Policy, Legislation and Regulations, Changes Needed for the Continuity of Vernacular Architecture



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

Keynote Speaker: Rationale for Promoting Vernacular Architecture in South Asia



A. G. Krishna Menon

Convener

INTACH, Delhi Chapter

New Delhi, India

“My observation is that vernacular architecture almost always has good answers to all our problems” – Laurie Baker [1]

Modern architecture is intrinsically resource-intensive, both in terms of the materials it consumes and the financial resource that are required for its construction. It is based on the use of industrially produced materials like concrete, steel, and glass, which require considerable energy to produce. In contemporary parlance, modern architecture's carbon footprint is large and unsustainable. It is also premised on the reduction of labour required for its production. Ironically, to mitigate these characteristics, the building industry has formulated 'green building norms', which only mask the inherent environmental problems that the practice of modern architecture creates. Seen in this light, it is an inappropriate option to meet India's tremendous demands to house its people. On the other hand, as Laurie Baker has observed, vernacular architecture almost always has good answers to our problems. But good advice is seldom followed, and so, not surprisingly, in the course of formulation of habitat policy and the development of architectural practice, the positive characteristics of vernacular architecture are invariably ignored.

Keywords: Vernacular Architecture, Habitat Policy, Sustainability

[1] Gautam Bhatia, Laurie Baker, *Life, Work and Writings*, Penguin Books, New Delhi: 1994, p.48



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Challenges to its Continuity and Strategies for its future

Technical Diversity and Heritage



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The word vernacular has come to be associated with many others, like sustainable, eco-friendly, alternative, green, appropriate, bio-climatic, traditional, natural, etc. to the point that their practical meaning is almost the same for most of us. All these words open very interesting contradictions: How can a building be “natural” if we also want it to last as long as possible? What happens when the alternative becomes mainstream? Does anyone want to do “inappropriate” architecture? At what point of time, or maturity, does a technique become “traditional”? What is the exact difference, technically speaking, between “fighting against the climate” and “live with it”? How can an architect be “vernacular”? Is it really “popular wisdom” to fight against the dominant economic system and the local beliefs both, to reclaim knowledge and skills that no one seems to be really interested in? And for someone who believes it is possible to “design” a building as cheap as a village hut, as maintenance-free as a mogul tomb, as effort-less as a modern flat, as sustainable as a tree, and as sweet as a magazine picture, what are the chances to reach there?

Each one of us is confronting these contradictions on a daily basis. They seem intractable in theory, but everyone involved in the building process, architect, client, house owner, builder, is actually finding for each new building, a new and different way of resolving them. We are living in a time when everything needs to be re-appropriated. We are trying to preserve the tradition because we have lost it, and the very process of fighting to reclaim the tradition is itself entirely un-traditional. A complete reversal has taken place. As Edward Snowden famously declared last year: “We would do well to remember that at the end of the day, the law doesn't defend us. We defend



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the law”. Similarly, wisdom and tradition, even nature, are less and less protecting us. We have to protect wisdom, tradition, and nature.

This massive transformation has a different appearance in the East and in the West. In the West it is experienced like a revolution, like a reversal, like an inner implosion. In the East it looks more like an invasion, something falling down on us and disturbing our internal peace, stability, and perseverance. Invasion in the very literal sense, as during the colonial period, but also in many more subtle ways, as when we talk, rather loosely and inconsistently, of “Western Technology”. And there are all sorts of combinations in-between. However, despite the huge diversity of mental pictures, there is a practical similarity between the material and social solutions that people are trying to realise right now all over the world. This beautiful convergence remains to be understood and explained.

It involves a complete re-definition of traditional boundaries. Architects are becoming again contractors. Master-masons are becoming again engineers, and their innovations are studied by scientists... with a small delay. Design is no more a product, but a process. Owners are becoming again builders, giving “ownership” a greater meaning, involving responsibility. Tradition is re-invented, but always with a deep reverence to heritage, heritage in the large sense: buildings, skills, seeds, nature and culture woven together.

