Context

Built, Living and Natural

Contents

About the Volume

Though academia and practitioners have categorised heritage as natural and cultural, tangible and intangible for their own convenience, the fact remains that all these varied aspects of heritage are experienced and lived in totality by traditional communities. For ages, these communities have overlaid their perception of nature with associational significance, expressed in the form of rituals and festivals and integrated with arts and crafts. While 'heritage conservation' was considered to be the domain of specialists few years back, recently there is an increasing realisation for community participation in the process specially in case of traditional communities who already possess this know-how. Community led initiatives direct us towards long lasting processes and solutions for conserving all aspects of our heritage.

This issue of context documents some rare expressions such as Vinod Joshi's recording of a dance festival that was started by an individual in the mid 20th century and continued over decades due to community acceptance and integration with existing festivals. Kunkuma Devi studies the interdependence of festivals and urban form. The listing process of Surat has been presented as a model for documentation of urban heritage and a prerequisite for shaping any urban heritage management policy.

P S Ramkrishnan brings to light the close link that traditional societies have with their natural ecosystems and biodiversity, resulting in an 'eco-culture' with its knowledge systems that need to be integrated at various levels with formal systems. Amita Sinha's article demonstrates the strong associations between man and his natural landscape; an overlay that has been reinterpreted and emphasised, multiple times in history.

Anwar Punekar stresses on the need for an interdisciplinary and integrated approach for conserving historic cities, indicating the streams such as urban design and transport planning as inseparable partners to urban conservation. Manu Mahajan and Kanak Tiwari emphasise on 'popular history' and 'public memory' as an effective means of conserving and maintaining our heritage and restoration of the Hussainabad Clock Tower, Lucknow is a case of city residents valuing their heritage and taking voluntary initiatives to conserve it.

Chhoti Haldwani, a village in Uttarakhand, is a self sustaining model for community led tourism, while Basgo in Ladakh is a very good example of the community conserving its sacred heritage. Both these initiatives were possible through the support of external resources, but the significant point is that the community made efforts to maintain what it 'valued'.

-**The Editorial Team**

Compiling Records

Vinod Joshi has a Masters in Anthropology from Rajasthan University. He started regional folk festivals in Shekhawati, Mewat, Marwad, Brij and Hadoti Regions with support of local community and Panchayat. Vinod is currently working as a Community Director at Jaipur Virasat Foundation, Jaipur.

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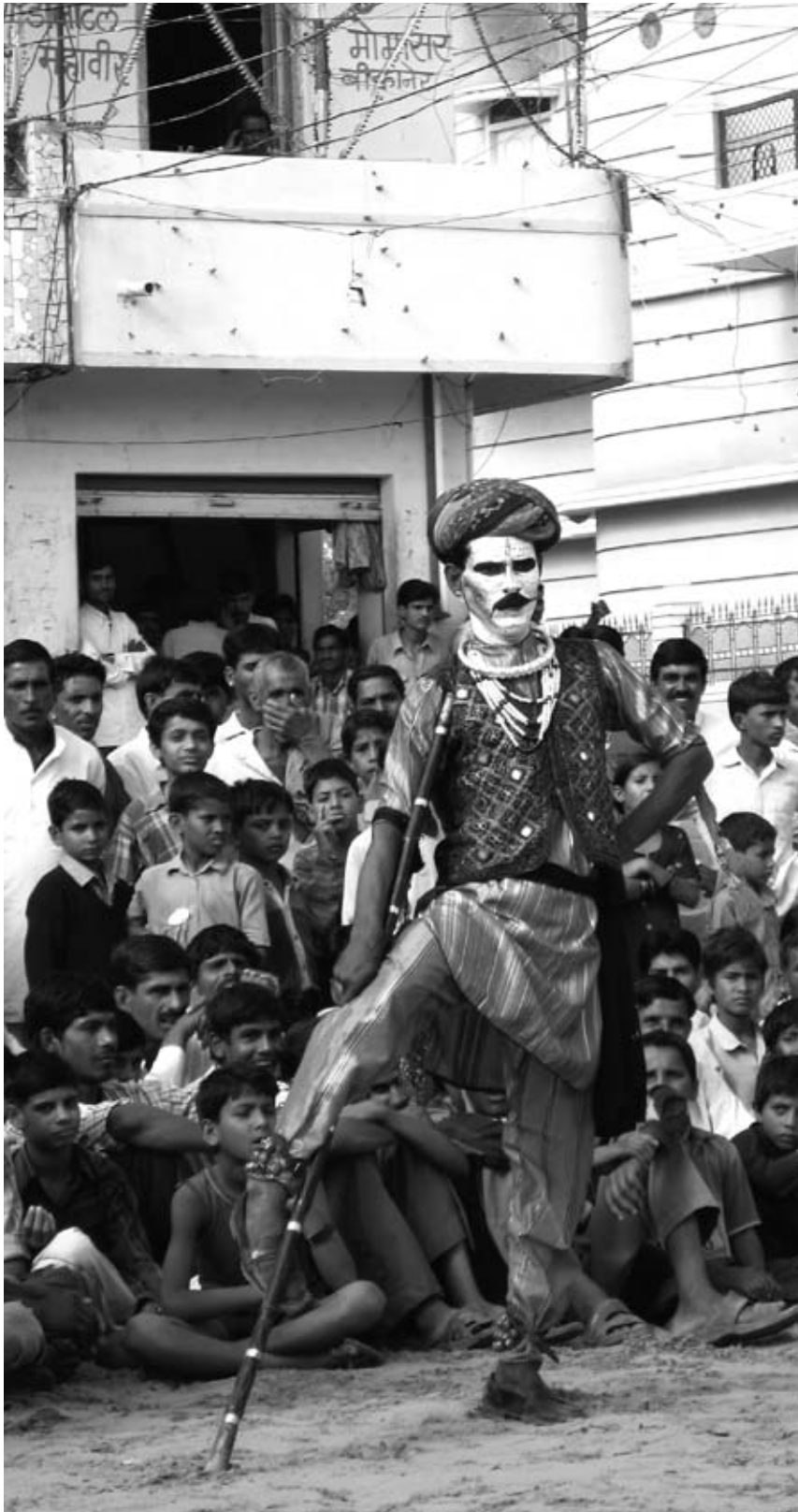
A villager acting as a banjara (nomad) during day time

The Geendar Dance Festival of Momasar
A unique tradition of Shekhawati region

VINOD JOSHI

INTRODUCTION

The deeply rooted traditions of folk dancing are a simple and spontaneous expression of human aspirations. Folk dances are the formation of a group of individuals in a cohesive whole that encourages participation. These dance forms develop, flourish and are kept alive only in a group with each dancer being responsible for cooperating and creating at the same time.

The range of folk dances of Rajasthan, connected one way or the other to some social rite or festival, can be identified as Braj, Dhundhar, Marwar, Mevad, Mewat, Vagad and Shekhawat. Geographically, the areas of Churu, Jhunjhunu and Sikar fall within the limits of the Shekhawati region. This area has always nurtured art and culture and is also well known for its classical music and dance. One of the most popular folk dance festivals of Rajasthan is the 'Geendar – Chang dance festival' of Shekhawati. 'Geendar' stands for guise or get-up and Chang stands for a tambourine like local instrument.

The Geendar dance form of Shekhawati region is referred to as *dandak raas* (dance performed in a roundel by dancers holding sticks). While various forms of the *dandak raas* are found across Rajasthan, the Geendar form is unique in its blend of associations with history, myth, legend and the contemporary world.

On the occasion of the festival of Holi, Geendar is performed in virtually every village of the Shekhawati region. The dancers wear a variety of outfits and reach the arena where Geendar is performed, armed with their sticks. The performers show a great deal of flair in the choice of the attire they select. They dress up as national leaders, mythical gods and goddesses, kings, gamblers, conjurors, valiant heroes and heroines of yesteryears, saints, mendicants and so on. The well known centres of the Geendar dance form are Churu, Lakshmandarh, Mukundgarh, Nawalgarh, Rajaldesar, Ramgarh, Ratangarh and Sujangarh.

The harmonious combination of foot movements and drum beats makes Geendar a captivating dance form. While presenting the dance, the dancers face each other. They strike each others' sticks, turn and then move a step forward. The opening dancer moves to the left and the one next to him, moves to the right. In a well worked out choreography, the dance progresses with great charm.

THE HISTORY OF GEENDAR DANCE IN MOMASAR

Momasar is located 20 kilometres off the Jaipur-Bikaner highway, 260 kilometres away from Jaipur. The village is believed to have been founded around 500 years ago by Mumoji Moyal, a Rajput warrior. Geendar was first performed in Momasar in the year 1941. Before this, only wrestling matches were organised during Holi.

Late Natthu Ram Sharma was the founding father of Geendar and also responsible for its first public performance. He originally belonged to Sardarshahar and worked as a clerk in the police department. During the course of his service, he was transferred to Momasar in 1941. Natthu Ram Sharma was a skilled exponent of the Rammat (playful) style of using disguises. His understanding of music, songs and dance was extensive and thorough. However, his chief expertise lay in donning the garb of mythological gods and goddesses and enacting their parts.

From the very beginning, people from the *nai* (barber) community of Momasar were well known in nearby villages for their expert rendering of devotional songs. Natthu Ram Sharma was aware of this and resolved to use their skills at the right moment. Once during the monsoons not a single drop of rain fell on the parched earth. Due to this, there was palpable fear and panic in the village. At this crucial juncture, Natthu Ram Sharma encouraged the villagers and inspired them to hold an unbroken recitation of *kirtan* (group singing of hymns) in praise of Lord Krishna, the resident deity of the ancient temple of Momasar. On this occasion, for the first time, Natthu Ram Sharma dressed up as Lord Shiva and went around the village. This act of his laid the foundation of Geendar festival in Momasar and others in the village began to emulate his example. 21 days after the unbroken group singing of devotional songs, it started raining heavily, after which he rose in the esteem of the villagers and became a revered figure.

During the festival of Holi, Natthu Ram Sharma encouraged and prodded the village singers and actors to perform the Geendar in public. The performance in Momasar was so well received that it also began to be performed in nearby cities like Bikaner, Churu, Dungargarh, Ratangarh, Sardarshahar and Sri Dungargarh. Some of the young people in Momasar were so charged by the performance that they determined to celebrate it as a regular feature. Natthu Ram Sharma's efforts bore fruit and instead of organising wrestling matches, the villagers opted to organise Geendar during Holi as they found it more meaningful. With time, the performances acquired greater finesse and polish.
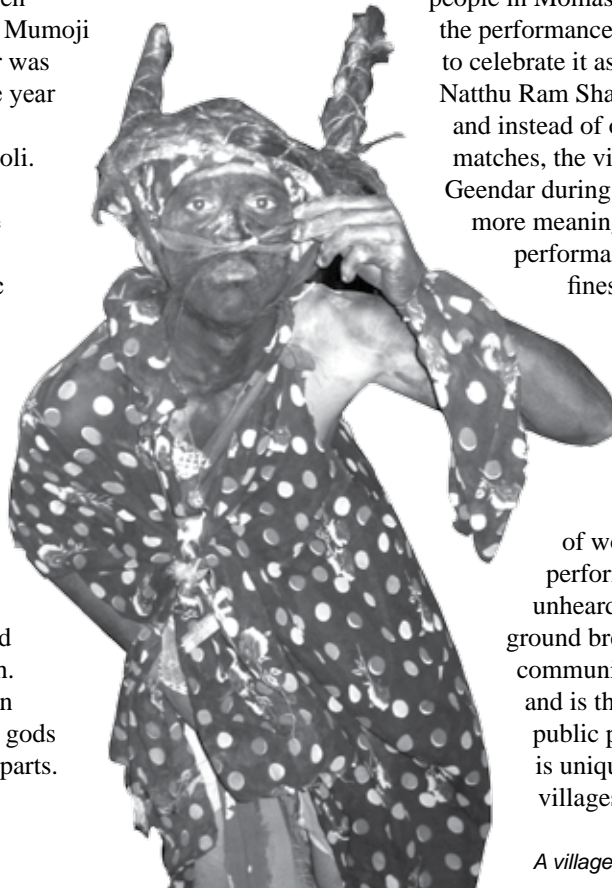
Viewed alike by the men and women from the very onset, the festival became greatly popular. In those days, the concept of women attending a public performance was completely unheard of. In many ways it was ground breaking. This tradition of community viewing still continues and is the very life blood of this public presentation. This tradition is unique to Momasar as in other villages women do not attend the

A villager playing an animal

Founder father of Momasar Geendar Festival Late Shri Natthu Ram Sharma

Mohanlal Nai, the only alive person who was the part of first Geendar in 1941

Mohanlal Nai as a dulhan (bride)

Mohanlal Nai in the role of a tawaif (courtesan)

Geendar performance even in this age and time.
In the initial years of Geendar, people from all the communities did not participate in the performance, although everyone was present during the enactment. This unwritten rule underwent a historic change around 25 years ago. Doolaram Bhambu, the ex-Pradhan of Momasar (who was also an Arya Samaji), committee members of the Geendar organisation and all the villagers passed a unilateral resolution that people from all communities would be free to participate in the enactment of Geendar in Momasar. This resolution was hailed by all the communities and led to greater harmony and goodwill among them. The festival truly became the festival of the entire village.

Natthu Ram Sharma, the mainspring of Geendar in Momasar found several enthusiastic and dedicated followers who later became accomplished performers. Among the surviving members of the original group of performers the senior most is Mohanlal Nai.[1] Most performers who were in the core group are no longer alive but are still remembered by the villagers due to their dedication for Geendar. Chunno Nai, Dhannalal Godara (drummer), Gangaram Nai, Harkharam Nai, Lunaram Nai, Malaram Darji, Momraj Darji, Punno Nai, Ridkaran Dhadeva, Rupchand Nai, Tusarame Bajia (drummer) along with Shri Mohanlal Nai and Tusarame Bajia (drummer) formed the core group and were accomplished performers in their own right. So popular was their Geendar act that people from nearby

Chang dance competition during day time

hamlets, villages and cities started putting up their own acts as well. However, this in no way diminished the reputation of Geendar dance staged by artists from Momasar. Interested viewers from all over made it a point to attend the Momasar Geendar festival.

GEENDAR FESTIVAL OF MOMASAR

Geendar is purely amateur and informal in nature and all its proponents are non-professional. About 30-40 years back, it was performed 10-15 days ahead of Holi but now it is performed just two days before the festival. The Geendar performers locally referred to as *khiladi*s (players or performers) dress up in attires of their choice and come to the arena with sticks in their hands. The enactment and presentation of Geendar is deeply fulfilling for the performers as well as viewers.

As the Geendar festival time approaches, the performers who live and work outside their villages feel a tug in their hearts to reach home. By Holi, most performers make their way back to the village they originally belong to and only after that they rest easy. It may be called the Geendar fever or stupor but every inhabitant of Momasar regardless of caste and creed, enthusiastically participates in the event and gets into his preferred costume. As the evening sets in they join their friends next to the well, dressed in the guise of their choice. At the appointed time the performance begins and on most occasions lasts through the night. The round area cleared for the dancers and those who are in costumes for the Geendar is called a *gher* or *geid*. If there are more performers than expected, then another *gher* is formed within the larger circle. Before the performance starts in earnest, children, men and elders present on the scene stand with the performers in the spirit of community participation. Each round of performance, also called a *gher* lasts for an hour and a half to two hours. After a pause of around half

an hour, the next *gher* called Doosra (literally next or second) begins. Two nights before Dhulendi (the day colours are thrown on each other) Geendar is performed through the night. These special enactments are performed in four to five rounds.

A very large area is blocked for the performance of Geendar. A *mandap* (canopy) is stretched in the centre of the *gher*. It is decorated with paper streamers and danglers. Pikes are fixed around the *mandap* to mark the *gher*. In earlier times when there was no electricity, lanterns were hung on these pikes to light up the arena. These days pikes are decorated with flags and streamers made of kite paper or coloured newspapers. The drummer's platform is also built in the middle of the *mandap*.

Costumes
The beauty of Geendar performance lies in the wide range of dresses used by the performers. In most other dance performances the costumes are very predictable. However in Geendar, the costumes, guises and get-ups on display are varied, detailed, innovative and full

Dressed up as Bheeshm Pitamah (a character from the Mahabharata) and as Lord Shiva

Performers dressed up as tourists

A villager in traditional dress and ornaments

Performer in the guise of a foreign tourist

of surprises and form the centre of attraction for the viewers. The daily change in disguises and costumes keeps the viewers' interests alive. Men dress up as women and dance with the delicacy and finesse of a woman. This is done for the sake of entertainment and its success is evident in the enjoyment seen on the faces of the viewers.

The first 15 to 20 years of Geendar saw disguises developed around religious, mythological or historical figures or people from specific communities seen

on village streets. The costumes and get ups were invariably designed by the actors with the active and generous support of family, friends and neighbours. The participants stopped all work 10 to 15 days ahead of Holi and spent all their time in preparation. With changing times, the get ups have also undergone a change. Television has made inroads in the remotest of hamlets and villages and its effect on the disguises is clearly evident. In the new style of *swang* (disguise), huge monsters, foreign tourists, frightening masks, bikini clad girls feature prominently.

The kettledrum and drummer
The main instrument that accompanies the Geendar performance is the drum. In the cultural context of Rajasthan, the drum sounds hold a special significance. It is traditionally played before every auspicious ceremony or religious occasion. In earlier times, drums were also played to warn, scare or inform. They were sounded in the battle fields, when the king crossed the streets or when he held court. *Nagara*, the drum used in Geendar is a percussion instrument covered with parchment on top. It makes a loud sound which can be heard several kilometres away. Before the Geendar performance begins, the drummer hits the drum three times. The rhythm to which the performance is set has

Nagara players

four beats. The Geendar performer leaps and jumps up on both his feet on the three beats of the drum in the same way, though the position of the performer keeps changing, making it dynamic for the viewer. The fourth beat is *khali* (empty) which means that it is un-accentuated. It is the beat on which the performer takes a half turn known as *ardh-bhramri* or a 360 degree turn that is called *purna-bhramri*. In the parlance of dance it is called 'gati' or speed.

As the entire enactment of Geendar is performed to the beats of the drum, it is natural for the drummer to be held in esteem. The drummer of Geendar is a gifted exponent of his art form. He plays the drum standing on a platform which is at the centre of the circle. From his perch on top, he sees all the performers and rolls his drum to make them dance to his beats. The drummer's platform resembles a stage and is the epicentre of the Geendar performance.

Performers

The terms *khiladi* and *nartak* (dancer) are used interchangeably because a Geendar performer is both. The Geendar performer wears ankle bells which are made of special brass and have a distinct shape. Each bell looks like two buds joined together. Each anklet string consists of 30 to 50 bells. The bells are tied along a string and tinkle most melodiously. When Geendar is performed in smaller villages it is not essential for the performer to wear anklets. The rules are flexible and only those who can afford them wear them.

Most Geendar performers carry a stick in either hand. These sticks are either made of bamboo or the central stem of ber or bush berry. These sticks are a foot and a half to two feet long. While some people tie iron or copper wires on the tips of their sticks, others burnish

the tips on fire to make them strong. When the drum beats are sounded, the performers hit each others' sticks keeping time. So intense is the sound of the sticks that the sound rings in the ears long after the drums have stopped playing. Of late, the performers have started using only one stick held in the right hand that is used to hit the sticks of the performers on either side.

Age does not feature in the relationship the performers share with each other. They treat each other with great respect and work together in harmony and goodwill. In a rare show of endurance and enthusiasm the *khiladi*s work during the day in their chosen fields and perform in the evenings. In the mornings, all the participants go back to work as usual carrying their costumes. It is charming to see how a leather worker by day transforms into a beautiful maiden complete with painted lips, kohl in eyes, flowers in hair, bangles, anklets and danglers in the evening. What is even more remarkable is that each participant is imbued with the spirit of joyful energy, abandon and a sense of carefree exuberance.

The Geendar performer lives to the full the character he chooses to portray but his act remains within the bounds of decorum. His intention is to perform an act which is so outstanding that it remains the focus of

Playing the role of a sweeper

A performance in progress

discussion and lingers in the minds of the villagers for the entire year. Interestingly, age of the participants has been altered. These days apart from young men, even large contingents of children participate in the event.

THE FUTURE OF GEENDAR

Over the past two decades, earlier tiny townships have turned into cities and numerous colonies have sprung up to accommodate the influx of people coming into cities. Public and community spaces have shrunk and social mores are being redefined. Due to all these factors, the performances of Geendar are no longer as grand in scale as before and have moved away from

the traditional elements. Yet, whether young or old, all await Phagun, the months of February and March with eager enthusiasm. Children gather together to discuss their guise and hunt around and collect items which will go with their costumes. During Holi, their sense of fun and frolic is at its peak. Traditions can remain alive only when they have social sanction. The tiny sapling planted by Late Natthu Ram ji Sharma has grown into a veritable Banyan tree. The Geendar festival that encourages participation and nurtures hope will stand the test of time and retain its vigour only when the youth takes on the responsibility with willing enthusiasm.

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Note

[1]   The article incorporates input from Mohanlal Nai who still lives in Momasar.

Role of Festivals in Shaping Urban Form
Temple towns of Tamil Nadu

KUNKUMADEVI SIVARAMAN

INTRODUCTION

Temple towns of Tamil Nadu are a unique typology in the whole genre of historic living cities of the world. Rituals and festivals have played an important role in shaping the social and spatial disposition of growing temple centric urban centres. The spaces generated through these are an important constituent of the cultural heritage components of a temple town and their conservation is essential to preserve the identity of these towns. A better understanding of the urban morphology can be gained by systematically listing these spaces, analysing the reasons behind their evolution and studying their past and present usage. This can contribute largely in characterising the cultural values of such religious centres.

The Chithirai Chariot adjacent to a pillared pavilion and sub-shrine, being partly dismantled after a chariot procession stationed on the Chithirai street that forms the first enclosure of the inhabitants, around the Sriranganathaswamy temple
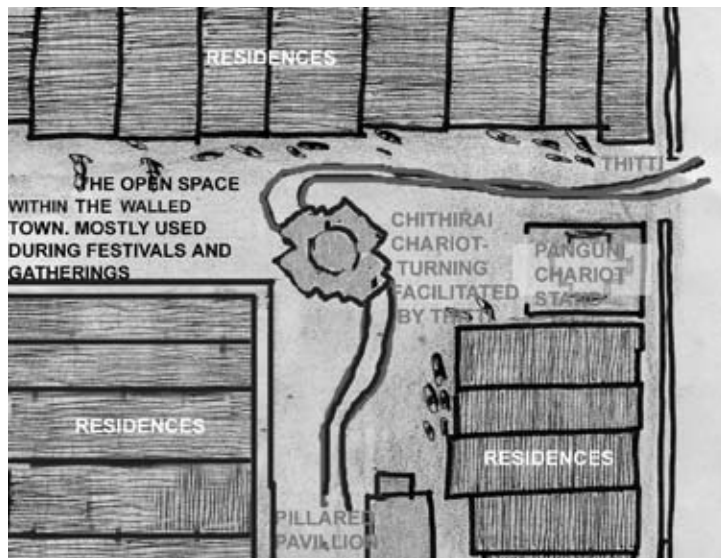
Top: Corners of the concentric streets in the walled town of Srirangam, were conceived sufficiently wide enough to suit the turning radius of a processional chariot

Centre: The processional chariot and the sacred texts have had a strong influence on the width of the concentric street, height of the houses on either side and the transition spaces in between

Below: A pillared pavilion known as Amma Mandapam adjoining the ghats on the bank of River Kaveri, where pilgrims and inhabitants take a holy dip, performs tonsures and other rituals

THE PROCESS OF URBANISATION AND FESTIVALS

The process of urbanisation prevalent between the 10th and 18th century AD in Tamil Nadu may have played a key role in the origin of some of the most important festivals and the inception of a panorama of ritual spaces that got incorporated into the final shape of a religious urban centre.

Based on political history, the first phase of urbanisation can be categorised as the period between 10th to late 14th century AD, predominantly ruled by the Cholas, Pandyas and occasionally Islamic invaders. The inception and evolution of temple towns took place along the four most important rivers; Kaveri-Chola Mandalam, Palar-Tondaimandalam, Vaigai and Tamarbarani-Pandya Mandalam. By 13th century AD, it had become a very common practice for kings, nobles, Vellalas (the agricultural landlord community) and the merchant communities to be involved in endowments in the 'form of land, cows, goats, gold and money for a variety of purposes such as religious festivals, the burning of lamps, the feeding of Brahmans and other ascetics, reconstruction and renovation of temple structures, ornaments for deities, religious discourses and educational institutions' (Champakalakshmi 1996, p. 208). Within the temple there were a variety of ritual spaces. Temple halls and shrines housed bronze icons and diverse rituals were
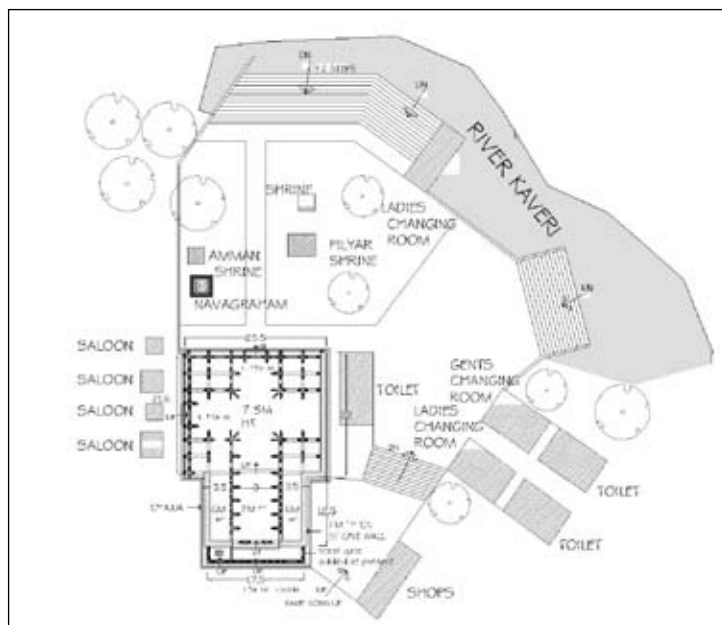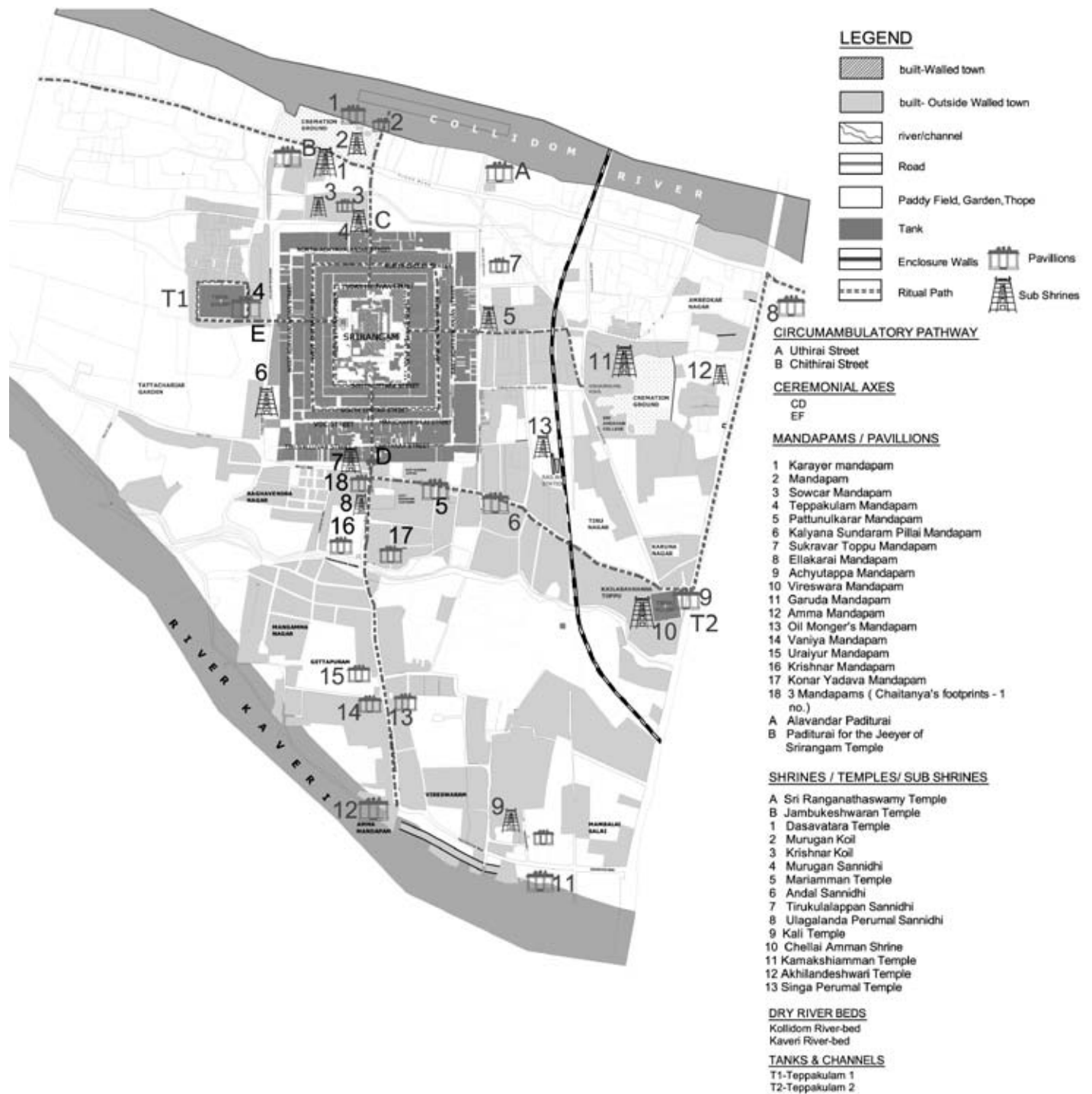
The major ritual path followed by the Sriranganathaswamy temple in the historic town of Srirangam and its hinterland

The axial streets housed pillared pavilions on either side that were used as ritual spaces during festivals, acted as the commercial spine and sheltered pilgrims as well. Some axial streets are devoid of any construction that can deter the concentration of a pilgrim and appear to be articulated only to lead him through a humble pathway into the Lord's shrine

associated with these, each time a new festival was introduced. Many royal centres like Chidambaram, Gangaikondacholapuram, Kumbakonam and Tanjavur took basic form during this period under the Cholas.

The second phase, from 15ᵗʰ to late 18ᵗʰ century AD was governed largely by the Carnatic, Nayak and Vijayanagara rulers. During this phase, festivals assumed greater roles, with towns growing larger in size. Further, the Nayak and Vijayanagara kings, true to their love for art, architecture, music and dance, patronised many new festivals; a continuation of the old tradition of legitimisation to capture the hearts of the Tamils by the Telanganas. This phenomenon, gave rise to a number of spaces that were used for celebrating festivals during the season and utilised for social purposes during the rest of the year. Some profane spaces were charged with a sacred meaning by introducing festivals that would relate these to the presiding deity and thus it was community's responsibility to protect these so that the sacred space would be protected. These religious centres had become important pilgrim centres and were magnets

attracting tremendous commercial activity, causing artisans from all communities to settle around. Many of these centres like Madurai, Srirangam and Suchindram took their current urban form under patronage of the Nayak and Vijayanagara kings. In addition to other factors, the principles from the sacred texts and the ritual spaces generated guided the planning of such towns to a large extent.