Bio-Diversity is today accepted. We know it is a condition for social resilience, food security and economic prosperity, and ultimately for the continuation of life on our entire planet. Likewise, Techno-Diversity, in relation with an enlarged notion of heritage, needs to be nurtured and preserved. Otherwise India, like other parts of the world, will turn into a technical and social desert, in addition to a biological one.

Keywords: Technical Diversity, Heritage



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Challenges to its Continuity and Strategies for its future

Climate Response and Site Sensitivity of Indigenous Hill Architecture of Western Ghats



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Habitation in eco-sensitive regions is a constant source of friction between environment and human. An understanding of the age old practices of peaceful co-existence is necessary to ensure sustainable future interventions. In this context, the paper investigates particularities of indigenous hill architecture in the high altitudes of Western Ghats in Kerala. The responsiveness to the peculiar hill climate in a warm humid zone and sensitivity to the difficult terrain are analysed and assessed to understand its sustainability. A comparative analysis is carried out according to the changes in altitude. The influence of traditional architecture in vernacular architecture according to changes in social status is also studied. Tribal settlements of Malai-araya, Urali and Muthuvan are studied and compared based on specified parameters in addition to the selected rural habitations in the highest altitudes of Western Ghats. The outcome of study is expected to contribute to the development of Green Building Code for New Construction in Western Ghats as recommended by the Western Ghats Ecology Expert Panel (WGEEP).

Keywords: Vernacular Hill Architecture, Western Ghats, Climate Responsive



Water Management Strategies for Juang Settlements of Odisha, India



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The Juang are one of the 'Particularly Vulnerable Tribal Group' (PVTG) of Odisha (an eastern state of India). They are found in Odisha exclusively in Keonjhar, Dhenkanal, and Angul district. There are currently 137 villages of Juang Tribe in the region comprising around 27,000 members. They generally live on the hilly terrain where water is available only during rainy season. They don't have proper water storage facilities and women have to walk a few kilometers daily to collect water from foothills for their daily needs. Due to this water scarcity Juangs are facing problem with sanitation and resulting in poor health condition. This Paper highlights the water management strategy evolved for the Juang Community which targets towards energy efficiency and sustainability goal. This project is part of intervention undertaken in Model Village Development for Juang Tribe of Odisha in Public-Private Partnership taken by Indian Institute of Technology Roorkee (IITR) funded by Housing and Urban Development Corporation Limited (HUDCO) and supported by Government of Odisha and TATA Steel Rural Development Society (TSRDS).

Key words: Juang, Water Management System, Model Village.



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Transforming Vernacular Legacies - Context of Colonial Architecture in India



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The British brought with their trade an ever expanding expatriate population which eventually resided for long duration and [some](#) settled on the mainland of Indian sub-continent. Their distinct socio-cultural traditions and practices in a geo-climatic setting which was different from Britain resulted in a peculiar indigenous-like response towards building their physio-spatial environment. Their built environment was acutely sensitive to the locally available resources for living , their in-transit lifestyle and highly adapted to sustenance of their social, economic and cultural environment. The paper explores the distinctive vernacular aspects of the colonial built environments which were inspired from the practices of the mainland Britain, but transformed into distinctive vernacular legacies of their age on the Indian subcontinent. This late and pseudo vernacular character of the built environment of British in South Asia is an important phase of the history of architecture, but commands lesser attention due to its colonial connotation. The built form practices and designs have a significant role as unique heritage common only to the South Asian context geographically. This paper aims to identify their relevance in both cultural and economic context and policy interventions to protect that relevance.

Keywords: Colonial Architecture, Vernacular Legacies, South Asia



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Challenges to its Continuity and Strategies for its Future: “Idar – Pacing With Time”



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Idar, in Sabarkantha district of Gujarat state is a beautiful, small, quiet town with a population of 32 thousand people, predominantly Jains. Known for its citadel as 'Idariyo Gadh' in many folk tales and songs; it houses very beautiful wooden vernacular architecture. Though in dilapidated condition, it is still an excellent example of living architecture trying really hard to pace with time. Nestled in the southern base of the Aravali mountain range, the town is surrounded on three sides by a hill towering boulders that dominate the skyline. Idar has also become famous for its soaring temperature which is among the highest in Gujarat state recently because of deforestation and hard and bald stones around. It is known for the manufacture of handmade wooden toys, its temples and various beautiful architectural monuments including *Gadh* (palace) of Idar. The market of wooden toys in Idar is known as Kharadi Bazaar. '*Kharadi*' in Hindi means turner. Here, kharadi's (community known by its profession uses the turning machines to make various artifacts and household items. They were usually getting the wood from the nearby dense forest area called the Poshina. Today they do not find much usable wood from there and use the wood that is available in Idar itself in any form – mostly from the debris of dilapidated houses. The Idar toys include tops, chakardis, Velans for chapatti making etc. , but are struggling to survive against Chinese goods. The streets and residential bazaars where these people live are known as *Kharadi* streets, which house magnificent wooden architecture. But their profession is dying and the spaces of street and houses are not used as originally intended. Recently, some architecture colleges including Anant Institute of Architecture and design institutes like NID have tried to document this architecture to propose strategies for its conservation, as well as revival of the art of kharadis. This paper tries to consolidate these various efforts and proposes a comprehensive plan to revive this living art and community.

Keywords: Handicraft, Wooden Vernacular Architecture, Disintegration



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Policy, Legislation and Regulations Changes Needed for the Continuity of Vernacular Architecture



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Around the 19th century the human ambition of conservation became political especially in Europe but nonetheless around the world as well. Shallow political thinking and articulation of universality, value and commodity of heritage was a prevalent symptom, in the post war ambitious makeup of the then naïve heritage industry which towards the later part of the trailing century was conceived, often as “anti-progressive” with due diligence to globalization and its own, inherent spatial logic. Romanticizing reconstruction, vandalizing property, commodity and its opaque vision lead to resurgence of the “vernacular”, its conflict with adaptation, reuse, integration, obsolescence, internal equilibrium and the contemporary practice of heritage led regeneration. This production of heritage at a national level, apriori and its acquaintance with the vernacular technique, the master craftsman, the folk and the museum, the stamp, the flag, the bank note, have to compliment, reform and structure the identity of the nation. Heritage, apriori or posteriori, is always cultural heritage. Heritage is indigenous. And in this conflict and resurgence the vernacular and its trail in the post-colonial India become significant. A Violet le Duc or the seven lamps of Ruskin, what path have we tread? The story of a postcolonial, an articulate, synthesized conservation of the craft in postcolonial India!

Keywords: Social Sustainability, Globalization, Vernacular Heritage, Postcolonial



Protection of Vernacular Architecture in the Current Administrative System



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Indian subcontinent has a history for more than 5000 years. The historic vernacular settlements here are store-houses of masterpieces of regional vernacular architecture. In current context, the factors affecting the existing built heritage of vernacular architecture can be broadly listed as:

- 1. Legislation and guiding principles** - Legislation and guiding principles included in City level planning documents like master plans and CDPS as well as the building bye laws/ zonal codes prepared by various government departments have huge impact on vernacular architecture. Most documents plan for long-term say a decade or two, whereas the changes happening are too fast hence these documents become obsolete very soon.
- 2. Implementation** - Second most important aspect is the implementing agency. Quite often the urban local authority officers are persons who are also local, implement the urban guidelines. Working within their limited resources and, they work what seems to be the best for the people. The sense of belonging is very strong and with very little support and training one can achieve significant results.