TYPES OF FESTIVALS

In some of the biggest and most important temple towns of Tamil Nadu, like Madurai and Srirangam, people spend at least 120 days of the year celebrating various festivals in honour of Lord Sriranganathaswamy, Meenakshi and Sundareshwar. The festivals of the temples are conducted throughout a deeply symbolic year that follows the Tamil calendar, the year being divided according to the Equinoxes and Solstices. The festivals are classified into:
- *Parvotsava*s - Festivals that last for short duration and are celebrated within the temple complex.
- *Ekadinotsava*s – Single day festivals when the

Categorisation of festivals of Tamil Nadu

*Parvotsava*s	*Ekadinotsava*s	*Masotsava*s	*Brahmotsava*s
• Amavasyas • Pournami • Ekadasis • Natal Star of the presiding deity • Pradosam	• Chitra Pournami • Vijayadasami • Ugadhi • Sankranti • Dipavali • Karthigai	• Teppotsavam • Navaratri • Vasantotsavam • Vaikunta Ekadasi • Shivaratri	• Adibrahmotsavam (Srirangam) • Karthigai Brahmotsava (Tiruvannamalai) • Chidambaram Brahmotsavam (Chidambaram) • Urakam Brahmotsava (Kanchipuram) • Tiruvannamalai Brahmotsavam (Tiruvannamalai)

A view of the east Uthirai Street, the first concentric enclosure around the Sriranganathaswamy temple that houses only Brahmins and along which is performed several chariot processions

The chariot stand housed along the concentric streets, with the adjoining pillared pavilion used to mount and dismount the deity during processions as well as store all the relevant accessories

utsava murti (idol of the presiding or sub shrine deity is taken out in procession and worshipped during festivals) may or may not leave the temple complex.

• *Masotsava*s – Monthly festivals that are celebrated for more than a day and as a practice, all functions and processions of the *masotsava*s happen in the evenings. The *utsava murti*s may or may not leave

the temple complex during these festivals.

• *Brahmotsava*s – Annual festivals vary in number from one to more than five or six in temple towns like Kanchipuram and Kumbakonam, where more than two or three presiding deities were established by rulers during various periods. These last for 10-11 days and are characterised by the famous chariot processions around a *pradakshina patha* (circumambulatory path) towards the end of all celebrations.

The festivals celebrated in Tamil Nadu set the background for a detailed analysis of the usage of ritual spaces and their contribution to the urban form, structure and shape of a religious centre. Most of the structures were conceived and evolved for their usage during festivals or roped into being an essential part of one or the other festival, in addition to the original purposes these served. This sanctified the structures and ensured that they enmesh themselves into the urban morphology.

MANIFESTATION OF FESTIVALS ON URBAN SPACES

The study of urban spaces can be classified under two headings, first being within the purview of the temple town and second being its hinterlands in the historic context (rural setting) that have transformed into developed zones (urban setting) in today's context. These spaces have been woven together by certain principles to form a holistic urban mesh, contributing to the form of a historic 'temple town'. The ceremonial routes and sacred axes determine some of these principles. The ritual spaces generated by the festivals can be broadly studied under a number of categories, as explained in the following text.

Circumambulatory pathways
Within the temple complex, the clockwise circumambulation of the *pradakshina patha* by the

Some festivals celebrated by the Sriranganathaswamy Temple in Srirangam

SERIAL NO.	NAME OF THE FESTIVAL	MONTH OF CELEBRATION	NO. OF DAYS CELEBRATED	BRIEF DESCRIPTION	ASSOCIATED RITUAL SPACES
1	Chitra Pournami	April - May	1 day	celebrated on the northern bank of river Kaveri	- Amma Mantapam
2	Viruppan Tirunal	April - May	10 days	- the day of the second consecration of the deity - every morning the main deity taken around in different vehicles	- Chariot Procession around Chithirai Street - Pillared pavilions within the Temple
3	Vasantotsava	May - June	10 days	- Taken around the Chithirai street on the horse vehicle	- Chithirai Street - Pillared pavilion within the Temple
4	Patinettam Perukku	July - Aug	1 day	- The deity graces the river Goddess & takes her as his spouse - river in its full flow is pleased so that she does not flood the plains	- Amma Mantapam - banks of River Kaveri
5	Pavithrotsavam	Aug - Sept	9 days	- celebration of Sri Krishna Jayanti	- Chithirai Veedhi procession - Uriyadi festival near the Patalakrishna Temple -Pillared Pavilion attached
5	Vijayadashami	Sept - Oct	1 day	- associated with the hunting of animals & killing of Vaniasura Demon	- Singa Perumal Kovil & its environs with the Vaniya Tree
6	Adyayanotsava	Dec - Jan	20 days	- Means of preserving & perpetuating the treasure of devotional literature handed down by the Alvars	- Pillared pavilions within the Temple - recital of vedas by the Students early in the morning around the Uthirai street
7	Sankranti	Jan - Feb	1 day	- Annual Harvest Festival	- Pillared pavilions within the Temple - deity rides upto the Rajagopuram in the south & on return takes a procession around the Chithirai St.
8	Thai Brahmotsavam	Jan - Feb	11 days	- called after an early Vijayanagra chieftain Bhupati Udaiyar, similar to the otehr annual Festival	- Pillared pavilions within the Temple - deity taken around the Chithirai street
9	Thai Pusam	Jan - Feb	1 day	Deites of Samyapuram Mariamman, Uttamamerur Shiva & Lord Renganatha meet for exchange of gifts for the marriage of Lord Shiva with the Goddess	- on Kollidom River bed
10	Teppa Tiruvizha	Feb - March	9 days	- the Float Festival happens on the 8th day around the Temple Tank, & in the masonry Pavilion in the centre	- Teppakulam in the west
11	Adi Brahmotsava (Panguni Uthiram)	March - April	11 days	- Celebrates the marriage of the Lord Ranganatha with Uraiyurvalli	- The deity in procession around Chithirai Uthirai streets in different Vahanas - Gardens in Jiyarpuram - Uraiyur Temple in Palanquin - Chariot IN procession around the Chithirai Street

A tutelary shrine on the outermost enclosure of the Srirangam walled town

A pillared pavilion immediately outside the walled town of Srirangam being used as a tiffin centre, vacated and whitewashed as a quick remake just before festivals that it would be a part of

worshippers is an important ritual. During festivals, the *utsava murti* and the common mass circumambulate the main shrine. In many cases, the circumambulatory path defined the extents of the city. The chariot procession would take place at the outermost enclosure that surrounded the city to facilitate all the inhabitants (including the lower castes) in the precincts of the town and sometimes even the hinterland, to get a glimpse of the supreme presiding deity. For example, in Madurai City the Chariot circumambulated the Masi Street that formed the city limit during Nayak period. The presiding or subsidiary deity is taken out in procession either on a platform or in a *vahana* (the vehicle carrier that differs from one God to another as per the Hindu mythology) on all the ceremonial occasions. The deity is received at the doorsteps by the devotees who offer their prayers, an act that brings the spiritual master closer to the subjects.

In order to accommodate the large ceremonial chariot and the hundreds of people accompanying it, the processional route was conceived as wide as 15-20 metres, the dimensions varying as per the size of the town. It continued to act as the most important and the only concentric pathway for the domestic circulation in the planned temple towns. The turning radius at the corners of the circulation path also drew special attention in the traditional town planning principles, generated by the festivals.

According to the Agamic texts, the domestic structures around the processional pathway should not be higher

The dry river bed of Collidom, where temporary stages are constructed to celebrate festivals, flanked by pillared pavilions and ghats on its embankments as ritual spaces

in scale than the ceremonial chariot itself. The concept of the humble human in the resort of the infinite Lord is stressed here. All the houses built around the circumambulatory path in most of the temple towns were historically never more than two floors. The houses had a transition space called the *tinnai,* a semi open veranda space that is a common feature in all the traditional houses. This facilitates view of the rituals or festivals on the street and accepting the honours of the deities in return to the services done. These spaces also house the pilgrims who required a space to sleep over the night when they came from distant villages to attend the festivals. Apart from these, there are numerous sacred sites throughout the landscape in the surrounding countryside, varying from small structures enshrining the local deities to bathing spots at nearby rivers and ponds. An example is the presence of some 27 holy spots encircling the main hill at Tiruvannamalai, each with a small shrine and a temple tank. In this case, the circumambulation ends with the worship of Arunachaleshwara in the main temple (Mitchell 1993).

Streets as ceremonial axes
The east-west axis acts as an important ceremonial path in most of the temple towns, where traditionally the main deity faces the east or west and is accessed from the river or tank. In Srirangam, the deity of Lord Ranganatha in its *ananthashayna* (the reclining posture of Lord Vishnu) faces the south, with His head on the west and feet on the east. East is considered the most sacred direction owing to the devotees' belief that they rest under the Lord's feet. Both, the north-south (facilitates access from the sacred rivers Collidom and Kaveri) and the east-west axes are considered very important here. The sacred feelings of a pilgrim who moves along the primary axes towards the main shrine in processions[1] that mark the end of almost all festive days, are enriched by the setting around.

Pillared pavilions
Pillared pavilions are the products of a wide variety of festivals celebrated traditionally. The large airy covered spaces for congregation vary in sizes and are dispersed within the town and hinterland, along with being distributed orderly within the temple complex. These pavilions contributed largely to the expanding size of the temple. On the basis of their function, the pavilions can be broadly classified as:

- Large pavilions used as congregation and performance spaces during festivals.
- Small pillared pavilions used by the *utsava murti* as a resting space during processions.
- As a space where the *utsava murti* honours the endowment donators and landowners, symbolically inspecting 'His' lands. The pilgrims accessing the shrine from the ceremonial axes use the same pavilions as a resting space.

These pillared pavilions were incorporated in the historic town planning scheme as components serving various purposes and maintained very well. Their size and scale were predetermined depending on the purpose they were meant to serve.

Storage spaces for ceremonial chariots and vahanas
The ceremonial chariots are stored right in front of the pillared pavilion used for descent of the *utsava murti.* This is usually at the intersection of the axial street and the concentric street. In some cases where the circumambulatory path is wide enough, these are stored along the outer enclosure wall of the temple complex. The *vahana*s are always stored either in the pillared pavilions within the temple complex or in the temple treasury closer to the inner sanctum for greater security.

Sub shrines
The tutelary shrines or the village Gods lost their prominence when the Bhakti movement[2] initiated the construction of Vishnu and Shiva temples of monumental scale, undertaken by the kings and the nobles. However, in order to legitimise their rule among the lower class village subjects, the rulers promoted myths linking these Gods to the Kali and Mariamman cult. This God is often vaguely identified with Durga. These shrines were linked to the processional festivals of the temple, so as not make the lesser subjects of the land feel neglected by the king (symbolically through the divine Lord of the land). When the towns began to assume an ordered urban form, the tutelary shrines were roped in and mostly fell in line of a ceremonial axis or circumambulatory path.[3]

River embankments
As most of the temple towns came up along the important rivers of Tamil Nadu, festivals have been celebrated along the *ghat*s (stepped embankments) of the river, either to thank the river for good irrigation facilities over the year or pacify her in times of flood. The rivers formed a geographical and often political boundary and the riverfront acted as a significant urban component and venues of festivals and rituals.[4] Separate pillared pavilions, along with bathing *ghat*s were provided along these banks to perform death rituals. The pavilions are mostly along the ceremonial axes and link the temple with the river during festivals.

Dry riverbeds
During summers, the riverbeds are dry and can be crossed over easily. These are either used as a crossing point for the *utsava murti* visiting many

Pillared pavilions are a common feature amidst orchards either granted by the temple as an endowment or belonging to the temple itself. These are renewed every year when the 'utsava murti' comes visiting to pay tribute to the services rendered

One of the most sacred open spaces in a temple town is the temple tank that acts as an important community space during the annual float festivals as well as others days in a year

sub-shrines in the hinterland or used as an important interactive space for the presiding deities of different temples in the area on various occasions.[5] The riverbed becomes an important element of the urban morphology and is usually linked to the main temple through the ceremonial axis in numerous cases. Many pavilions have been erected along the river *ghats* to accommodate the rituals accompanied during such festivals. Fairs are a common feature on the river beds where vendors from neighbouring areas try to sell their goods, just as they would do on the concentric and axial streets of the temple town on any other day. The already existing river is charged with a sacred meaning and new urban spaces had evolved due to the introduction of new festivals.

Tanks and channels

The sacred tanks are primarily located within the temple complex. These are also located at some distance from the core temple, usually linked geographically by a strong axis, and integrated ritually into the urban configuration by the 'Float Festivals'. These tanks were dug as community tanks and the responsibility of their protection and cleanliness lay with the community and the temple. The Kings used the central pillared pavilions in summer as pleasure pavilions for cool breeze. By charging these spaces with a sacred meaning through introduction of festivals,

the community is held responsible for maintaining the tank and its surroundings clean.[6]

Open spaces

Apart from the water bodies, streets, orchards and coconut groves also serve as platforms for celebration of festivals. In most of the important temple towns, within the historic core, large open spaces exclusively used for recreation purposes were a very rare phenomenon. The ancillary spaces were used for such purposes. This was another factor that led to the evolution of the *tinnai* space in front of every household, a perfect interface between the street activities and the private core.

Many of these festivals gave rise to the concept of fairs, where people from the nearby hinterland would sell their merchandise and interact with traders to get their annual contracts for various commodities. The shops of the fairs occupied the broad concentric processional pathways or the axial streets immediately in the vicinity of the main entrance to the shrine that would attract the maximum crowd. Villages offered greater open spaces to host huge annual fairs. The open spaces are used for musical concerts and folk performances during festivals. Temporary structures using wooden poles and thatches were used to make stages where dramas were performed that would attract huge crowds from the hinterlands. It was an occasion for the people to know more about the mythologies that would relate them to their temple in a tangible sense.

Coconut groves and orchards present in the areas surrounding the temple town were not physically roped into the urban realm but linked in a symbolic manner indicating that every space had a significance in the land of the Lord. The *utsava murti* is made to visit the groves to honour the owners for their service and accept fresh endowments from them if any. The groves and orchards form a perfect setting to the urban centres, a backdrop against which the town would thrive.

CONCLUSION

Festivals and rituals are one of the most significant factors that have played a very important role in influencing the urban morphology of historic temple towns. The nature of influence starts from the design of an individual space, closed or open and spreads in a very systematic manner to the overall structure of the city. These ritual spaces and their integration into an urban form following a basic order and

rhythm are the invaluable products of time that have sustained themselves for centuries and acted as tools for controlling the building process. Partly introduced by the kings for the legitimisation of their rule as a primary intention, the old and new festivals were woven beautifully into the cultural milieu of the people, a factor that has led to their sustenance till today albeit with variations. In order to understand the underlying principles of traditional town planning, it is essential to comprehend the role of festivals as an important

determinant of the temple centred settlements. The variations in the practice of these festivals may be very little, but their tangible expression in the urban forms and their linkages has changed. This in turn has affected the spiritual experiences that are essential for a sacred space, to render divine contentment to a devotee who visits any temple precinct. The understanding of the whole phenomenon is essential to signify any temple town of heritage value so as to integrate them with all development processes.

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Notes

[1] The processions take place twice a day during the festivals, one in the morning and the other in the evening.

[2] Hindu religious movement in which the main spiritual practice was loving devotion among the Shaivite and Vaishnava saints.

[3] In case of Madurai, the primary north-south topography was very likely underpinned by the ritual link between the Nataraja shrine and that of the Goddess Tillai Amman, located about 500 metres due north, the setting to which she was banished after being vanquished by Lord Shiva in the dance competition (Nanda & Mitchell 2004, p.12).

[4] Many temples in the city use the *ghat*s of the River Vaigai in Madurai during various festivals. The climax of the Avani Mula festival on the ninth day on the southern bank of Vaigai River is a play enacted indicating a flood of the river and the King's attempt to save the city by ordering everyone to reinforce the dykes. A two and a half kilometre long procession towards the North West of the Meenakshi Temple emphasises the deity's sovereignty over the Pandyan king (Mitchell 1993).

[5] The Madurai Meenakshi Temple's Chittirai festival was linked with the Meenakshi - Sundareshwar Temple and the Kallalagar (Vishnu) Temple 20 kilometres north-east of Madurai, for political reasons by Tirumala Nayak to unite his kingdom of high caste Brahmins and low caste war like group of Kallar. The River Vaigai divided the two geographically, however tried to symbolically unite them, once in a year, the memories of which would linger on till the next annual festival. During the Chittirai (April) Festival, Kallalagar comes to Madurai without his consort in a *vahana* and arrives at the River Vaigai, a day or two after Meenakshi's wedding. He discovers when he reaches Vaigai, about three kilometres from the centre that he is late for the wedding and angrily refuses to cross the river into the city. Thousands of people gather on the dry riverbed to witness this drama (Mitchell 1993).

[6] The Teppa Festival in Tai (January-February) lasts for 12 days in Madurai. The final two days are called the 'King's Festival' that was started by Tirumala Nayaka. On Tirumala Nayaka's birthday, Meenakshi and Sundareshwar are placed on a *teppam* (raft) and pulled around the large tank built by the King at Vandiyur, before they are placed in the royal pavilion in the centre. The God and Goddess are portrayed as monarchs participating in the birthday celebration of their Nayak regent. The tank is connected to river Vaigai through underground channels. It has 12 long stairs on all four sides. Today this tank remains empty for most of the year except during the Teppam Festival (Mitchell 1993).

Twin houses in Rander ward of Surat City

Documenting Built Heritage
The case of Surat[1]

MANVITA BARADI AND MEGHNA MALHOTRA

INNER CITY REVITALISATION

It is commonly seen that buildings and precincts of monumental character are given importance and efforts are made to conserve these. Most of the inner cities in India, as also in Asia, are replete with buildings, artefacts and other features of historical and cultural value. However, these living museums have fallen into neglect in the recent times due to rapid urbanisation. Fast urban growth often leads to collapse of historic urban cores of cities, since urbanisation generally occurs at a quicker pace at the peripheries than centres.

Transformation of the inner city
Typically, the urban development focus in growing cities has been on 'new construction'. Also, the desire for modernisation by governments and decision makers ; has often led to a view of constructing 'modern' housing due to which residential areas in the inner cities constructed in the traditional style, are often considered as being of little value. Therefore, the inner city is often left in a state of physical deterioration and overcrowding and is usually poorly served by urban infrastructure. Due to changing economies, there is also a change in the land use of the areas within the city. The inner city becomes transformed into properties that are valued by commercial users for use as warehouses or whole sale shops. The potential contribution

of these inner city areas as a valuable housing stock is seldom realised and utilised by decision makers.

Role of local governments

It is in this perspective that the role of local governments becomes extremely important in inner city revitalisation. Local governments should act as facilitators in inner city revival. Most of the heritage places lie in the city centres and under the jurisdiction of local governments. Local governments have easy accessibility to these people. This puts them in an advantageous position to initiate heritage conservation. Local governments can conduct surveys and studies of these areas and put forward innovative ideas for revitalisation. They can collaborate with other government, semi government and autonomous bodies or corporate bodies and also access support of international organisations to undertake heritage conservation and management.

HISTORICAL SIGNIFICANCE OF SURAT

Surat has a glorious history that dates back to 300 BC. The origin of the city can be traced to the old Hindu town of Suryapur during 1500-1520 AD that was later colonised by the Brigus or the King from Sauvira on the banks of River Tapi.

Rander port flourished earlier than Surat. Around 1512 AD, Surat and neighbouring port Rander are said to have been raided and burnt by the Portuguese repeatedly. In fact, because of this devastation of the Rander port due to frequent raids, most traffic was transferred to Surat port. From the year 1573 to 1733, Surat was administered by officers appointed by the court of Delhi.

The 50 year period between the settlement of the English and Dutch in Surat and the close of the reign of Emperor Shah Jahan was the time of increasing prosperity in Surat. During the period of 1664 to1707, the Maratha King Shivaji repeatedly plundered the town. Surat came to be ruled by independent governors till 1800 when the whole administration was taken over by the British, but it had already begun to lose its position as a prominent port because of transfer of trade to Bombay. Post independence, in 1960, Surat district became part of Gujarat when Bombay state was bifurcated into Gujarat and Maharashtra.

A historic map of Surat in the form of a 17th century painting , showing the inner and outer walls of Surat. Source: SMC

Rander – Tikawise map

Legend
— Tika boundary
— Roads
▨ Tapi_river

0   75   150   300   Meters

Not to Scale

Prepared for: Surat Municipal Corporation.

Prepared by: Urban Management Center, info@umcasia.org **UMC**
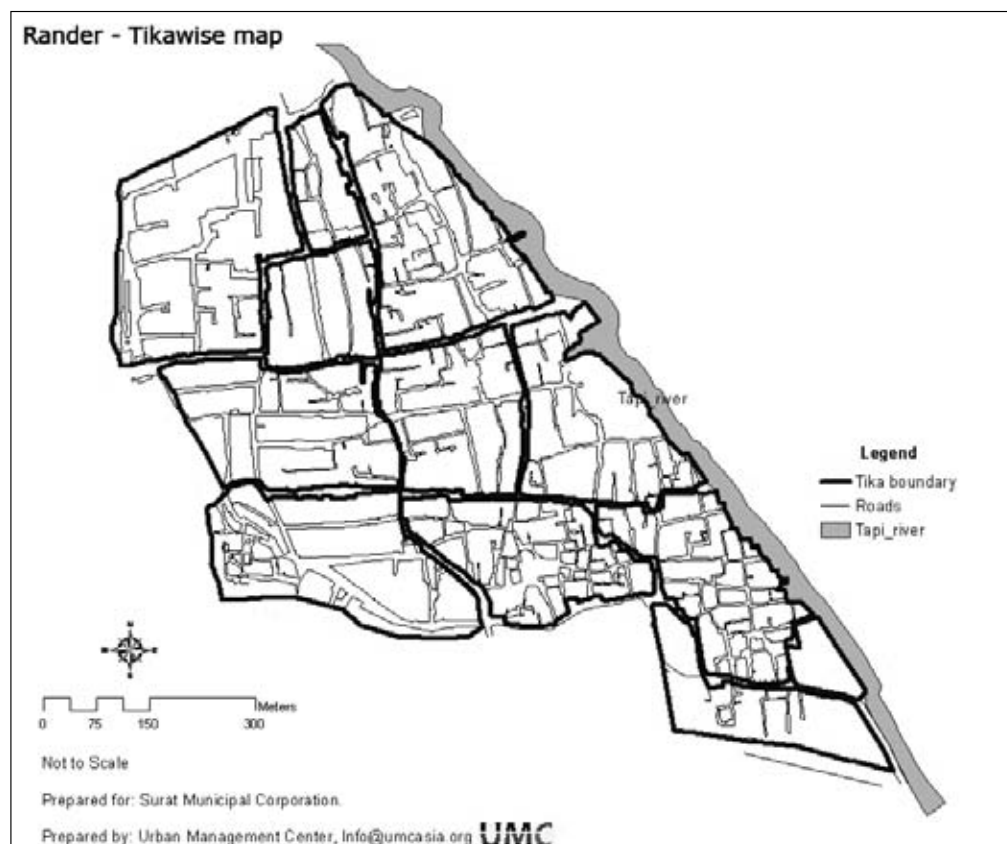
Left: Rander ward map with streets

Right: A street view in Rander showing repair activity

Rander

Among the 34 election wards of Surat Municipal Corporation (SMC), Rander is perhaps the oldest and has served as a port even before the port at Surat was developed. Rander was an ancient town where Arabs from Kufa[2] came and settled sometime around 1225 AD, overpowering the Jain population of the town to become its rulers. The port had connections with many African countries, Burma, China, Malaysia, Middle East and Sumatra, trading in spices, silk, musk, porcelain and other commodities and was the principal commercial centre south of Bharuch. The traders houses were well furnished and nicely decorated and exhibited excellent china work in their drawing rooms. The trading connections influenced the living patterns as well as the architecture in Rander. As the prosperity of Rander declined in the 16th century on account of raids of the Portuguese, Surat began to assume importance. In 1970, Rander was added to SMC's limit.

Central Zone, Surat

In 1373, Emperor Feroz Shah Tuglaq is said to have built a fort at Surat to protect the town. Around 1496-1521, a rich Hindu trader named Gopi settled in Surat. He induced other merchants to settle at Surat and founded one of the quarters of the town named Gopipura and enlarged a pond lining it with stones. The pond, known as Gopi Talao, still exists in the city. Work is on to revitalise the same. The Talao was planned to supply Surat with fresh water and it served this purpose till 1638. After that, it began to silt rapidly.

On the banks of River Tapi were important landmarks like the castle, the Custom house and the gardens. With increase in wealth, the appearance of the city improved. Another addition of some importance was the travellers' rest house for Muslim travellers in 1644, built by Hakikat Khan, currently being used as a municipal house and offices.

The town is also described as enclosed by a mud wall. With the castle as its centre, the city forms an arc of a circle. Work on this wall, constructed in 1664, was begun to protect the city from Shivaji's attacks. It varied from about six to nine metres in height and three to four metres in breadth. The inner wall contained 14 divisions. Outside the walls on the north and the east, the land was rich but the soil to the south was poor and bare. Though the inner wall has been mostly removed for many years, the natural moat around it served to maintain the line of demarcation between the city and its so-called suburbs.

Left: Organic street pattern within the first wall. Right:Geometric pattern of streets seen between the two city walls. Here, the subdivision of land was rectilinear in grid iron pattern. Source: Baradi and Malhotra 2011

During the period of 1717-1719, the outer city wall was constructed under the governorship of Haider Kuli Khan. There were 15 divisions within the two walls. Most of the industrial expansion took place outside the first wall. The configuration of the walls was determined by the naturally existing *khadi*s (natural drains or low lying strips) that served as moats along the walls. The position of the gates in the wall was determined by the trade routes. The entrance to the walled city was through 12 gates. To the south were the Majura and Navsari gates; on the west, Badshahi and Mecca gates and along the riverfront, the Dacca Dwara or Custom House Water gate, Mirbehar and Lati gate.

In 1877, the Hope Bridge was constructed across the Tapi. To the east, a railway station was established that changed the movement pattern. To cope with ever growing traffic, some streets had been widened. In 1960s and 70s, the growth ring roads were replaced by the wall built at the place where the wall would have stood. These continue to bind the original city form.

CURRENT CONTEXT

Surat is one the most dynamic and fastest growing cities of India, in terms of its economy and culture. The city also has a magnificent heritage value as one of the oldest port cities with a history of business linkages with more than 84 countries. Surat is the ninth largest city in the country and second in Gujarat state.

Trading connections are still strong today in Rander with a large percentage of people who have migrated or are working abroad, retaining their ancestral property here. There is a mix of Hindu and Muslim communities. The lifestyles of the residents is laid back and relaxed. In fact, despite its close proximity with Surat, Rander seems to be almost frozen in time. According to Census 2001, Rander has a population of 86,047 and is spread over an area of 5.12 square kilometres. Rapid urbanisation has increased the demand of space for new constructions. As a result, heritage buildings are concentrated in the Gamtal (inner area of city, marked on the development plan) limits only. Rander Gamtal is divided into 11 Tikas (areas delineated by city survey office). It has a very good pedestrian scale. The main streets running east west reach the river and connect the newly developed areas. Besides the elaborate monumental buildings, the morphology and architecture of the closely packed residential units form a distinct historic precinct that is rich in character. For any conservation intervention it is essential to list all structures in Rander that are responsible in creating the historic matrix.

In the Central Zone of Surat, areas along Chowk Bazaar are the earliest urban settlements. Slow growth resulted in loose accretive fabric with a meandering street network. There is a hierarchy of streets that are alive with different activities. Variation of each unit in terms of its façade, volume and plan form is there. The areas seemed to follow definite planning principles and were built in a short span of time. In fact, such small representative planning neighbourhoods are seen in the formative maps of Surat. As these came up around the end of the 16th century when there was

a strong European presence in Surat, the planning of these neighbourhoods might have been influenced by the European style. The streets are laid out in grid iron pattern, with the street edge and unit size being uniform. There was also a definite relation of the unit to the street, which was constant for a neighbourhood. In some, there was a street each on both sides of a unit while in others it ran only along the main façade. Streets are regular and repetitive with only residential activity. There is continuity in facades, though variation in articulation and plan form exists.

Residential architecture in Rander and the inner city of Surat has a lot of cross cultural influence. A structure was a cultivated reflection of economic, cultural, social and aesthetic beliefs of the owner. Not just foreigners,

even those who visited other countries for trade brought back home influences from the visited land, along with money. Local traditional, colonial, art deco and arabesque are forms of architecture that can be seen in both the areas, though not in the purest form. These influences can be seen in the plan form, organisation, and hierarchy of spaces, both built and open.