Stakeholders/Ownership - Last but most important is the stakeholder. These are the people who live in these houses, they interact with the property on a daily basis. With growing global urban image, most people want to have the comforts of the western civilization. Very few people realize the importance of what they possess. Such acceptance can't be forced, it has to be developed at all levels of planning and implementation. Thoughtfulness and adaptation of new technology is required at all three levels to save our vernacular architecture, not only the built examples but also the tradition of craftsman.

Keywords: Vernacular Architecture, Conservation, Legislation, Implementation



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Adaption of Vernacular Architecture as a Sustainable Identity for the Contemporary Built Environment



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Dubai is a place with a unique heritage, as well as an international hub. A lack of preservation consciousness, cultural changes and the search for a comfortable contemporary lifestyle comfort has caused deterioration in the built environment. Cultural identity is disappearing in the face of globalization. Many vernacular technologies are energy efficient and sustainable, although some of them are currently no longer properly functioning because of changed cultural and ecological situations. In this regard, the key challenge is to learn fundamental lessons and principles of vernacular architecture, and to find ways of integrating those principles into development programmes to plan new settlements or to upgrade existing ones. We have used methods like mapping, case studies, documentation and interviews of prominent people involved in restoration and preservation of this district. A detailed study was done of the Al Fahidi District in Dubai, popularly known as Al Bastakiya for the tourist. This research will seek to principles of vernacular designs and the technologies used with the help of sustainable dwelling and settlements. The importance of compact townscape and the use of land economy, self-help and participation of housing approaches, conservation, and other measures to protect the natural environment as well as enrich the cultural heritage presented along with practice of vernacular architecture in the contemporary buildings to spread its significance for both the upcoming generations and for researchers who interest in learning about the heritage.

Keywords: Design identity, Cultural heritage, Vernacular technologies, and Sustainable dwellings.



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Adaptations of Vernacular Architecture in Modern Construction



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The term “Vernacular architecture” in general refers to the informal building of structures through traditional building methods without using the services of a professional architect. It is the most widespread form of building. Vernacular Architecture has been changing over time in context to technology, environment, culture and society. It has been changing, transforming and adapting with respect to the different social as well as economical change of the place. Modern materials and technologies have replaced the traditional ones yet one can observe the adaptations of these local materials, technologies and design elements in contemporary construction. The simplicity and environmental principals of Vernacular Architecture are being adapted in modern construction. In order to progress in the future of architecture and sustainable building, we must first gain knowledge of the past and employ these strategies as a well-balanced, methodical whole to achieve optimum energy efficiency. Recent studies have shown the existence of continuity in the manufacturing options of traditional materials and construction methods. Research laboratories like CBRI, SERC, Laurie Baker Center, Anna University, CASSTRA, Auroville Earth Center, National Rural Building Center have developed various alternate technologies with the aid of Vernacular know how. HUDCO and BMTPC have played an important role in documentation of these technologies and constructing many housing schemes through building centers. Architects as Chitra Vishwanath, Anill Lall, Nimish Patel, Shirish Beri and several others are experimenting with the knowledge of Vernacular Architecture and adapting its materials, technologies, planning and environmental principles.

Keywords: Vernacular, Green Architecture, Climate- Responsive, Adaptation



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Interaction Between Traditional Vernacular Architecture and Urban Planning: Example of The Pols Ahmedabad



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The inspiration for this paper derives from personal research into the planning of historic city of Ahmedabad, the 'Pols' and its relevance to the present urban planning and design practices. It draws attention to the problems that occur during development and implementation of new urban plans and designs in the course of which the tradition and heritage of the vernacular architecture are being transformed and degraded at an accelerated pace or entirely eradicated. The volume of vernacular architecture heritage in Ahmedabad far exceeds the scope of legally protected cultural monuments, and needs a different approach which perceives these as the basic elements of the modern urban planning. The number of experts engaged in the investigation and protection of vernacular architecture heritage is strikingly smaller than the number of experts employed in urban planning activity. This fact has a negative stance towards the architecture patrimony and the efficiency of its protection. The problems are visible in the settlements that existed as pols for the long time before they have gradually undergone planned urbanization. This paper attempts to review the urban planning programme to make recommendations for protection of the 'Pols'.

Keywords: Historic city, Urban planning, Human Resource Development.



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Bridging the Past – Case Study of the Gold Souk & Spice Market in Dubai



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Vernacular architecture in the UAE not given the required importance due to the other booming sectors of architecture in this region. Especially, Dubai & Abu Dhabi are cities that are prominent on the world for their fascinating modern buildings and skyscrapers. Vernacular architecture mainly lost its value due to the fast paced modernization & urbanization happening in the region. There are people who also feel that the architecture in this part of region is similar to that in the western part of the world. It is always important to remember the past and the way we have come up as a region. The glory of UAE is due to its meek genesis and the hard work of the people in this region. This definitely has to be conveyed to the future generation and preserving vernacular architecture is one important step in this process. As architects, it is our duty & responsibility to preserve these unique ancient structures. The Gold Souq & spice market in Deira, Dubai was taken up for this study and an extensive analysis was done on the elements and techniques used. These two places have a very strong connection with the



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past and have the ability to connect with the future, because of the bonding that gold & spices had with Arabia from the ancient period onwards, and it still continues without getting affected by the modernization. Methods like mapping, case studies, surveys, interviews have been conducted for this research. The inferences will help all researchers and the student population to build an identity in the built environment with this rich heritage background.

Keywords: Vernacular Architecture, Rapid Urbanization, Souq Culture



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THEME 4

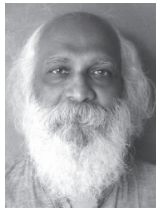
Need for Human Resource Development for the Continuity of Vernacular Architecture for the Future



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Keynote Speaker -Architecture Without Architects and Learning Without Teaching:Reconnecting to the Timeless Way of Knowing and Being



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Learning is the nature of life and is rooted in biological principles. Human beings rooted in nature will naturally connect with this principle of life. Alienation of modern man is directly connected with this disconnection from nature. His 'knowledge' is de contextualized and homogenous where as the knowledge of the indigenous cultures are contextual and thus diverse. Vernacular belongs to totally another paradigm inaccessible to the 'modern literate mind'. Vernacular architecture cannot be separated from their total life. It is way of relating to a place, knowing a place, the kind of cognition that connects/ roots man to their context. It is connected with what they eat, what they farm, what they make, what is available in their context, their relation to the nature around, the mountains, rivers, sea, jungle etc etc. The biggest threat of modernity is homogenization of the human cultures. The visual experience of modern spaces all over the world is beginning to look alike- Architecture, artifacts, life style. The real issue is to understand how culture is formed and how cultural diversity could be retained. The author of this paper has spent several years working with non literate artisans in various parts of this country not only studying their knowledge system but also the conditions that enabled the creation of knowledge and formation of their world view. Context is the ground for the formation of culture. Culture has direct link with aesthetic sense, creativity and the respective ecology in which people live and connect. In fact beauty is the link that connects people to their environment. Some basic aspects of design education is like the way knowledge is created in indigenous cultures. Even though in modern context children are schooled out of their innate impulse to be rooted, design education has the potential in re claiming that. The experiential nature of design education allows the possibility of body mind



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integration. Designing also demands one to observe the now which calls for being present to the world and thirdly due to the fact that one does not know what would be the final outcome one is also brought to face the unknown. The exploratory element of design education can also be compared to the way children play thus bringing out the openness and playfulness of the person. By sensitively learning from the cognitive system among the vernacular one can reconnect to the timeless way of knowing and being.