DOCUMENTING AND LISTING EXERCISE IN SURAT

With the changing pattern of cities and increasing demand of land, conservation of ancient heritage has been a challenge to all levels of governments and especially for local governments. To address the issue, SMC invited the Urban Management Centre

1688- 1910 1911-1950

1951-1990 1991-2004
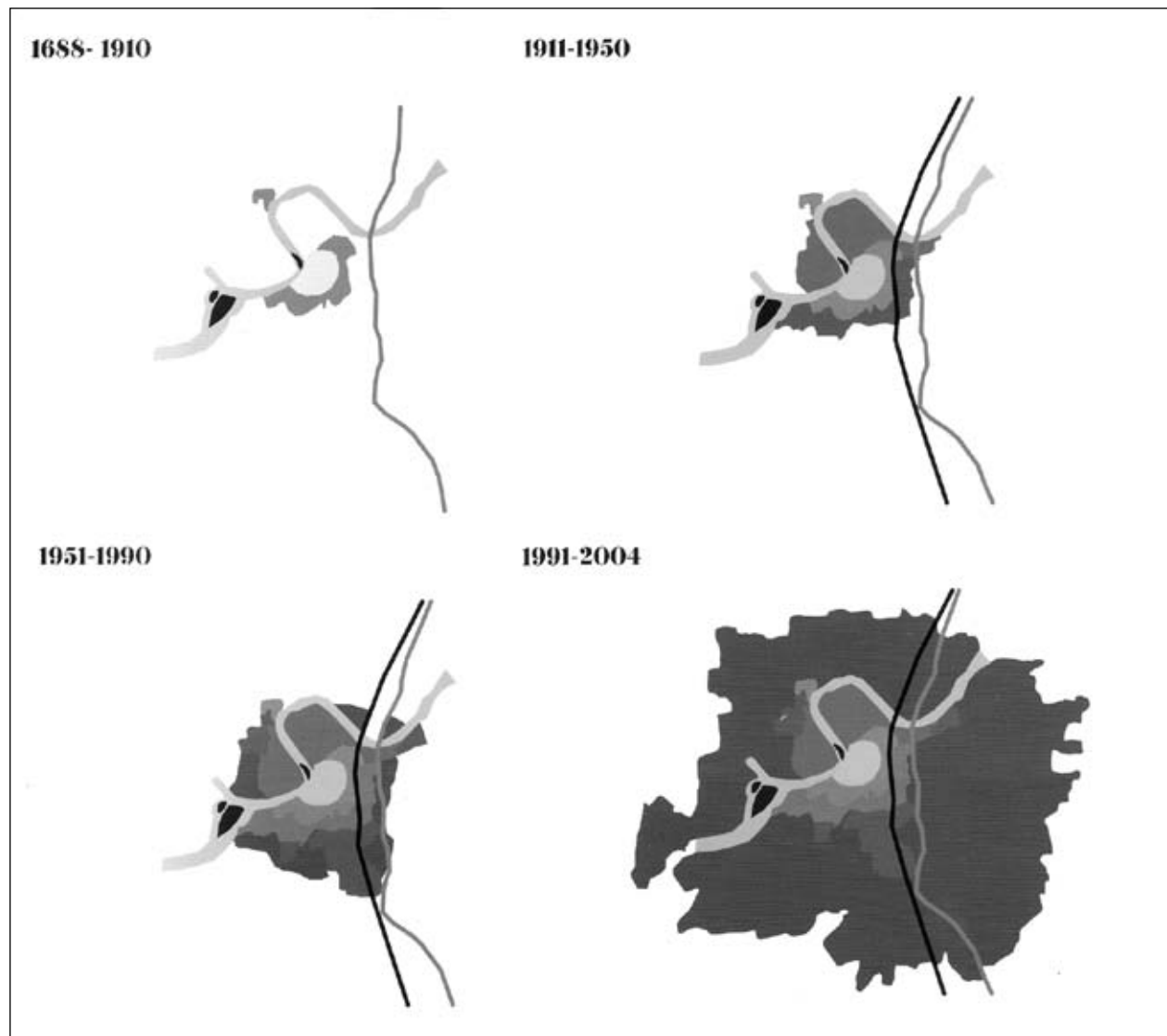
Evolution of the City. Source: Baradi and Malhotra 2011

Survey Format used for Heritage Building Inventory in Surat

IX   Typology

1. Morphology

☐ M1 (Organic)
☐ M2 (Street on both sides)
☐ M3 (Street in front, Building behind)

2. Building Units

☐ U1   ☐ U2   ☐ U3

4. Typology

☐ Vernacular   ☐ Art Deco   ☐ Colonial

3. Plan & Section

☐ P1   ☐ P2   ☐ P3 (corner hsg)   ☐ P4
☐ P5 (twin)   ☐ P6 (twin)   ☐ P7 (twin)   ☐ P8 (community hsg)   ☐ P9
☐ S1   ☐ S2   ☐ S3   ☐ S4   ☐ S5   ☐ S6   ☐ S7   ☐ S8

5. Frontal Section

☐ Sf1   ☐ Sf2   ☐ Sf3

6. Elevation

☐ B2   ☐ B3   ☐ B4   ☐ B5 (community hsg)   ☐ B6 (Corner hsg)

Undertaken by: Urban Management Centre (UMC-ICMA), info@umcasia.org, www.umcasia.org

2/4

Form No:

Heritage Building Inventory

City Survey No:

Surat Municipal Corporation – CENTRAL ZONE

Name of the UMC's surveyor: _____

Date: _____

Ward Name: _____

Name of the respondent: _____
Relation to the property: _____

I. Location of the building:
1. Name of the building: _____
2. Street name: _____
3. Property Tax No: _____

II. Ownership:
4. Type of Ownership:
☐ i. Government   ☐ iv. Private trust
☐ ii. Municipal   ☐ v. Private –Single
☐ iii. Public trust   ☐ vi. Private –Multiple

5. Name of the Owner or Organization: _____
6. Phone Number: _____

III. Original Owner:
8. Is the current owner the original owner?   i.Yes ☐   ii. No ☐
9. Relationship to the original owner: _____
10. Staying since how many years? _____
11. Contact details of the Original Owner _Address _____

Ph no:

IV. Occupant:
12. Name of the Occupant: _____
13. Occupation: _____

V. Multiple Owners & Tenants

Sr.		√	Number
i	(Multiple) Owner		
ii	(Multiple) Rentals		

VI. Building Information:
14. Likely year of construction: _____
15. Name of the constructor: _____
16. Designed Use of Building: _____

Photograph of the building for identity:

---

17. Floor Wise Details of the Building

Sr.	Floors	√	Use	Status of Building	Structural Stability
i	Basement				
ii	Ground Floor				
iii	I Floor				
iv	II Floor				
v	III Floor				
vi	IV Floor				

Use: R. Residential, C. Commercial, M.Mixed, H.Household industry, P. Place of worship I. Institutional, V.Vacant

Status of Building: U. Use, PU. Partly used, V.Vacant

Structural Stability: Good, Fair, Bad

VII. Modifications
18. Has the building been modified?   i.Yes ☐   ii. No ☐
19. Chronology of modification:

Sl.no	Type of Modification	Year of modification

20. Reason for modification:
☐ i.Structural failure
☐ ii.Natural calamities
☐ iii.Vandalism
☐ iv.Change of use
☐ v.Aesthetics
☐ vi.Comfort
☐ viii.Larger family size,
☐ ix.sub-division of family,
☐ x.tenants,
☐ xii.Comfort
☐ xii.Others (specify)

VIII.significance of the building:
21. Significance of the building:

Sr.		√
i	Architectural Value	
ii	Cultural value	
iii	Historical value	
iv	Religious value	

Comments on Historical/ Cultural/ Religious Value:
_____
_____

Undertaken by: Urban Management Centre (UMC-ICMA), info@umcasia.org, www.umcasia.org

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Survey Format used for Heritage Building Inventory in Surat

DRAW VARIATION IN PLAN IF EXISTS

X. Building Materials and Finishes (Tick more than one material if applicable for each component)

Sr.	Element	Material	Any special feature- (Include details of finishes)
1	Basement	a. Brick, b. RCC, c. Stone	d. Others, specify ___
Ground Floor			
2	Plinth	a. Brick, b. RCC, c. Stone	d Others, specify ___
3	Floor	a. Wood, b PCC, c. Stone	d Others, specify ___
4	Wall	a. Brick, b. RCC, c Lime, d. Stone	e Wood / f Others, specify ___
5	Columns	a. Brick, b. RCC, c. Stone	d Wood, e Others, specify ___
6	Beams	a. RCC, b. Stone	c Wood, d Steel, e Others, specify ___
7	Roof	a. Brick, b. RCC, c. Lime, d. Stone	e Wood, f Others, specify ___
8	Doors	a. Wood, b. Steel	e Others, specify ___
9	Windows	a. Wood, b. Steel	e Others, specify ___
I floor			
10	Floor	a. Wood, b PCC, c. Stone	d mud/ramped earth, e. Others, specify ___
11	Wall	a. Brick, b. RCC, c Lime, d. Stone	e Wood, f Others, specify ___ / h. Tiles, i. Deco, j Painting/stucco, k. mud/earth
12	Columns	a. Brick, b. RCC, c. Stone	d Wood, e Others, specify ___
13	Beams	a. Brick, b. RCC, c. Stone	e. Wood, f. Steel, g. Others, specify ___

Sr.	Element	Material	Any special feature- (Include details of finishes)
		d. Composite	g Tiles, h Deco, i stucco, j corrugated sheet
14	Roof	a. Brick, b. RCC, c. Stone	d. Stone, e. Wood, f Others, specify ___
15	Doors	a. Wood, b. Steel	c.. Others, specify ___
16	Windows	a. Wood, b. Steel	c. Others, specify ___
II Floor			
17	Floor	a. Wood, b PCC, c. Stone	d. Others, specify ___
18	Wall	a. Brick, b. RCC, c Lime, d. Stone	e. Wood, f Others, specify ___
19	Columns	a. Brick, b. RCC, c. Stone	d. Wood, e Others, specify ___
20	Columns	a. Brick, b. RCC, c. Stone	e. Steel, f. Others, specify ___
21	Roof	a. Brick, b. RCC, c. Stone, d. Wood	d. Stone, e. Wood, f. Others, specify ___
22	Doors	a. Wood, b. Steel	e Others, specify ___
23	Windows	a. Wood, b. Steel	c. Others, specify ___

Anecdote associated with the building interesting notes/sketches

XI Observations:

Owners Intention on the Building

- Broken down for renovation
- Make modifications
- Sale
- Change of Use
- Vacate and Move
- Others(Specify ___)

XII Categorizing the buildings for heritage assistance

___

Photographs

Wooden columns with floral design in a house at the Central Zone, Surat

(UMC), also known as ICMA[3]-South Asia, for preparing a comprehensive listing and determining the heritage properties in Rander and the Central Zone. This constituted one of the first comprehensive surveys carried out across the city to identify heritage properties. The listing and documentation exercise identified living heritage assets and undertook a detailed documentation of the same. A separate study for understanding the various built typologies of Surat was also undertaken. Different plan forms, elevation and relationships of built space with the street edge were also studied. Issues related to the conservation of such heritage assets in urban areas were identified.

Through the reconnaissance process 4,450 properties were identified in Rander and Central Zone of Surat. An elaborate screening process based on the photographs was undertaken and a detailed survey of 2,417 properties in Central Zone and 574 properties in Rander was undertaken as per the form designed. The survey revealed that 88% of the occupants of properties in Rander are their actual owners. This indicates that a majority of the properties have been passed down as legacy in the same family through generations. So, residents have a strong sense of belonging for the properties. In the Central Zone, half the residents are

actual owners of the heritage properties. The buildings here show the influences of varied architectural styles, 59% traditional, 25% colonial and 16% art deco.

The entire data base of the results of the documented properties has been maintained in an excel format. The base map was provided by SMC. The results of the survey have been mapped using the Geographical Information System (GIS) platform. An analysis of this database supports the initiative to conserve heritage properties.

After documentation, the buildings have been segregated under separate categories for ascertaining the provision of technical assistance for conserving these. The next step was the formulation of SMC's heritage management policy that states the overall framework and methodology for heritage management in the city of Surat. The policy has been approved and announced publicly.

WAY FORWARD

Today, the importance of heritage conservation and inner city revitalisation is increasingly being understood by local governments. The question remains

as to how to prioritise this among other burgeoning demands of the growing cities.

To promote historic and cultural continuity and to encourage broad civic participation in all kinds of cultural activities, governments at the appropriate levels, including local authorities, should:

- Identify and document, whenever possible, the historic and cultural importance of areas, sites, landscapes, ecosystems, buildings, other objects and manifestations and establish conservation goals relevant to the cultural and spiritual development of society.
- Set up programmes and projects that aim at redevelopment and regeneration of heritage areas.
- Promote the awareness of heritage in order to highlight the value and the need for its conservation and the financial viability of rehabilitation. Bring out publications on the city's heritage in a variety of formats targeted at different users including books, reports, brochures, guides, maps and audio-visual products.
- Encourage and support local heritage and cultural institutions, associations and communities in their conservation and rehabilitation efforts and inculcate in children and youth an adequate sense of pride for their heritage.

- Provide support to research and documentation efforts of universities and research institutions, including trusts and other private commissions involved in heritage conservation. Support could be provided for educational courses, training of personnel and in research activities. Set up museums and exhibitions for documentation and conservation activities.
- Promote adequate financial and legal support for effective protection of cultural heritage by developing specific conservation plans and land use controls and integrating into the city's overall master plans along with the required laws, legislations, rules and building codes.
- Promote education and training in traditional skills in all disciplines appropriate to the conservation and promotion of heritage.
- Promote the active role of older persons as custodians of cultural heritage, knowledge, trades and skills.

Surat Municipal Corporation has taken a pro-active initiative in heritage documentation and listing programme along with the preparation of a heritage management policy. This initiative can show a path to other India cities that are facing similar challenges.

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Note

[1] This article is based on the recently published book by Urban Management Centre with support from Surat Municipal Corporation, 'At the Core: Understanding the built heritage of Surat and Rander'. The book traces the growth of Surat from a tiny hamlet to its present form, through the architecture and built heritage of the city. It was released on the occasion of Heritage Day, April 18, 2011 by the Honourable Mayor of Surat at the bank of the River Tapi in Surat.

[2] A city now in Iraq, about 170 kilometres south of Baghdad.

[3] ICMA-International City/County Management Association, Washington DC.

Methods and Approaches

Eco-Cultural Issues and Sustainability

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ABSTRACT

The cultural identity of humans has been dependent on natural landscapes and the biodiversity within these from time immemorial. Some significant concerns in maintaining this identity is the rapid erosion of biodiversity due to various factors. While the impact of this is being understood and taken seriously at a global level, it is important to address the interest of traditional societies that are directly dependent on the eco-cultural systems for their existence, even today. A review of various pathways integrating traditional and formal ecological management systems has been carried out, to assess their suitability for each socio-ecological context, before any development decisions are made. This approach can help towards building a sustainable future for mankind and the ecosystem of the planet.

INTRODUCTION

Humans have always treasured and carved out eco-culture specific natural landscapes around them, as an important basis for their cultural identity. With the rapid erosion of natural landscapes due to industrialisation,

biodiversity is declining at the global level. An eco-cultural divide has only been widening, with all its implications, not only for conservation linked sustainable livelihood or development, but also for human security itself (Ramakrishnan 1992; 2009). With focus on these concerns, there is a realisation that biodiversity is a tool available to cope with ever increasing environmental uncertainties. Hence, there is a renewed interest in getting back to 'nature', in the developed and the developing world.

NATURE-CULTURE ASSOCIATIONS

The people of the Vedic period saw the 'cosmic tree' as the symbolic power embracing the entire Universe. This tree is seen as the Goddess of Nature who nourishes all life and is seen as rooted in the *Brahman* (the Ultimate). Many sacred edifices such as the Buddhist *stupas* (shrines) in the shape of a *mandala* (sacred concentric diagram) of Mount Meru, represent the mythological '*axis mundi*' (cosmic axis) of the world, symbolic of transient matter and energy expressed into material forms and constructions. Such a symbolism of the cosmic tree of the Vedic period of India is widespread amongst other ancient civilisations too, as in the case of the Mayan world of South America with the Silk-cotton tree, where in the 'tree of life' has roots going down into the lower world and trunk and branches passing through layers of heaven.

The mystical 'tree' symbolises 'mother', the Goddess of Nature who nourishes life on earth. The association with distant awe-inspiring natural mega-landscape formations such as imposing highly complex mountain

systems arises from such a universal conceptual framework of the intertwined 'nature-culture' expression. The majestic Mount Kailas, the Mount Kanchendzonga, the Nanda Devi, all connected with the Himalayan region, personify spiritual power and the attendant sacredness of a high order, for the vast majority of the people living in this region.

Traditional societies continue to live as part of nature even today, with rich biodiversity around. In the Indian context, these societies are constituted by the traditional forest dwellers, the 'tribal' and 'non-tribal' upland forest dwellers and the rural communities living in the larger plains. Sacredness attributed to nature provided an anchor to traditional societies, helping them explain and seek order within what may seem to be the otherwise 'chaotic earth', with unpredictable natural phenomena that they had to live with. The concept of 'sacred' provided the basis to rationalise natural phenomena that were encountered or experienced by them. Sacredness is a universal belief system, embedded within animistic and organised religions, that has evolved independently over time and space, in different parts of the world.

The continually evolving concept of sacredness, along a time gradient, found its expression in a variety of different ways through ages, when animistic societies became part of organised religious belief systems. In other words, sacredness is all about viewing nature and natural resources around, with attached 'intangible' psychological values and 'tangible' economic benefits such as livelihood and development needs (Ramakrishnan 2008a; b).

Alnus nepalensis (Nepalese Alder) is a sacred species that is an integral component of the Cardamom plantation systems in the Sikkim Himalaya

Local Naga communities restoring a degraded land in Nagaland

Biodiversity rich sacred grove in an otherwise degraded landscape indicative of the richness in biodiversity that existed in this landscape in Meghalaya

BIODIVERSITY IN ALL ITS SCALAR DIMENSIONS

Biodiversity has varied scalar dimensions such as, species, subs-species, landscapes and ecosystems. Recent estimates suggest that there are approximately 10 million species on earth. Of these, approximately 300,000, excluding varietal level diversity within species, are photosynthetic organisms that have the ability to capture a very small fraction of the Sun's energy and synthesise food that can support the life on earth, thereby enabling human existence. Many of the ecosystem typologies have been drastically altered due to human impacts and natural cultural landscapes have been altered and damaged right across the world in the name of modernisation.

Species level biodiversity has been a major casualty, arising from human impacts. The loss of socially valued species that have an ecological keystone value has serious consequences. This is because such species play an important role in community-participatory ecosystem and landscape restoration. These form the varied socio-cultural associations and functional dimensions of biodiversity. In the Indian context, as in many other developing tropical countries that face large-scale land degradation and site desertification, natural ecosystems relevant to a given region often remain conserved only as socio-culturally valued entities, as in the case of 'sacred groves'.

Many of the socially valued species (plants and animals), ecosystems and landscapes, with ecological keystone values have been rediscovered by diverse communities living in different parts of the world. Instantaneous community participation in restoration of such socially valued sacred species is part of sustainable land use practices used by these communities. Even the shifting agricultural farmers who move around both in time and space for ensuring

Ziro in Arunachal Pradesh is a unique and highly productive valley landscape, wherein traditional Apatanis have sustainable agriculture and forestry practices

Bamboo that has ecological keystone value, is socially valued in north-east India

Socially valued mithun (Bos frontalis)*, an animal of social, cultural and economic value*

food security, do see a cultural landscape that may change its format, though temporarily, during the shifting agricultural cycles. Jhum in the north-eastern Indian context is a landscape management system wherein the natural cultural landscape unit varies in both space and time. The agricultural practice has varied phases; slash and burn phase on a given plot, followed by sequential cropping and fallow regeneration phases, with varied facets to the given landscape system and year-round cultural celebrations.

This is in contrast with the relatively more stable systems of communities such as the Apatanis in Arunachal Pradesh. The cultural landscape of the Apatanis is unique, as ecological efficiency is combined with economic efficiency in this highly complex system. It is an example of sustainable cultural landscape management, with a rich cultural calendar spread over the year that may merit world heritage status under the Globally Important Agricultural Heritage Programme (GIAHS) initiated by the Food and Agriculture Organisation of the United Nations.

BIODIVERSITY CONSERVATION

The Indian subcontinent has mind-boggling rich and diverse socio-ecological systems and is one of the 25 mega diversity hotspots of the world. With just about 2.5% of the land area, the Indian region alone has 7.8 % of the globally recorded biodiversity. Dynamic conservation of this biodiversity is important and in this context, it is becoming more and more obvious that cultural and biological diversity and their conservation are interdependent on sustainable developmental considerations.

In recognition of the urgent need for a common approach towards developing human resources, capabilities and linked policy issues, a number of biodiversity rich countries such as Bolivia, Brazil, China, Colombia, Costa Rica, Ecuador, India, Indonesia, Kenya, Malaysia, Mexico, Peru, South Africa, the Philippines and Venezuela, formed a group known as the Like Minded Mega-diverse Countries (LMMC), in order to take have a common action plan for sustainable use biodiversity. Over a period of time, other biodiversity rich countries like Nepal, have taken needed steps to effectively conserve biodiversity, through community-participatory forest management initiatives (Nagendra 2002; Nagendra et al. 2005).

In the Indian context, the *Biological Diversity Act, 2002* is a tool that aims at creating public awareness towards biodiversity conservation, sustainable use of its components and fair and equitable sharing of the benefits arising out of the use of biological resources. Besides the formulation and effective implementation of the Act, it is important to explore the various pathways for biodiversity conservation that can present sustainable solutions with participation of the traditional societies where relevant.

PATHWAYS FOR SUSTAINABLE DEVELOPMENT

Biodiversity forms the basis for sustainability of life on the planet. Though there have been five or six major episodes of large scale extinction of biodiversity for reasons that are natural, what makes the present scenario distinct from all others is, that anthropogenic reasons such as climate change linked global warming

and globalisation of economies, rather than natural forces are the primary causative factors for the ongoing wave of extinction being witnessed today. This is the context in which the emerging trans-disciplinary area where linking Traditional Ecological Knowledge (TEK) systems available to local communities with text-book based Formal Ecological Knowledge (FEK) systems of the scientists become significant, for developing 'hybrid technologies'. It is important to note that the linkages need to be established based on constant dialogue (Ramakrishnan et al. 2005).

Traditional societies are significant stakeholders linked to natural ecosystems. Hence, representation of their perspective becomes an important concern while reflecting on the various development pathways. These people have started demanding a value-system based developmental paradigm, rather than that based on a value system that the governmental agencies wish to impose upon them. This is the context in which a value system approach for addressing sustainability concerns with biodiversity conservation linked developmental pathway, based on linking ecology, economics and culture has become significant.

Working towards community participatory landscape management strategies (Swift et al. 1996), three distinct sustainable land use or landscape development pathways can be considered. Based on linking different proportionalities of TEK with FEK, an interactive and well calculated compromise approach between the scientist and the villager (Ramakrishnan et al. 2005) may be taken as the basis for integrated sustainable management of natural ecosystems and landscapes.

Oak is a socially valued species. The forest is lopped heavily for organic residue management in the traditional cropping systems of the local mountain communities, as seen in the foreground

The incremental pathway

Traditional societies with a rich traditional knowledge base constitute a substantial section of the human population in the developing tropics.[1] It would be clearly advantageous to build upon their rich traditional knowledge base in a step by step manner, bringing in formal knowledge based technology only to the minimal extent needed to build hybrid technologies. This has been referred to as the 'incremental pathway'.

An example; is the developmental initiative implemented for the State of Nagaland in north-east India, aimed at sustainable fallow management based on agroforestry principles, without drastically departing from traditional practices. The resulting increased output is the first instance of a land use developmental initiative of such magnitude implemented in the region based on this pathway (NEPED & IRRR 1999). Community participation was ensured through a blend of traditional institution building at the village level linked with modern elective processes (Ramakrishnan 2008a). Such a short term strategy for development was strived to empower the Naga society so that they could make their own decisions for long term land use development.

The auto-route

Modern land use management practices are based on external energy subsidies. In case of modern societies involved in mono-culture 'green revolution' agriculture and plantation systems in a landscape largely devoid of biodiversity, the productivity of the human managed system is sustained through excessive fertilizer application. The appropriate path would be to buffer and improve soil health through sustainable organic residue management, with concerns for enhanced biodiversity at both above and below ground levels. Herein, the revived and adapted traditional knowledge based inputs are restricted to the minimal extent that is necessary to ensure sustainability of the system, by reducing external energy subsidies to the extent desirable while at the same time ensuring increased quality production.

In the tea garden plantations of the Karnataka Western Ghats of southern India, a situation has been visualised in which socially valued species with ecological keystone value for nutrient conservation and release through organic leaf litter residues, form the basis for organic residue management to enhance soil fertility and biodiversity, despite a lack of complete knowledge of the constituent species of this diversity due to cataloguing difficulties. The soil fertility is monitored

Jhum that has a landscape management system wherein the natural-cultural landscape unit varies in space and time

using earthworm species of ecological keystone value within the soil sub-system. In other words; appropriately identified organic residue management for sustainable soil fertility build up, makes it possible to have a substantial, 30-50% reduction in inorganic fertilizer application. This patented technology involving the Indian and French Scientists[2] along with the tea garden managers, has now gone up to the Chinese shores where again sustainable soil fertility management is more and more becoming a critical issue, as much as it is in the 'green revolution' agricultural areas of Haryana and Punjab.

The contour pathway
In between the above two pathways, under many diverse landscape situations with largely reduced biodiversity and rapidly degrading landscape, there is the necessity to develop agroforestry system models that rely upon an appropriate mix of traditional and formal knowledge based inputs in tree species selection. This principle; could also be the basis for bringing trees into the landscape as a whole, to ensure

sustainability of the natural ecosystems to further ensure the sustainability of the complete landscape. The approach of working with the nature without dominating it would involve active planning, keeping fully in mind the background ecosystem.

Many land use systems in the 'low' and 'middle' intensity management categories will come under scrutiny under this pathway. In brief, the objective here is to have an appropriately reconstructed sustainable landscape with improved overall biodiversity, the contour pathway. Increasing the organic residue levels in order to improve the physical qualities of the landscape system's soil, moisture and nutrient retention abilities is the primary objective. This pathway seeks not to replace inorganic fertilisation with organics, but instead to improve the ecosystem system structure and linked functions, following the ecological contours. It is illustrative of an approach towards sustainable management of modern agriculture. A whole variety of agroforestry, alley cropping and terraced agriculture and plantation system models would come under the

'contour pathway'. It is critical that the redeveloped models fit into the ecological contours and that these be in tune with the locally available resource base[3] on which these agricultural systems are dependant.

CONCLUSION

Cultural identity is an important attribute unique to humans and retaining this identity is critical for maintaining biological diversity, thereby ensuring socio-ecological system integrity itself. This implies that conserving natural cultural landscapes that humans value at any given point of time and restoring ones that no more exist, is the key to bringing human societies close to nature. This in turn has tangible benefits with concerns for conservation of intangible values that are still cherished by them. Let alone the traditional tribal societies living in the forested areas or those living in the developing world and the rural communities confined to the degraded rural plains of a country like India (Ramakrishnan 2008a;b), even the most modern urban societies of the United States of America (Shutkin 2001) seek to be as close to nature as feasible.

With more and more evidences now emerging to suggest that developing countries as compared to the developed ones will be the ones to be more adversely impacted in a socio-ecological sense, in the context of the emerging issues linked with 'global change' (a set of ecological phenomena) and economic 'globalisation', socio-ecological sustainability concerns become more relevant to people living in the developing world. With the further realisation that the poorer sections of the society are likely to be more adversely impacted arising from global change and globalisation than the richer sections of the society, ecological security and sustainability concerns within the developing world gets further complicated.

With serious human security concerns developing, one has to look at the emerging opportunities for human dignity linked development and humane governance. For any development decisions that concern natural landscapes and their biodiversity, it is important to assess the eco-cultural context and analyse the possible pathways, to come up with sustainable means that benefit the traditional societies and ecosystem in a broader way. The need of the hour is to ensure a dynamic equilibrium of humans linked to nature (Brauch 2005; Ramakrishnan 2009) that contributes towards socio-ecological systems integrity and linked human security.[4]

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Notes

[1]   In the Indian context, these form one third of the total human population.

[2]   The 'Fertilisation Bio-organique Dans les Plantations de the' or Bioorganic Fertilisation for Plantations (FBO), uses technology standardised by a group of Indian and French scientists (Senapati et al. 2002).

[3]   Water is a critical resource under a monsoonic climate as prevails in India. Making provision for water through appropriately designed cheap water harvesting systems and reviving the available rich traditional water harvesting technologies that have fallen to disrepute can be seen as a way towards appropriately restoring, conserving and indeed enhancing the rich biodiversity that we have in our culturally diverse rural landscape (Ramakrishnan 2008a,b). It is therefore, no wonder, we do have such a rich eco-cultural heritage focused around traditional water harvesting technologies (Agarwal & Narain 1997). Where traditional water harvesting systems are not available, cheap rainwater tanks lined with high density polythene were constructed anew, which triggered of community participation in conservation linked livelihood/development of local communities, both in the hills and the plains of India (Ramakrishnan 2008a).

[4]   These are some of the issues that also formed the basis for the recently concluded and path-breaking Millennium Ecosystem Assessment (2005) that recognised eco-cultural diversity as an important basis for a sustainable future.

Sacred Landscapes of Govardhan in Braj
Imagined, enacted and reclaimed

AMITA SINHA

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ABSTRACT

The sacred landscape of Govardhan Hill attracts more pilgrims than any other site in Braj. Govardhan Hill is an 'imagined' landscape drawing upon age old imagery of the Hill as a protector of the people of Braj and subject of innumerable paintings and poems. It is an 'enacted' landscape where veneration of the Hill is enacted in numerous rites and rituals of worship. This landscape is conceptualised, visualised and inscribed in the body through parikrama. It has been 'reclaimed' time and again, most recently in the 16th century by medieval saints. Reclamation of the Hill as an officially protected cultural landscape zone is proposed with landscape planning and design proposals for cultural and natural heritage conservation.

INTRODUCTION

The Braj region in northern India is a landscape overlaid with strong religious and cultural significance. Located along the sacred River Yamuna and around it, the region spreads across parts of Haryana,

Govardhan Hill and its viewsheds

Rajasthan and Uttar Pradesh. Among the many sacred sites of Braj, Govardhan Hill is revered as much as the Yamuna riverfront, if not more. It symbolises Krishna's superiority over capricious forces of nature worshipped by *brajvasi*s (residents of Braj) as gods to be placated. As a metonymic form of Krishna, it is the embodiment of divinity, its every stone sacred. Its cultural landscape evolved as stories of Krishna celebrating his victory over gods, prowess over demons, dalliances with the *gopi*s (cow-herdesses) and manifestation to his devotees became associated with specific sites. In these legends associated with the places, nature's archetypal symbolism, sexuality and animism is transcended in an aesthetic experience of the landscape evoking *ananda* (bliss) and *bhakti* (devotion). Idealised images of the landscape in myths and their textual and visual representations have guided the real landscape and in turn have been influenced by it (Sinha 2006). The physical setting and its signs and markers are mnemonic elements and tangible reminders of Govardhan's mythic and historical past. These are cues for ritual enactments that visualise and affirm one's relationship with the divine. The real and the imagined landscapes are bound in a reciprocity that is weakening with the intense pressures of uncontrolled growth, mechanised modes of transportation and breakdown of customary rights and obligations towards forest and water bodies. The rich environmental and cultural heritage of Govardhan (and Braj) is at stake compelling a serious effort towards reclaiming, remediating and restoring the Hill.

GOVARDHAN REAL AND IMAGINED

Govardhan Hill has been visualised and represented in manifold ways. The rich array of images allude to the many myths centred on the Hill, of which the most popular one is Krishna holding it up like an umbrella on his little finger to protect *brajvasi*s from the floods sent by wrathful Indra. Other representations include the mountain-river dyad of Govardhan Hill and Yamuna River flowing at its foot, the Hill as a mountain of food Annakut, Krishna filling the hollow of a cave in the Hill and the Hill as a peacock and a bull (Entwistle 1987). This varied imagery spans popular culture and high art through calendar art, posters, bill boards, *sanjhi* (local art form) paintings and *jhanki*s (tableaus). Other more permanent forms of narrative tableaus depict the Hill as do rock cut sculptures, frescoes and medieval court paintings (Shapiro 1987; Hawley 1983; Isacco & Dallapiccola 1992). The landscapes conjured in these representations draw their forms from the corpus of Govardhan myths. The Hill as an umbrella protector and a mountain of food is imagined in a conical shape, its conflation with Krishna is communicated in anthropomorphic representations and its theriomorphic forms of bull or peacock can be read in symbolic associations of individual sites (Radha-Shyam Kunds as eyes, Punchari as tail) and their location. The association of the Hill with the Naga cult or snake worship is evident in worship of the snake goddess Manasa Devi at Manasi Ganga and of the Hill-naga at the village Aniyor (conceived later as the arm of Shrinathji or Krishna) on the occasion of the snake festival, Nag Panchami (Vaudeville 1980; Entwistle 1987). The idea of the Hill is a living entity and a sentient being is apparent in the veneration of Mukaharvind Shila (lotus mouth) at Manasi Ganga and Jatipura and Govardhan-Jibhiya (Govardhan tongue) at Radha Kund.

It is believed that Krishna and his brother Balaram spent many hours grazing their cows on the tender grass of Govardhan Hill. Its shady groves and ponds were ideal places for Radha and Krishna's play and its hidden caves for their intimacy. Nature's bounties

were abundant in Govardhan Hill in the form of pure water from its waterfalls, the many varieties of herbs, fruits and flowers and its minerals and gems (Brahmachari 1997). Individual sites on the Hill are visualised on their own accord with imagery drawn from Krishna sporting with Radha and other *gopi*s in verdant, Eden like setting of *kunj* (bower) and *nikunj* (arbour) in groves. Visual and textual representations of the space celebrate nature's association with sexuality unfettered by social norms. The earthly associations are transcended in the landscape experience shaped by *bhakti* wherein this inwardly oriented 'natural sanctuary' becomes a contemplative landscape, an exterior symbol of the interior image in the heart (Hermann 2005).

The *kund* (water tank) in the *van* (garden-grove) is the archetypal landscape drawing its unique association and specific shape from a particular narrative associated with the place (Shah 2007). There are many such around Govardhan Hill; Kusum Sarovar-Ashok Van, Ratna Kund-Pushpa Van, Sakhi Kund-Sakhi Van, Kilol Kund-Kelan Van, Indra Kund-Kadamb Van, Gval Pokhara-Shyam Van, Apsara Kund-Apsara Van, to name a few.[1]

Other reminders of the divine presence are footprints. Krishna's footprints are enshrined in Shyam Van (south of Kusum Sarovar) and Radha's are at Dan Ghati. The Hill being Krishna's *svarup* (form) and his embodiment has many boulders and stones carrying the imprint of his face, crown, flute, hands and so on. Other signs include stones called *bajni shila* that echo with the sound of his flute when struck (Brahmachari 1997; Goswami Maharaj 2007). Krishna's circular dance with the *gopi*s is celebrated since medieval times in the dance-drama of *raas-lila* (Hawley 1981). Govardhan has a number of *raas-sthali*s where the *raas* is performed in *shravan* (August-September), the season of pilgrimage, near Radha Kund, Ratna Kund and Chandrasarovar.

The relationship of imagined landscapes described in words and images to the actual, physical landscape may at first appear tenuous, but on closer examination it is apparent that idealised imagery has indeed inspired and imprinted the present day cultural landscape of Govardhan. Quite unlike its conical representations, Govardhan Hill is a long, low ridge, rising no more than 35 metres above the surrounding plain. The villages of Jatipura and Aniyor nestle against the

Pilgrim doing dandauti parikrama

Hill where it crests, while Punchari village lies at its southern foot. A break in its profile at mid-range known as Dan Ghati is a prominent point of arrival from Mathura just south of Govardhan town. On its north, the Hill is visible for a short distance only, tapering off well before one reaches Radhakund Village.

Much of what is seen of its landscape today stems from historical events and activities of charismatic saints in the 16th century. No building structures prior to that period exist and in the absence of systematic archaeological excavation of the Hill, it is a matter of conjecture what the sites were like before they were reclaimed as sacred places. Legend has it that these were neglected and lost to memory, the temples raided and deities hidden in ponds or buried. The sites in ruins were rediscovered by Narayan Bhatt, Chaityana, Vallabha, Madhavendra Puri, among others who had visionary experiences of Radha and Krishna when they began living there in the 16th century. They composed books, re-established worship and created the pilgrimage circuit. The lost ponds were dug up and made into built *kund*s, presumably groves were re-planted and hidden or buried deities were found and installed in temples.

> The sixteenth century was the time of a great 'coming-out' party in which the material forms of Braj culture were 'uncovered and revealed'. In this regard the activities of Braj in the sixteenth century provide us with a rare glimpse into a process whereby myth directly influences history (Haberman 1994, p. 54).

The presence of saints and their visionary experiences were commemorated in memorial structures of *baithak* (literally, seat enshrined in a building) and *bhajan kutir* (hut). Here saints sang about Krishna or chanted his name, meditated and composed devotional poetry. *Samadhi*s (memorials) were built to contain the ashes or other relics of saints. Those of Gaudiya (followers of Chaityana) saints are at Radhakund as are their *baithak*s while those of Pushtimarg (followers of Vallabha) saints are at Jatipura. *Bhajan kutir*s of many saints were built on the banks of Radha Shyam Kunds, Govind Kund and Manasi Ganga (Entwistle 1987; Goswami Maharaj 2007).

There are innumerable signs of Krishna in this visually rich iconographic landscape. He takes many forms at Govardhan Hill, from crude stones in shrines to elaborately carved and colourfully dressed statuary in temples. Ephemeral displays in *jhanki*s as well as calendars in shops and posters and billboards on the roadside point to his ubiquitous presence. Relics and memorial structures mark the spot where he chose to manifest himself to his devotees. The multiplicity of signs, relics, and built structures are reminders of his eternal presence in this richly layered landscape and signs of his transcendence made immanent in material forms. For those who are psychologically attuned to visionary experiences, they aid in blurring the boundary between the imagined and the real landscape.

GOVARDHAN ENACTED

The landscape is seen, felt, tasted and inscribed in the body in *parikrama*, *raas*, festivals, and daily worship. The enactments evoke appropriate *bhav* (moods and feelings), give meaning, build memory and hold out the possibility of encounter with the divine presence. Although Krishna is the subject of devotion, his transmutation into natural forms imparts sanctity to landscape elements; the Hill and its boulders and stones, the built *kunds* and natural ponds, the garden groves and even the soil. There is no separating Krishna from the landscape and the telling and re-telling of myths ground and reaffirm his presence. Rather than a detached appreciation of a historic landscape of great cultural and religious significance, what is elicited from the visitor is an immersive experience with total engagement of the senses.

Of the many ritual enactments, the one that involves the entire Hill is its *parikrama*. This ancient rite of circling a sacred object is the primary way of experiencing the landscape. There is no reaching a centre as the climatic event of a journey, rather a series of places such as *kund*s and temples are visited on the way. *Parikrama* is done through walking around the Hill and for the very devout through *dandauti parikrama* (prostrations on the ground). Among them some advance doing 108 ritual prostrations at one spot using the stones of Govardhan for counting. In this very somatic experience the proximate senses feel the ground plane and other textures, hear the sounds of nature and smell its fragrances and odours. The aches and pains of strenuous walking are viscerally felt as is the exhilaration of successfully completing the 14 mile long journey. The heightened sensory input is conducive to 'seeing' the imagined landscape of Govardhan where Krishna is the central figure in a heroic or playful role.

> The rhythm of walking generates a kind of rhythm of thinking, and the passage through a landscape echoes or stimulates the passage through a series of thoughts. This creates an odd consonance between internal and external

passage, one that suggests that the mind is also a landscape of sorts and that walking is one way to traverse it (Solnit 2001, p. 6).

*Kund*s are primary nodes in the *parikrama* path where one can sprinkle their holy water on the head, take a bath, rest and reflect upon a story just heard and join in the *kirtan* (devotional chants) taking place on its banks. As a source of water for the cattle and for irrigating the surrounding groves and fields, these have attracted settlements and many at Govardhan foothill such as Radha Shyam Kunds, Manasi Ganga, Govind Kund are now primary social spaces of the community. Religious and secular activities interweave creating a rich fabric of vibrant public life. Others such as Ratna Kund, Airavat Kund, Surabhi Kund and Rudra-Hariji Kund, amidst groves are serene settings conducive to contemplation. Between the villages of Punchari and Jatipura, the Kadamb Van opens into a grove and

reveals the Hill. The three *kund*s in proximity to each other, Hariji or Rudana, Airavat and Surabhi, mark the sites where Krishna was venerated as the Lord of Braj. This is a *padav sthal* (resting place) where pilgrims on the *parikrama* camp overnight.

Participation in festivals enacting Krishna's life and deeds involves interaction with the landscape. On Krishna's birthday, celebrated as Janmashtami, devotees bathe in Radha Shyam Kunds. During Diwali the festival of lights in October-November, devotees circumambulate Manasi Ganga and float *diya*s (lamps) on its waters that are believed to turn milky. Manasi Ganga was brought to Govardhan by Krishna for purifying himself from the sin of killing the demon-calf Vatsasur. The Lake is also associated with *nauka-vihar* (pleasure cruise on the boat) of Krishna and the *gopi*s. Govardhan Puja on the day after Diwali is celebrated with food offerings*, chappan bhog* (56
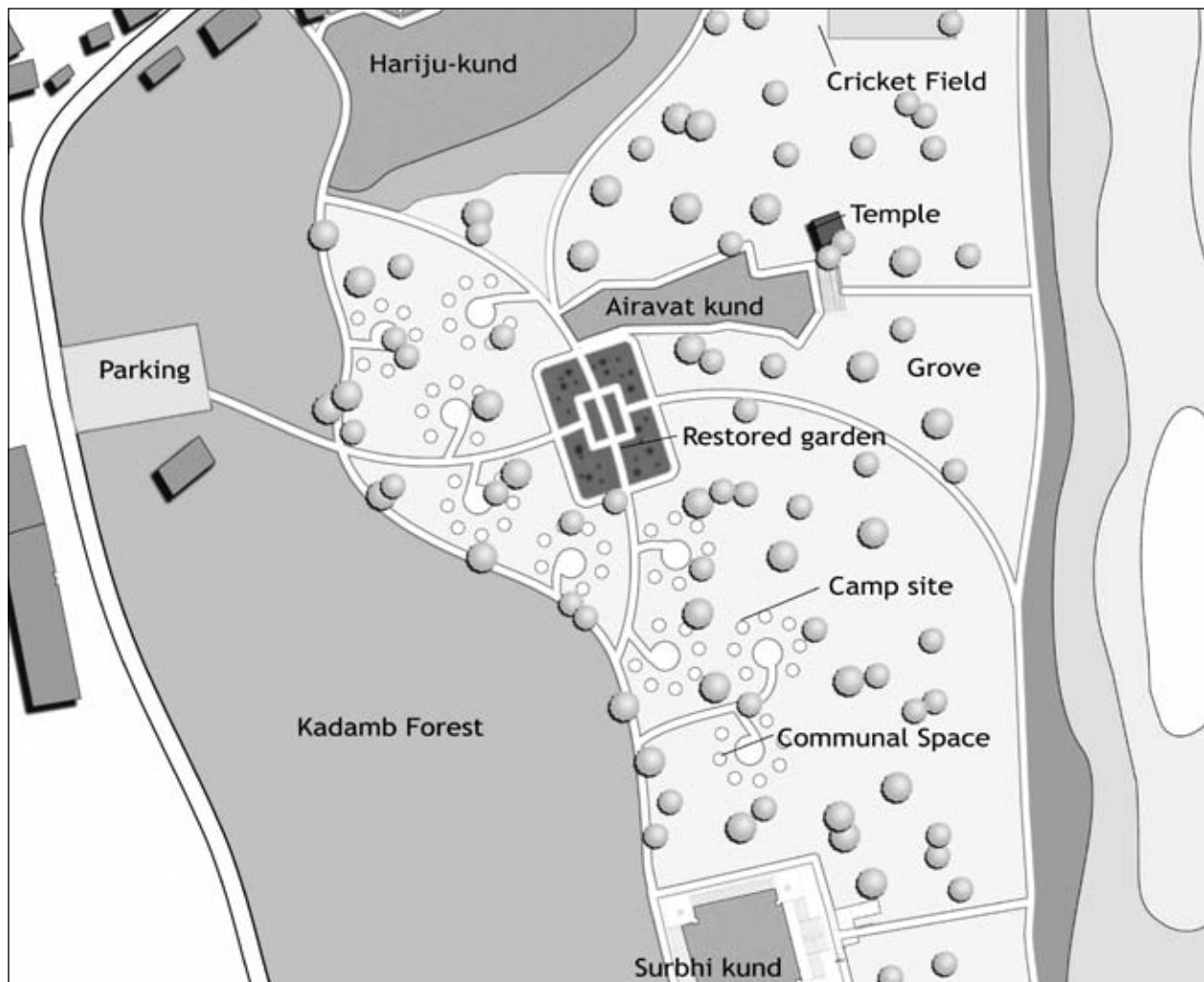
Design Proposal for a pandav sthal
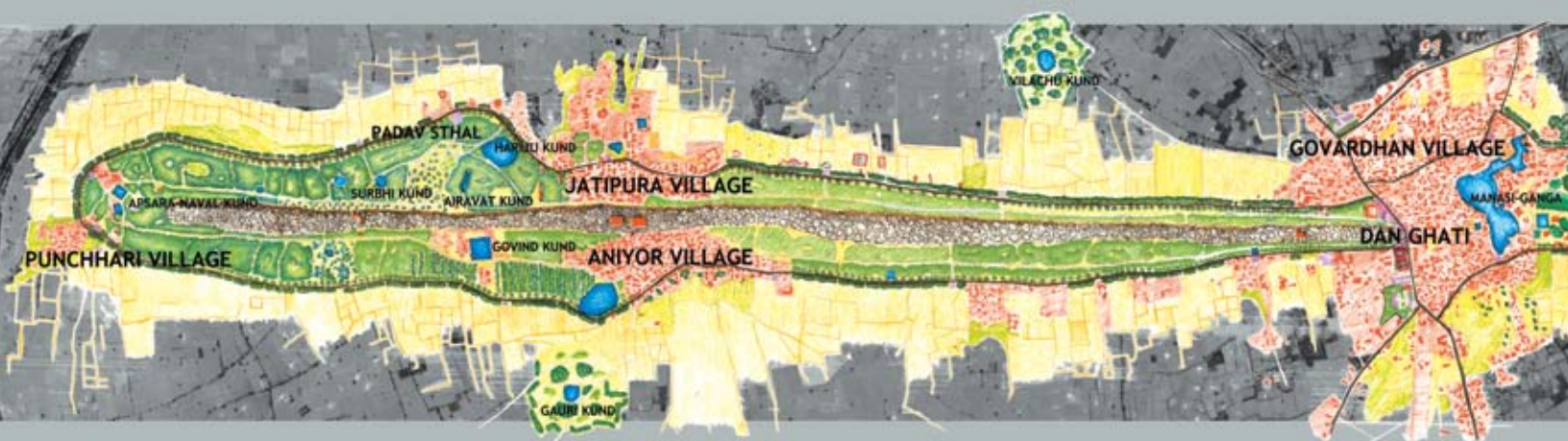
Plan for an eco-cultural zone in the northern section of Govardhan Hill

Govardhan Master Plan

varieties of food) to Govardhan *shilas*, Pujani Shila or Mukharvind (lotus face) at Jatipura and Mukut-mukaravind at Manasi Ganga. Annakut or mountain of food is displayed in home and temple courtyards and on the side of Govardhan Hill. According to Toomey (1994) Annakut festival is symbolic of Govardhan Hill as a source of food and wealth with a certain degree of frame switching and inversion occurring with festivities taking place outside the temple sanctum.

Scholarship on Braj has emphasised the (re) construction of sacred landscape in pilgrimage and continuing enactment of rituals that affirm an idealised vision of that landscape (Shah 2007; Haberman 1994). Enactments create memorable experiences rooted in the body's myriad interactions with the place. Narratives acquire vivid shapes and hues eliciting *bhavs* as these are enacted in *raas lilas* in garden groves. The multi-faceted view of nature and divinity seen and experienced in Govardhan (and Braj) is unique, a kind of cultural heritage deemed 'intangible' although it has a very tangible expression in landscape iconography. The landscape is continuously imprinted and modified by human acts driven by faith and cultural beliefs that keep this heritage alive and vital.

GOVARDHAN RECLAIMED

Due to fluidity and open-endedness of customary practices, ritual enactments result in a dynamic, continuously evolving cultural landscape. With increasing urbanisation, the cultural landscape of Govardhan is changing and the incongruence between the real and imagined landscape is becoming more marked, reducing the quality of engagement with the sites. Private realtors building luxury condominiums

and gated residential communities are encroaching upon the farmland around the Hill. The existing settlements too are expanding into the *van*s and the groves are being replaced by agricultural fields or housing. Many *kund*s, such as Vilachu Kund, Gauri Kund, Kilol Kund, Sakhi Kund and Narad Kund are now surrounded by farm fields and are neglected because of poor access. Some *kund*s lack water or their water quality is degraded because of algae, sedimentation and daily washing and cleaning. The traditional system of water harvesting, collection and distribution has become dysfunctional and community maintenance of *kund*s appears to be lacking.

Increasing number of pilgrims (five to seven million annually by some accounts) has stressed the carrying capacity of the landscape. The existing infrastructure to support the movement and needs of such large numbers is inadequate. In recent years the road around Govardhan has provided an alternative to walking, the rickshaw or tonga cuts down the seven to eight hour journey by half, while mechanised transport reduces it to 30 minutes. Pilgrims pressed for time, unwilling or unable to walk thus choose the easy way thereby insulating themselves from directly experiencing the landscape. The *kund*s (with a few exceptions) are not visible from the road and neither are other place markers such as *raas-sthali*s and *bhajan kutir*s where stories can be narrated, sung and danced. The experience of a *kund* within a grove where one can bathe, meditate and recreate in the mind the pastoral scenes of Krishna teasing the *gopi*s, demanding a toll from them and dancing with Radha is only available to those who choose to walk on the inner path at the foothill and that too at few places.

Site Perspective

1. Ground Water Spray
2. Distribution Pipes(Clean water)
3. 6" soil
4. Pea rock
5. Distribution Pipes(Waste Water)
6. Sand
7. Underdrain
8. Liner
9. Pump Box
10. Vertical Pump Lift System
11. Distribution Pipe (to adjacent
    Agrictulture Field and
    Orchard Area)

Water Filtration System
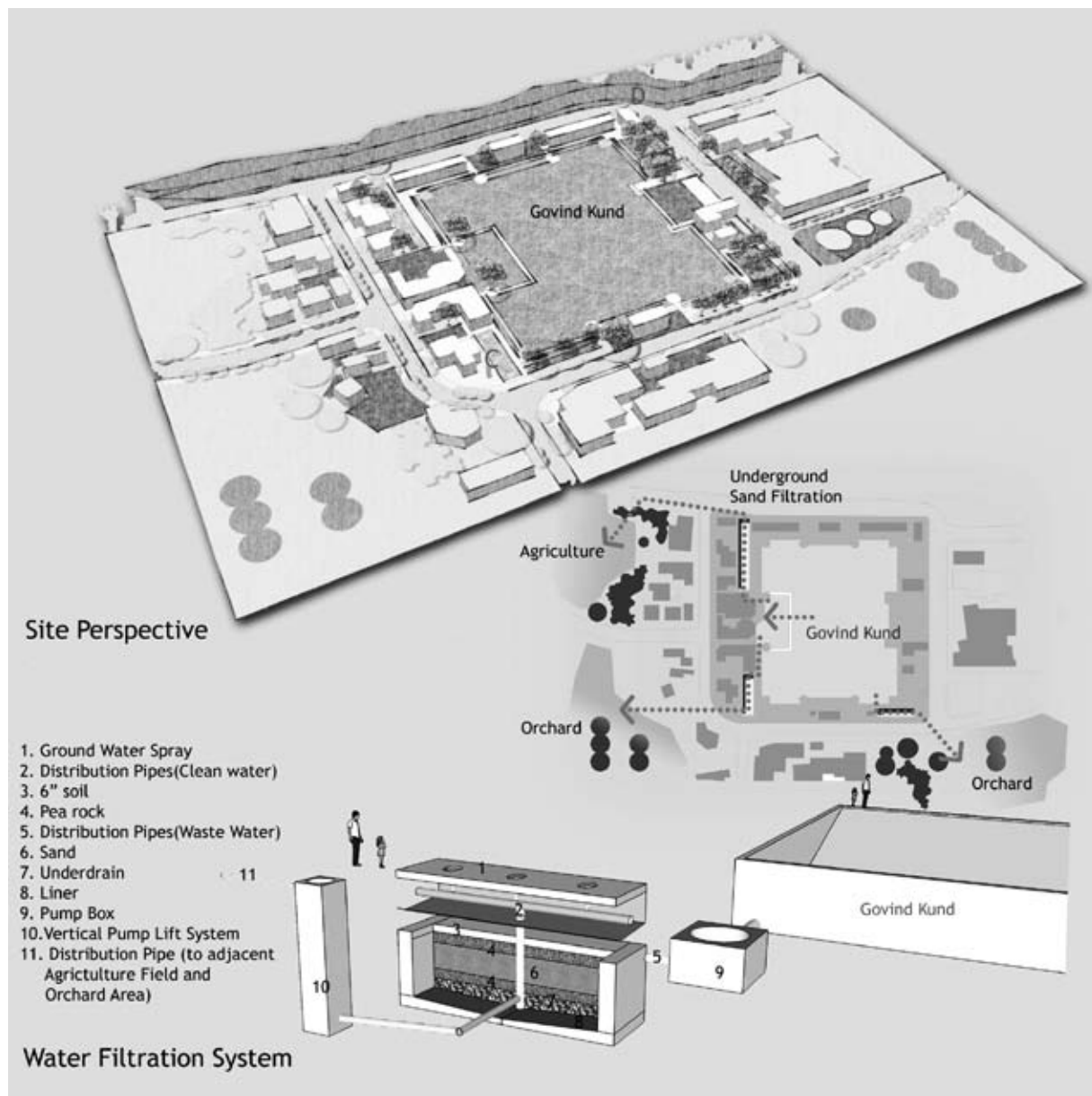
Govind Kund Remediation Plan

It is argued that one way to conserve intangible heritage is to protect the cultural landscape of narrative place markers, relics and other commemorative structures that act as mnemonic devices in keeping the place bound traditions alive. They trigger visionary experiences and are catalysts in manifesting transcendental landscapes to the believer. Besides, local practices of nature veneration can be only sustained in an appropriate natural setting. Restoration of the *kund* in the garden-grove, the archetypal landscape unit, is therefore imperative as is reclaiming space for the prostrating pilgrim and the holy wanderer. In reducing the dissonance between the imagined and the real

lies the hope that Govardhan Hill will continue to be revered as the most sacred object in Braj.

The proposed reclamation in the 21st century is only the latest in a series that date back to antiquity, the most recent appropriation occurring about five centuries ago when Islamic iconoclasm destroyed the temples of Braj. There is however a difference in that the past attempts were led by charismatic saints who galvanised mass movement of piety and initiated pilgrimage to the site. Patronage by rulers of Amber and Bharatpur built picturesque *ghat*s (steps), pavilions and *haveli*s (mansions) in Govardhan that lend its cultural

landscape a distinctive architectural style. With the disappearance of royal patronage and absence of mass mobilisation in the cause of heritage conservation, it is necessary that different and more inclusive approaches be initiated.[2]

CONCLUSION

The powerful Govardhan iconography in popular imagination demands that its actual landscape conform in some degree to its representations. The loss of *van*s and *kund*s and disappearance of place markers would mean a weakening of collective place memories affecting one's capacity to envision. The Hill presently appears to be under siege, a victim of its own rising popularity as a pilgrimage destination. Building construction and expanding settlements are causing irretrievable changes in its landscape. Fencing the Hill to protect it from these changes would be an immediate, short-sighted response, defeating the very purpose of conservation. Improving accessibility and legibility of its landscape, organising movement, consolidating and separating incompatible functions on the other hand will increase its carrying capacity.

Conservation efforts should be focused on the entire Hill and not just individual sites as these are parts of an integrated whole in the cultural imagination. Landscape restoration does not mean bringing back its 'natural' state prior to human presence but reclaiming its imagined cultural landscape, the module of which is the *kund* in the garden-grove. Towards that end, careful management of site hydrology and organised planting efforts are needed. Farming and pasturelands should be restricted from encroaching upon the groves. While open to community use, *kund*s should be protected from sullage and pollutants. Govardhan can thus be a model for other hilly sites in Braj, exemplifying the delicate balance of the symbiotic relationship between nature and human culture.

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Notes

[1]   Twin *kund*s like Radha-Shyam and Apsara-Naval are imagined as aquatic forms of Radha and Krishna with their waters intermingling. The 17th century text 'Kunjavarnan' describes Radha Shyam Kunds surrounded by eight or sixteen-petalled lotus like *kunj*s named after *sakha*s and *sakhi*s (friends) of Radha and Krishna with swings hanging from Kadamba, Mango and Bakula trees and lotus-filled tanks with swans and pairs of cranes and dancing peacocks on their banks (Goswami Maharaj 2007; Haberman 1994). Other *kund*s are named after gods and celestial beings and their veneration of Krishna. For example Govind Kund is the location of Indra's *abhishek* (coronation ritual) of Krishna with the milk of Surabhi the celestial cow. Surabhi Kund marks the spot where Surabhi asked Krishna to forgive Indra for his trespasses. Indra's elephant Airavat brought Ganga water from the heavens and stored it in Airavat Kund for Krishna's *abhishek*. Rudra or Rudana Kund overlooking Hariji or Hariju Kund (named after Krishna's cowherd friend) was created from Shiva's tears of ecstasy when he was meditating on Krishna and Radha. Uddhava Kund marks the site of Uddhava's (Krishna's friend and cousin) appearance from the creepers of Kusum Sarovar, when Vrajnabha, Krishna's great grandson organised the *raas* (Brahmachari 1997)).

[2]   Pilgrimage being regarded as religious tourism in South Asia and the Braj Yatra taking on the attributes of package tourism are shifts in perception and approach that need to be studied and accommodated in conservation planning and management. There is a lack of successful models for conservation of sacred landscapes that have living traditions of worship and pilgrimage in South Asia. Partnership between religious bodies, local communities and government institutions is essential for conserving cultural heritage, a public good, embodied in sacred landscapes. Braj qualifies for World Heritage inscription and if UNESCO guidelines are followed at sites such as Govardhan, landscape conservation will occur in a sustained and coordinated manner in the region. The ambit of pilgrimage can be expanded to include eco-cultural tourism leading to coordinated and integrated cultural landscape protection and management. The first step would be to obtain a formal designation, legally binding and administratively enforced, for Govardhan Hill as a protected cultural landscape, with a 150 metre buffer zone where development can be regulated.

There is need for ecological restoration of the Hill with appropriate water management for the *kund*s and replantation of groves around them by designating a 60 metre buffer zone to prevent further encroachment. The planting design of garden-groves should be inspired by the imagined landscape of *kunj* and *nikunj*; the identity of a remnant van reinforced with planting of trees, after which it was named, such as Ashok, Kadamb and Dhak. The inner core of the Hill has three clusters of *kund*s and *van*s that can be developed as eco-cultural zones to acquaint the visitor with the flora and fauna of Govardhan.

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Enabling Interdisciplinary and Integrated Approaches
The case of Bijapur

ANWAR PUNEKAR AND IRSHAD PUNEKAR

ABSTRACT

The global notion that conservation is evolving into a contextually and socially inclusive discipline often remains as an aspiration. Bijapur forms a typical case study of Indian historic cities representing a top down approach and undergoing dual transformation, involving blanket demolitions for either widening the roads or for pulling down buildings surrounding protected heritage sites. These demolitions apart from leaving a legacy of characterless half broken streetscape for years also erode the socio-cultural context and place-identity of the historic city. The case of Bijapur highlights the detrimental impact of adopting past planning and conservation approaches in Indian historic cities.

BACKGROUND OF BIJAPUR

Bijapur is a historic city planned as per Islamic principles, with culturally and religiously diverse communities. The city has a traditional agricultural and horticultural economy. The educational sector promoted by different

Cultural heritage sites of Bijapur

SATH MANZIL

GAGAN MAHAL

MOAT IN GAGAN MAHAL- NARSIMHA TEMPLE COMPLEX

NARSIMHA TEMPLE

PAANI MAHAL

BARA KAMAN

ASAR MAHAL

IBRAHIM ROZA

TAJ BAWDI

MEHTAR MAHAL

JAMA MASJID

GOL GUMBUZ

BIJAPUR

HISTORIC CITY OF BIJAPUR: CULTURAL HERITAGE SITES
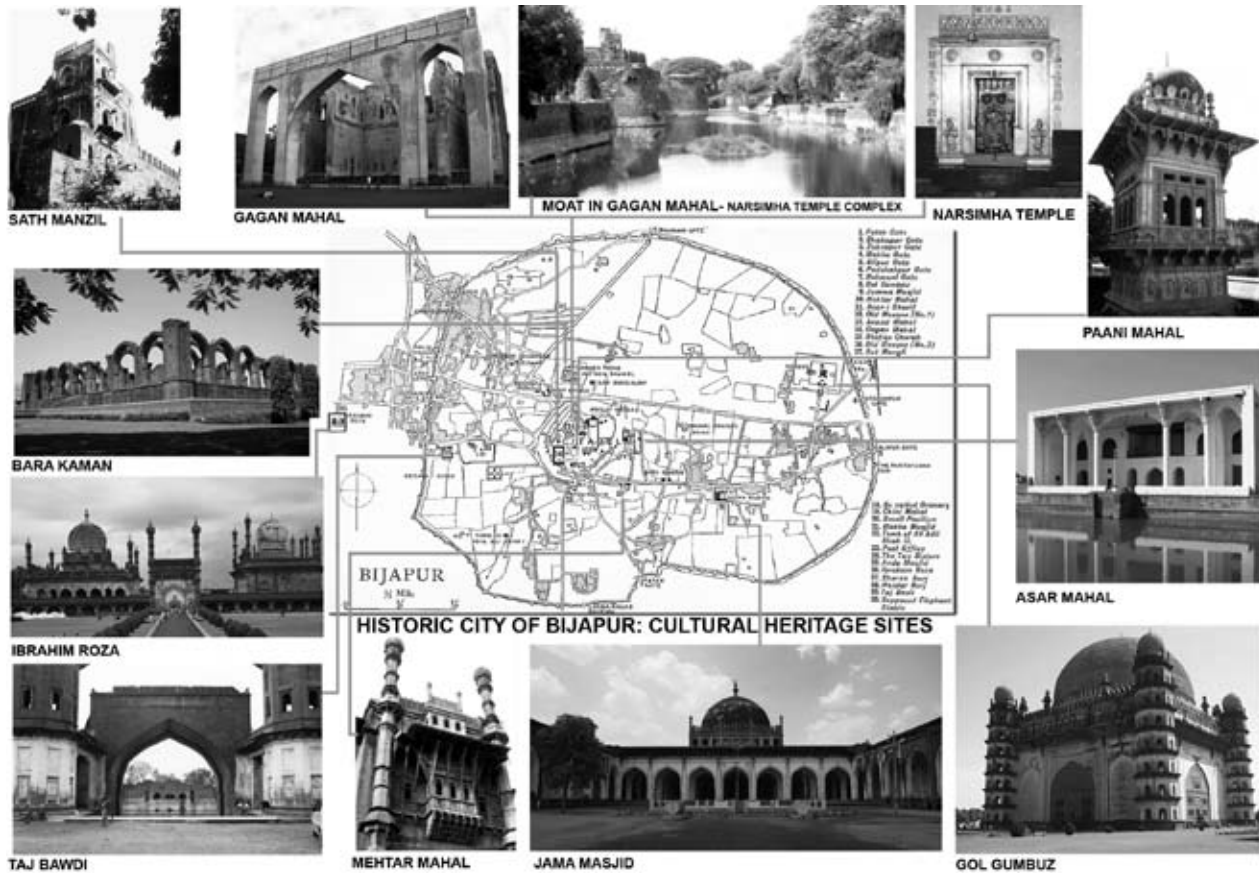
social groups has grown in the recent past attracting students for professional courses locally and nationally, while Central and State Government led initiatives have also strengthened the development potential. Initiatives such as direct rail linkage to three state capitals namely Bangalore, Hyderabad and Mumbai, improved irrigation facilities and enhanced power supply, together with the city's historic character have led Bijapur to leap from increasing obscurity to one of the educationally and economically progressive cities in Karnataka.

Bijapur's cultural heritage sites are secular and religious public buildings that derive from the Adilshahi regime (1489-1656 AD). These comprise of four categories: forts, bastions, watch towers; water reservoirs, flow systems; mosques, mausoleums; palaces, judicial courts and office buildings. Bijapur is off the main tourist route. Yet, as per the data from Archaeological Survey of India (ASI) Bijapur office, nearly one million tourists including 6,000 international tourists visited Bijapur in 2010 and these numbers increase each year. This data does not include children under 15, who also add significantly to the numbers.

ORIGIN, MORPHOLOGY AND CONTEMPORARY USE

Unlike other historic cities in India, Bijapur lacked natural rock defences and had to be strengthened by huge fortified walls. It has an outer fort enclosing the historic city and an inner fort enclosing the *ark-killa* (citadel). Part of the western moat still contains water during the monsoons. Historians reveal that seven village sites were absorbed in the overall settlement of Bijapur (Cousens 1916, reprint 1996). This pre-existing cultural landscape of Bijapur with its linkages to the surrounding villages and towns formed a basic type of intercity road network.