Keywords: Authenticity, Context, Cognition, Aesthetic Sense, Culture



Documentation of Vernacular Heritage as an Effective Means of Architectural Education: A Study of the Recording of “Devala” Buildings with the First Year Students of Architecture, University of Moratuwa, Sri Lanka



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Hands-on experience in measuring and documenting vernacular buildings provides an understanding of important aspects of buildings and their environments. Hence, The Department of Architecture, University of Moratuwa draw project programs annually for its first year students to measure and record a vernacular building typology of Sri Lankan architecture. The aims of these projects are fivefold; learning communication, spatial, technological, environmental and social aspects. This research is based on such a program conducted with a batch of ninety six first year students of architecture in 2013. The objective of the study is to investigate the effectiveness of the program on the identified aspects of learning. The selected typology is called “*Devala*” – A Buddhist- Hindu Shrine, a unique type of building found in the Kandyan period (15th to 18th century) architecture of Sri Lanka. These are dedicated to a particular God or Goddess to which devotees pay homage. These single storied buildings represent a fine specimen of Sri Lankan vernacular architecture, constructed with clay or rammed earth walls, stone or timber pillars and clay tiled roofs adopting a generic plan form. Thirteen buildings of these were measured and recorded by thirteen groups of students. The adopted methodology was an evaluation based on the responses given by the students through a questionnaire (two years later in their architectural education) and the in-depth comments by the co-year persons through interviews. Some of the findings revealed that 85% of the students have satisfied with the communication skills that they have obtained but only 52% have satisfied with what they have learnt in spatial and structural aspects. Finally, the study make few recommendations which would to explore the possibilities of documentation the vernacular heritage as an effective means in teaching different aspects in architectural education.

Keywords: Devala Buildings, Measured Drawing, Learning Outcomes



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Vernacular Architecture Education - Defining, Professional Scope and Creating Inclination



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Vernacular Architecture as a course has been introduced in many architectural programs in recent years. This course has a value in these times of increasing energy crises, mass rural population, large rural unemployment, and struggle for ethnic identities. Nevertheless, in spite of these values, it is challenging to develop inclination and demonstrates professional scope for Vernacular technologies among the students of Architecture. Furthermore, developing a course which is comprehensive and pedagogical is even more challenging, provided the variances in defining Vernacular Architecture and the timeless nature of the course. This paper has been developed from my experience as teacher of the course and interaction with students and several practicing professionals. Subsequently, major development in approach towards Vernacular Architecture Education took place during the course development project for Information and Communication Technology, for Ministry of Human Resource and Development, Government of India, for past three years. This paper discusses how the course can be made more pertinent and meaningful to the Architectural and Engineering students and professionals so that Vernacular Architecture becomes a study of future and does not remain limited to traditional architecture or Architecture of the poor. Paper shares students' expectations and experiences during the learning process and feedbacks when they move into the profession. Paper also covers professionals' thoughts and approach towards Vernacular Architecture. This paper discusses the variances found in defining the area and also practical challenges in determining and relating Vernacular with any time period. Paper also provides deliberations on how the objectives of the course should be formulated and structured based on teaching and learning experiences of the instructor and students. Paper also discusses how region, time and communities should be identified and how the case studies and assignments should be selected with overall objectives in mind.

Keywords: Vernacular Architecture, Education, Defining, Objectives, Challenges



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

Awareness of the Past and the Need of the Future for a Relevant Vernacular Expression



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Vernacular Architecture is considered inferior to modern architecture in Post Colonial Asia. Communities have abandoned vernacular architecture for cement concrete buildings which they perceive as modern; or less often, vernacular architecture is duplicated without understanding its context in the present. Mere documentation of vernacular built elements or adaptation of modern materials and techniques for construction of the vernacular cannot be the solution for a rightful vernacular expression.

A study of houses and art forms among sample communities in the throes of economic flux, exhibit changing aspirations. This contributes to an understanding of the parameters which will help decipher the relevance of vernacular architecture and its adaptation for the urban future.