The inter-city linkages form a strategic movement network for Bijapur till now. This reinforces the argument that although cities based on Islamic pattern had no formal planning, the inter-city transport linkages did contribute to and partly determined their overall layout. Thus, beginning from transport linkages through the gateways to the sequence of streets converging at the citadel, there is a definitive character that forms the urban composition of Bijapur.
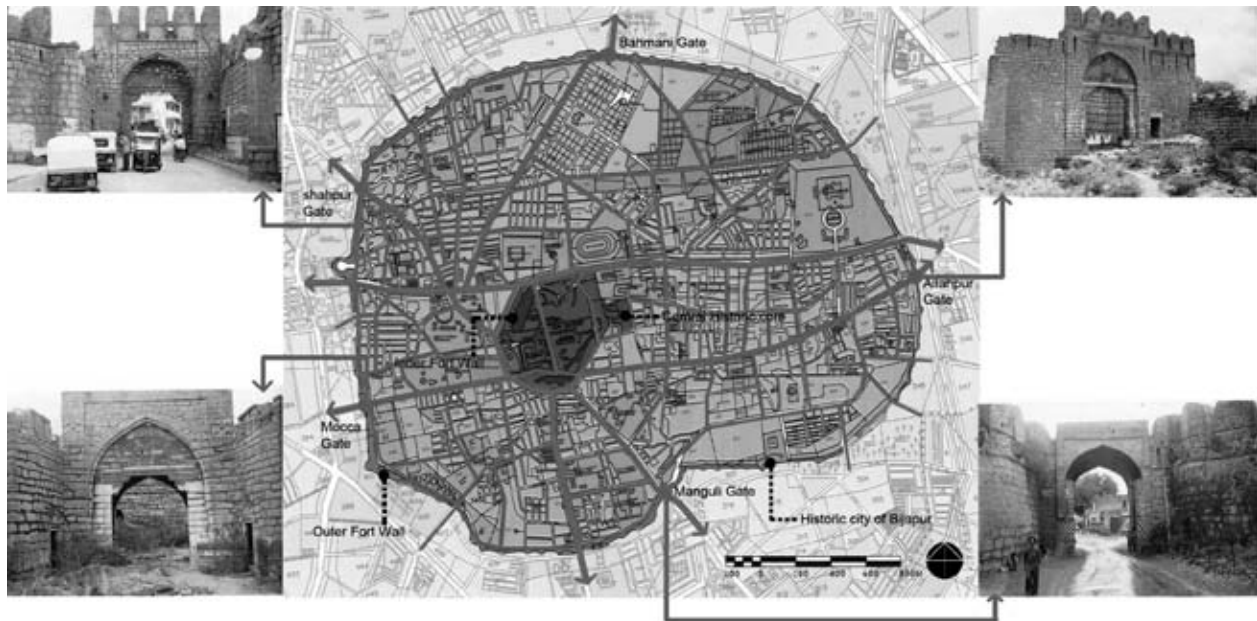
Linkages and historic gates

Symbolic elements such as mosques, tombs, minarets, towers, fort walls and gateways form a linkage both within and among localities, giving a sense of unity and place identity to particular areas and the whole historic urban environment. While some cultural heritage sites such as Badi Kaman are laid out on axes to the gateways and to one another, some major cultural heritage sites and precincts such as Asar Mahal, Gol Gumbaz, Ibrahim Roza and Jamia Masjid set out visual linkages and contribute to the overall legibility of the city by virtue of their sheer scale. The historic mosques such as Jamia Masjid, part of Asar Mahal are in active religious use as mosques. Similarly Narsimha Temple from the same Adilshahi legacy is also in active use as a temple. The open spaces surrounding other cultural heritage sites such as Gagan Mahal-Narsimha temple precinct and Asar Mahal-Phasari Kaman precinct are being actively used for leisure and social use despite the need for improvements. This reinforces a definite link between contemporary local communities and the cultural heritage sites.

The moats surrounding the citadel fortification and the outer fortification comprise of continuous sunken open spaces. In addition to their principle historic use as a defence barrier, these sunken spaces also form an important visual amenity in the emerging urban form. The continuous sunken space is at present in the ownership of a number of government departments including the ASI and the City Municipal Council (CMC). Due to ambiguity in land ownership and lack of proposals to enhance the historic character while

using these as a resource, the sunken space surrounding the Citadel in particular has either been encroached upon by squatter settlements or State Government office buildings. Even a row of petty shops has been built by CMC as recently as 2006, thus delinking the historic character and visual amenity.

Bijapur's historic core is not merely geographically central to the city but also its overall settlement, public space structure, land subdivision and land use pattern and buildings. These clearly bear a pivotal relationship with the historic city.

MULTICULTURAL COMMUNITIES AND DEVELOPMENT CONFLICTS

Little research has been carried out in India on the impact of conservation on the historic urban environment and hardly any on interdisciplinary research involving multicultural communities and development conflicts. The issues pertaining to interdisciplinary approaches and integrated thinking are not just the terms reverberating in cities analogous to Bijapur such as Bidar, Hyderabad and Old Delhi, but also to those cities, regardless of their historic origin and planning pattern, that have significant component of cultural heritage and are facing everyday conservation and development conflicts.

Social concerns
The cultural heritage sites often constitute a definitive relationship with their context, serving certain functions

Master Plan of Bijapur 2006

KEY PLAN
NOT TO SCALE

HISTORIC CITY OF BIJAPUR

N

200 0 200   600   1200   2400

in most cases. Buildings surrounding cultural heritage sites evolve socio-cultural meanings on the basis of their functions. In contexts such as that of Bijapur, if conservation policies are merely developed based on physical parameters and are not under-pinned by a deeper understanding of how different communities operate in multicultural historic environments, it could lead to cultural alienation and segregation among local communities based on religion, creed and caste. Ideas and development aspirations that are not informed of the local context and are not inclusive often lead to unsustainable outcomes. These processes do not reflect concerns of local communities, hence their outcome is not valued by the people. This results in the erosion of the socio-cultural context and place identity of historic cities. Conservation requires embracing the social agenda since it is dealing with a social construct, in the absence of which conservation fails to be seen as a central activity in the planning and management of historic cities.

Development concerns

Due to a presumed supremacy and universality of the modernist approach and the perception of Indian cities among colonialists, the development emphasis was either placed outside the historic city or in the replacement of urban form inside it (often called a slum) by a new kind of urban form considered as a superior alternative (Hosagrahar 2005). The same approach is used by the present day ministries and departments responsible for planning and management of Indian historic cities.

The historic city of Bijapur is currently undergoing transformation with the implementation of the Master Plan adopted in 2006. Widening of roads to implement the Master Plan is based on the reminiscence of modernist planning used in the past, where cars dictated city design. Road widening without carrying out contextual appraisal, constitutes blanket demolition without having any concern for socio-cultural context and place-identity. There have been interesting departures from modernist urban planning ideals and corresponding development in traffic planning, '..many urban areas around the world have worked hard to create better conditions for pedestrians and city life by making car traffic a low priority'(Gehl 2010, p. 4).

It is important to probe the methodology employed for the transport and pedestrian movement studies

that underpin recommendations to widen the roads to particular widths. Similar concerns are also evident relating to the clearing up of physical context of cultural heritage sites. On the other hand, Bijapur is being proposed for designation as a World Heritage City by Dharwad Circle of ASI. This reflects a duality on part of the government bodies, reflecting lack of an integrated approach.

TOWARDS INTERDISCIPLINARY AND INTEGRATED APPROACHES

The Ancient Monuments and Archaeological Sites and Remains (Amendment and Validation) Act 2010[1] designates 100 metres prohibited area and further 200 metres regulated area around the perimeter of protected cultural heritage sites of national importance, in order to protect the cultural heritage sites and promote sympathetic developments surrounding cultural heritage sites in India. Apart from continuation and extension of prohibited and regulated areas in relation to protected cultural heritage sites, the Amendment Act 2010 introduces a few key aspects:
• Setting up of National Monuments Authority.
• Preparation of site plans for each protected cultural heritage site.
• The involvement of Indian National Trust for Art and Cultural Heritage (INTACH) and other competent authorities in the preparation of heritage byelaws.

While the above aspects and setting out a site based approach in particular can be applauded; a wider perspective of recognising the interrelationships of cultural heritage sites could have also been introduced with equal vigour to recognise the need for strategic planning and integrated approach. However, it must also be recognised that it may take a minimum of five to 10 years to see how the implications of the Amendment Act 2010 in its present form will pan out.

Currently, the CMCs that are responsible for enforcing the above nationally defined conservation regulations lack mechanisms such as appropriate design guidance and resources for consultative development; incentives for property owners foregoing building development rights and appropriate enforcement. This situation is leading to a viscious cycle of deteriorating physical[2] and social context. Jawaharlal Nehru National Urban Renewal Mission (JNNURM) came into existence in 2005 to address some of these urban issues. It is important to note that the massive scale of urban issues facing Indian historic cities clearly cannot be tackled by adopting a top-down approach.

Section 20E (3) of the Amendment Act 2010 offers the provision to frame details on preparation of Site Plans (ASI 2010). This approach would enable engaging local communities into the crucial value assessment process and more importantly reconnect local communities with their cultural heritage. It will serve as a positive step if the site plans for protected cultural heritage sites, as set out by the Amendment Act 2010, employ value-led site management processes and take fully into account cultural heritage values inherent in the sites (Getty Conservation Institute 2005) and those interpreted by the contemporary local communities surrounding them (Punekar 2010).

Section 20E (2) of the Amendment Act 2010 offers provision to frame the details of heritage bye-laws on aspects such as elevation, façade, drainage system, road and service infrastructure, including electric poles, water and sewer pipelines (ASI 2010). This can be seen as a crucial opportunity to integrate cultural heritage sites with their urban context. It is important, however, to first, rationalise and distinguish public realm constituents from those supporting utility services from the list in Section 20E (2). Secondly, it is important to recognise the need for suitably qualified and experienced urban design, conservation and transport planning resources. These would be require to frame guidelines and develop context specific heritage byelaws that address the wider urban context and device enforcement mechanism.

In the absence of an integrated process, there is every chance that building byelaws and public realm could end up as two independent streams. In particular, constituents of public realm such as carriage way and pavements, street furniture and lighting, way finding and signage may seep out as civil works devoid of any underlying design philosophy. Similarly when widening the roads where essential, transport planning needs to be thoroughly contextualised employing urban design qualities. Widening streets means taking extra space at the expense of something; this could be the mix of uses on street fronts, the physical character and form of the streetscape, line of trees providing much needed shade or the pavements facilitating smooth pedestrian movement. These aspects need to be clearly assessed and measures developed to mitigate them.

If thoroughly tested and contextualised, urban design[3] qualities can transcend the physical and social realms and become an appropriate partner to conservation in planning and management of the historic cities. While allowing better integration of cultural heritage sites

with their physical context, urban design approach will also be informed of underlying socio-spatial dimensions. Urban design's current status is based on the synthesis of the visual-artistic and social usage traditions into a third one, making places tradition (Carmona et al. 2003). Use of relevant principles of indigenous approaches such as those outlined in the ancient Indian treatise, Vastushastra would add more credibility to the contextualisation process.

THE WAY FORWARD

There is a crucial need to recognise the socio-spatial implications of conservation that have often remained neglected in multi-cultural Indian historic cities. It is important to address this lacuna by promoting an interdisciplinary and integrated approach. This advances the role of urban design and value led processes as compatible disciplines to conservation. It also identifies contextualising transport planning; thus stressing on planning, conservation and management of historic cities as an essentially interdisciplinary realm.

The interdisciplinary approach can be practically appended to the Amendment Act 2010. Based on the provision for additional work, the area of influence of the Amendment Act 2010 can be extended beyond the prohibited and regulated realms clearly not to police and discourage development aspirations but to protect cultural heritage sites and place-identity while creating

development opportunity for high quality buildings and public realm. This could be achieved through integrated thinking and implementation backed by a sound statutory base.

There is clearly a need to enhance the capacity of CMC and encourage local impetus so there is a balance between top-down and bottom-up approaches (Jain et al. 2010). Enabling CMCs to develop and coordinate development strategies as equal partners with State and Central Government agencies is crucial to improve the quality of life of local people and of historic environment it desperately deserves. In the absence of strong CMC that can stand for itself and decide what is in the best interest of the local communities and the historic city it is democratically elected to represent, public funding would continue to pour into cities such as Bijapur as part of the overall economic growth in India but leading to outcomes that are not responsive to the local need.

It is time to act for the decision makers to lay foundations for integrated and locally supported initiatives to achieve sustainable Indian historic cities. An integrated approach among departments and ministries would help to synergise limited resources and maximise the benefits, allowing creation of preconditions for better planning and heritage management in the run up to and beyond World Heritage Designation.

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Notes
[1] *The Ancient Monuments and Archaeological Sites and Remains (Amendment and Validation) Act 2010* has been referred to as the Amendment Act 2010 through the article.
[2] Comprising of dilapidated old housing stock, unsympathetic new developments and the formation of slums surrounding the cultural heritage sites.
[3] Urban design has various definitions. Urban design in this paper is defined as an inter-disciplinary activity involving mediating, shaping and managing urban environments.

Recounting History
A pre-Shahjahanbad quarter in Old Delhi

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ABSTRACT

*Some historical structures in Shahjahanabad predate the city and form
a crucial part of its structure and history. The history of structures such
as Kalan Mosque, Razia Sultan's grave and Dargah of Shah Turkman
is linked to the development of two cities of Delhi, Firozabad and
Shahjahanabad. These are representative examples of numerous other
historical buildings that lie in a state of neglect. It is also emphasised
that popular history of tour guides, guidebooks and local community
be modified and retold in order to impart some significance to these
structures and establish them in public memory. Unless they become
part of the popular history, they face the risk of oblivion despite their
'protected status'.*

SIGNIFICANCE OF POPULAR HISTORY

Designation as protected monuments through the legal system does not
ensure their preservation or conservation. In a recent survey of built
heritage of Delhi, twelve protected structures could not be located though
their names were present in the previous listing of structures (2009,
'Delhi has lost 12 monuments'*, Indian Express,* July 31, viewed February

2011, <http://www.indianexpress.com/news/delhi-has-lost-12-monuments/496206/>). Alipur cemetery, Barakhamba cemetery, Nicholson's statue at Kashmere Gate, Moti Gate and a tomb with three domes in Nizammudin are some of the structures that got 'lost'. What happened to these? All of these were 'protected' monuments. When this can happen in Delhi, where the value of heritage is often repeated in many circles, it is alarming to imagine the volume and numbers in which built heritage would be getting 'lost' all over the country.

Historians attempt to authenticate history by referring several sources ranging from obvious to outright odd. Some try fact finding in folklore and mythology while others make deductions from science, literature and art. Historical architecture and settlements loom large as one of the most reliable among these numerous sources. Old cities and historical buildings are akin to living specimens of a bygone era. But among these, only a few survive the ravages of time and development and these survivors are mostly structures of monumental and artistic value or those that have been documented in popular history. Most other smaller structures that are not so significant to be documented, gradually reach a state of oblivion and get obscured from public memory. These degenerate and get enveloped by new development and layers of newer settlements.

Ashoka Pillar near Northern Ridge

Media has started paying some attention towards built heritage in cities and headlines like 'many monuments in the city lost to urbanisation' are not rare anymore. The list of lost structures that comes with this news does not create any ripples of sympathy, as people seldom know these structures. These were already 'lost' or 'insignificant' in public memory; never narrated the popular history, never owned by the local community and easily replaceable by a more useful function of present day. A Taj Mahal would never be found on such a list. One cannot wake up to a headline that 'the Red fort got wiped away by urbanisation!' The 'lost' monuments get neglected and sidelined, as these are considered insignificant in telling the popular history of the city and hence are never protected in the real sense.

INTRODUCTION TO THE STUDY AREA

The history and description of the area around Turkman Gate in Shahjahanabad, in particular, in and around Imli Pahari and Bhojla Pahar have been scantily documented. The remains of the existing historical structures and localities around the quarter are a means of mapping its historical evolution. This particular precinct is significant for a variety of reasons:

- The quarter predates Shahjahanabad and even Firozabad (city under Firoz Shah Tughlaq) and has been part of these two cities of Delhi.
- It represents a unique morphology which is different from rest of the settlement around it.
- It has been instrumental in development of the present structure of Shahjahanabad.
- The southern and south-west boundaries of Shahjahanabad were delineated in response to this area during the establishment of the city.

Some of the key existing structures have been documented to understand the evolution of the quarter and the city around it. Three structures within the study area that were crucial to the present structure and history of the walled city and yet are largely unknown to tourists or even the local populace have been focused upon. Rarely covered by walks through the old city, the structures do not find any mention in lists of 'hot spots' or tourist guides of Delhi. Two of these are nationally protected monuments by the Archaeological Survey of India, but unfortunately the status does not ensure their preservation. Broadly, the area has been studied under three time periods, pre-Firozabad, Firozabad time and Shahjahanabad time. The reference point for this study is the city established by Firoz Shah Tughlaq because this quarter or area was a significant part of the city of Firozabad in mid 14th century.

Existing structure of Dargah Shah Turkman

PRE-FIROZABAD PERIOD: EARLY 13TH CENTURY

One of the earliest and still surviving structures inside the quarter, Dargah of Shah Turkman is located very close to the Turkman Gate. This structure is the oldest place in Shahjahanabad, as the first listing of historical places of Delhi carried out by Syed Ahmed Khan in 1846, mentions the year of Shah Turkman's death as 1240 AD (Nath 2010). Another interesting fact is that during the building of Shahjahanabad, one of the seven main gates of the city was named after this saint as the Turkman Gate.

During this time period, the main habitation of Delhi was located about 15 kilometres to the south in the area near Qutub Minar and it is believed that the area under study was a forest. This can be deduced from the practices of the 'Bayabani' sect to which Shah Turkman belonged. The practitioners of Bayabani sect believed in praying and living alone in secluded places, close to nature and away from habitation. Another important factor that might have attracted the saint to live here is the natural topography of the place. The entire area north of Turkman Gate is a small mound, about 20 to 25 metres higher than surrounding land. Due to its elevation from rest of the land, the place provided a natural defence against potential flooding from the river Yamuna located towards its east. These are conjectural deductions, in the absence of adequate historical documentation about any kind of habitation in the area during this period.

Another important structure is the grave of Razia Sultan, the first queen of Delhi. It is located about 500

metres from the Dargah of Shah Turkman inside the quarter. Razia Sultan ascended the throne of Sultanate of Delhi in 1236 AD, after the death of Illtutmish. She was killed at Kaithal, near Karnal by a peasant (Page 1997). Her body was brought to Delhi and she was buried at this present spot in 1240 AD near Turkman's Dargah due to political reasons. As the place was away from the main city, Muizzu-d-Din Bahram Shah, who ascended the throne by revolting against Razia Sultan, avoided any potential revolt or uprising by the local community. At present, the tomb of Razia Sultan is located inside a thickly populated area of old Delhi. The tomb consists of four walls without a roof and in the centre of the enclosure are two graves on a raised platform. The other grave belongs to her sister Shaziya.

Some historians have made references to another grave by the name of 'Chitli Qabar' that was located inside the quarter and an important street in old Delhi is named after it, but no historical evidence of this person is available and the structure also cannot be located. The historical listing carried out by Maulvi Zafar Hasan in early 20th century mentions a number of graves belonging to late 17th and 18th century located around the Shah Turkman's Dargah. This points out that the area had a long history of being a graveyard due to the presence of the Dargah in this quarter of Old Delhi.

FIROZABAD PERIOD: 1350-1388 AD

This period is of considerable importance to the study of this area, as it is likely that some form of habitation occurred in this quarter with the building of Firoz Shah's capital city Firozabad in mid 14th century. The extent of Firozabad has been described by historians with the help of buildings and palaces constructed during the reign of Firoz Shah Tughlaq.

Grave of Razia Sultan

Kalan Masjid

Syed Ahmed Khan (Nath 2010) in his listing of monuments of Delhi undertaken in 1854 AD describes the spread of city in an area of five *kos* (15 kilometres) including 18 localities of Turkman Gate, Mohalla of Bhojla Pahar, Bulbuli Khana, Kali Masjid, Qasbah Andmat and other areas. Stephen Carr describes the city in the form of a probable half hexagon, with the base facing the river, extending about nine kilometres from Indrapat (Indraprasth) to Kaushak-i-Shikar (the hunting lodge) and over three kilometres from the river to the villages of Hauz Khas, including portions of Modern Delhi[1] or Shahjahanabad such as Mohallas of Bhojla Pahar, Bulbuli Khana and Turkman Gate.

Numerous accounts in chronicles are available about the population and density of the city. As per Shams-i-Siraj (Carr 2002) 'so many buildings were erected that from Kasba of Indrapat to Kaushak-i-shikar, five *kos* apart, all the land was occupied.' General Cunningham has considered it improbable that the entire space was actually occupied (Carr 2002). Very few buildings of Firozabad have survived but two major symbols in this regard are the presence of Kalan Masjid, north of Turkman Gate and an Ashoka Pillar on top of the ridge. Two smaller structures, Pir Ghaib and Chauburji

Masjid located close to the ridge also signify the extent of Firozabad towards Ridge (Welch & Crane 1983). It is thus evident from the description of the extent of the city of Firozabad that the quarter under study around Bhojla Parhari and Turkman Gate came under the city of Firozabad and due to elevation of the land here, the possibility of habitation is high. General Cunningham describes this in detail (Harcourt 1995),

> ..it is certain, however, that some considerable portion of the site of Shahjahanabad (or Delhi) was well populated, as the Kalan Masjid, which was built in Firoz Shah's reign (and which was inside Firozabad) is situated at some distance within the Turkman Gate of the present city...

Kalan Masjid[2], one of the main surviving structures of Firozabad lies towards the left of the road connecting Turkman Gate to Lal Kuan. Khan-i-Jehan Juhan Khan built the mosque in 1387 AD, during the reign of Firoz Shah Tughlaq. This mosque is of great value in understanding the development of religious architecture during this period as it is contemporary to the Khirki and Begumpuri mosques built during Firoz Shah's rule. The mosque is built on a high ground with vaulted cells. A long staircase has to be used to approach the

two storied mosque from the east. The mosque consists of a square courtyard surrounded by cloisters. There were, in the courtyard, four built graves, one of these belonging to Khan Jahan (prime minister of Firoz Shah). As per the listing carried out by Maulvi Hasan, the graves were removed in 1857 (Page 1997). Looking at the location of Kalan Masjid in the middle of an axis connecting, Kotla Firoz Shah (the palace complex) along river and Kaushak-i-shikar on the ridge, it is discernable that it might have fallen along the route connecting the palace and hunting lodge with a small settlement around it. The alignment of this route, which starts from present day Turkman Gate and crosses Lal Kuan and ends behind the Fatehpuri Mosque points towards the direction of northern ridge. Another possible indication of this route is the presence of Khari Baoli. As per the listing of Syed Ahmed Khan (Nath 2010) carried out in 1846 AD, a stepwell by the name of Khari Baoli was constructed in 1545 AD behind the present day Fatehpuri Mosque. Even today, the locality of Khari Baoli exists in old Delhi but the remains of the Baoli are not there.

After the death of Firoz Shah Tughlaq in 1388 AD, the city gradually declined. The city of Firozabad 'continued to exist right down to eighteenth century but people abandoned it because it had no wall and gave no protection against dacoits and looters' (Spear 1995). It can thus be concluded that a small settlement continued to survive even after the decline of Firozabad at this place around the Kalan Masjid and Dargah of Shah Turkman and finally got enveloped into Shahjahanabad. This leads to the final phase of the development of this quarter during the building of Shahjahanabad.

SHAHJAHANABAD PERIOD: MID 17TH CENTURY

Apart from Cunningham, other historians have also mentioned the presence of some kind of settlement in this area before the construction of Shahjahanabad (Chenoy 1998; Noe 1986). The slope map of the area prepared by Noe points out the Kalan Masjid and a dotted line indicates the extent of the ruins of Firozabad. During the building of Shahjahanabad, it is possible that due to the existing Dargah and a small settlement atop the mound, this quarter was retained and the other mound (towards north) was used for placing the Jama Masjid (as per norms of Islamic cities of those times, the main mosque had to occupy the highest point in the city). Noe also points out that the southern and south-west walls of the Shahjahanabad were also influenced by the presence of pre-existing structures and ruins in the area and thus the wall in this direction was built as a long sweeping curve rather than a geometric form (Noe 1986). Even one of the gates
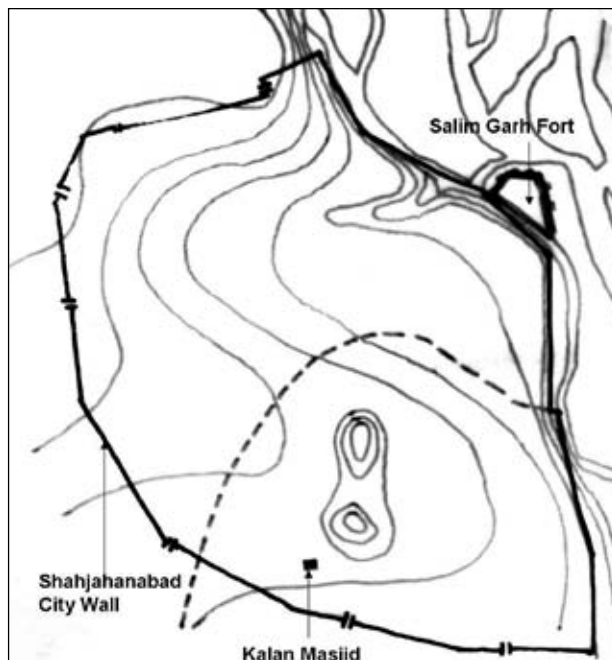
Contour Map of Shahjanahabad. The map shows original site of Shahjahanabad with ruins of Firozabad south of the thick line. Retouched Map of Noe (1986), p.240

A distinct street pattern in study quarter, near Imli Pahari

along this direction was named after Shah Turkman and existing Kalan Masjid and Razia Sutlan's Tomb was incorporated into the walls of the City. Also, the morphology of the quarter with its narrow lanes sprawling along the slopes of the mound and density of houses presents a distinct contrast to rest of the Shahjahanabad, reinforcing the existence of a Muslim quarter in and around the mound. When incorporated in the Shahjahanabad, the area started functioning as a major metal manufacturing destination (Malik 1993) and even today one finds the Turkman Street and area around the Bhojla Pahri dotted with a number of shops selling the finished or semi finished metal products. During the 18th and 19th century, the area also became a hub of Naqshbandiya-Mujaddidiya[3] probably due to the presence of graves of some saints and highest concentration of followers around it as a potential catchment (Malik 1993). The quarter also survived the military, civic and transportation intervention undertaken inside Shahjahanabad after 1857 by the colonial rulers of Delhi, largely due to its inaccessible location, topography and density of houses.

CONCLUSION

The three structures taken up for discussion are representative examples of numerous historical buildings scattered all over India that need to be documented and made accessible to public and tourists. Though it is easy to use prominent landmarks in recounting the history of a place, it may become more interesting and unique by inserting new stories about other structures. These buildings, except the Dargah, do not get any visitors and this may gradually lead to their disappearance despite their 'protected' status.

The more knowledge people have about the historical and cultural significance of any old building or precinct, the more its value gets enhanced. It builds an ownership of the structure on one hand and warrants maintenance, upkeep or adaptive reuse of these buildings on the other hand. It must be stressed that preservation is never of a structure or building alone. There are numerous examples all over the world, where preservation of some historical buildings has led to revitalisation of the whole surrounding area or district.

In India, 'any' structure that is 100 years old deserves protection as per the Archaeological Survey of India but comprehensive database and documentation of the vast array of built heritage in India is still sketchy and needs further investment of resources from the government. It is a finite and non renewable resource of the country and historical structures are disappearing at an alarming pace without any record for the posterity. There is urgency for a proper survey and documentation of such resources all over the country. Also, an appropriate archaeological heritage resource management policy needs to be formulated. It is important to create a culture of people having 'pride in the place' by 'knowing' about its history; enhance interest of people in the immense wealth of built heritage in the country and raise the public's concern about its proper preservation.

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Notes

[1]   A reference to Shahjahanabad by Stephen Carr.

[2]   Kalan means large in Arabic and though it today looks smaller in comparison to other mosques of Shahjahanabad, it is believed that it attracted the name Kalan because of its large size during the time of Firozabad.

[3]   A split-off of Naqshbandiya - one of four main Sufi orders (tariqa) of Islam.

Restoration of the Hussainabad Clock Tower, Lucknow

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Akhilesh Agarwal is a Mechanical Engineer who obtained his Bachelors in technology from Indian Institute of Technology, Kanpur in 1975 and has had varied experience in precision engineering. He is now retired and devoting himself full time to mechanical restoration or conservation projects.

Paritosh Chauhan is a Master Mariner who passed out of Training Ship Rajendra in 1979 and is presently working as a Marine Superintendent with a Japanese shipping company.

Both Agarwal and Chauhan share a common interest and have been working together for quite some time to repair their own vintage cars and engines. They are now working together on the Hussainabad Clock Tower restoration project.

ABSTRACT

The James W Benson's historic clock of 1885, installed in the Hussainabad Clock Tower at Lucknow was reconstructed and the Tower repaired, through involvement of individuals from the City who were passionate about the technical and historical values associated with the Tower and the clock within. The process through which the project was carried out has been detailed, to enable the understanding of intricacies, thorough research and practical issues involved in such an exercise. Such initiatives highlight the strength that local communities can lend towards conserving their heritage.

INTRODUCTION

The Hussainabad Clock Tower is located in the old city of Lucknow, a little beyond the Bara Imambara and Rumi Darwaza and is a very visible landmark in the city. It abuts a pond and has a picture gallery and a historical structure called Satkhanda in its immediate vicinity. The Tower and the clock within are a marvel of architecture and engineering. The Tower is 67.4 metres tall, reportedly the highest open brick structure

View of Hussainabad Clock Tower

in India. Designed by a British architect, Richard Roskell Bayne in Moorish architecture, it houses the biggest clock in India with four dials each 5.5 metres in diameter. The four-dial faces are illuminated by oil lanterns and a unique system of reflectors. The clock tower also houses a massive gong to sound the hours and four big bells to sound the chimes. The mechanical clockwork was built by J W Benson, one of the leading British clock makers of the time. The Clock Tower was built between 1882-87 by the Hussainabad Endowment Fund to commemorate the arrival of Sir George Couper, the first Lieutenant Governor of the erstwhile United Province (pre-1947 name for present day Uttar Pradesh), India. The clock has been out of operation since around 1984. An attempt was made to repair it in the early part of this decade, without success.

INITIATION OF THE PROJECT

In 2009, a technical team of three technicians from the Anglo Swiss Watch company, Calcutta examined the clock and opined that the clock cannot be repaired due to non availability of service support from the original manufacturers, as the company no longer exists. On this premise, it was decided to replace the original mechanical clock with an electronic clock.

Aware of the significance of the clock, the authors felt the need to restore and preserve it in its original condition and acted upon to save the biggest mechanical clock of India in voluntary capacity. The process of rescuing the clock began as a preliminary proposal was prepared and presented to the District Magistrate of Lucknow who was also the Chairman of the Hussainabad Trust that is responsible for the upkeep of the Clock Tower. The District Magistrate showed keen interest in the proposal and requested the authors to prepare a feasibility report for the restoration of the clock. Following this, a site visit to the Clock Tower was arranged. On April 12, 2010, the Hussainabad Trust took a decision to entrust the repair of the Hussainabad Clock Tower and its unique clock to the authors. The restoration work was started on April 13, 2010, with the project expenses to be borne by the Hussainabad Trust and the authors voluntarily became technical experts, offering their services free of charge, as their contribution towards restoring and maintaining the heritage of the city. The basic clock was completed and tested on October 26, 2010. It is working well and giving correct time. This the first time that such a large, historic mechanical clock has been recreated.

DESIGN, CONSTRUCTION AND CONDITION

The structure of the tower is of exposed brickwork laid in lime mortar. The integrity of the brickwork is remarkably intact, considering that it is 125 years old. There is an internal skeleton of four heavy vertical pipes bolted in sections and with cross braces. These appear to be for the purpose of supporting the heavy bells and to reinforce the tower structure.

A series of masonry and stone steps lead to the first floor that has four balconies. The staircase was dirty and infested by bats. All the balconies were damaged by Peepal and Banyan trees taking root and causing crevices. The flagstone floor had been broken sometime in the past, most probably due to falling weights.

From the first floor there is a spiral cast iron staircase leading to a wooden landing. The spiral wrought iron staircase was no longer anchored securely to the tower walls and showed signs of corrosion due to lack of maintenance. The wooden landing was

very weak due to water seepage and acid from bird droppings accumulated over the years. The spiral staircase continues to the next wooden landing. The clock pendulum is accessed from this landing by a separate wooden ladder. The pulley arrangement for the clockwork weights is also located there. The wooden landing was broken and pulley and weight arrangement had disappeared.

The spiral staircase continues to the second floor that has the main clockwork mounted in a wood and glass cabinet. The pendulum is suspended from this floor by a steel band and is accessed by an auxiliary staircase from the landing below. The load of the structure above this floor is supported by steel pillars. The beam on this floor is utilised to distribute the upper load to the structure below. The main clock work and the mechanism for the gongs and chimes were missing. The frame on which the clock work was mounted still exists, being bolted to the floor.

A short wooden ladder leads to the third floor that houses the four-dial faces and a common drive arrangement for the hands. That floor had been totally vandalised by miscreants, with all the drive arrangements, linkages, gears broken and missing. Even the seven feet long minute hand from the north face was missing and the hands on the east face had been vandalised. Both the south and east sides of the tower overlook the main thoroughfares of the city.

From this floor a straight wooden ladder leads to the fourth floor, on which a large central gong and four smaller bells are mounted. The gongs and bells are rigidly mounted with hammers for striking the bells externally.

There is a unique lighting system consisting of four steel cantilever arms that have gear racks built into them, mounted on roller stands and driven by a bevel gear and pinion arrangement so as to move the arms in or out radially in the horizontal plane. At the end of these arms rectangular plates are mounted oriented parallel to the dials. These are reflectors intended for dial lighting. The four steel cantilever arms can be retracted for servicing of the oil lanterns and the reflectors. This system is presently defunct and jammed. The flooring had crumbled over the years, making it dangerous to walk on. The wooden beams that carry the load of the gong and bells were loose at the joints with deterioration of the wooden beams. There is a superstructure above the bells with ornamental arches in latticed brickwork. The floor

The Clock on April 13, 2010

New clock mechanism

above this houses the central dome surrounded by four smaller domes. The central dome carries a broken wind-wane on top. The domes are made of copper sheets. The sheets from the central dome are missing thus leaving it open. The other smaller domes are also in damaged condition.

The clockwork is of one week type. There are three separate clock winding arrangements or handles, one for driving the clockwork and the others for the gongs and chimes. The clock is driven by weights that are raised during manual winding and descend due to action of gravity during the week long operation. The clockwork is located just below the dials, so that sufficient height is available for this purpose.

The Clock Tower had not been entered or visited for years and was infested with all sorts of pests including a large colony of bats and pigeons. The interior of the building was dilapidated and wooden floors were

rotten. The anchoring for the spiral staircase leading to the dark and dingy upper floors had broken from the tower structure. With only torches for assistance, the trip to the top was an adventure in itself.

RESOURCES AND STRATEGY

The biggest challenge in the reconstruction of the Great Clock was non-availability of drawings and missing parts. The project was like putting a jig saw puzzle together, with most of the pieces missing. Knowledge base was acquired from diverse sources, by studying the subject of horology[1] from the internet, using personal knowledge and experience and knowhow from a diverse set of people. This resulted in experimenting with a new informal model for voluntary work. Without any formal membership, a core group of purely voluntary and interested persons were invited to contribute their knowledge and experience as per requirement.

The project also required a great deal of safety engineering measures and a large logistical support, for which a team was organised. The strategy was to recreate the basic clock first and take up the peripherals and improvements later on. While the initial project had been to repair the clock, due to the extremely poor condition of the tower, repairs of the tower had to be undertaken to ensure the safety of the team to work.

CLOCK RENOVATION AND REGENERATION

The clock repairs were planned in two phases. The first is complete while the second is yet to be carried out.

First Phase
During the first phase, the repairs of the following parts of the clock were undertaken:
- **Escapement:** The heart of the clockwork is the deadbeat escapement[2] used by J W Benson. Its design is very complex and there are many design requirements to be satisfied at the same time. The length and the time period of the pendulum helped to calculate the requisite number of teeth of the escapement. The mechanics of the Graham dead beat escapement were studied in depth and it was possible to satisfy four out of five design requirements. The last was done practically after trials. The project involved manufacturing the escapement using the wire cut process as the high precision of this process made it possible to duplicate the complex geometric design of the escapement that had been

worked out. The new escapement works well, has proper deadbeat action and should give the same accuracy in timekeeping as the original.
- **Gear train:** The design of the gear train was very involving and difficult because no details or parts of the original Benson design were accessible. The only guides available were the holes existing in the bench frame, the sole part left from the original clock. The reconstruction of the gear train started with measuring the centre distances of all the holes and matching them with possible gear train layouts maintaining the required gear ratios. Then module values were calculated for the gears and matched with available gear cutters. This process went through much iteration and the design was slowly refined. Ultimately, a gear train design had been attained, that is believed to be very close to Benson's original design. The pinions were made from medium carbon steel and larger gears from cast iron, ensuring sufficient dimensions to give long working life.
- **Power drive:** For the power drive, the original Benson design was retained. This comprised of a large Great Wheel of 0.6 metre diameter, driven through a ratchet and pawl by a drum of 0.3 metre diameter. It is operated a by a six millimetre steel wire rope passing over a system of pulleys and from which a weight of 300 kilogrammes is suspended. The weight is raised through a height of about 23 metres and operates the clock for seven days, before that it has to be rewound manually. No parts or details of the original design were available, but during the research that preceded project implementation, a description of the great Benson clock was found in a British engineering journal of that time, from which the main dimensions of the great wheel and drum were taken. The gear

The Dial in June 2010, before restoration
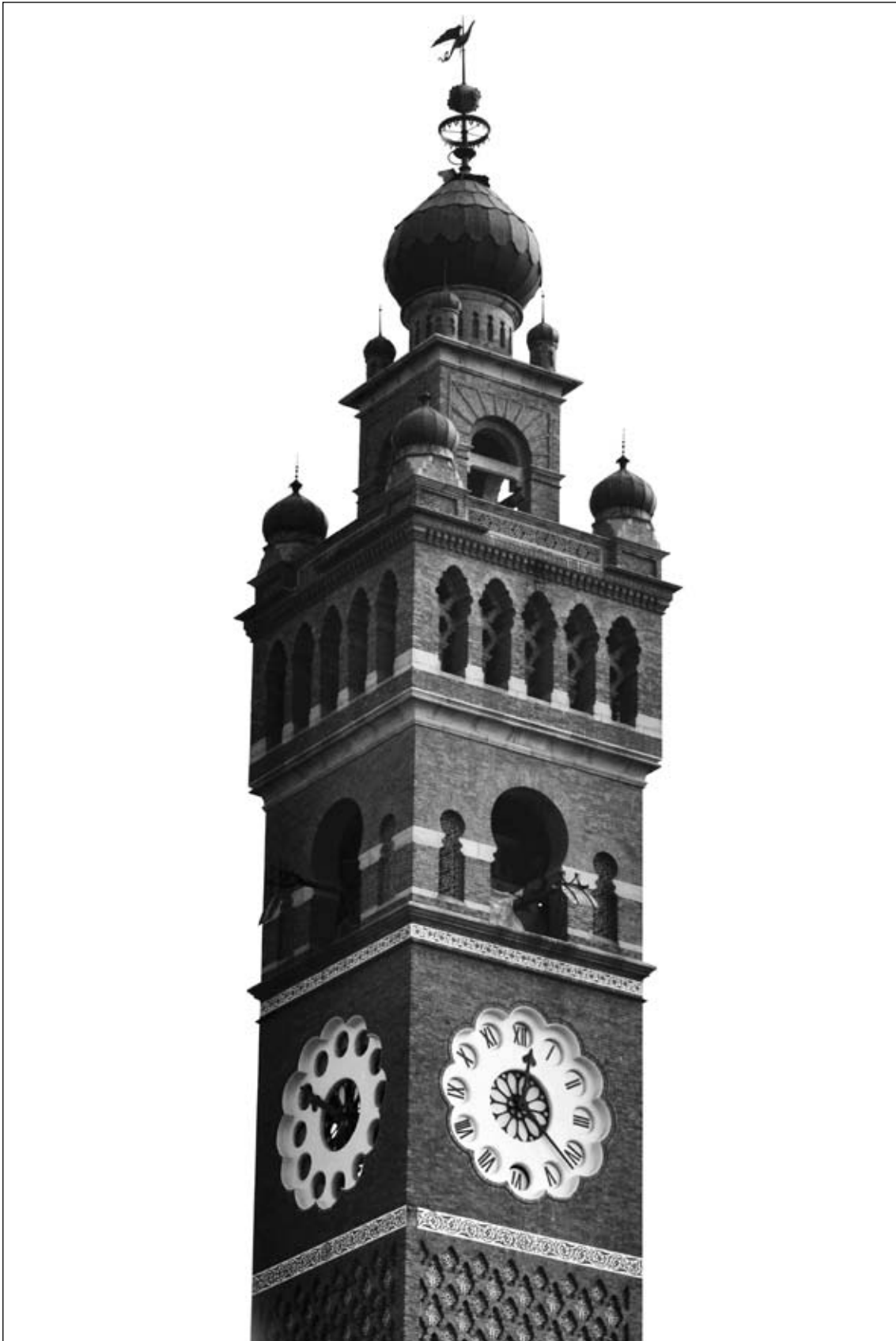
The restored Tower

New hour and minute hand control assembly

ratios of the gear train and the dimensions of the suspended weights were cross checked and the rest was designed accordingly. The weight required was determined by trials. The ratchet disconnects the Great Wheel from the drum to permit rewinding. Whether Benson used one pawl or two is not known, but only one was found. There is evidence that the clock had suffered an accidental fall of the weights, hence two pawls were provided instead of one as a safety measure. If one fails the other will prevent the weight from falling. Further, a self locking feature was incorporated in the design of the rachet, so that the pawls cannot slip or disengage under load.

- *Motion work*: The motion work was another challenge as all parts were missing. All the dial shaft assemblies were damaged, vandalised or missing. It was not clear how the dial shafts were mounted or supported. The original Benson design was visualised by a process of deduction from circumstantial evidence, to proceed with designing the parts. The damaged shafts and the hands were repaired successfully and the missing hands fabricated locally.
- *Balancing weights and gears:* Subsequently, the balancing weights were designed and arranged. These are now finely adjustable. The compound gears were designed and made for driving the hour hands from the minute hands. The gears for this had to be made by wire-cut process due to fractional modules. The arrangement worked well. For transmitting the drive from the clockwork to the dials, two standard gearboxes of Italian design were located and used because of certain functional advantages over the original Benson design, such as simplicity and longer life.
- *Dials:* The paint on dials was scraped and redone using exterior finish paints. The work was difficult,

as due to the great height it was not possible to erect scaffolding to provide access from the outside. The entire work had to be done by workmen wearing safety harnesses from inside the Clock Tower. For the dial numerals, black impact resistant polycarbonate Roman numerals were fitted on milky white background polycarbonate using special adhesives, rather than just painting the numerals, in order to achieve good visual appearance as well as durability.

Second Phase
The 'Maintain Power' is a mechanism which provides power to keep the clock running during rewinding. This is the next assembly to be designed and made. After that the arrangements will be made for lighting the dials to enable viewing during night time. Other works to be taken up in phase two are restoration of the Gong and the Chimes, both of which are major assemblies involving almost as much work as the basic clockwork itself. The Remontoire is another intricate part of Benson's original clock that ensures accuracy of time keeping. This will be taken up last after monitoring the accuracy of the clock's time keeping for sufficient time.

Current status
The main clock that was directly connected to the west dial face has been working satisfactorily since October 26, 2010. The north, south and east dial faces have been started and are working adequately.

CLOCK TOWER REPAIRS

While the sourcing of material was in progress, the spiral ladder was secured and anchored to the wall of the tower, after that the team could start work. Red sand stone for renewing the damaged first floor was sourced and transported from Agra as it wasn't available in Lucknow and the broken floor was repaired by local masons. Most internal floors and ladders as well as some load bearing structures were made of wooden beams. Some of them were cracked and the mortise and tenon joints showed considerable gaps or cavities. Yet, there was no evidence of damage due to insects such as termites. The wooden platforms and stair cases required to be repaired first for safety reasons.

After the initial cleaning it was seen that most of the wood was rotten, crumbling and very weak. Sal wood, same as the original was sourced from Uttar Pradesh Forest Corporation. The team of carpenters set to work shaping and planing the wood to replace the original

Refurbished clock dial

wooden structure. There was the limitation of having to work within the original structure of beams and girders which could not be moved. While the original designers could work in a logical sequence laying out the structural supports the restoration team had to introduce wood pieces within the existing structure. Further, in absence of mechanical lifting gear, 2.5 to 3.5 metre long planks of wood had to be carried manually up the winding spiral staircase.

Current status

Though the work was slow due to the manual mode of working, the plan was to design and manufacture the clock parts while the carpenters laid the new wood floors. The plan turned out to be successful, hence it was possible to work safely on newly laid floors by the time the clock parts were ready. Presently the dial floor has been renewed and the carpenters are working on the upper Gong floor. The intention is to have the floor ready by the time the Gong and Chime mechanism is designed and reconstructed.

CONCLUSION

This project has successfully recreated Benson's original clock, housed in the Hussainabad Clock Tower. While maintaining the original design, a few necessary improvements were made, such as oil filled gearboxes in motion work and double pawl or fail-safe ratchet. Work was carried out at high speed using mostly local resources and with economy, yet a very high technical standard and quality of work was maintained throughout. The project is likely to be completed well within the allocated budget. The entire process was carried out by using local labour, artisans and technicians from Lucknow. This is the first time in the world that a one of the biggest clocks of the world has been reconstructed from scratch using local resources and that too by people without previous horological experience. The project initiation and implementation are an example of how a committed team of individuals can help conserve their heritage by using their knowledge and experience and applying it in the best possible manner. While each one can make a difference, it is important to note that the process of any intervention in the historic fabric needs to be based on thorough research and honest, in-depth involvement of such agents of change.

Notes

[1]   Horology is the art or science of measuring time.

[2]   An escapement is a device in mechanical watches and clocks that converts continuous rotational motion into an oscillating motion and is the source of the 'ticking' sound produced. Deadbeat escapement is an improvement to the anchor escapement invented in 1660 with the advantage that it eliminated recoil. The design was popularised by George Graham in 1715, though it is first said to have been made by Thomas Tompion in 1675.

Sustainable Solutions

Community Based Tourism
Chhoti Haldwani

ANJALI BHARTHARI RAVI

ABSTRACT

The village of Chhoti Haldwani is a self-sustainable hamlet in Uttarakhand. The villagers have formed a committee and with formal training as guides and exposure through eco-tourism consultations, run a museum shop and home stays. They also conduct visits along the heritage trail of the village. By giving the visitors a good Kumaoni experience, the villagers earn money and use it for conservation activities. This reflects a clear recognition of the heritage value of the place. With very little professional assistance from outside, the community of Chhoti Haldwani has reached, where it stands today through a process of self initiation and self learning and can act as a model for community based tourism.

INTRODUCTION

Chhoti Haldwani is a small settlement situated on the Ramnagar-Haldwani-Nainital road in Uttarakhand, also known as Jim Corbett Village. At an altitude of 393 metres above mean sea level, the village is surrounded by reserve forests on the south and west, while the seasonal Boar River flows to its south-west.

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Edward James Corbett, commonly referred to as Jim Corbett, was a British hunter turned conservationist who lived there in the 20th century. He bought 89.4 hectares of land in 1915 adjacent to his house in Kaladhungi in 1915 and called it Chhoti Haldwani. On this piece of land he settled 10-15 tenants, some of them helped him in his *shikaar* (hunting) of the man-eating leopards and tigers. Corbett put in efforts to develop the settlement, such as giving the settlers hybrid seeds, pulses and cereals to grow and sell to be self sufficient. He looked after their health and even got a canal system dug to ensure regular water supply. Interestingly, the mud and stone-lined canals are still carrying water. He built a five kilometre long wall around the village to save the crops from wild animals and gave the villagers a gun to protect their crops from wild boars. In this duration, Corbett experimented with several horticultural ideas in the village. He brought hybrid seeds of banana and large kernel maize from Africa and even tried to grow coffee. In 1947 he went to Kenya and made his tenants master of their land. He also paid their taxes from Kenya as long as he and his sister were alive.

Corbett's house was turned into a museum in 1967 and later redone as an interpretation centre depicting his contribution and life. Today there are around 142 families in his 'Chhoti Haldwani' and he is much loved and revered by them.

THE INITIATION

In 2001 the Wildlife Institute of India (WII) Dehradun, in collaboration with the US Fish and Wildlife Service (USFWS) initiated a project that focused on developing interpretative facilities at the Corbett National Park. A part of the project was also to look at the museum of Jim Corbett. Research on the museum revealed that it was nothing more than a collection of his belongings.

During the project, interactions with the villagers, number of visitors increased. The six books written by Jim Corbett and four biographies on him gave a good insight into the life of Jim Corbett. There are also two movies made about him. These contain enough information on his legacy and contribution to the people of Kumaon. The interesting part was the people

View of Chhoti Haldwani

Samitti members: Indra Singh Bisht, Rajesh Panwar and P Mohan

Elephant sighting on one of the forest trails

of his village talked of him fondly even after so many years. A bonding was established with the villagers as Corbett was the central theme of research and the people of the village warmed up to the project. People came forward to talk about their association with Jim Corbett and narrated various incidents. Most of those who had been associated with him were in their twilight years and were concerned about preserving his legacy. This created a kind of stir in the village on how to let people know of his village, his people and their association with him. As a part of the

project in 2002 when the research was almost over, a refresher course on interpretation of Jim Corbett was organised through which several villagers were trained.

In 2003 the villagers organised themselves under the leadership of Rajkumar Pandey who used to sell *agarbatti*s (incense sticks) and called themselves Kumaoni Sanskritik Utthaan Manch. The group was renamed as Corbett Dharohar Prabandh Samiti and further changed to Corbett Gram Vikas Samiti (CGVS). The Samiti was registered as a non profit organisation under the *Societies Registration Act 1860* in 2004. The primary objective for forming the Samiti was to preserve the legacy of 'Carpet Sahib' as he was fondly referred to by the people of Kumaon. The Samiti sold local crop produce and craft items made by the villagers. Today it has 11 members in the governing body. They meet quarterly and before any organised activities. The Panchayat or local government body does not have any role to play in the Samiti. Various activities of CGVS are conducted from 15% of the revenue accrued from tourists.

PARALLEL SUPPORTING PROCESSES

A community based tourism project was initiated with WII, Lead India and Chhoti Haldwani at one of the sites. It was known as the Corbett-Binsar-Nainital Ecotourism Initiative. A Community based tourism plan of Chhoti Haldwani was presented after several consultations in the village. It also increased the villagers' understanding of community participation and eco-tourism and channelised efforts in putting things together for a community based eco-tourism project. Interestingly, out of the four sites of this project Chhoti Haldwani is the only one that has survived and is successful. Later in that year, this Village's community based programme featured in the World Tourism Organisation book on 'Indicators for Sustainable Tourism'.

As an outcome of the extensive research of the project in 2003, 'Walking with Corbett'; a walkaholic's guide to Jim Corbett's built heritage in Kaladhungi and Nainital, was published with the help of a Dehradun based non governmental organisation. This guide book, assisted the visitors, on the various walking trails identified in the village.

Since 2003 the members of the Samiti have participated in several workshops. Some of these are, 'Product Development Documentation and Marketing' at Centre for Eco-Tourism, Chunakhan, Workshop on Orientation

The Boar River and dense Sal Forest

and Planning for Souvenir Production, Role of Solar Energy Technology in Conservation and Tourism in Himalayan Region. The members have also undergone training at Eco-lodge Training Institute, Bangalore and WII, Dehradun.

In 2005 World Wildlife Fund (WWF)-India distributed liquefied petroleum gas connections on subsidised rate to the villagers of Chhoti Haldwani. WWF-India later assisted the villagers in forming Self Help Groups (SHGs) and training of the members about the 'Tie and Dye' concept. Later in 2007, WWF-India supported the incense stick manufacture unit financially. WWF-India supported the construction of Vermi-compost pits; simultaneously, training was imparted about 'Food processing'.

An information kiosk was established at the Jim Corbett Museum with the support of Corbett Tiger Reserve. An internet connection was also provided. This helped the villagers establish net connectivity. They were put in touch with the travel agency 'Make My Trip' and after that, have received bookings on the internet. Since the museum falls under the jurisdiction of the Director, Corbett Tiger Reserve, the maintenance of the museum, building of a road in the village, renovation of toilets was completed by the Forest Department. With the help of the Tourism Department, participation of Corbett Gram Vikas Samiti was organised in South Asia Travel and Tourism Exchange (SATTE), New Delhi; Travel and Tourism Fair, Bangalore, Kolkata, Ahmedabad and Mumbai. It is

very interesting to observe that people who were linked with the project; remain associated even after ten years, though intervention is minimal and need based.[1]

CONSERVATION AND OTHER ACTIVITIES

In 2009, one of the CGVS members nabbed a deer poacher in the nearby forest. They were given the 'Nature Conservation Award' by 'The Corbett Foundation'. The foundation works around the periphery of Corbett Tiger Reserve and does work with the villages to resolve man-animal conflicts. Other conservation activities carried out by them include campaigns about ban on use of polythene, informing forest staff about forest fire and wounded animals, encouraging tree plantation and cessation of poaching, wood cutting and theft.

An eco-mount rangers club was formed, with 90 children (below 14 years of age) who participated in rallies and street plays for awareness generation. In a unique way the students of the village enacted the stories of Jim Corbett on various occasion thus keeping his legacy alive with the young generations as well. Book reading by the noted actor, Tom Alter, was also organised at the museum to get the children involved into reading. He was also the Brand Ambassador of Corbett National Park. Celebration of various days like Jim Corbett's Birthday, World Tourism Day, World Environment Day and Ozone Day forms a part of the Samiti's activities. A nature club of 40 local students is also a part of awareness campaign. Members of this club are trained on various conservational issues by Corbett Gram Vikas Samiti to spread awareness on issues such as forest fire amongst the villagers.

PRODUCT DEVELOPMENT

Apart from the museum and the Jim Corbett Heritage Trail in the village, the villagers also developed several other trails in the area. They identified the potential of the trail in terms of habitat and used the forest tracks. Since the village is surrounded by reserve forest the trails are a delight for the visitors. Though these are short and close to the village, the trails pass through dense Sal forest and sighting of wildlife, bird watching and identifying pugmarks is easy.

Souvenir shop
Moti Souvenir Shop was set up in 2004 initially with five families of the village. Now more than 42 families of four villages are associated with it. This was a kind

of a guard house at the entrance of the museum. It was renovated under the WII-USFWS Interpretation project and handed over to the Samiti members to manage as a souvenir shop. It was named after Moti, a trusted aide of Jim Corbett. The process also involved a *dharna* (strike) by the villagers since the museum was closed for too long under the project and was affecting the local economy. It initially sold books of Jim Corbett and a few products like incense sticks made by one of the Samiti members. Soon 'Tie and Dye' garments, organically grown products such as turmeric and pulses from the village were put on sale. Vermi-compost, paper bags and products made of pine needles are also on sale from adjoining villages. This shop was an initiative of Corbett Tiger Reserve and Corbett Gram Vikas Samiti to provide a supplemental income to the rural community and is now on rent from the Forest Department to CGVS.

Heritage trail

A Jim Corbett heritage trail had been identified in the book 'Walking with Corbett'. It was physically marked and developed with the help of the Forest Department (Eco-tourism Wing) and inaugurated on May 29, 2003 by the Environment and Forest Minister, Government of Uttarakhand. An interesting detail of the guiding process on the Jim Corbett heritage trail is that the guide shares his fee with the community, who own the products he visits during the tour.

Homestays

Some keen visitors coming to the museum did go on the Corbett Heritage Trail but not on other trails developed by the villagers. This was due to two reasons, paucity of time and lack of accommodation in the village. Based on the increasing demand from the visitor to stay back and enjoy the village, home-stays were developed by the villagers. With an idea of low investment the first home-stay came up in 2006. The aim was to hold tourist to enjoy all the products developed by them, encourage cultural exchange between hosts and guests, this lead to capacity building of the host families. An increase in visitors would also generate resources for the conservation of Jim Corbett's Heritage and natural resources since a part of the earnings of the members went to the Samiti. The organisation utilises the money in conservation and other capacity building activities of the village.

Over the years, the Corbett Gram Vikas Samiti; now contributes one percent of the total revenue generated due to community based tourism activities in Corbett's Village, to the Gram Panchayat. This is utilised with the

Moti's Souvenier Shop

consent of Panchayat members for development work in the village.

Four home-stays have come up; two as additional rooms in the main houses while two as individual huts in the village. It was realised that serving food at separate homes was not working out economically and the idea of a community dining hall was introduced. The community dining hall was inaugurated in January 2010. The structure was built with locally available material. Local cuisine and fresh vegetables grown in the garden were introduced. Visitors were encouraged; to participate in the cooking process, as well. Since food was cooked at one place garbage segregation was possible and recycling of waste was introduced.

To conserve a dying tradition, Hudka, a local percussion instrument used during sowing and harvest, to sing along by women while working in the field, was introduced at the social gatherings organised at

Ujyav home stay huts

The approximate number of visitors on the Jim Corbett trail grew from 230 in 2005-2006 to 260 in 2009- 2010, including foreigners. Visitors on other trails increased from 20 in 2005-2006 to 75 in 2009-2010, while those in home-stays increased from eight in 2006-2007 to 200 in 2009- 2010. Income of the community also increased from ₹ 0.3 million in 2005-2006 to ₹ 0.7 million in 2009-2010 on account of the sales from the Moti Souvenir Shop.[2]

The success of the project has been to keep alive and take forward the history and the legacy of Jim Corbett. The interest and the enthusiasm shown by the villagers in working together in a cohesive manner is a significant reason why the community has been able to sustain the project though the economic benefits were initially very limited. Undoubtedly, after ten years new jobs have been created and a systematic record of this is being kept by the Samiti.

Tom Alter at Aranya Cafe in Corbett's Village

the homes. They performed Kumaoni songs and dance programmes for the visitors on request.

ACHIEVEMENTS

The members of the Samiti being trained as nature guides, have acquired professionalism in taking visitors on the heritage trail around the village. Not only have they preserved the built heritage associated with Jim Corbett but have also kept his folklore alive. The Samiti members religiously celebrate his birthday on July 25 and speak on his views and methods of conservation, the programme involves the villagers and children. The village children have staged a play, 'My India' based on his writing, at various locations, about five times in the last few years. In the home-stays, they preserve the Kumaoni traditions, serve local cuisine, stage folk dances and also are in the process of creating a museum of items that were in use in the bygone days. The villagers are still making efforts; they have printed their own brochures, posters and even have a website.

LEARNING FROM THE MODEL

Corbett National Park is the only Park in India which has the highest density of tigers. It is quite ironical that the people of Jim Corbett Village are following his ideas of conservation and sustainable tourism and the Park to which he lends his name is facing just the opposite. Around the Park there is a rise in man-animal conflict, there is rampant unplanned, unsustainable development with use of non eco-friendly practices and the villagers don't feel involved. The tiger is a territorial animal that is bound to move from one location to another and the developments taking place in and around the Park are blocking animal corridors. With the current scene of apathy of the villagers there is serious doubt on the ability to protect the national animal. It may be ideal to have models like Chhoti Haldwani work within and in the periphery of the Park rather than loud ostentatious 'resorts'.

Notes

[1] During the research of the USFWS and WII project, the Principle Investigator of the project, Mr. Rajiv Bharthari initiated the Lead India project on community based tourism. Later as Director of Corbett National Park and Additional Secretary Tourism he helped the project in capacity building activities. In June 2009 on request of the Samiti members Mr. Rajesh Panwar joined the

project and became of member of governing body of Corbett Gram Vikas Samiti. He helped with setting up of the dining hall, making of the web site and is still associated with the Samiti as Executive Director. He is a regular employee of the Samiti and looks after the administration of the project.

[2] On December 16, 2010, the Governor of Uttarakhand, Smt Margret Alva released an agriculture map of Chhoti Haldwani.

She walked in the village, saw the village chaupal, came to the dining hall, saw the museum, watched the children performance from 'My India' Jim Corbett books and shopped at the souvenir shop. This generated a lot of publicity for the village. Media covered it very well and all the leading magazines carried articles. The village was also visited by the Tourism Minister of Uttarakhand, Shri Prakash Pant.

Temple Guardians
A community's initiative in conserving its sacred heritage

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Mark Weber has a Masters in Historic Preservation from Boston University's Preservation Studies Programme. He is currently the technical director and field projects manager for World Monuments Funds' Field Projects Department, New York. Mark is involved with the planning and review of the organisation's country wide conservation initiatives in India and Turkey and monitors the work of building conservation specialists.

TARA SHARMA AND MARK WEBER

ABSTRACT

The conservation of a community's cultural or natural resources across much of rural India and indeed Asia is closely linked with the function that heritage continues to perform for the community. Traditional management systems have been developed to preserve these resources over the centuries. However, as these resources become increasingly vulnerable, in an era of climatic change and globalisation, traditional communities have to cope with a whole new range of issues. In rare cases, they are able to make the leap by forming new partnerships and developing new models of development that help to carry their traditional way of life into the future. The initiatives undertaken at Basgo in Ladakh have become a well known example of community stewardship in the preservation of their heritage.

INTRODUCTION

Linking a people's heritage with contemporary culture is the key to ensuring its survival. Sustaining these linkages in their intangible

forms essentially are often the most difficult part of a preservation programme. Yet, in many areas of the world and certainly in many rural parts of Asia, continued use and relevance of heritage in contemporary community life has ensured the survival of heritage in some of the world's most inhospitable terrains. Ladakh, located in the north Indian state of Jammu and Kashmir is one such region. Flanked by two of the world's highest mountain ranges, the Karakoram and the Himalayas, the area is essentially a cold arid desert where temperatures plummet in winter to -35° C and can rise in summer to over 30° C. Till recent years, the region received relatively little rainfall in the summer.

As climate change begins to affect these remote regions of the earth the situation is changing. Periods of heavy rainfall or increased snowfall followed by sudden rise in temperatures causing glaciers to melt at a rapid rate have led to increased incidents of flooding in recent years. For the traditional adobe construction in the region it has proved fairly disastrous. Increased precipitation means increasing the frequency of maintenance cycles. In some cases it means having to adapt the traditional systems so that it is able to cope with the changing times. Most importantly, it results in more vigilance and effort by the traditional custodians to ensure that problems are addressed as they arise.