Keywords: Vernacular Expression, Change, Adaptation, Urban Future



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

Community Participation in Adapting Vernacular Forms to Modern Uses: Sharing Experiences in Gadchiroli



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Gadchiroli is one of the backward districts in Maharashtra state. The region is strongly affected by the *Naxalite* activities. Majority of people living in the remote forest areas remain isolated, largely unaffected by the developmental processes and still follow the vernacular tradition for planning, constructing and maintaining their livelihoods. Vernacular architecture could be understood as the building traditions which have been developed by the people over generations and often built by themselves. True vernacular tradition is based on participation, and engagement of people. Hence there is close correlation between the buildings and its users. If it does not meet their requirement, people reject to adapt it. Best example of holding vernacular tradition of Gadchiroli district is reflecting in the SEARCH (Society for Education, Action and Research in community health) organization founded by Dr. Abhay and Dr. Rani Bang. Community perceptions about modern medicine as well as architecture of hospital were very poor. They had their practical and cultural difficulties and hence refused to visit the hospital. Listening and community participation were the two prime approaches Bang couple adopted while working for tribal communities. The entire premise of the hospital is very user friendly for the local people and uses the vernacular architecture of that region. This paper discusses the importance of community participation in vernacular architecture to achieve the needs of people for its continuity and adaptation for the future.

Keywords: Gadchiroli, Vernacular Architecture, SEARCH, Community Participation.



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

Essential Discontinuities



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'A place where a graph is not connected and cannot be made connected simply by filling in a single point' is defined as point of discontinuity which cannot be removed. If the theory may be adapted to this discourse, these points of discontinuity become essential leverages to ensure continuity of parameters which build the vernacular system. Tradition and vernacular have multiplicity of implied meaning and values. While etymology of 'Tradition' insists only upon the process of transmission and not on what is transmitted, 'Vernacular' becomes accommodation of values from past in the present context. While vernacular is a time and place specific response; tradition and modern are intertwined constructs varying in time, but both vernacular and traditional have a sense of nostalgia associated with them. Vernacular settlements formed during medieval ages are living palimpsests of meanings created over a period of time. Though historically there has been a sense of experimentation with materials and technology that are not 'native', but were deployed in the construction of major social or religious centres of the state. Ahmadabad stands as a testimony to this, with its several layers resulting in the formation of a settlement. Such a settlement with external forces of growth constantly acting upon them, needs intervention from different stakeholders at varied levels to ensure its continuity; and human resource development of these communities has proven to be one of the key factors. However, the agents of human resources have to be directed towards an inclusive and integrated approach of conservation, ensuring sustenance of parameters which define the vernacular. In this process of ensuring continuity of tangible and the manifested intangible aspects of the settlement, ensuring the integrity of settlement and authenticity of the process becomes crucial.

Keywords: Ahmadabad, Discontinuity, Integrated Conservation, Urban Vernacular



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

Learning From Academic Teaching of Vernacular Architecture Theory and Studio in South India



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According to the renowned folklorist Paul Oliver **90% world architecture is vernacular**. Only roughly 10% of the rest are designed by architects.[1] So before getting into the applications of Vernacular Architecture (VA), it is very vital to study and understand VA from **academic point of view**. Here in this paper, a humble effort has been made to bring out the concerns of 'Education of Vernacular Architecture in Indian schools of architecture' learnt from short tenure of having taught VA as a theory course and Rural study studio for undergraduate architecture students since 2010. While Ronald Brunskill's definition of VA emphasises the classification of building designed by an amateur without any training in design,[2] 'The Encyclopedia of Vernacular Architecture of the World' defines VA centred around People's Needs.[3] Though various definitions have been brought into the discourse of vernacular architecture, the definition is still evolving in academic scholarship, which needs deeper understanding. Methods evolved over time to study VA, shown as different from historical studies and studies of designed architecture are discussed to bring out the challenges of documenting and interpreting such sites encompassing tangible and intangible. Case studies of settlements from the Nilgiris and Karnataka have been used. Since early 19th century, discourses on Vernacular architecture have always acquired undertones of regionalism, ethnographic underpinnings and environmentalist agenda. Having considered the role of architects as creative designers of human habitats, the pedagogical stand is clarified and pseudo-vernacular approach to application in modern practice is condemned.

Keywords: Vernacular, Pseudo-vernacular, Pedagogy, Systems Approach

[1] Centre for Vernacular architecture studies, International Studies in Vernacular Architecture, brochure (Oxford: Oxford Brookes University, n.d.)

[2] Brunskill, Ronald, Illustrated Handbook of Vernacular Architecture (4th ed.). London: Faber and Faber. 2000 [1971]. ISBN 0-571-19503-2

[3] Encyclopedia of Vernacular Architecture of the World, volume 1



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Challenges to its Continuity and Strategies for its future

Reckon Roots"- Creating Symbiotic Relationship Between Vernacular and Contemporary Realm



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World and our India, particularly, has a colossal history and building tradition which has been under threat of late, due to the impetuous technological use and liberalization of global economy in 21st century. The best way to conserve traditional heritage is to make people understand its potential so that it can be nurtured and enriched by direct participation or participatory renewal approaches. Culture and nature are always together because both are our roots. Rich culture can only be survived if roots can be reckoned and made others understand the same. Vernacular architecture is both socially and economically effective due to the fact that it has evolved over time and is indigenous. Indigeneity is a phenomenon which survives through ages besides serving the present adequately. Planners, architects, designers, and all other people related to building industry should be able to determine the right approach and methodology during spatial planning which considers sustainability as an important concept. This paper addresses the synthesis of environmental, technical, design parameters and new approaches in context of vernacular architecture. Aiming towards generating respect to our "Roots" and imparting a pattern language to this thought process can lead to a better society altogether. Vernacular architecture does not go through fashion cycles. It is nearly immutable, indeed, unimprovable, since it serves its purpose to perfection.

Keywords: Vernacular, Indigenous, Participation, Sustainable, Traditions, Synthesis, Planning.



South Asian Vernacular Architecture

Challenges to its Continuity and Strategies for its future

Re-engaging Vernacular Building Practices: Facilitating the Revitalization Through a Systematic Approach



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Design Innovation and Craft Resource Centre (DICRC), CEPT University recognizes the need for studying, recording and utilizing the knowledge incorporated in the traditional and vernacular buildings. It functions as a research centre for the development and understanding of building crafts of traditional and vernacular buildings of India. This paper will aim to highlight the efforts made by Design Innovation and Craft Resource Centre (DICRC) towards the identification, analysis, resource building and capacity building to facilitate the re-engagement of vernacular building practices to support its conservation and revitalization. It discusses the larger vision of looking at vernacular buildings in reference to the embedded knowledge repository, cultural values and the possibility of the craftspeople to earn better livelihood by enriching craft value. DICRC approaches the research through various action points; namely, identify, record, analyse, expose, create, disseminate and connect. Projects undertaken by DICRC to understand traditional buildings and crafts are as follows: 1. **Mapping:** Identifying, understanding and developing a detailed inventory for different types of vernacular buildings, as well its maker like the master craftsmen. 2. **Documentation:** Recording, categorizing and disseminating information about the significant characteristics, physical configuration, as well as elements of the vernacular buildings, as well as the



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building craft processes. 3. **Dissemination and Awareness:** Collecting and disseminating research data to increase awareness within society about vernacular buildings in India along with the associated building crafts. 4. **Innovation and Development:** Conducting Collaborative Craft-Design workshops with the core idea of 'innovation in craft' and 'innovation through craft', to help revitalize the vernacular building crafts. 5. **Training Programmes:** Developing and imparting various craft based educational modules to sensitize people to various issues related to craft, which helps in capacity building and overall conservation of the vernacular craft forms.

Keywords: Craft, Mapping, Documentation, Innovation, Training, Design



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