The role of traditional stewardship remains the most vital component of any preservation effort in Ladakh. Villages across the region have over the centuries developed their own systems to maintain their tangible and intangible heritage. Traditional management systems have ensured that community assets, both built and natural, are constantly maintained, repaired and in some cases renewed so that they continue to serve the needs of the community. The process of renewal, repair and restoration is often preceded with religious rituals carried out to ensure that sacred spirits that reside all around are not disturbed. Thus, rituals associated with the renewal such as the blessing of the land and appeasement of underworld spirits, the de-consecration of paintings and sculptures depicting Buddhist deities prior to carrying out any conservation works form an important element of the process as they reinforce links associated with the function.
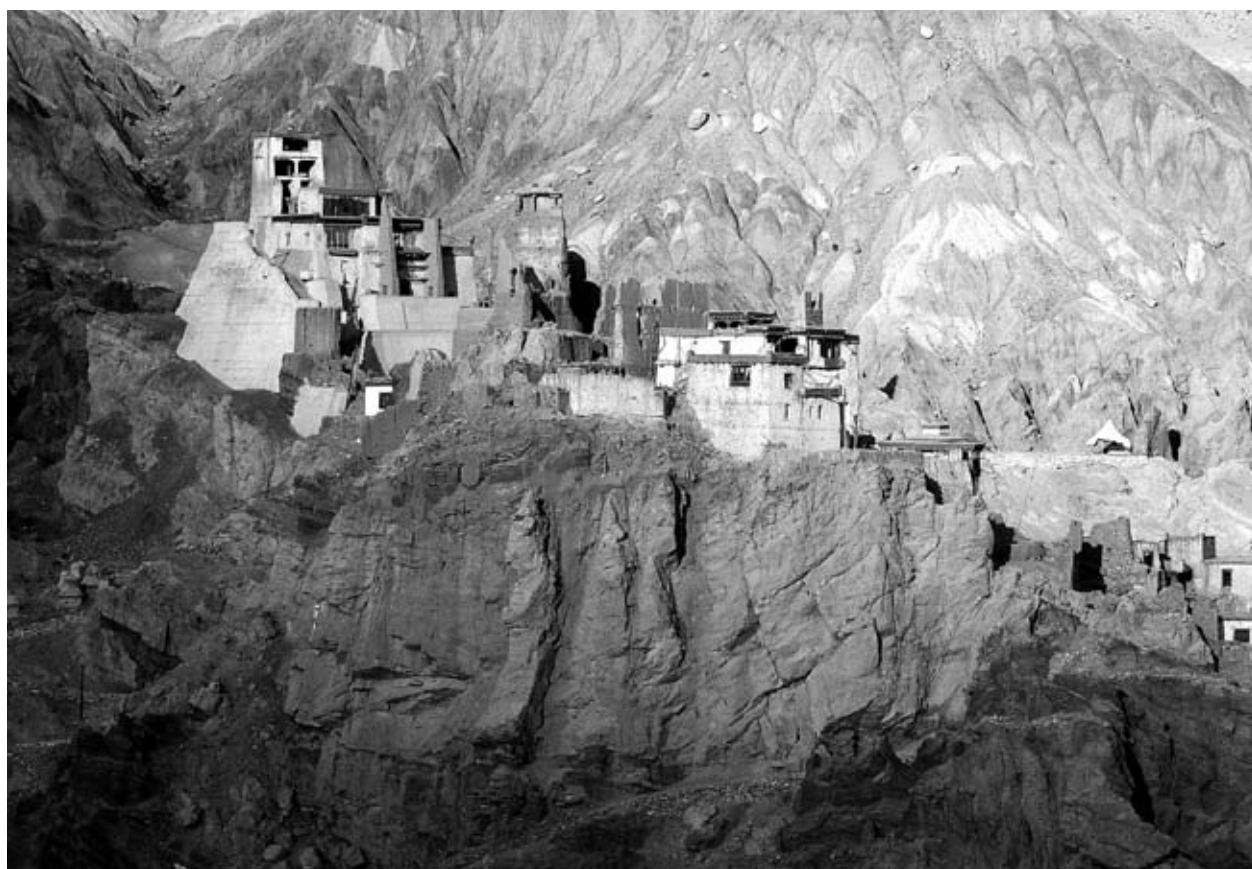
14th century citadel that looms over the present day village of Basgo

BASGO: CONTEXT AND BACKGROUND

The village of Basgo is dominated by an ancient citadel which dates back to the 14th century when Basgo served as the capital of Ladakh. The citadel was built using indigenous technologies and materials, primarily sun dried mud brick, stone and some timber. The fort contained the royal palace, stables and residences for the nobility and three temples dedicated to the Maitreya or the Future Buddha. The citadel was finally abandoned in the 19th century when it was heavily damaged by an invasion from the neighbouring region of Kashmir. The temples however, continued to be used in worship and were maintained in some manner by the traditional leadership of the village headed by the headman and representatives from the different hamlets that comprise the village. Each hamlet is represented by a member and the collective body is headed by the Goba[1].The Goba carries out community activities including the repair and restoration of endangered built heritage with the help of these members. Clearing of snow from the roofs of temples, periodic lime washing of the exterior walls, laying additional layers of mud on the roof to prevent ingress of water were some

of the activities carried out by this body through the mobilisation of the villagers who would contribute their time or make donations to carry out the work. Regular meetings were convened by the village leaders with the village community to seek these contributions.

The temples gradually began to deteriorate sometime around the 1970's with increased erosion of the hill on which the temples rest. As access to the temples deteriorated, regular maintenance became impossible. Some repairs to the temple roofs were carried out by the villagers to arrest further damage to the temples. To collect funds for these repairs, the local youth dramatics club performed tales from the Jatakas (Buddhist fables) and other folk stories to touring neighbouring villages to collect money and donations in material. However, as the foundations continued to deteriorate it became critical to address the larger threats facing the site.

In the 1990's the members of the youth dramatics club came together to form the Basgo Welfare Committee (BWC), a formally instituted society which would aid village elders in the task of preserving the village's common heritage. The group is led by a young engineer

Villagers volunteer to carry stone up to the citadel. Source: Tsering Angchok

under whose guidance the community began a long term conservation programme for the temples. The first task was to stabilise the rapidly eroding hill on which the temples were built. Work commenced with a ritual prayer led by a *rinpoche* (abbot) to placate the *lu* (deities of the underworld) who are prone to become violent and cause harm when disturbed when the earth is dug. With the blessing of the land, the task of constructing a massive retaining wall around the main temple, the Chamba Lhakhang, began.

The task of restoring the temple itself became an act of merit. The accumulation of good karma through various acts of merit is seen as the first step towards enlightenment. Villagers came forward to contribute; voluntary labour poured in with villagers forming human chains to cart stone to the site, appeals were sent to the village and neighbouring villages requesting for support in safeguarding their endangered temples. Material contributions in terms of grain, timber were made which were sold and proceeds used in the conservation programme. Donations also poured in from farther afield; trucks were provided to carry stone from the quarry site to the village, funds were provided by local institutions and charity dinners organised to raise money. The efforts were also encouraged by the patron of BWC, Dr. Lobzang Jamspal, a well respected scholar teaching at the Tibetan Classics Translators Guild in New York.

As work progressed it became clear to the BWC that both funds and further conservation expertise would be needed to complete the conservation works on these temple. In 2000 the Maitreya temples were nominated and listed to the World Monuments Watch list of Hundred Most Endangered Sites with the support of the Tibetan Classics Translators Guild. Shortly after, the BWC joined hands with a regional non governmental organisation, the Namgyal Institute for Research on Ladakhi Art and Culture (NIRLAC) to source expertise needed to preserve the temples particularly in the task of preserving the exquisite murals that bore the brunt of the deterioration. A team of wall painting conservators, conservation architects and structural engineers thus joined forces with the village crafts persons and artists to being a multiyear conservation programme. The programme meanwhile received support from the World Monuments Fund (WMF) that enabled work to commence on the largest temple. Through an initial grant provided by WMF, work on the retaining wall was completed around this temple. A second grant was provided through the 'Robert Wilson Challenge to Preserve our Heritage', where voluntary efforts of

the villagers were recognised and quantified for the first time and a matching grant awarded to enable the conservation of the Chamba Lhakhang.

CONSERVATION OF THE CHAMBA LHAKHANG TEMPLE

The 15th century temple of Chamba Lhakhang is an exquisite temple, housing a colossal clay gilded statue of the seated Maitreya in the centre. The walls are beautifully embellished with paintings that were

The important de consecration ceremony held at the Chamba Lhakhang by H H the late Ven Stakna Rinpoche

executed over several centuries depicting a range of Buddhist deities, spiritual lineages and royal patrons. The paintings had been badly damaged as the roof had decayed and water seeped into the fragile mud brick walls. Timber beams had rotted and at least one column had tilted out of plumb with structural movement in the foundation. The traditional mud roof had been weighed down by additional layers of mud applied regularly to prevent water seepage into the temple. This had caused further structural distress to the temple walls.

While the conservation plan was developed by the experts and crafts persons, the villagers began the related task of preparing the temple for the conservation programme. A ceremony[2] was organised to de consecrate the temple to ensure that the spiritual essence of this place of worship is not damaged during the physical repairs. Following special prayers led by a senior abbot, the powerful ceremony involved the extraction of the sacred spirit from the paintings depicting the Buddhist benevolent and fierce deities all of whom guard the faith. The sacred essence is captured in a mirror by the Rinpoche with the continuous incantation of religious texts. The mirror,

carefully wrapped in a *khadag* (white silk scarf) with the mystical mantra '*Om Mane Padme Hung*' written on it, was then placed in a cabinet within the temple to ensure that it could be worshipped by the villagers without being harmed in any way by the conservation works. The ceremony was led by a senior monk and involved the removal of the sacred spirit from the paintings and the colossal stucco sculpture. Once the temple was deconsecrated work could begin on the architectural conservation.

The working season in Ladakh is limited, beginning in May and ending in September before the onset of the harsh winters. Planning for the work was critical as materials needed to be transported to site before the mountain passes were snowed in and roads closed. Timber and birch bark, traditionally used in the roof, had to be brought from Kashmir, a season ahead of time. Adequate provisions had to be made to ensure that the wall paintings were protected once the roof was opened in the event of unseasonal rainfall. With constant discussions between the craftspeople, village elders and the architects the major conservation issues were addressed.

Decayed timber members were replaced, the tilted column corrected and the roof relaid. Introduction of new materials were kept to a minimum with the proviso that they would be monitored in the future as part of the maintenance cycle to check their efficacy.

The visual presentation of the wall paintings posed its own philosophical challenge. While the general approach to the conservation of a work of art is to carry out minimal reconstruction of damaged or missing elements in a mural painting, the same philosophy could not be adopted for a living religious site. Damaged figures of deities (lacunae and voids in the painting surface resulting from structural damage and moisture penetration) could not be worshipped if these were incomplete as the deities symbolise the perfection of different qualities all of which are represented in their depictions. An incomplete depiction would be considered imperfect and thereby cannot be worshipped. Initial plans by the community to completely repaint the damaged figures were discussed with the community and monks and contemporary conservation practices debated. Consensus was finally reached on the visual reintegration of areas

The murals are re-consecrated after restoration. Source: Art Conservation Solutions

Badly damaged temple murals depicting the Buddhist pantheon had to be restored to reinstate the spiritual sanctity of the images

of loss. A range of techniques were adopted for the paintings which included processes, such as *trattegio* or *rigatoni*[3], chromatic selection, neutral colour infill and invisible retouching, based on the viewers' field of vision and iconographic importance of the image for the community.

It was agreed that areas of total loss of major figures such as the face of a Buddha that had been painted over an earlier historic layer would be completed by local artists working under the supervision of painting conservators to ensure that the correct iconography is followed. Supervision by the conservators ensured that the new painting was distinguishable from the original on close examination, yet to the untrained eye was integrated within the overall scheme.

On completion of the painting conservation, the village people organised an elaborate ceremony to re-consecrate the site. H H Stakna Rinpoche who had previous carried out the de-consecration ceremony led the ceremony on this occasion too. Following special prayers offered by the Rinpoche, the mirror sheathed in the folds of the *khadag* was carefully unwrapped and carried along the painted walls returning the sacred essence back to each image. After reinstalling the sacred spirit within the paintings and the colossal statue, the local community offered prayers once again inside the recently restored temple.

Training programmes for specific skills were also held during the course of the project. A 10 day workshop on the conservation of historic earthen structures was held in Basgo as part of a larger UNESCO-NIRLAC training initiative. The workshop provided an opportunity for participants both from India and from the neighbouring Himalayan regions of Nepal and Bhutan to understand the major issues concerning the preservation of historic mud structures today.

In the course of the three seasons during which the conservation works at the Chamba Lhakhang were

carried, a simultaneous programme to restore the wall paintings of the smallest temple, the Chamchung were also undertaken through a grant from UNESCO. The Chamchung temple had been previously restored by the Basgo Welfare Committee when it had been in a severe state of deterioration.

In 2007 following a particularly harsh winter with heavy snowfall, leakages appeared in the roof of the Chamba Lhakhang. Cracks on the compacted mud roof were noticed. After consulting senior masons in Basgo and neighbouring villages a fresh layer of mud, with traditional additives such as cow dung and silt was applied on the roof. This additional layer has worked well for the past three winters and no further leakages have been reported even during the heavy rains experienced last summer. It is important that further work be carried out to strengthen the traditional mud roof's capacity to cope with increased precipitation using appropriate materials that are sustainable and easily available.

As climatic patterns change and there is an increase in precipitation in the region it is crucial that specific measures to protect the earthen construction be developed. The traditional mud roofs over most of these historic buildings need more regular maintenance and renewal, a reason contributing to the replacement of the mud roof with corrugated galvanised iron sheets or cement plaster in many instances.

SUSTAINABLE INITIATIVES

The village committee continues to fulfil its responsibility of preserving the village's cultural resources. To support these larger efforts, World Monuments Fund collaborated with the committee in preparing a long term sustainable development plan for the village. The plan addressed a range of issues including restoration and re use of several historic buildings within the village and citadel, management of the community's natural resources particularly the springs which emerge in the high pastures and provide water to the village. Some other aspects covered are revival of traditional crafts such as weaving and setting up of craft groups, organising the marketing and sale of local agricultural produce and fruits such as apricots, setting up of home stays and guest houses, reviving traditional performing arts in the village as well as the traditional 'amchi' system of medicine. The plan was drawn up by the Basgo Welfare Committee with the assistance of several local non governmental organisations and experts from the region.

A consultative workshop with the villagers was held to discuss the sustainable development plan.

Several projects outlined in the plan have been implemented by the committee including the revival of the traditional recharge pond located in the high pastures and restoration of several chorten (Buddhist shrines) in the village. A part of the old palace located within the citadel was restored and reused as a library for the many ancient religious texts housed in the temples. The texts had been damaged when the citadel was invaded and ransacked in the 19th century. Several leaves from the texts had been destroyed while others were jumbled and in disarray. The Buddhist texts were carefully sorted by the village elders and are now being housed in the newly rebuilt library.

The plan also sought to raise much needed resources for the continued maintenance of the temples and other heritage structures by channelling some of the income generated from activities such as the home stays into a village fund. In addition, heritage village walks are being developed in Basgo this year. Local unemployed youth are being trained to conduct these walks that will include elements of traditional hospitality such as a Ladakhi meal prepared by the village youth. Part of the proceeds from these walks will help generate some income for the continued maintenance of the temples.

The BWC continues its vigil over the temples as it prepares to commence work on the third Maitreya temple, the Serzang Lhakhang. Through the local initiative funds were raised to carry out some repairs to the ancillary chambers adjoining the Serzang Lhakhang as well as consolidating the foundations with the construction of retaining walls in the vulnerable areas. Efforts are now on to raise the resources needed to preserve the historic wall paintings in the temple, some of the most beautiful paintings in Ladakh.

CONCLUSION

In 2007, the project for the restoration of the Maitreya temples at Basgo won the UNESCO Asia Pacific Heritage Award of Excellence in recognition of the community's stewardship of its heritage. The citation stated:

> The Award of Excellence winner, the Maitreya Temples complex in Ladakh, India, sets a regional standard for conservation that combines grass-roots advocacy with the highest levels of technical excellence. The sustained efforts by the Basgo Welfare Committee to underpin development with heritage conservation have placed

culture at the centre of community revitalization; while the contributions of the local community, in terms of both skills and resources, have allowed for the safeguarding of an iconic, but endangered part of the heritage of the Himalayan region.

The award has helped to reaffirm the community's commitment to preserving its heritage. At the award presentation ceremony the monks from Hemis monastery (the Chamba Lhakhang is under the purview of Hemis monastery) lauded the efforts of the villagers and the team. The monk concluded by stating that the efforts made in restoring these temples dedicated to the Maitreya (the Future Buddha) will be blessed and 'may all of us meet once again in Tusita heaven (the abode of the Maitreya), to hear the Buddha preach.' This sums up the essence of the conservation programme where the act of preservation itself is seen as an act of merit, ensuring sustainability of the heritage resources.

Ceremonial scarves (khadag) are offered to the Secretary of the Basgo Welfare Committee, who spearheaded the initiative, by the community at the UNESCO award ceremony. Source: Tsering Angchuk
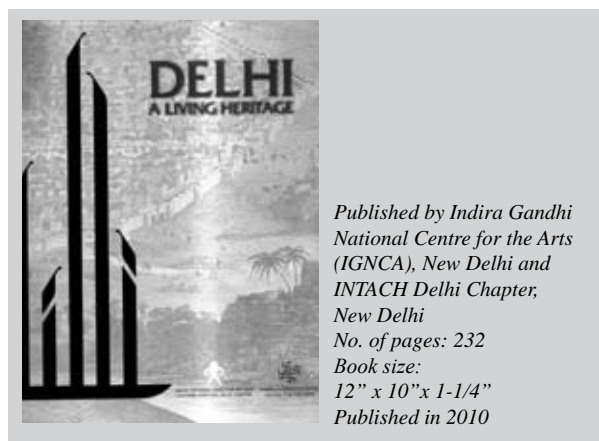
Notes

1   Goba is a Ladakhi village headman.

2   The ceremony is known as '*argapochog*'.

3   Italian word for use of regular and equal sized vertical brushstrokes or hatching.

Book Reviews

Delhi: A living heritage
by INTACH Delhi Chapter

JYOTI PANDEY SHARMA

Published by Indira Gandhi National Centre for the Arts (IGNCA), New Delhi and INTACH Delhi Chapter, New Delhi
No. of pages: 232
Book size:
12" x 10"x 1-1/4"
Published in 2010

The publication under review focuses on Delhi's heritage but goes beyond its built heritage to showcase the city's composite living heritage and also makes a case for the encryption of the city in UNESCO's World Heritage City list. While the historicity of Delhi can hardly ever be overstated, it is imperative that the public also take pride in the city's past. With this intent, the book makes a zealous attempt to present an account of Delhi's heritage in the public domain. While the book does not pretend to be a serious academic venture, it has nuggets of information to win over the serious scholar, besides engaging the casual reader simply wanting to read about Delhi's past and present. The book opens with an introductory write up on the Exhibition by A G Krishna Menon, Convener, INTACH Delhi Chapter and Project Director, drawing attention to the city's composite heritage and presenting initiatives taken by INTACH Delhi Chapter in its conservation. It gives a detailed overview of the Delhi Heritage Route Project that links the city's heritage sites along the city roads forming a corridor that gives improved access to sites with appropriate urban and architectural interventions to enhance the experience for both the heritage tourist and the city dweller. It goes onto underscore the necessity to devise development regulations for heritage precincts and archaeological parks as identified in the Delhi Master Plan 2021.

The rest of the book is organised into two sections. The first called 'Overviews' deals with tracing the history of the city from its inception to contemporary times. The city's history has been divided into five sections; according to the period of time, with their respective specialists presenting a comprehensive account of Delhi's evolution.

B R Mani explores the early history of the city from the pre-historic era up to the threshold of Muslim rule through archaeological excavations in areas across the city such as Anagpur, Mandoli, Purana Qila and Salimgarh. Radhika Chadha's article examines the Delhi Sultanate with Delhi or more appropriately the successive dynastic capital cities in the Delhi region, catering to administrative and military needs of the state besides being a hub of commerce and culture. Meena Bhargava writes about Mughal Delhi focussing on the 17th century imperial city of Shahjahanabad. Narayani Gupta traces the history of colonial Delhi

from the pre-1857 era to the building of a new British capital. She narrates the story of Delhi's transformation from a breeding ground of scholarly and artistic enterprise in the early and mid 19th century to one perceived as hostile after the events of 1857 and in need of control via urban restructuring. Further, it is revealed that State sponsored urban interventions notwithstanding; the city's historicity was never lost on the British, who made it a venue for overt demonstration of power first via the Delhi durbars and culminating in planning and building New Delhi. A G Krishna Menon's essay looks at contemporary Delhi where the past and the present cohabit in the same urban space with ease. The evolution of the city's built environment is traced from the post independence years to the present times underscoring how the hosting of major international events in Delhi propelled architectural activity giving the city some of its most distinctive landmarks.

The second section called 'Essays' has thirteen write-ups by scholars from diverse backgrounds offering an insight into the various facets making up the city's cultural palette. K K Muhammad writes of Delhi bazaars of the past that transcended their role as places of commerce to become the fulcrums of urbanity. Abha Narain Lambah presents an account of architecture of the Delhi Sultanate, where six dynasties contributed to the city's built heritage corpus via a range of built-form types, religious, secular and funerary, besides establishing the vocabulary of what later blossomed into the Indo-Islamic architectural style. Aman Nath examines the conception, planning and building of New Delhi and the role played by each of its three protagonists, Viceroy Hardinge and architects, Edwin Lutyens and Herbert Baker in shaping the colonial vision. Rahaab Allana offers a view of the city through the eye of the camera as archival photographs reconstruct the Delhi of 1857 through to 1911, while Mansura Haidar relies on historical sources to offer a reading of the city's Mughal past. Two essays by A R Siddiqui; Jolly Rohtagi and Nitika Agarwal, are on the city's arts and crafts tradition including calligraphy and epigraphy (Siddiqui); carving and inlay in stone and ivory; jewellery; pottery; embroidery and painting to name some (Rohtagi and Agarwal) and their application on buildings, manuscripts and sundry objects. Three essays are devoted to the city's natural landscape. Priyaleen Singh looks at Delhi's historic gardens from the Sultanate era, to the very prolific Mughals who laid out gardens both funerary and for leisure and finally to the introduction of the English garden in Delhi as evidenced by the creation of colonial public and archaeological parks in the city and its hinterland. Meenakshi Dhawle and Manu Bhatnagar take the reader on a delightful journey along the Yamuna River exploring Delhi's many leisure spots of yore while nostalgically tracing the history of the once bountiful river and its' shaping of the city.

Pradip Krishen introduces readers to Delhi's trees in a compilation from his well received work, 'Trees of Delhi: A Field Guide' (2006), published by Dorling Kindersley. While saddened by the loss of Delhi's native flora to cultivated ornamentals, the author nevertheless, nudges the nature lover to go out and seek the seemingly elusive native flora that he has so ardently managed to locate across the vast expanse of the city. Ranjit Lal explores the city's fauna; which despite the loss of larger wildlife has enough species, avian life in particular, to keep the wild life enthusiast engaged.

Arshiya Sethi's illuminating piece on Delhi's Sufi shrines introduces to the reader the fine nuances of Sufism that created a cultural cauldron in Delhi providing an enriching spiritual and aesthetic experience to all and continues to do so to this day. It seems befitting to end the review with an essay by Rahul Verma on Delhi's culinary history taking the reader on a fantastic gastronomic trip through the old city sampling street food along the way. From the sweet to the tart and everything else in between, the fare on offer is delectable with the visuals delighting even the most fastidious lover of food.
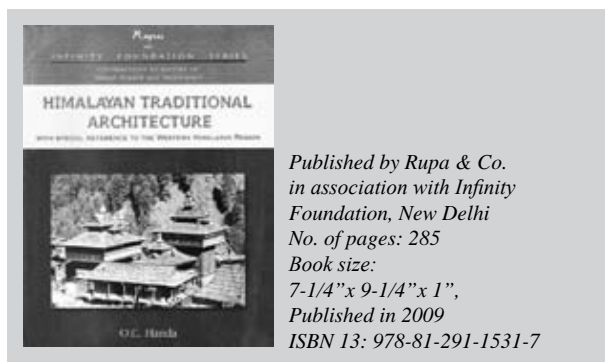
One must also commend the publishers for illustrating the book very generously with a wide array of visuals including archival photographs, contemporary images and architectural drawings and for an attractive layout. A publication of this nature is likely to be burdened with many expectations. In this light, one cannot help but notice that the bulk of the city's built heritage is drawn from the pre-colonial era with Delhi's colonial heritage being under represented, barring one essay on New Delhi. Certainly there is more to the city's colonial heritage than the architecture of New Delhi and it would not have been out of place to include an essay on the city's 19th century colonial built heritage. Further, Delhi's historic sites have been recipients of colonial conservation interventions via the Archaeological Survey of India

(ASI), since the early 20th century, a subject that has been strangely neglected (ASI in its colonial avatar is mentioned very briefly in Priyaleen Singh's essay on historic gardens). An essay on Delhi's colonial archaeology underscoring the significance of Delhi's historic sites, Mughal ones in particular would have been very welcome not only for reading pleasure but also facilitating the contemporary visitors' interpretation of these sites. A short concluding note outlining the future of Delhi's heritage would also be a desirable addition drawing attention to ongoing and future conservation initiatives both by the state and non state agencies. The circulation could be increased by bringing out a cheaper version in print and electronically. The publication is nevertheless a valuable addition to the gradually growing repository of heritage and conservation literature on the country's heritage.

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Himalayan Traditional Architecture with special reference to the western Himalayan region
by O C Handa

CHEENA KANWAL

Published by Rupa & Co. in association with Infinity Foundation, New Delhi
No. of pages: 285
Book size:
7-1/4"x 9-1/4"x 1",
Published in 2009
ISBN 13: 978-81-291-1531-7

This book is particularly useful for those who would like to learn about the basic design and construction features of traditional Himalayan dwellings that have been grouped and presented according to the geo-climatic variations in the lower, middle and upper Himalayan belt primarily located in Himachal Pradesh.

Himalayas are such a vast and prominent physical entity that most of the creative work and information about these has usually come out as enticing visuals in the form of photographs, sketches and paintings, as if the onlooker was tongue tied witnessing its grandeur. However, Dr. Handa who is a trained engineer and an artist and photographer in his own right has made a courageous attempt at describing the socio-cultural significance and emerging traditional design and construction

methods employed by the local craftspeople of this hilly region. This book is a good reference material for students of architecture, arts and crafts, archaeology, history and culture.

The work has been encouraged by Infinity Foundation based at Princeton, USA that is actively engaged in the promotion of traditional knowledge systems under the History of Indian Science and Technology project. It is an attempt to consolidate the author's research and documentation from his extensive travels into the western Himalayan interiors over the last few decades.

Subsequent to publication of a two volume series by the same author on architecture of the region (Panorama of Himalayan Architecture: Volume 1 & 2), this is an elaboration of the domestic building type that was earlier covered in Volume 2. It now contains some more detail about construction and materials as well. The information is compiled usefully and systematically with references and description of local temples, castles and other typical and important buildings. The book does contain some amazingly beautiful sketches drawn by the author, but since information about architecture as a subject can seldom be conveyed just in words, the book and those who would read it could have benefited further with more of such illustrations.

Cheena Kanwal is an architect, specialising in Climate Change and Sustainable Development. She has a keen interest in environmental conservation and the principles of non-conventional design and sustainable building technologies.

Heritage Album

ARABESQUE: A VITAL ELEMENT OF
ORNAMENTATION IN ISLAMIC ARCHITECTURE

Mohammad Arif Kamal and Murat Cetin

INTRODUCTION

The term 'arabesque' is a European word dating perhaps from the 15th or 16th century when Renaissance artists used Islamic designs for book ornament and decorative bookbinding (Bloom & Blair 2009). Since figural representation was forbidden in Islamic religious art, other types of decoration such as calligraphy, geometry and arabesque became prevalent. Arabesque, in Islamic architecture is a type of ornamentation in which scrolling or interlacing simple vegetal elements such as vines, tendrils, foliate and leaf shapes were combined to create decorative patterns. Arabesque designs consist mainly of a two dimension pattern which is used symmetrically over the entire surface of objects such as carpets, furniture, textiles, and in buildings such as ceilings, walls, domes or contained in bands and panels.

Dalu Jones (1995) notes that the arabesque is 'characterised by a continuous stem which splits regularly, producing a series of counterpoised, leafy, secondary stems which can in turn split again or return to be reintegrated into the main stem.' Further, Jones writes that:

> This limitless, rhythmical alternation of movement, conveyed by the reciprocal repetition of curved lines, produces a design that is balanced and free from tension. In the arabesque, perhaps more than in any other design associated with Islam, it is clear how the line defines space, and how sophisticated three-dimensional effects are achieved by differences in width, colour and texture. Shapes left in the background contribute to this effect, as in geometric patterns, adding another dimension to the overall design.

EVOLUTION AND ARABESQUE

The first example of vegetal decoration can be traced to the mosaic decoration of the Dome of

Lotus scroll and motifs from hindu traditions in Quwwat al Islam Mosque, Delhi
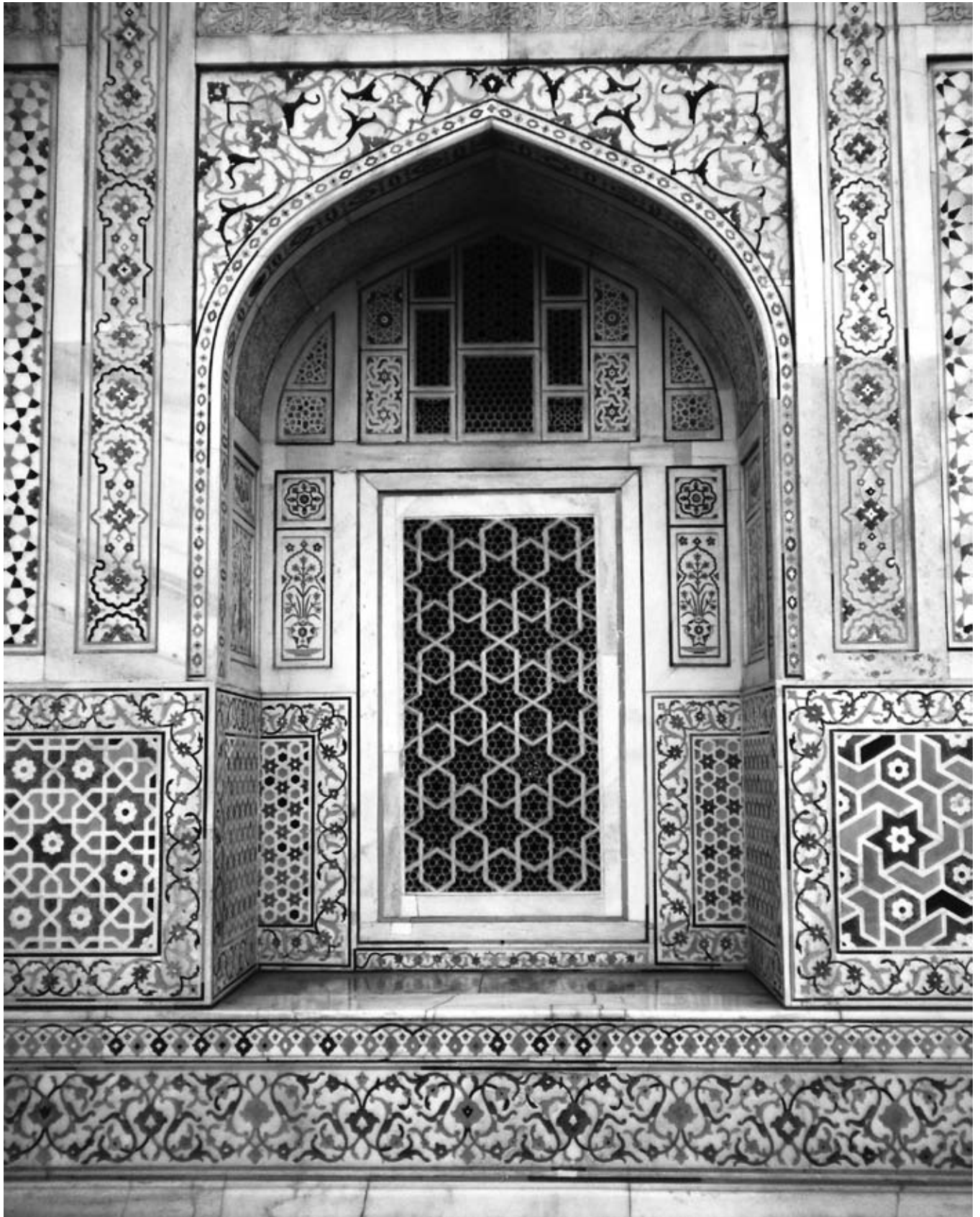
Pietra dura decoration with geometrical arabesque designs in Itmad-ud-Daula's Tomb, Agra

Arabesque detail of a panel in Taj Mahal, Agra

the Rock in Jerusalem that was built by the Umayyad caliph Abdal Malik by the end of seventh century, derived from the traditions of late antiquity depicting vases, jewels and plants that form the main subject of decoration. Another example can be found in the stone carvings on the facade of the eighth century Umayyad palace of Mshatta which consists of a large band framed by elaborately decorated moulding having a series of 28 triangles enclosing curving vegetal scrolls. Each triangle contains one big rosette which is in high relief and also contains again a group of concentric design. In the ninth century when the Abbasids shifted their capital from Baghdad to Sammara, the palace walls were decorated with large panels of carved and moulded stucco. Here the artisans used foliate and floral elements within geometric frames, but they later developed a new type of ornamentation in which vegetal elements such as vines, tendrils and leaf shapes were used as per the rules of geometry rather than the law of nature. Hence the first approach towards arabesque decoration is most likely to have been developed in and around Baghdad by the middle of 10th century, where foliate motifs such as vine or acanthus scroll began to be interlaced with geometric frameworks.

Later around 965 AD, development in arabesque can be seen in the Great Mosque of Cordoba where the beautiful carved marble panels decorate the *mihrab* (arch) with continuous arabesque having ogee motifs, half palmettes[1] and overlapping stems. The mature and developed arabesque pattern was widely used in both Spain and Egypt around 11th century. The classic example of arabesque of this period is on the facade of the Great Mosque of Al-Hakim in Cairo, where the square panel is decorated with interlacings built on the geometric principles.

Another example can be seen in the north portal of Great Mosque of Divrigi built around 1228 AD, where there is an array of beautiful vegetal, arabesque and geometric motifs in high relief stone decoration. At the Shah Mosque in Isfahan, two superimposed networks of arabesque design in glazed tiles envelop the bulbous dome. The blue arabesques are joined with gold floral elements and the gold ones are joined with blue and gold symmetrical leaf like elements. The popularity of arabesque art began to fade away with the introduction of Chinese motifs such as cloud bands, lotuses which were mainly copied from pottery or textiles. In Timurid period, paper pattern was extensively used to create designs which can also be applied on textiles, ceramics, manuscripts, metalwork, wall painting etc. The wide circulation of these designs in the 15th century was much appreciated from Central Asia and Egypt to India.

ARABESQUE DECORATION IN ISLAMIC ARCHITECTURE IN INDIA

Arabesque design patterns used in Islamic architecture during different periods in India show a lot of variation. The first example of arabesque in India is known around 13th century in the Quwwat al-Islam in Delhi, combined with motifs from Hindu tradition. The beautiful, curvaceous Islamic calligraphy and arabesque designs are juxtaposed with Hindu motifs present on the pre-Islamic pillars. Hindu motifs, like tasselled ropes, bells, tendrils, leaves and the lotus scroll in particular frolic all over the mosque.

The screen of central arch is beautifully carved with borders of inscriptions and geometrical and arabesque designs, but the hand of artisans used to Hindu motifs is clearly perceptible in the naturalistic representation of serpentine tendrils and. undulating leaves of its scroll-work and even in the fine characters of the Quranic inscriptions.

The tomb of Itmad-ud-Daula was completed in 1628 at Agra. Built entirely of white marble and covered wholly by pietra dura mosaic, is one of the most splendid examples of that class of ornamentation anywhere to be found in Mughal Architecture. Itmad-ud-Daula's tomb is a highly ornate edifice, which is looked upon as an imminent precursor of the Taj Mahal as far as elaborate carvings and inlay work are concerned. The tomb has exquisite inlaid marble patterns in the form of pietra dura decoration depicting cypresses, wine glasses and an amazing variety of geometrical arabesque. The decoration in Mughal buildings reflects the same principles of decoration as those in Iran. The Persian inspired style of vegetal arabesque in the Taj Mahal at Agra that was built as a tomb by Shah Jahan in the 17th century reflects the introduction of an entirely new type of vegetal decoration. Both interior and exterior of the

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tomb are decorated with a continuous dado in low relief showing flowering plants growing naturally from a stem in the ground. The same motif is repeated in pietra dura inlay on the two cenotaphs for Shah Jahan and his wife and in red sand stone on the structures surrounding the tomb. This type of naturalistic depiction was quite foreign to the Islamic tradition of conventionalised representation and arabesque. It was inspired by engraved illustrations found in European herbals that had been brought by Jesuit missionaries to India in the early 17th century (Blair & Bloom 2007).

CONCLUSION

Arabesque is a vital element of ornamentation in Islamic Architecture. It is appropriate to regard the arabesque as a novelty of early Islamic art, but not all ornamentation in Islamic architecture can be considered as influenced by it. Arabesque designs varied throughout different regions because of religious and social conditions, local influence, availability of material and temporal variation in techniques of individual motifs. The present day practitioners of kinetic art aim to create the same arabesque effect, but come nowhere near the ease of Muslim artists, who played with a sort of plastic counterpart between rectilinear geometry and the algebra of curves derived from the plant world. Arabesque has lost its place in contemporary Islamic architecture due to absence or decreasing number of masters or traditional skilled craftsmen practicing this genuine building craft. In today's context, the art of arabesque is gradually being replaced by its kitsch imitations. This not only damages its relationship with the cultural context but also leads this unique element of ornamentation towards deformation, thus paving the way for extinction in future. Considering the rapid transformation processes due to globalisation in countries where arabesque has been commonly and widely used, this forms a significant threat.

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Note
[1] Palmette is a motif in decorative art that resembles the fan shaped leaves of a palm tree.

Heritage Album

RADHASOAMI SAMADH, AGRA: STONE CRAFTS AS MEDIUM OF NARRATION

Smriti Saraswat

INTRODUCTION

India has a rich story telling tradition that extends to interior architecture through various elements of space making; one of the early examples being the paintings and sculptures in Ajanta Caves in Maharashtra, dating from the 2nd century BC that depict Jataka tales.[1] The *shilpi* (master craftsperson) tradition reflects upon how crafts in India are all about a relationship between the crafts persons and their environment. The Radhasoami Samadh at Agra is a representation of continuation of this tradition in today's context.

THE RADHASOAMI SAMADH

Radhasoami Samadh, Soami Bagh, Agra is the shrine of Param Purush Puran Dhani Huzur Soamiji Maharaj, the revered founder of the Radhasoami faith who was born at Agra in 1818 AD that was constructed in his memory. Conceived in the form of an architectural model by Soamiji himself, with the help of a British architect, Frizoni, the building has been under construction for more than 100 years now.[2] Although the building is still incomplete, it continues to spread the Radhasoami philosophy, with the narratives interlinked with ongoing construction. The building stands apart as a case study, because it narrates a story through its building crafts. The process gives an understanding of how crafts become integral to the purpose of a story.

Proposed model of the Samadh completed in 1904

Intricate stone carving on column

THE STORIES AND THEIR NARRATION

The 'story' of Radhasoami Samadh has various events such as establishing the faith, spread of a philosophy, congregations, side-by-side construction of the building and other daily activities; characters that include crafts persons, participants in congregations and visitors; entities comprised of elements of space-making and motifs, along with a spiritual and socio-cultural setting.

In Radhasoami Samadh, one can find narratives of life, values, society, environment, culture, religions, space and many more aspects. It is a spiritual

One of the entrances to the Samadh

Floral motifs in stone inlay work

Chronology of construction

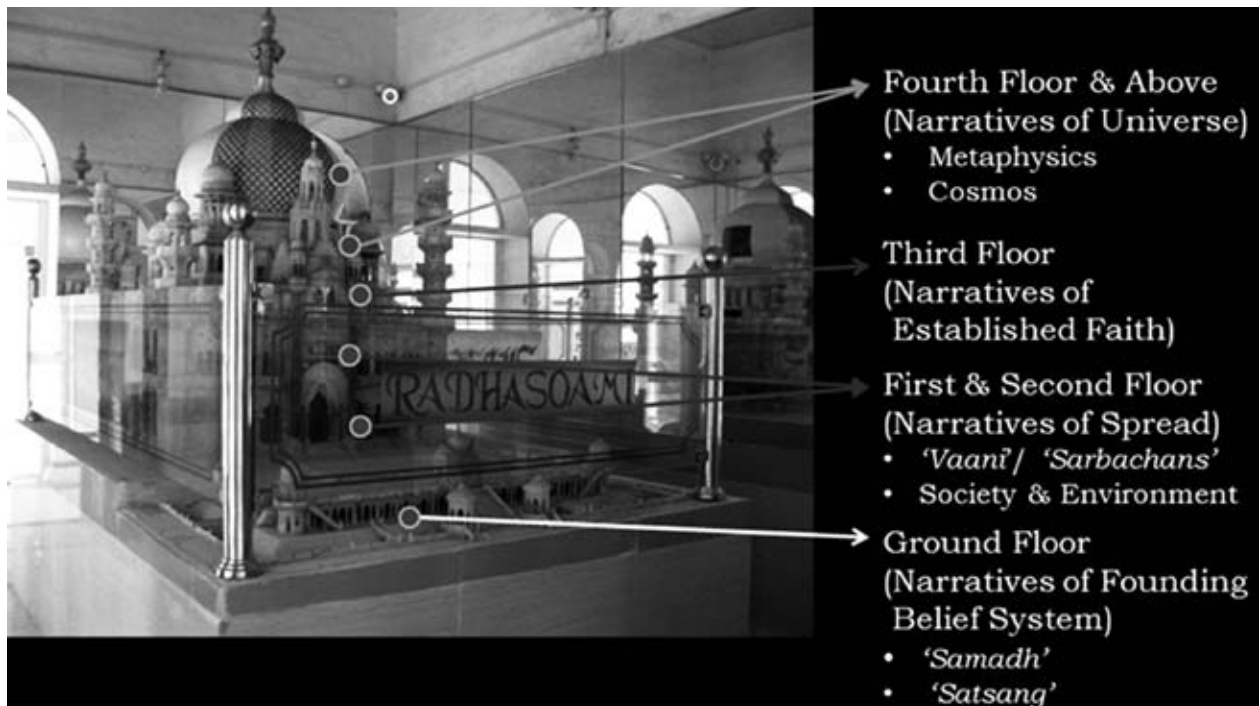| Year	Construction
1904-10	Foundation
1911-22	No Work
1923-29	Construction of Samadh in red sandstone
1930	Samadh demolished and constructed again in marble
1935-55	Ground Floor with narratives of the founding belief system
1956-75	First Floor with narratives of spread of the faith
1975-95	Second Floor with narratives of spread of the faith
1996-2005	Third Floor with narratives of established faith
2006 Onwards	Currently, work is going on the fourth floor with narratives of the universe

renaissance, as it identifies all religions, faiths, sects and cults, has its own means and methods to absorb these eclectic influences and emerge as an assemblage of all. The narratives can be identified on different levels as a part of a broad system, but they do not necessarily follow a structure. These are expressed in tangible form at the Samadh through visual and textual media, in the form of sculpture and inscriptions.

The primary story is the philosophy of the Radhasoami faith that does not believe in idol worship but professes finding godliness in nature. This is communicated through the use of floral motifs all over, the predominance of floral motifs constituting a discourse in itself. The narrative character of carving and inlay in stone seen as space making elements and motifs has evoked the importance of *nirakaar, nirguna bhagwan* (God without form, attribute and quality) and a sense of spirituality in the building, thus imparting it a sense of universality.

There are several small stories within the primary story, associated and narrated through the crafts used at Radhasoami Samadh, such as narratives of the followers and crafts persons. There are yet other narratives of myths and legends and spread of Radhasoami in the form of scriptures,

Identifying the narratives based on the analysis of the built form

Motif of Poppy flower carved in stone on the plinth of the first floor of the Samadh

Sarbachans and vaanis, scriptures of the Radhasoami faith, expressed through textual media in stone

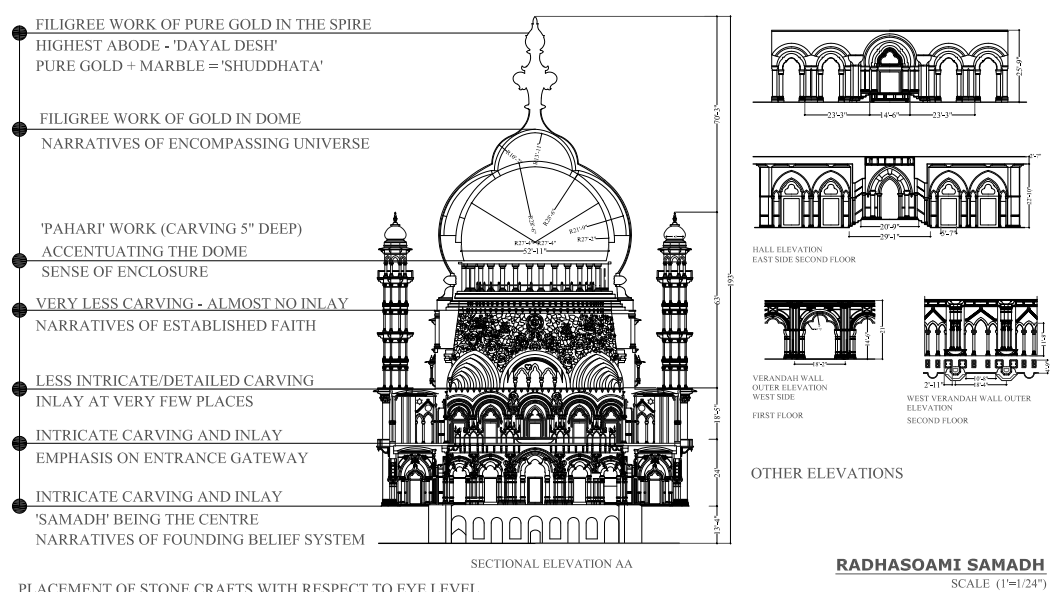*Stone brackets with floral and vegetal patterns*

Series of pointed arches framing space

expressed in stone through textual media. Till date, most of the work in this building is done with hands, except the cutting of stones and some electric hammer work. The idea of construction using hands and laboriously detailing the idols, motifs and the buildings has made the Samadh a perfect example of how *sewa* (devotional selfless labour) is essential to keep the narratives alive.

The philosophy of the faith versus the conceptualisation and continuity of construction process for the last 100 years represent the dichotomy of 'completeness' and 'incompleteness'. Through an apposite cast of characters and a wonderful blend of everyday with fantasy, the narratives of 'incompleteness' render 'completeness' to the Samadh in a very mystic manner. The motifs being chosen for this building are quite varied with lot of diverse influences.

A colonnade with stone crafts articulating the spatial character

FILIGREE WORK OF PURE GOLD IN THE SPIRE
HIGHEST ABODE - 'DAYAL DESH'
PURE GOLD + MARBLE = 'SHUDDHATA'

FILIGREE WORK OF GOLD IN DOME
NARRATIVES OF ENCOMPASSING UNIVERSE

'PAHARI' WORK (CARVING 5" DEEP)
ACCENTUATING THE DOME
SENSE OF ENCLOSURE

VERY LESS CARVING - ALMOST NO INLAY
NARRATIVES OF ESTABLISHED FAITH

LESS INTRICATE/DETAILED CARVING
INLAY AT VERY FEW PLACES

INTRICATE CARVING AND INLAY
EMPHASIS ON ENTRANCE GATEWAY

INTRICATE CARVING AND INLAY
'SAMADH' BEING THE CENTRE
NARRATIVES OF FOUNDING BELIEF SYSTEM

PLACEMENT OF STONE CRAFTS WITH RESPECT TO EYE LEVEL

SECTIONAL ELEVATION AA

HALL ELEVATION
EAST SIDE SECOND FLOOR

VERANDAH WALL
OUTER ELEVATION
WEST SIDE
FIRST FLOOR

WEST VERANDAH WALL OUTER
ELEVATION
SECOND FLOOR

OTHER ELEVATIONS

RADHASOAMI SAMADH
SCALE (1'=1/24")

Placement of stone crafts with respect to sectional elevation. Based on the inputs given by the Radhasoami Administrative Council

CONCLUSION

The case of Radhasoami Samadh reflects the storytelling power of a building, with narrative as its life sustaining force. Stone crafts are used here as a narrative medium that negotiate between what is seen and what is experienced. The study lays emphasis on the layers of meaning that are communicated through stone crafts. The approach of understanding the multiple narratives and their manifestations in crafts can be the key to realising the potential and significance of craft traditions in historic and present context.

Smriti Saraswat is an architect with a Masters in Interior Architecture and Design, specialising in Crafts and Technology from Centre for Environmental Planning and Technology University, Ahmedabad. She has worked as a Research Associate with the School of Interior Design Research Cell for the publication, 'Stones of Gujarat'.

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Notes

[1] Tales concerning the previous births of Buddha. Some other Indian examples through history that depict strong narrations through sculpture are Ellora Caves dating from 5th to 10th century AD, mid 10th century Khajuraho temples, the 11th century step-well Rani-ki-Vav at Patan, Gujarat and the Meenakshi Amman Temple in Madurai.

[2] While some believe that the reason for the continued work is a curse due to which the building cannot be completed, the hypothesis is denied by people at Radhasoami. According to them, the true craftsmanship and the work done by hand are time consuming, causing the construction period to extend this long.

Heritage Album

CONSERVATIONAL SIGNIFICANCE OF
FARM HOUSES IN THE HINTERLAND

Maharaj K Pandit

INTRODUCTION

> **Chalate ho to chaman ko chaliye**
> **Kahatae hain ki bahaaraan hai**
> **Paat hare hain phool khile hain**
> **Kam kam baad-o-baaraan hai**
>
> **Rang hawa se yun tapke hain**
> **Jaise sharaab chuvaate hain**
> **Aage ho maikhaane ko nikalo**
> **Ahad-e-baadaa gusaaraan hai[1]**
>
> .....Mir Taqi Mir

The Indian Roller (Coracias benghalensis), veiwed in the hinterland of Delhi through winter and spring

Were Mir to visit today's Delhi, he would be lost for words to describe the baffling change it has undergone. He would no more express the colour and gaiety of Spring as languid, no more describe the drunken breeze and drizzle, not even the leafy greens and the colourful blossom.

The flight of a peacock with high tension electical cables in the background, reflecting interference of development with nature
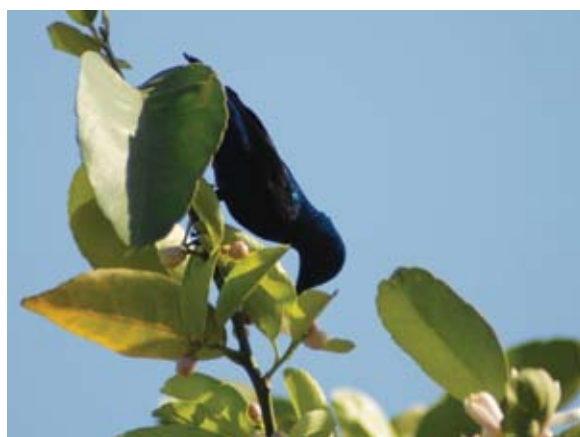
Purple Sunbird (Nectarinia asiatica) female perching on a bush of Hamelia patens (right) and male on the lime bush flowers (top and bottom left)

He would find his grave more sanguine and hurriedly return to the comfort he has known for more than two centuries. As humans we have grossly changed the face of earth and most cities and towns, particularly in India are an eyesore. Our crowded habitats are an epitome of ugliness, filth and squalour and the naturalness is now alien to our living.

The Indian scenario presents a bleak future for its natural areas. The official records of Ministry of Environment and Forests (MoEF), Government of India, reflect the serious threats to Indian biodiversity through land use changes for agriculture extension, human settlements and industrial development as the main cause for this crisis (MoEF 2001). The ongoing problem of diversion of forest land for human activities is a serious dilemma for the Indian Government, with nearly 4.7 million hectares of forest land diverted to non-forest purposes between 1950 and 1980.

To conserve endangered biodiversity, India has set aside nearly 5% of its geographic area as protected zones (WRI 2008). This is too small, considering the diversity of Indian habitats and their species diversity, even in comparison to the South Asian (7.6%) and global

(12.2%) average (Chape et al. 2005). Such limited land areas are inadequate to maintain the representative biotas of our country. In this context the importance of areas outside the protected areas that provide refuge to the vast majority of flora and fauna, needs to be emphasised.

FLORA AND FAUNA IN THE HINTERLAND OF NATIONAL CAPITAL REGION

The urban area in NCR (Delhi and sub-regions of Haryana, Uttar Pradesh and Rajasthan) showed nearly 300% increase in urban area in less than two decades. Most of the urbanisation occurred by transforming agricultural lands or natural ecosystems. There are equivocal arguments on the conservation value of urban ecosystems and their development because of economic considerations.

The real estate boom driven by private entrepreneurs heralded an era of 'change lands into landmarks' leaving little scope for natural open spaces and their associated biota to flourish. However, in this litany of vanishing natural heritage, the areas under farm lands and the

An important function of hinterlands is to provide items of daily needs such as farm fresh vegetables

so-called farm houses are a blessing in disguise. These un-urbanised areas are important refuges for a variety of life forms which would have otherwise disappeared permanently from this region. The farm owners, owing to economic affordability, have procured a vast assemblage of tree and shrub species that attract a range of bird populations. These bird species are either residents or spend a couple of seasons during up and down migrations.

A number of species of *Ficus* and other fruit bearing trees provide valuable food resources to a host of birds particularly during scarce summer months. Hedges of *Hamelia patens* around farm house lawns attract a variety of butterflies and small birds such as sunbirds and flower-peckers. A number of colourful annual and perennial plants adorn these open spaces, particularly during late winters and spring. It is hard to miss an array of deep azure *Anagalis arvensis* (Krishananeel, Billi booti), pale pink *Fumaria indica* (Shahtaraj), starry white *Stellaria media* (Buch-bucha) along the wheat field boundaries and lawns. *Convolvulus microphyllus* (Shankhpushpi) with its dense white flowers spread on the ground presents a star full earth in the morning hours. Numerous medicinal plants such as *Withania somenifera* (Ashwagandha), *Solanum nigrum*

Drango (Dicrurus leucophaenus), a resident bird of Delhi's hinterland that frequents agricultural fields and wooded areas

The common Baya (Ploceus philippinus) picks a mung bean pod from the field below and perches on an electric wire to devour the food. The bird eats the seed kernel and discards the chaff

A Golden Oriole (Oriolus oriolus) foraging on a fig. The bird checks the fruit for maturity first by pecking on it. If latex oozes out the bird avoids the fruit

(Makoh) and a thorny *Tribulus terrestris* (Gokhru) that have almost permanently been lost from the urbanscape add value to life in more than one way and grow free in nature's garden.

THE HINTERLAND: OPPORTUNITES AND THREATS

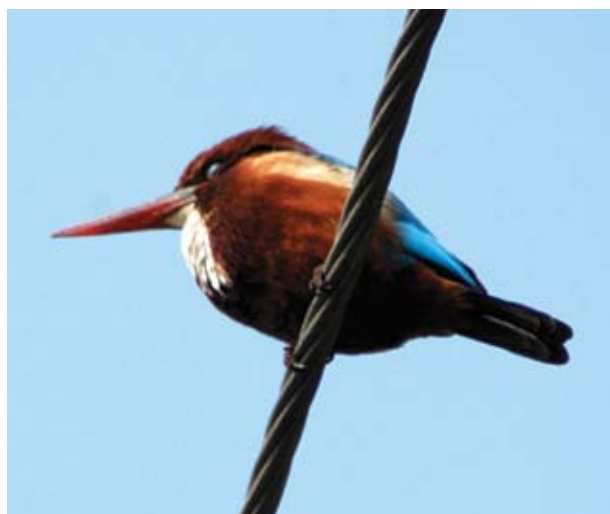There are numerous benefits and values, substantive and intangible that the society stands to gain by leaving out hinterlands as open natural spaces. Amongst others, these include (Rosenzweig 2003):
- Recreational areas for entertainment, stress busting and education.
- Informational resources for youngsters to learn in open classroom activity.
- Healthy living.
- Ecosystem services – habitats for species, water table rejuvenation, air quality and temperature regulation, fresh vegetables, dairy and milk products.
- Aesthetic and cultural resource.
- Hedonic costs – better real estate values for neighbourhood towns and colonies.

Although the large majority of farm house owners may have lifestyles with a high carbon foot print, they unknowingly compensate through nature conservation. However, one is wary of those who convert large tracts of their land into grassy lawns.

White-throated Kingfisher (Halcyon smyrnensis) is commonly seen during winters even in densely populated areas

Sykes's Lark (Galerida deva) visiting farms in winter

Farming of sunflower in the hinterland

In a semi arid region it is criminal to maintain such huge lawns as they result in high water consumption (the same amount of water is enough to produce wheat for a number of families). It is for this reason, setting up of golf courses in and around Delhi must not be encouraged. Unfortunately, farm houses in the hinterlands are fast turning out to be party grounds and sites of high consumptive culture. It is unsustainable and must be controlled through adequate regulatory measures.

WAY FORWARD

It is important to understand the evolutionary responsibility that humans have towards other life forms. In the words of Paul Ehrlich (2000),

> The change is needs that should help us discover how to reconfigure social, political, and economic incentives and cut through barriers of ignorance and denial, allowing society to turn onto a path toward sustainability. Some of the most important products of human cultural evolution are ethical concerns, including concerns for nonhuman organisms and the environment in general. Cultures already have been evolving in the direction of broader environmental ethics and that process needs to be accelerated.

The hinterland areas around urban centres form a significant natural habitat for biodiversity. These need to be maintained as spaces for nature, through efforts to actively involve the owners in nature conservancy programmes.

Maharaj K Pandit is a Professor at Delhi University and a Visiting Professor at National University of Singapore. He was elected a Fellow of Linnaean Society of London and received Raffles Biodiversity Award of National University, Singapore. Maharaj is interested in understanding the causes of plant rarity and invasion, impact of developmental projects on Himalayan biodiversity and species' response to climate change in Himalaya.

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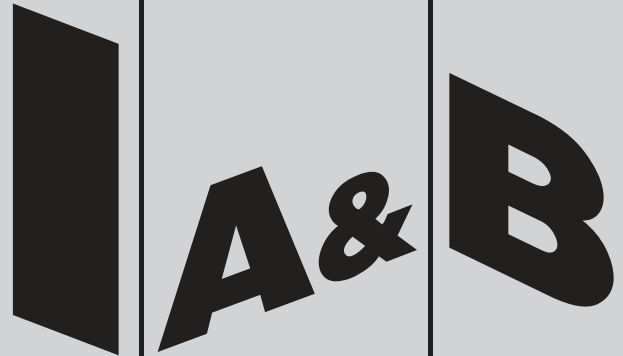- World Resources Institute (WRI) 2008, *Earth Trends: The Environmental Information Portal*, WRI, viewed November 12, 2008, <http://earthtrends.wri.org/text/biodiversity-protected/country-profile-85.html>.

Notes

[1] Through this poem, Mir Taqi Mir, an 18th century Urdu poet, describes the natural beauty of Delhi in Spring time.

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Events and Conferences

■**MODERN INTERVENTIONS IN HISTORIC AREAS: LECTURE SERIES, INTERNATIONAL STUDENTS' DESIGN COMPETITION AND SEMINAR**
Date: June 11, 2011
Location: Kamla Raheja Vidyanidhi Institute for Architecture, Mumbai
The challenge is to creatively design such that the new merges with the old. Modern interventions in historic areas ideally should be able to create a new vocabulary that has a dialogue with the historic fabric. Such that they become a reflection of present times but at the same time are also sensitive to the older existing one. This forms the theme of the lecture series, seminar and competition.
Organised by: Kamla Raheja Vidyanidhi Institute for architecture and environmental studies
Contact: Vikas Dilawari, Head of Department -Urban Conservation; Ginella George,
Seminar Co-ordinator
Phone no.: 91-22-26700918, 26208539
Email: krviamasterslectureseries@gmail.com

■**SUSTAINABLE DEVELOPMENT AND PLANNING 2011**
Date: July 12-14 2011
Location: New Forest, United Kingdom
The conference addresses the subject of regional development in an integrated way as well as in accordance with the principles of sustainability, and highlight developments in managerial strategies and assessment tools for policy.
Contact: Alice Jones
Organised by: Wessex Institute of Technology
Website: http://www.wessex.ac.uk/11-conferences/sdp-2011.html

■**EXPLORING NEW LANDSCAPES OF ENERGIES(CONGEO 2011)**
Date: August 1-5, 2011
Location: Brno, Czech Republic, Czech Republic
The conference is aimed at accelerating international collaboration in research in the field of (Renewable) Energy Development and Landscape Interrelationships.

Organised by: Institute of Geonics, Academy of Sciences of the Czech Republic, Department of Environmental Geography
Website: http://www.geonika.cz/EN/research/ENCongeo.html

■**SER2011 WORLD CONFERENCE ON ECOLOGICAL RESTORATION**
Date: August 21–25, 2011
Location: Merida, Yucatan, Mexico
SER2011 will be an important forum for addressing the global challenges of biodiversity and habitat loss, climate change, and sustainable development. It will provide a global venue for professionals, researchers, students and the public to
Contact: Sasha Alexander
Organised by: Society for Ecological Restoration International
Website: http://www.ser2011.org

■**OUR LIVING HERITAGE: INDUSTRIAL BUILDINGS AND SITES OF ASIA**
Date: August 25-27, 2011
Location: Seoul
The mAAN conference of 2011, to be held in Seoul aims to shed light on the various conditions which industrial heritage sites now face. Along with architecture of power, religious buildings, and residential architecture, industrial buildings constitute an important part of our architectural past, but neither their value as a cultural heritage, nor their appropriate position in the historiography of architecture, have been fully illuminated. Especially in Asia, where industrial sites were long neglected since the changes in industrial structure, it is only recent that their economic and cultural significance is recognised.
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Date: September 20–21, 2011
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■**4TH INTERNATIONAL CONGRESS OF ENVIRONMENTAL RESEARCH (ICER-11)**
Date: December 15-18, 2011
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■**NATIONAL CONFERENCE ON ENVIRONMENT AND BIODIVERSITY OF INDIA (EBI 2011)**
Date: December 20-22, 2011
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[9788179934067 • Paperback (in slip box) • 216 × 280 mm • ₹2700 • 2011]

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Editor: Mili Majumdar

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[9788185419824 • 252 pages • Softbound • 210 × 297 mm • ₹860 • 2002]

Sustainable Building Design Manual Volume 1 & 2

A TERI Publication

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[Vol 1: 9788179930526 • 145 pages • Softbound • 210 × 295 mm • ₹501 • 2004
Vol 2: 9788179930533 • 301 pages • Softbound • 210 × 295 mm • ₹501 • 2004]

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